

# THE ARCHBISHOP'S HAT. A SUGGESTED ATTRIBUTION FOR THE SCEATTAS OF SERIES F

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It has long been puzzling why a coin minted at Auxerre, some 150 km south-east of Paris, should have been chosen as the model for the sceattas of Series F.<sup>1</sup> The prototype, which exists both in pale gold and in silver,<sup>2</sup> is after all extremely scarce, and has not been found in England in modern times. The solution to the puzzle occurred to the writer one day out of the blue while reading Professor Peter Sawyer's new book, *The Wealth of Anglo-Saxon England*.<sup>3</sup> It is that Series F sceattas are coins of the archbishops of Canterbury, and the coin of Auxerre was very deliberately chosen because the figure on it is wearing a broad-brimmed hat, which was part of the distinctive garb of an English archbishop, and recognizable as such on the coin (Fig. 1). The reverse design, namely a cross-on-steps, was also suitably ecclesiastical. Coins naming the archbishops occur, of course, at a later date among the early broad pennies, in the time of King Offa and subsequently, but Series F would push the origin of the minting rights back about a hundred years, to the time of Archbishop Theodore (669–90). This discussion of the evidence for an attribution to the archbishops of Canterbury concludes with a die-corpus of the coins in question, namely Series F.



Fig. 1. Series F, Variety a. On this specimen, the crown of the hat is small, and is neatly defined by just eight or nine dots.

Fig. 2. Ecgberht of York, wearing a broad-brimmed hat. Previously bishop of York, Ecgberht received the pallium in 735. Of the two designs naming him, this could be the earlier, although that is not demonstrable.

There is an English parallel for the head-gear seen on Series F. The eighth-century bishop, subsequently archbishop of York, Ecgberht, wears a similar broad-brimmed hat on some of his sceattas (Fig. 2).<sup>4</sup> In his case, it is beyond doubt that the coins are his, and beyond doubt that he is shown wearing a hat. The only resort for the sceptical would be to say that there is no significance to his being depicted in this way.

Lafaurie has made a thorough study of bishop's hats on contemporary Merovingian deniers.<sup>5</sup> In his study of the issues of the bishops of Paris, published in 1998, he devotes a section of his text to 'la coiffure épiscopale' (the episcopal head-dress). He begins by pointing out that the *deniers* of Bishops Agilbertus (673) and Sigofredus (690–92) show 'a diademed effigy, wearing a sort of hat, which has the form of a helmet'. It is not broad-brimmed, and whether it is 'un chapeau ou une calotte' (a hat or a skull-cap) is, he says, an open question. He goes on to demonstrate that most of the episcopal coins of Paris (unlike the non-episcopal

<sup>1</sup> Twenty years ago in Metcalf, 1993–94, I, 126, I wrote, 'Presumably a specimen came into the hands of the English die-cutter, and was deemed suitable to imitate, more or less by chance'.

<sup>2</sup> Prou 1892, no. 584 and pl. 10, 29; Belfort 1892, nos. 577–9.

<sup>3</sup> Sawyer 2013.

<sup>4</sup> The issue is a joint one with his brother, who became king in 738, i.e. after Ecgberht received the pallium. See, for example, Metcalf, 1993–94, III, 581, and Abramson 2013, 175.

<sup>5</sup> Lafaurie 1998.

coins of the same city) show this or a similar head-dress. So do episcopal *deniers* of other cities, such as Tours, Chartres, and Clermont (and, from his map, Sens, Auxerre, Lyon, Vienne, and Nîmes). His sketch of the form the head-dress takes, reproduced here as Fig. 3, will serve in lieu of a wordy description.

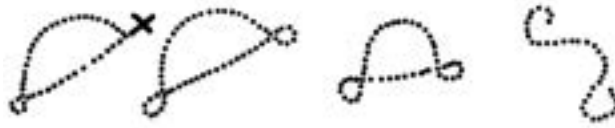


Fig. 3. Sketches of head-dress seen on deniers of the bishops of Paris (after Lafaurie).

The versions most like a hat are used at Reims and Auxerre, but cf. also *MEC* 1, 540, of Chalon-sur-Saône, which is no doubt episcopal, to judge from the broad-brimmed hat. Some of the places in the above list are in fact metropolitan (i.e. archbishop's) sees. Lafaurie sets the episcopal coin designs, which he describes as an innovation at the end of the seventh century, into their political context from 629 onwards, with the monetary policies of King Charibert II and his successors. His evidence, however, relies mainly on the *deniers* of Paris, where there is an apparent correlation between coins of bishops (either named, or identified by their distinctive monogram), and the use of the episcopal head-dress. Establishing this positive correlation was a major break-through.

The criticism has apparently been expressed (although not in print) that Lafaurie was mistaken in his general thesis, and that the figure on the bishop's coins is not wearing special headgear, but is merely a botched attempt by the die-cutter at a bare-headed, diademed bust. That claim is based on too narrow a perspective. The non-episcopal *deniers* of Paris, including the Palace, which are the majority, routinely have the usual sort of bare-headed bust. It is implausible to imagine that the die-cutters of the bishops' coins, over a long period, were so incompetent, while their colleagues in the same city were able to cut normal dies – especially as the contrast is clear-cut. As the dates of the individual bishops are known, the fact that the 'chapeau ou calotte' was maintained over a long period is independently established. Not all of his readers have been convinced that this amounts to a positive correlation.<sup>6</sup> Be that as it may, the chronology of the Paris series, in relation to the Cimiez hoard, is a breakthrough for the chronology of the whole sceatta series, focussing on the transition from the primary to the secondary phase.

The Merovingian series, then, offers comparanda for the Anglo-Saxon coins under consideration. It seems that the hat or skull-cap was a recognized convention in Paris for *deniers* of a bishop. In so far as the Anglo-Saxon authorities were aware of this convention, the choice of the Auxerre prototype may not, after all, have been haphazard. Other than that observation, the following discussion is confined to the English evidence, and to the case for an episcopal attribution of Series F. It may well be thought that the coins of the northern archbishopric provide the key arguments. One may note that the start-date for Series F lies within the pontificate of Archbishop Theodore of Tarsus, whose contacts with the wider church need not be doubted.

Because the dates of the bishops of Paris are known from documentary sources, Lafaurie was able to propose a later date for the Cimiez hoard than had been the consensus.<sup>7</sup> That has considerable implications for the dating of the Anglo-Saxon sceatta series. Again, this was a significant step forward. Work on Series D and E has similarly made a somewhat later date for the Aston Rowant hoard likely.<sup>8</sup>

<sup>6</sup> I am indebted to an (anonymous) referee, who stated that 'broad-brimmed hats . . . were not worn in the early Middle Ages . . . Indeed, having consulted several experts on early medieval vestments, this reviewer has not found any evidence for episcopal hats in the seventh or eighth century'. In this case, it seems that numismatics brings completely new evidence to the question, e.g. the coin of Archbishop Egberht, Fig. 2 above, and the discussion of it in the text (p. XXX).

<sup>7</sup> Lafaurie 1998: see the section, 'La coiffure épiscopale', at p. 75.

<sup>8</sup> Metcalf and Op den Velde 2009, 133–9, 'Critical assessment of the French hoards', and also 279–84, 'Attaching political significance to the 'porcupine' design: the date of the transition from Series D to Series E in Friesland'.

Series F generates the same sort of widespread distribution pattern in England south of the Humber as Series A, B, and C,<sup>9</sup> minted in the South-East, or for that matter D and E, minted in the Netherlands and the Rhine mouths area. We can dismiss any thought that Series F might, like D and E, be from the Netherlands, because it does not occur in quantity in the Dutch hoards – in fact, apart from one single find from Friesland it does not occur at all, except among the beach-finds from Domburg.<sup>10</sup> That seems to leave the South-East of England as the only plausible region of origin. Estuarine Essex is one option, but it is quite possible on the distributional evidence that it was minted in east Kent, or even at Canterbury, even though most of the single finds are from north of the Thames. (The same is true of Archbishop Æthelheard's broad pennies, in the time of King Offa.) It is the submission of this article that the sceattas of Series F are coins of the archbishops of Canterbury, even though their legends are meaningless. What else, at their date of origin, is plausible? In the secondary phase, sceatta types proliferated, and there will have been many issuers. But at the beginning of the primary phase, the obverse design of Series F is conspicuously unusual. At that stage, the sceattas being minted in the South-East comprised only Series A, B, and F. Series A and B were, no doubt, royal – and Series F was episcopal.

There the matter might rest, making this one of the shortest of contributions. For alas, there are no specific, knock-down arguments which prove it, nor for that matter any which would disprove it. (There are, for example, no stray finds of Series F from the vicinity of Austerfield, in Yorkshire, where a synod was held in 702.) Perhaps the strongest available argument is that it is intrinsically unlikely that the archbishop of York should mint sceattas (some decades later), while his senior brother of Canterbury did not. It is true that there was a flowering of literacy in Northumbria, but in terms of commercial activity, the northern kingdom was on the far fringes of monetary development, which was much less weighty there than in the south-east of England. Another argument, considered below, is that the duration in use of the design, *viz.* four if not five decades, taken in context suggests an institutional issuer rather than a private individual. The volume of coins minted points the same way.

Archbishop Theodore, to whom the English church owed so much, died in September 690, after a pontificate of twenty-one years. His successor, chosen in June 692, was Berhtwald, previously abbot of Reculver. Berhtwald continued in office until 731. Series F, of which four varieties have been recognized (a to d), will surely have begun with Variety a under Theodore (who arrived in Canterbury in 669) but will belong mostly to Berhtwald, who was also a prelate to be reckoned with. Varieties a, b, and c are represented in the Aston Rowant hoard, while b, c, and d occur in each of several other hoards from late in the primary phase. Variety a, which is neat and compact in style, and which is known in pale gold,<sup>11</sup> is generally very scarce compared with b–d, and may well therefore date from the 670s. Most of the volume of output of Series F will be closer in date to the end of the primary phase, probably from the 710s or thereabouts. A stylistic analysis of the obverse dies of Series F is otherwise inconclusive for chronology. Even so, a detailed reconsideration of Varieties a–c is a desideratum. Die-links between varieties or between sub-varieties, published below, might in principle establish a sequence, but in fact they help only a little.

Variety d is distinctly different in style. Its reverses are cruder, with large annulets, and with shorter, simplified pseudo-legends (Fig. 4). The bust (on the best specimens) has more of a snub nose, compared with the sharply pointed nose of the other varieties. This is a welcome art-historical criterion, since it can have had no possible significance at the time. A different die-cutter, not active in Varieties a–c, produced the obverse dies, but whether he did so concurrently with a–c (at a different mint-place?) or in continuation of them is an open question. For some reason, Variety d is conspicuous among single finds from the periphery of the general distribution area of Series F (Sledmere in Yorkshire; Bunny in Notts; Wiltshire; and Alcester

<sup>9</sup> Metcalf 2004.

<sup>10</sup> Op den Velde and Klassen 2004, nos. 50–53.

<sup>11</sup> The coin in question is MEC 687, for which X-ray fluorescence analysis by Isoprobe showed 9/10.6 per cent gold (Metcalf 1978, 15, no. 10).



Fig. 4. Series F, Variety d. The reverse has large annulets, and a much simplified pseudo-legend.

in Warwickshire). But it cannot, for example, be East Anglian (even though there are several finds from Burnham Market and nearby): there are a couple of finds from south of the Thames, as well as those from north of the river. From that point of view, the distribution pattern of Variety d is not greatly different from those for a–c. and the South-East seems to be the best option for its place of origin.<sup>12</sup> Perhaps its rather more peripheral distribution is a function of its date, relatively late in Series F.

Even though it is not possible to demonstrate the exact sequence in which the dies of Series F were used, the proposed attribution of the type as a whole to the archbishops raises many interesting questions for the monetary historian about how the coins were put into circulation. Once in circulation, they were no doubt accepted indiscriminately with other types, and gradually became regionally diffused, on the back of the main primary series from the South-East. Their distribution pattern is essentially the same as those for Series B and C (which reach rather further north and west than that for Series A). Like them, they are concentrated in certain smaller regions, the so-called ‘hot spots’, e.g. the middle Thames valley around Oxford, while other areas of the map are a blank. But it is decidedly curious that while they are quite well represented and indeed over-represented in hoards, e.g. the Aldborough hoard where they make up 12 per cent (against 29 per cent of Series A, B, and C in that hoard), or the Alington hoard with 14 per cent, or Aston Rowant, with c. 7 per cent (or more?),<sup>13</sup> they are absent from the classic series of Kentish and East Saxon grave-finds, and also absent or virtually absent from many major coastal emporia (including Hamwic), and from productive sites, starting with Fordwich (near Canterbury),<sup>14</sup> and including London,<sup>15</sup> Coddensham,<sup>16</sup> Hollingbourne,<sup>17</sup> Bidford-on-Avon,<sup>18</sup> etc. The productive sites near Royston<sup>19</sup> and at Spalding<sup>20</sup> have a couple, and there is one from Sledmere,<sup>21</sup> but only a small percentage of the finds, and certainly nothing like the percentages in the hoards mentioned above. Could these high percentages be merely a function of a late date within the primary phase? It is true that the earlier issues, such as Series A and BI, tend to dwindle or disappear from circulation. We may not be comparing like with like when we set the high percentages in these (late) hoards against over-all figures for single finds of the primary phase, which are necessarily averages for the whole phase. And the virtual absence of Series F at any particular site from which there are fifty finds or fewer could, moreover, be merely statistical. But over all, the anomaly looks real enough.

In spite of the absence at so many major sites, there is (as mentioned above) a cluster of single finds of Series F from the middle Thames region, which is brought out clearly by regression analysis: Aylesbury, Bledlow, Compton Beauchamp, Ewelme, Frilford, Newbury, Oxford,

<sup>12</sup> See the map, using regression analysis, in Metcalf 2004, 15.

<sup>13</sup> See the notes preceding the Catalogue for sources of information on these hoards.

<sup>14</sup> Coins from a productive site which have been published as being from ‘near Canterbury’ are in fact from Fordwich. Two fields, one on either side of the village, yielded coins. After a few years, they ceased to be available for searching. A dozen finds included Pada (in pale gold), two of Series A, and one of C.

<sup>15</sup> Controlled excavations from 1985 onwards at various sites lying behind the Strand, and as far north as Drury Lane and the Royal Opera House, have revealed eighth-century occupation, with finds of sceattas. See Cowie and Blackmore 2012, 288–9, and bibliography.

<sup>16</sup> The gold coins from Coddensham, mainly thrymsas, have been extensively reported. A dozen were auctioned at Sothebys on 4 October 1990, lots 281–292. Less well known, the American collector J.P. Linzalone, having been disappointed in his bids for the gold, was allowed, as a kind of consolation, to acquire 29 silver coins from the site by private treaty. They include Series A, 3, B, 4, C, 4, BZ, 1, and R1, 2, but not F. (Author’s files.)

<sup>17</sup> Over 40 sceattas from Hollingbourne await publication. For a summary listing of the earlier finds, see Bonser 1997, 41.

<sup>18</sup> See Laight and Metcalf 2012, 44–5.

<sup>19</sup> Bonser 1997, 44–5.

<sup>20</sup> Previously referred to as the South Lincolnshire productive site. (Author’s files.)

<sup>21</sup> Previously referred to as Flixborough (Bonser 2011).

also Oxfordshire and east Oxfordshire (no closer information), and Watlington.<sup>22</sup> This cluster effectively rules out any thought that Series F might have originated in East Anglia. The middle Thames finds suggest that it entered into inter-regional trade, and of course the Aston Rowant hoard, again from Oxfordshire,<sup>23</sup> supports that idea. (A similar middle-Thames cluster has been noted in the controversially attributed ‘Hwiccian’ sceattas.<sup>24</sup>) Might the context of the various Norfolk hoards likewise be inter-regional trade?

Although the significance of the percentages discussed above remains ambiguous, that does not fully discount the anomaly of the hoards. They attract our curiosity because the coins of Series F tend to include runs of die-linked coins, unlike the other types in the same hoards. In the Aldborough hoard, or in the Pleshey hoard, that can only be because the coins of Series F were ‘close to source’. Were the merchants whose activity lay behind the known hoards selling continental goods to the archbishop, for which he paid with coins newly minted for him? If a hoard yields coins of a particular sub-variety, not at all common elsewhere, it calls for some such explanation.

It only remains to glance further afield, at the (quite scarce) secondary-phase Type 51, on which we see two standing figures, the one on the right in profile, and wearing a broad-brimmed hat, rather jauntily on the back of his head (Fig. 5).<sup>25</sup> This type would be contemporary with the Northumbrian joint issues of King Eadberht and Archbishop Ecgberht. I am indebted to Dr Stewart Lyon who has drawn my attention to the eclectic type with the legend C ARIP (which degenerates, and on one specimen seems to read PISC). There are serious problems in reading ARIP as *archiepiscopus*, for which the usual abbreviation on the sceattas and stycas is AREP.<sup>26</sup> AREP is, of course, also attested on coins from the time of Offa.



Fig. 5. Obverse of Type 51, with two standing figures: on the left, the king (presumably), and on the right, facing him, the (arch)bishop, wearing a broad-brimmed hat.

## Analysis

### *Varieties within Series F*

A division into Varieties a, b, c, and d was proposed in the writer's *Thrymsas and Sceattas*,<sup>27</sup> with sub-divisions of b and c. A few additional sub-varieties of b and c have since come to light. With the additional specimens now available for analysis, a rather more elaborate arrangement is now practicable. The catalogue below lists the following numbers of legible specimens: Variety a, 11, Variety b, 65, Variety c, 47, Variety d, 22. The scarce Variety a was deemed to be the earliest, not least because it included a specimen in pale gold. But the scheme as published in 1993 was based mainly on common sense, and it is worth emphasizing that it referred exclusively to small differences in the reverse design of cross-on-steps, namely the addition of ornamental annulets or pellets. It did not take much account of the obverses. A separate check of the style (and pseudo-legends) of the obverses could therefore in principle reveal connections between the four varieties.

<sup>22</sup> See the corpus below, nos. 25, 31, 47, 51, 108, 131, 140.

<sup>23</sup> The find-spot was ‘close to the intersection of Icknield Way and the London-Oxford road, in Grove Wood’.

<sup>24</sup> The attribution is reconsidered in Laight and Metcalf 2012, 30–6. To the find-spots mentioned there should be added Thetford (Kilnyard site, 1964–70). The coin is certainly Hwiccian in style, with an obverse close to BMC 95, and a reverse similar to Metcalf 1976, pl. 12, 7. See Dallas 1993, 95f.

<sup>25</sup> For example, Metcalf 2003, cat. nos. 432 and 433 (from Lewknor, Oxfordshire).

<sup>26</sup> Metcalf 2003, 416–21. Also, it seems that some of the more devolved specimens may be attempting PISC (episcopus).

<sup>27</sup> Metcalf 1993–94, I, 129–30.

*Pseudo-legends*

The Merovingian prototype reads AVDO MONET on the obverse, and AVTIZIODERO (i.e. 'in Auxerre') on the reverse (Fig. 6).<sup>28</sup> The legends of the Series F coins, however, are to all intents and purposes meaningless. Because the flans are smaller than the dies the legends, on both obverse and reverse, are usually very incomplete, being off the flan to one side or another. They commonly include a square or diamond-shaped O, a triangular delta, an unbarred A, and a letter T. The sequence of the letters is often roughly the same, but can vary on die-linked specimens. On the obverse there is quite often a clearly-formed M. MOT, for *monetarius*, is probably intended. Another die-cutter, who produced the snub-nosed die of nos. 124–30, was equally illiterate. He made up his own pseudo-legend independently. It shows a tendency to long, diagonal strokes, and it lacks any square O or delta. Beyond that, there does not seem to be anything useful to say.



Fig. 6. The prototype of Series F: denier of the bishop of Auxerre (Belfort 577; twice actual size).

*Date range of the coinage*

Series F belongs to the primary phase, as its presence already in the Aldborough and Aston Rowant hoards shows. As the Aldborough hoard includes the full range of varieties b, c, and d, it seems safe to say that Series F belongs exclusively to the primary phase.<sup>29</sup> If the pale gold specimen mentioned above is from the transition into the primary phase, the type will have remained in production for a long time, for example, from roughly 670 to 720. That is an argument for an institutional attribution, rather than to a private moneyer. The same conservative attitude to coin design was true of Series A leading into C, and the reverse with cross-on-steps is an appropriate contrast with the military standard and tufa of Series A–C. Series F has been estimated to account for approximately 2.5 per cent of the English primary-phase currency overall.<sup>30</sup>

The West Hougham hoard of nearly 300 sceattas, found between Dover and Folkestone in c.1780, was stated by the finder to contain three types (a claim that was not substantiated): only two, namely Series A and B, were illustrated in early drawings of 11 specimens.<sup>31</sup> Could the third type have comprised a few specimens of Series F? Given that Variety a is scarce, they could have been very few, even among a total of 300. Only nos. 4, 6, and 7 in the catalogue below could conceivably derive from West Hougham. Note, however, that the hoard was in any case remarkable in that it contained no foreign coins (primary Series D and E), which are prominent in the Aldborough, Aston Rowant, Alington, and Kings Lynn hoards. Could West Hougham antedate the arrival of Netherlands money into the English currency, beginning perhaps as late as the 710s? The same is true of the early Kentish grave-finds, possibly for the same reason. There is corroborative evidence from several productive sites, which seem to

<sup>28</sup> These are the legends on the pale gold specimen, Prou 584 and pl. X, 29; Belfort 577. Prou 579, in silver, has diamond-shaped letters O, while 578 has round Os. See also RN 1850, 233.

<sup>29</sup> The Aston Rowant hoard lacks Variety d, but otherwise the same comment applies. There is no reason to think that Variety d runs over into the secondary phase.

<sup>30</sup> Metcalf 2003, 8, where primary-phase types add up to 47 per cent, to which Series F contributes 1.2 per cent.

<sup>31</sup> Blunt 1979. The finder gave Richard Boteler three specimens as samples, but Boteler found that two of these were of the same type. It now seems that the finder is unlikely to have distinguished small differences, such as between Types BX and BI. He may have been muddled or disingenuous in the three he gave.

show that foreign money kick-started the English commercial economy, and that inflows of Netherlands money generated a big balance-of-payments surplus in England.<sup>32</sup>

### *Die estimation*

A die-study reveals a high survival-rate per die – distinctly higher than for Series B or C, although that is just a subjective impression until we have die-studies for those series too. There are plenty of dies in Series F from which we already know four or five specimens. The 145 die-checked specimens in the catalogue below are from 69 obverse and 67 reverse dies. But how many dies were originally used, to produce the sceattas of Series F? Statistical estimation, as set out below, suggests central estimates of 105 obverse and 99 reverse dies, which means that something like two-thirds of the dies are known. That is an encouragingly large fraction, in the sense that the scope for statistical uncertainty is less than it would have been with a smaller sample. The figures also show that a one-to-one die ratio was normal.

Of the various statistical procedures that have been advocated, the one that has been used here, for simplicity's sake, is Good's formula. It gives central estimates: the true answers could be higher or lower. The formula states that

$$\text{non-singletons/sample} = \text{known dies}/x,$$

where  $x$  is the original volume of the coinage expressed in terms of the output of (known) dies. For Varieties a, b, c, and d, it has been calculated separately for obverse and reverse:

a	Obv.	4/11 = 8/22	Rev.	5/11 = 7/15
b	Obv.	45/65 = 35/51	Rev.	43/65 = 33/50
c	Obv.	40/47 = 17/20	Rev.	36/47 = 22/29
d	Obv.	17/22 = 9/12	Rev.	21/22 = 5/5

For Variety a the sample is too small to prove that there were really more obverse dies than reverse dies – which if it were the case would make it probable that the obverse design was on the upper die.

Variety b is clearly produced on a one-to-one ratio. For Variety c it appears that distinctly more reverse dies than obverse dies were used, presumably because the obverse was the lower die, and a brisk rate of production was foreseen. Inspection of the catalogue shows that the extra (singleton) reverses are scattered through the sample, and not, for example, concentrated at the beginning or the end of the issue. No clear pattern emerges. Variety d appears to have used two obverses to each reverse, i.e., the obverse design was on the upper die (which of course is also possible for Variety b, but see nos. 12–17). If that is correct, it may be another reason to ask whether Variety d was produced separately – albeit still somewhere in the South-East. But again one hesitates.

Taking the larger number of estimated dies (whether obverse or reverse), the survival-rate for each variety, expressed in terms of recorded specimens divided by the original total of dies, shows a clear progression:

a	11/22 = 0.5
b	65/51 = 1.3
c	47/29 = 1.6
d	22/12 = 1.8

The low value for Variety a is probably partly a reflection of the date and composition of the hoards, but notwithstanding that, it goes some way to confirm that Variety a is the earliest. There may even have been a gap when minting was in abeyance, before the later varieties were struck.

<sup>32</sup> This is proposed in Laight and Metcalf 2012, 36–7, and is discussed further in Ulmschneider and Metcalf 2013.

*Regional circulation of Series F*

Stray finds of Series F occur over a very wide area, plentifully in the South-East, in East Anglia, and in the Thames corridor and the south midlands (Map 1). There is a good number of finds from the coasts of Norfolk, in particular from Burnham Market and its vicinity,<sup>33</sup> and beyond that from Kings Lynn and the Spalding productive site, which could have arrived by sea. Finds are also plentiful in the region between Bedford and Cambridge – where access by river is a possibility. The evidential value of hoards and productive sites for the circulation area of Series F is much less than that of single finds, because hoards may have been formed far from where they were concealed, and because productive sites include only a small and variable percentage of Series F.

A mint-place in the South-East (e.g. east Kent, London, or Essex), from which the coins could radiate out in various regional directions, would seem to be the only option, to create the outcome as shown by the map. At the periphery of the distribution pattern, Variety d accounts for a somewhat higher than expected share. But it also occurs within the main distribution area. Whatever the monetary explanation, the dispersal of Variety d both westwards and northwards would seem to preclude an origin anywhere other than the South-East.

It is intriguing that there should be finds from Alcester and from nearby Oversley, only about a mile away, but not from the rich productive site of Bidford-on-Avon. There is also a primary-phase porcupine from Alcester; thus two out of three primary-phase finds are of Series F. Does this hint at some sort of political or ecclesiastical context? (Then there is a Type BIV from Oversley, and a secondary-phase porcupine from Alcester.) Probably there is more to be discovered about Alcester and its vicinity.<sup>34</sup>

Die-duplicates are routinely to be found coming from widely separated localities, e.g. two coins from the Alington hoard, and a third, from the same obverse die, found at Brighstone in the Isle of Wight. (A possible exception is catalogue nos. 100–3, from along the south coast, but this may be mere coincidence.)

*How were the coins put into circulation?*

The Aldborough hoard draws attention to a curious phenomenon. It includes a group of four die-duplicate coins plus one more, die-linked with the same reverse. It is not as if these were from a plentifully represented die. In fact, they seem to be the only specimens of their sub-variety which are known. It would seem, therefore, that they are ‘close to source’, i.e. that they have stayed together since they were issued – and perhaps passed straight from the hands of the moneyer, into the hoard. The nine specimens of Series F in a hoard of 67 sceattas, making 13 per cent, is well above average.

This encourages us to look at the other hoards. Pleshey, comprising just three die-duplicate specimens of Variety c, would seem to be similarly close to source.<sup>35</sup> The smaller Alington hoard, including a die-linked pair (nos. 105–6 below) could be another case, but there were only five specimens of Series F in the hoard in total. Aston Rowant, in which there were at least 25 specimens of Series F, all told, among some 400 sceattas, has mostly singletons, but even so it includes a group of at least four die-duplicate coins (nos. 39–42), plus four more from the same die-combination (nos. 43–6) some or all of which one suspects may come from the same source, which has a preponderance of certain sub-varieties of Variety b, and rather more die-duplicates than might have been expected from a single, contributory source. It looks as if the owners of these hoards may each have obtained a batch of newly-minted coins, from the dies that the moneyer was using at that moment.

<sup>33</sup> See the important study by Rogerson 2003, esp. 114–15.

<sup>34</sup> Laight and Metcalf 2012, nos. 11, 24, 27 (very worn), 31 and 43, and the Postscript.

<sup>35</sup> The three coins from Pleshey were found on two separate occasions. Even if they were separate losses, one would strongly suspect that they had arrived in Pleshey together, in a merchant's purse. The chance of three die-duplicate coins ending up in Pleshey independently, as the only finds of Series F from that locality, are astronomically remote. In the event they were officially judged to be Treasure Trove.





Map 1. Find-spots of Series F in England.

*Key:*

Dots = Varieties a–c, plus a few where the variety is uncertain.

Crosslets = Variety d.

Triangles = productive sites.

Squares = hoards. Note that the West Hougham hoard (near Dover) has been included, even though it is merely conjectural that it included Series F.

Whether this phenomenon is peculiar to Series F, it is too soon to say. It has not been spotted among the contemporary issues of Series B and C, except that there may be something of the same in mini-hoards of Type BX. Could the financial dealings of the archbishop, or on his behalf, have been in some respects distinctive, compared with those of the secular authorities?

*Internal chronology of Series F*

Hoards ought, in principle, to provide the best evidence of the relative chronology of the series, but what has just been said about them introduces an element of uncertainty. However, if the main component is a die-linked group, as described, singletons of other varieties or sub-varieties will probably be survivors of earlier date, which entered the hoard from the currency at large. Both the big die-linked groups mentioned above belong to Variety b, which would suggest, although perhaps not conclusively, that Variety b is later than Variety c. If so, it calls for a re-examination of the obverse link between those varieties. The same obverse die was used for four coins of Variety c, Sub-variety 1 which is unornamented (nos. 81-4, from Billericay, Stanfield, North Wymondley, and Freckenham) and also for two in Variety b (Sub-variety 6, no. 37 from Warlingham, and Sub-variety 16, no. 73 from Papworth). Everything would favour placing Sub-variety 1 early in Variety c, so there is a conflict of evidence, or at least some ambiguity about the life and use of this particular obverse die.

If Variety b followed c, it might imply that once the letters T, T, I, I were added to the design of Series F, they remained in use right through to the end of the issue. That would, however, create a new problem, namely the relative dating of Variety d. Attempting to gather up the puzzling evidence of the hoards for chronology, we may note that the nine specimens of Series F in the Aldborough hoard comprise five of sub-variety b,<sup>12</sup> (recently issued?) plus two of b,<sup>14</sup> a late example of variety c, and two die-duplicate coins of variety d. The Alington hoard has two die-linked specimens of sub-variety c,<sup>7</sup>; and there is a die-link between Aldborough and Alington. From the rest of the contents of those two hoards, one would place them towards the end of the primary phase (e.g. Type BII), and one would hesitate to say which of the two hoards might be a year or two the earlier.

The Aston Rowant hoard, apart from being substantially larger, has a more mixed selection of varieties of Series F, even if it includes a good share of die-linkage, such as nos. 39-42 below. The behaviour of the finders, in not declaring the whole hoard, leaves open the suspicion that a few coins without provenance, in various collections, may be ex Aston Rowant. Presumably the owner of the hoard obtained the singletons, or most of them, out of what was in circulation.

In principle the D/8 to D/2c ratio might be expected to give a clue to the relative chronology of the hoards, in so far as Type 8 is the early part of Series D. In Aston Rowant it is 19 specimens to 178 (i.e. 10 to 90 per cent), which is roughly in line with the evidence for Series D in general. In Aldborough, however, it is 6 to 10 (38 to 62 per cent), and all the porcupines are of Variety G. Alington is too small to be statistically reliable (2 specimens to 2, or fifty-fifty) and again all seven porcupines are of Variety G. Could the issue of Variety G have begun sooner than the other three varieties of primary-phase porcupines? If one were looking just at Series D, it would be prudent to ask whether East Anglia was different from the Thames valley, and to reserve judgement, but taking the porcupines into account it would seem that the two Norfolk hoards are a little earlier in date.

*Metrology*

There is ample evidence, for once, of the permitted tolerance: groups of die-duplicate or die-linked specimens, which may be assumed to be of the same date, are not more compact in their spread of weights than the category to which they belong. Variation of plus or minus 0.05 g or more is normal. Catalogue no. 51 is surprisingly light, but one should firmly resist the idea of interpreting it as a half-denomination.

It is very clear that hoard coins are in general heavier than stray finds of the same varieties. They are shown in heavier characters in Fig. 7. The hoarded coins may have suffered less leaching from ground water; or they may have been selected by the owner of the hoard for their weight, although that seems very unlikely in the anything-goes English currency of the early eighth century. Whatever the reason, the discrepancy between hoard coins and stray finds makes the determination of the intended weight standard more difficult, from a sample of only (!) about 100 recorded weights. Should one focus on the hoard coins, or on the single finds? (A couple of finds from Domburg, a site notorious for weight-loss, have been omitted.)

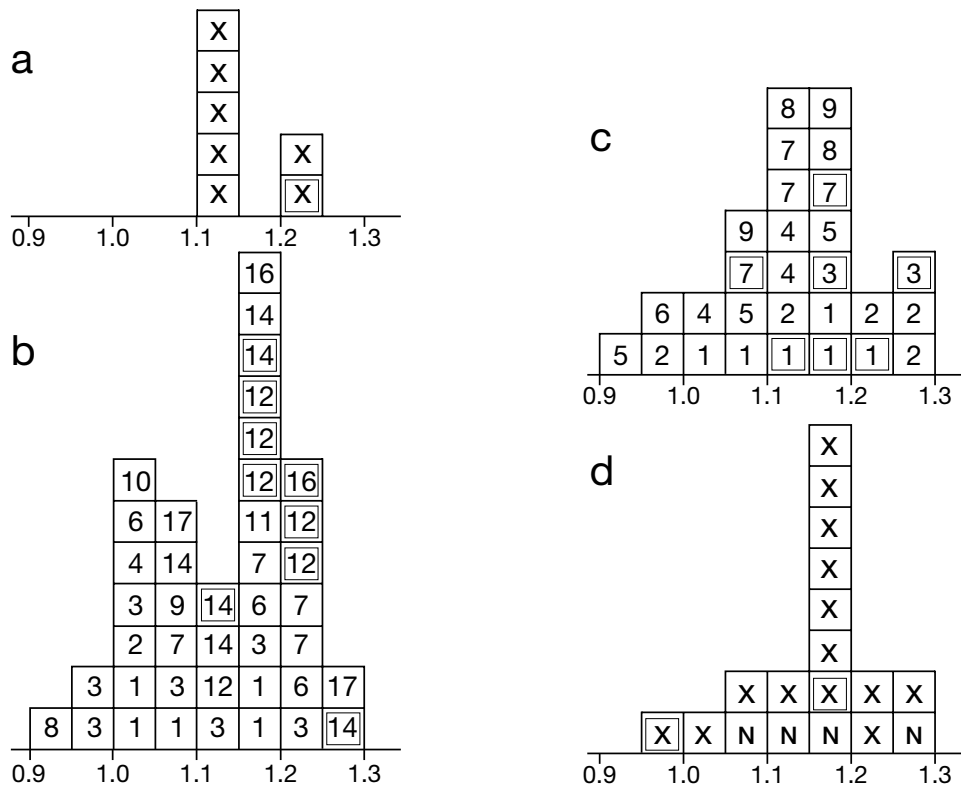


Fig. 7. Histograms of weights of Varieties a–d. Coins from hoards are shown boxed. (Some specimens not so shown could, possibly, also be from hoards.) The numbers shown for Varieties b and c are of the sub-varieties. In Variety d, the coins from the best die are marked N.

The spread of weights seems to be less in Variety a. The moneyer was probably working more carefully in the early days of the series. Because of their division into sub-varieties, both Varieties b and c offer the chance to see whether the weights deteriorated over time. There is no positive evidence that they did. Variety c peaks at *c.*1.14 g (single finds) or perhaps *c.*1.18 g (hoard coins), and what the coins weighed when they left the moneyer's hands is uncertain. Variety d is marginally heavier, peaking at *c.*1.18 g (single finds). Variety b also peaks at *c.*1.18 g (single finds), but with considerable negative skewness, which is seen throughout the Variety and is not associated specifically with the later sub-varieties. It seemed worth a quick check that there was not a regional variation in weight-spread, e.g. between finds from north and south of the Thames. There is no sign of it.

Histograms for Type A2 and Series BIB show a pronounced peak at *c.*1.28 g and *c.*1.26 g respectively.<sup>36</sup> Even if the sample contained a lot of grave-finds, it seems that Series F was at least five or six per cent lighter than BIB. Even BIA peaks at *c.*1.22 g. BII, which characterizes the hoards containing Series F, is less carefully controlled.

The contrast between Varieties b and c as regards negative skewness probably implies that they were not concurrent – and perhaps that Variety b was later, in whole or in part, when control of the tolerance slackened in a time of monetary plenty. Merchants handling large sums of money may well have done so by weight rather than by tale. Whether this hypothesis throws any light on the attribution of Variety d (little or no negative skewness) remains a matter for wider investigation.

In summary, metrology tells us very little about the internal chronology of Series F, except that Variety a does indeed seem to be early, while Variety b may possibly be late.

<sup>36</sup> Metcalf 1993–94, I, 87, 100.

The evidence of chemical analysis is currently limited to just six specimens. The 'silver' contents (Ag + Au + Pb) are mentioned in the catalogue below. As it happens, three are of Variety a, including the one in pale gold. One is of Variety b/17, which falls under the suspicion of being imitative; its alloy is well up to standard. One, of Variety d, is also of the best quality. In short, there is no evidence of deterioration during the issue of Series F.<sup>37</sup>

### **Classification: obverse die-links**

Checking the obverse dies of Series F is taxing work, for a number of reasons. The flans are considerably smaller than the dies, usually leaving much of the legends off the flan. The metal flows into the dies variously, and often indistinctly when it comes to counting the pellets, e.g. in the crown of the hat. The main hazard is that dies were sometimes made in pairs or even in batches, and can look very similar.

If some 60 obverse dies are known the number of comparisons to be made, in order to discover (or to exclude) links between the reverse varieties, is theoretically  $59 + 58 + 57 \dots + 1$ . In practice the task is not as tedious as that makes it sound. Only one link between the varieties was found, namely Papworth (Variety b) = Freckenham (Variety c). It does not necessarily prove very much. It could date from the changeover from one variety to the other, but that it by no means certain. Of links within Variety b there are plenty – sub-varieties 1 with 4, 1 with 9, 1 with 13, 3 with 4, and 6 with 9. Probable links which are not however certain add 1 with 10 and 5 with 7.

### **Classification: reverse varieties**

#### *Variety a*

Four annulets in the angles of the cross, and none at the ends of the arms, separates Variety a clearly from all the rest of the reverse varieties. On one heavily-used die, however, (accounting for five of the 11 specimens) on which the cross is prominently seriffed, the two upper annulets have wandered upwards and outwards. One might well have asked oneself whether this die, so different in workmanship, is in fact connected, in terms of its use, with the neater dies. But the connection is proved by a die-link. The obverses of the neater dies are absolutely distinctive, and the same obverse style is die-linked (Ashmolean 136, etc.) to the heavily-seriffed reverses. (Thus, two specimens from Domburg (Op den Velde and Klaassen 2004, 50, 52) were minted early in Series F. That does not altogether prove that they were exported early in the primary phase, but as there are two of them, among just four of Series F, they probably were.)

#### *Variety b*

The insertion of the letters T, T, I, I (taken over from the secular Series A/C) into the angles of the cross (with any political significance? – signifying a joint issue, by king and archbishop, such as we see in Northumbria, and in the early broad pennies?) generates a range of minor sub-varieties. These are fairly easy to die-check because of the oblique angles of the letters and their positioning. With reference to the cross-on-steps, the letters are inserted the right way up (Fig. 8, 1–6), or upside down (7–11), or even sideways (12). Occasionally one or two quarters are apparently left empty (6, 12). There is a sub-group with just T, T, and annulets in the other two quarters, again inserted various ways up (13–16). One would assume that they reflect a separate (and later, devolved) phase of die-cutting, as they lack the annulets at the ends of the upper and lower arms; but there is a die-link. One die has a row of three bold dots below the steps (16). A more obviously separate die has four letters T, diagonally (17). There are enough obverse links between the sub-groups to suggest that the arrangement of the four added letters was of little consequence to the die-cutter, even if the T, T, I, I (or in some sub-varieties just T, T) were obligatory. The links are noted in the catalogue, below.

<sup>37</sup> Four were analysed by D.M.M. using the Isoprobe, and two are EPMA analyses by Dr J.P. Northover. The latter are more exact and to be trusted (Metcalf 1978; and for the analyses by Dr Northover, Metcalf 1993–94, III, 662–3.

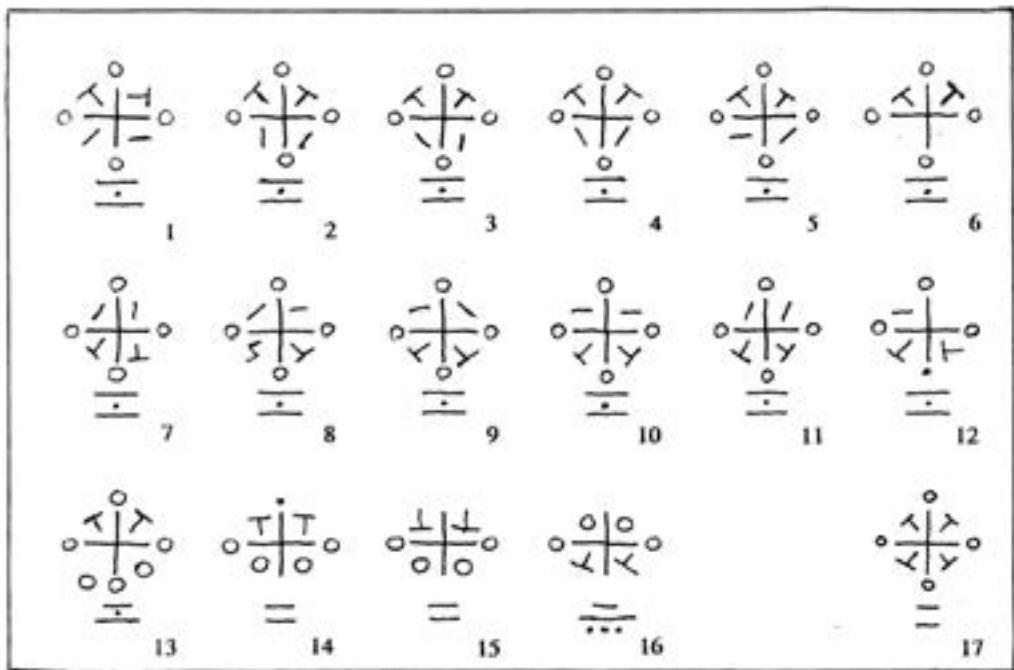


Fig. 8. Variety b. Sketch of the sub-varieties 1–17 to indicate the position and alignment of the letters T, T, I, I in relation to the cross-on-steps.

### *Variety c*

Defined, as it is, simply by the absence of the letters T, T, I, I, Variety c seems at first sight to march in parallel with Variety b, chronologically. But it is less variable, with a more compact selection of ornamentation. Sub-varieties 7 and 8 form a pair, by inversion (Fig. 9). The Variety begins simply, in 'early' style and without extra ornament (1–2), and thereafter uses pellets instead of annulets more freely than does Variety b. Sub-varieties 4 and 5, which are very similar to each other, are die-linked, and the omission of the lower annulet on 5 was doubtless neither here nor there in the mind of the engraver. Variety c perhaps concludes with dies of rough workmanship and larger annulets, that are often associated with equally rough obverses (8 and 9). Variety 9 has a reverse which is nominally the same as that of Variety d, and it could, theoretically, be transitional between Varieties c and d. Or if Variety d were produced separately, could it belong with d, using a donated obverse? The crown of the hat is sometimes neatly outlined by a semicircle of dots, the empty space in the middle then being filled in with little rows or clusters of dots. Cat. no. 99 is a good example.

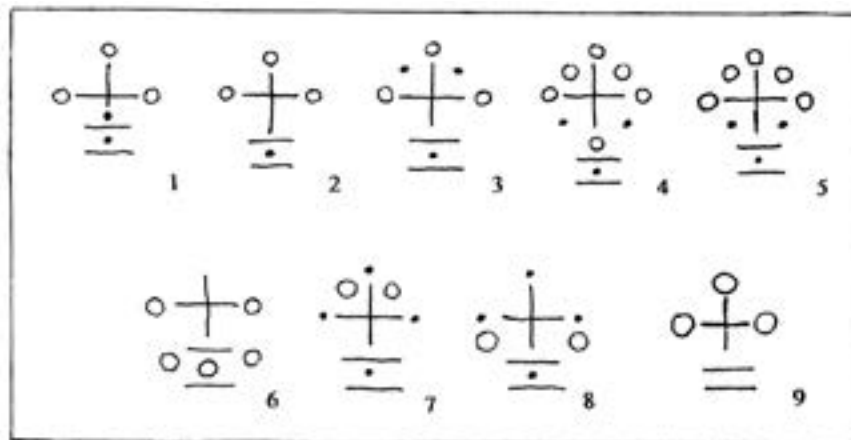


Fig. 9. Variety c. Sketch to indicate the ornamentation of sub-varieties 1–9.

*Variety d*

Of coarser workmanship, with large annulets and a general lack of ornamentation, the reverses of Variety d often have much reduced pseudo-legends, composed of the simplest of letters. Are they, then, a continuation of the rougher dies at the end of Variety c? That hypothesis is difficult to sustain, because of one much neater obverse die, presumably the earliest (catalogue nos. 119–23); it has the snub-nosed bust mentioned above, and is associated with the least simplified reverse legends. Their weights, marked N in Fig. 5, are however less compact than the rest. Nevertheless, Variety d seems to have a longer time-span, during which its style deteriorates markedly. Might it conceivably be from a second workshop? The answer, if one can be reached, will lie with the obverse dies (discussed below), and with the geographical distribution and the metrology of the variety.

*Imitation*

Other primary series, especially B and C, include a lot of dies in irregular style, although of good workmanship, good weight and, so far as is known, good alloy. They are conventionally interpreted as copies or imitations. In Series F there are remarkably few candidates for this interpretation. In Sub-variety b, 14 the die cutter has not understood the curved brim of the archbishop's hat, which is not a good sign. Otherwise there is only Sub-variety b, 17. It is the 'odd man out' in having four diagonal letters T arranged symmetrically. There seems to be just the one pair of dies.<sup>38</sup> One specimen is from the Netherlands: could it be a continental copy? Its pseudo-legends are perhaps the best clue to its status. But the style of the obverse is good.

**Synthesis**

The sceattas of Series F, which it is here suggested are the coins of the archbishops of Canterbury Theodore and his successor, Berhtwald were first struck early in the primary phase, among the very first sceattas to be struck. If the alloy of a pale gold specimen (no. 6 below) was deliberate, the design may even antedate the primary phase, and be contemporary with the thrymsas of Pada. The attribution has knock-on implications as regards the royal minting of sceattas (which some students have been reluctant to accept – including Professor Peter Sawyer, who recognizes that the sceattas of King Aldfrith are of primary-phase date, but who is less than clear-cut in his view of the origins of sceattas in the South-East<sup>39</sup>). It seems unlikely that coins should have been minted for the archbishop, and not also for the king. At that early date, there was not yet much variety of sceatta designs. The Kentish Series A was an eclectic design, borrowing elements from various pale gold thrymsa types (as Rigold demonstrated in 1960 in an effective and much-copied diagram).<sup>40</sup> It reflected a major political (and economic?) initiative, seeking to extend its appeal to East Anglia as well as the South-East. Its reverse bore a military standard and tufa. Series F, the other sceatta type paired with it, and presumably also from east Kent, had a cross-on-steps reverse, neatly contrasting the ecclesiastical with the secular (royal) design of Series A. The obverse bust with its broad-brimmed hat was an even more conspicuous choice than it would have been a few decades later. It imitated Merovingian coins of the mint of Auxerre. The design was chosen not because it was a familiar import, but because its iconography had significance, and could be applied in an English context. (Even when the design originally had a different significance, this was a normal way of thinking, on the part of those who chose sceatta designs.)

The minting of Series F, like that of Series A, B, and C, would seem to have been located at or near the point of entry of foreign traders into England (Richborough, the Wantsum Channel, Fordwich, and the Thames estuary), although why so much silver was reminted when so much more was not (e.g., at a rather later date, Series D and E) and when a miscellaneous currency was perfectly acceptable remains something of a mystery.

<sup>38</sup> Another specimen in *NCirc* 1992, no. 1762, 1.29 g.

<sup>39</sup> Sawyer 2013, 76.

<sup>40</sup> Rigold 1960, 10, and cf. Metcalf 1993, 85.

The early coins, of Variety a, on the evidence of a rather small sample, mostly weigh around 1.13/1.14 g, with a couple of specimens tipping the balance at around 1.23/1.24 g. That is substantially lighter than the substantive Type A2, which generates a clearly-defined peak at *c.* 1.28 g. Apparently this was not viewed as threatening the reputation of Series A. The silver alloy standard of Series F, however, was of the best.

After Variety a, minting may perhaps have been in abeyance for some years, although the coins already minted may have stayed in circulation. The same design was then resumed, and the bulk of the output of Series F will perhaps belong to the final two decades of the primary phase – on current thinking, the first two decades of the eighth century.<sup>41</sup> The weight-standard stayed very much the same, while that of Series A (and B) deteriorated.

The number of dies employed to produce the whole of Series F, mainly in the early eighth century, is estimated at about a hundred, of which roughly two-thirds are known. The hand of more than one die-cutter can be recognized. The archbishop's profits will have been a useful source of income. As we know what proportion the series makes up among all stray finds of primary-phase sceattas from England, namely *c.* 2.5 per cent,<sup>42</sup> the estimate gives us a pointer to the impressive scale of the English currency, by the end of the primary phase. Very roughly, the hundred dies of Series F made up a fortieth of the total, *viz.* 4,000. It will be desirable to gather up several similarly calculated pro-rata estimates based on other series, and thus to 'home in' on the best estimate of the size of the currency.<sup>43</sup>

The internal chronology of Varieties b and c and their relationship to each other remain uncertain. Different strands of evidence point in different directions, but the weightiest is perhaps from a die-link between Variety c and b, suggesting that order. The problem is made even more so, in Variety b, by the quite plentiful links between reverse sub-varieties. The generally neat, compact style of some of the reverses of Variety c, nos. 77–91, makes one think that they may be early, or at least early in Variety c. The Pleshey hoard consists of coins of this kind. Another strand of evidence is the runs of die-duplicates in Variety b, which one would prefer to understand as lying close to the date of deposit. Again, that would place Variety b later than c. If we had a sizeable hoard concealed part-way through the issue of Series F, much would probably become clear which is at present uncertain, since the recorded hoards (Alpington, Aldborough, Aston Rowant, and Kings Lynn) all fall late in the series, even if the first two hoards are perhaps a little earlier.

Variety d is even more puzzling. Could it possibly be from a separate mint-place, or it is merely late in Series F? The evidence is at present inconclusive, and is compounded by one die-combination which on the face of it has a Variety c obverse, but a Variety d reverse. Whatever the correct interpretation, there is little or no reason to think that it was minted elsewhere than in the South-East.

The occurrence of runs of die-duplicates in the hoards raises intriguing questions as to how the coins were put into circulation. (In the northern province, there is some evidence which suggests that the archbishop may have given financial support to outlying churches, using his own coin issue.<sup>44</sup> But this was only a minor aspect of the evidence.) Comparative material is at present lacking. Alcester is somewhere to keep an eye on. But it seems that, once issued, Series F mingled with and circulated widely, alongside the original primary series, A, B, and C. Incidentally, attribution to the archbishops encourages the view that A, B, and C are royal coinages.

<sup>41</sup> This rests on the end-date for Series D in Friesland, and on Lafaurie's re-dating of the Cimiez hoard taking account of the deniers of the bishops of Paris.

<sup>42</sup> Metcalf 1993–94, I, table at p. 8. The table is in two columns, for primary- and secondary-phase issues. The primary phase, on the left, amounts to 47.2 per cent of the total.  $1.2/47.2 = 2.5$  per cent. The values in the table could usefully be re-calculated on the basis of a more up-to-date list of finds – doubtless with some minor adjustments.

<sup>43</sup> The methodology is discussed more fully in Metcalf 2014.

<sup>44</sup> Metcalf 2002.

## CATALOGUE

The great majority of the coins below have been illustrated in print, and/or on the EMC database. I am grateful to Dr A.E. Marsden for his generous help with the die-study, and also to Dr Anna Gannon for information about coins in the British Museum. Unpublished material is from the author's files. Brief references are given.

*Abbreviations*

CR	Coin Register
MEC	P. Grierson and M.A.S. Blackburn, <i>Medieval European Coinage</i> , vol. 1, <i>The Early Middle Ages (5th–10th Centuries)</i> (Cambridge, 1986).
p.s.	productive site
wnr	weight not recorded.

*Hoards*

Alpington: unpublished information kindly made available by Dr Adrian Marsden.

Aldborough: Marsden 2012, and supplementary information kindly made available by Dr Marsden.

Aston Rowant: Kent 1972. (The 175 coins briefly described by Dr Kent were acquired by the British Museum. Note that further parcels from the hoard were auctioned at Glendining's, 13 March 1975, lots 211–42; Sotheby 18 July 1985, lots 493–506; and Sotheby 17 July 1986, lots 177–93. A further 77 coins not stated but presumed to be from the hoard were auctioned at Glendining's, 17 February 1988, lots 274–306. Coins of Series F are under-represented in the auctioned parcels, compared with the original declared find.

Kings Lynn (hoard or grave-find): unpublished information in the writer's files.

*Collections, etc.*

Beowulf collection: see Abramson 2008.

De Wit: *The De Wit Collection of Medieval Coins. 1000 Years of European Coinage. Part IV. The Sceattas, Now Part of the Fitzwilliam Museum Collection, Cambridge*. Numismatischer Verlag, Fritz Rudolf Künker GmbH and Co, Osnabrück, 2008, nos. S140–7.

Finn, Patrick: Fixed price lists, 1–18, Kendal, 1994–2000, and Memorial List, 2001. See also Abramson 2008b.

Subjack: The William L. Subjack Collection of Thrymsas and Sceattas. Italo Vecchi, Ltd., Nummorum Auctiones 11, 5 June 1998.

**Variety a.** There are two very different styles of die-cutting especially as regards the obverse bust, but they are die-linked. The neater style has a hat with an unusually small crown. Out of 11 specimens of Variety a, four (nos. 6–9) are from the same obverse, and five (nos. 6–8, 10–11) are from the same reverse. In all seven or eight obverse dies and seven reverse dies are on record. Variety a seems to have had a lower survival-rate than the rest of Series F, even though it remained in circulation until the end of the primary phase. There are two specimens (only) from Aston Rowant, and two, in poor condition, from Domburg.

1. Berwick, Sussex. De Wit 142, ex Finn 6, 37. 1.14 g. (Early, experimental obverse? – with larger bust.)

2. Finn 13, 25. 18.6 gr. = 1.21 g. (The reverse die is close to that of no. 1, even though the obverse, with smaller head in low relief, and sharply-pointed nose, is very different.)
3. Aston Rowant, 1988 parcel, lot 291. 1.25 g. (The reverse die is close to those of nos. 1–2, while the obverse is very similar to no. 4.)
4. Fitzwilliam Museum, MEC 688, ex Grantley. 1.12 g. (Isoprobe analysis, 94% 'silver'. The upper half of the obverse die corresponds so closely with nos. 5–8 as to suggest re-cutting.)
5. Great Ryburgh, Norfolk, 1987. 1.13 g. CR 1987, 69.
6. Fitzwilliam Museum, MEC 687, ex Spink, 1959. 1.15 g. Same dies as nos. 7–8, and same rev. as nos. 10–11. (Pale gold, 9–11% Au. The reverse cross now has chunky triangular serifs.)
7. Ashmolean Museum (Metcalf 1993–94, pl. 7, no. 136, ex Evans (1941)). 1.14 g. Same dies as no. 6, etc. (89% Ag.)
8. Bedford (probably Biddenham loop p.s.), 1990. wnr. Same dies as no. 6, etc.
9. Aston Rowant (British Museum). Same obverse (off-centre) as no. 6. The reverse is badly off-centre, but close in style to nos. 6–8, although apparently not the same.
10. Domburg 50, ex De Man. 1.00 g. Same rev. as no. 6, etc. Obverse obscure, but hat with larger crown.
11. Domburg 52. Zeeuwsch genootschap 306. 0.76 g. Same rev. as no. 6, etc., Obverse badly corroded but evidently similar to no. 10.

**Variety b.** The many specimens which add T, T, I, I in whole or part are here listed for convenience under the reverse sub-varieties sketched in Fig. 6, 1–17. Die-links between the sub-varieties are not uncommon. Six specimens from the same obverse (nos. 12–17) are from three different sub-varieties – which is enough to suggest that the obverse design was on the lower die. The die-linkage between sub-varieties 1 and 13 is unexpected. There follows a group of deceptively similar obverse dies (presumably cut at much the same time, or as a batch, even) comprising nine or ten obverses, which are associated with 12 reverses. One reverse die in particular is heavily used, being recorded from nine specimens, on combination with two or three obverses. Another heavily used pair of dies (nos. 35–44?) is represented by at least four specimens in the Aston Rowant hoard.

*Reverse sub-variety 1 (see also no. 55 below)*

12. De Wit 141, ex Mack 338 ex Lawrence 191. 1.03 g. Same dies as nos. 13–14. (The two dots representing the lips are aligned horizontally.)
13. Berlin Museum, SCBI 36, no. 29, ex Reichsbank colln. (1953). 1.18 g. Same dies as no 12, etc.
14. Aston Rowant (British Museum). Same dies as no. 12, etc.



*(Reverse sub-variety 4)*

15. Ashmolean Museum (Metcalf 1993–94, pl. 7, no. 137), bought 1986. 1.09 g. Same obv. die as no. 12, etc. EPMA analysis, 95% ‘silver’.

*(Reverse sub-variety 13)*

16. Hunterian Museum, *SCBI* 2, no. 61, ex Lockett I, 236. 1.02 g. Same obv. as no. 12, etc. and same dies as no. 17.  
 17. Great Mongeham, Kent. CR 2002, 108. wnr. Same dies as no. 16.

*(Reverse sub-variety 10)*

18. Aston Rowant (British Museum). Similar obverse to nos. 12–17.

*Reverse sub-variety 2*

19. Maidstone, Kent. CR 2007, 135. 1.05 g. The obverse die is extremely similar to those of sub-variety 3, which follow.

*(Reverse sub-variety 10)*

20. Spalding p.s. *The Searcher*, Sept., 2003, fig. 15. EMC 2006.0265. 1.04 g. Same obv. as no. 50 below.

*Reverse sub-variety 3*

21. Good Easter, Essex. CR 2002, 107. 1.13 g. Same rev. as nos. 22–25.  
 22. Subjack 25 (1998). 1.24 g. Same dies as no. 21.  
 23. Mickfield, Suffolk. CR 2003, 87. 0.96 g. Same dies.  
 24. Aston Rowant (British Museum). Apparently the same obv., certainly the same rev.  
 25. Oxfordshire. EMC 2006.0054. 1.02 g. Same dies as no. 21.  
 26. De Wit 143, ex Finn 19, 21. 1.06 g. Extremely similar obv. to nos. 21–5, and same rev.  
 27. Beowulf collection, no. 13, bt. May 1997. 0.99 g. Same dies as no. 26.  
 28. West Stafford, Dorset. EMC 1998.0103. Same dies as no. 26.  
 29. Spalding p.s. (‘South Lincs.’), 1999.0014. 1.17 g. Same dies as 26.  
 30. Southill, Beds. EMC 1987.0070.

*(Reverse sub-variety 4: see also no. 15 above)*

31. Oxford. EMC 2005.0130. 1.02 g. Same obv. as 21–5.

*Reverse sub-variety 5*

32. Fingringhoe, Essex, 1997. wnr. (Indistinct photograph; almost certainly the same obverse as no. 33.)

*(Reverse sub-variety 7)*

33. Newton Flotman, Norfolk. wnr. EMC 1997.0073. Almost certainly the same obverse as no. 32.

*Reverse sub-variety 6 (see also no. 56 below)*

34. Beowulf collection, no. 14, bt. July 1994. 1.24 g. Same obv. as 35; same rev. as 36.

35. North Lopham, Norfolk. CR 1993, 168. 1.17 g. Same obv. as no. 34.  
 36. Colchester, Essex. CR 2009, 143. 1.04 g. Same rev. as no. 34.  
 37. Warlingham, Surrey. SUR-368867. Same obverse die as the Papworth find, no. 73 below, and also nos. 81, etc., which are of Variety c.

*Reverse sub-variety 7*

38. Hunterian Museum, *SCBI* 2, no. 58. 1.17 g. (Obverse in similar style to sub-variety 9, below.)  
 39. Aston Rowant (British Museum). Same dies as nos. 40–6, and same rev. as 47–8. (The obverse die-identity is almost certain.)  
 40. Aston Rowant (British Museum). Same dies as no. 39, etc.  
 41. Aston Rowant (British Museum). Same dies as no. 39, etc.  
 42. Aston Rowant (British Museum). Same dies as no. 39, etc.  
 43. De Wit 144, bt Spink 1997. 1.21 g. Same dies as no. 39, etc.  
 44. De Wit 145, bt 1988. 1.21 g. Same dies as no. 39, etc. (Said to have been in the possession of the vendors, Spaar en Voorschotbank, for about 7 years. Perhaps ex Aston Rowant?)  
 45. Patrick Finn (pers. comm). Same dies as no. 39, etc.  
 46. Van Henzen-Amerongen list 122 (July 2001), no. 3416. Same dies as no. 39, etc.  
 47. Benson, Oxfordshire, February 1994. wnr. Same rev. as no. 39, etc. and same obv. as no. 48. (Found ‘roughly half-way between RAF Benson and Ewelme’.)  
 48. Royston p.s., Herts., 2007 CR 2009, 141. 1.06 g. Same reverse as no. 40, etc., and same obverse as no. 47.

*Reverse sub-variety 8*

49. Great Bromley, Essex. CR 2007, 134. 0.94 g.  
 50. Aston Rowant (British Museum). Same obv. as no. 20 above.

*Reverse sub-variety 9*

51. Islip, Northants. CR 2009, 142. 0.53 g. (Remarkably light, if the weight is correctly recorded.)  
 52. Burnham, Norfolk. CR 1992, 228. 1.07 g. Same rev. as no. 53.  
 53. Stamford Bridge, North Yorkshire. CR 2008, 131. wnr. Same rev. as no. 52, and same obv. as nos. 54 and 56.  
 54. Northampton. CR 2008, 130. wnr. Same obv. as nos. 53 and 56.

*(Reverse sub-variety 1)*

55. Kingston Deverill, Wilts. 1.16 g. Same obv. as nos. 52–3. Same rev. as nos. 12–14. (On this specimen one can see clearly that the line of the nose is dotted.)

*(Reverse sub-variety 6)*

56. Cliffe/Cliffe Woods, Kent. KENT-356BE5. Same obv. as nos. 53–4.

*Reverse sub-variety 10.* See nos. 18 and 20 above.

*Reverse sub-variety 11*

57. Hunterian Museum, *SCBI* 2, no. 59. 1.18g.

*Reverse sub-variety 12*

58. Aldborough hoard, 28. 1.20 g. Same dies as nos. 59–61, and same rev. also as no. 62.

59. Aldborough hoard, 29. 1.17 g. Same dies as no. 58, etc.

60. Aldborough hoard, 30. 1.24 g. Same dies as no. 58, etc.

61. Aldborough hoard, 31. 1.16 g. Same dies as no. 58, etc.

62. Aldborough hoard, 32. 1.24 g. Same reverse as no. 58, etc.

*Reverse sub-variety 13.* See nos. 16 and 17.

*Reverse sub-variety 14*

63. Hunterian Museum, *SCBI* 2, no. 60. 1.12 g. Same rev. die as nos. 64–6.

64. Royston, Herts p.s. EMC 1986.0013. 1.1 g. Same obv. as no. 65, and same rev. as no. 63, etc.

65. Lashley Green, Essex. 1.17 g. EMC 2005.0069. Same obv. as no. 64, and same rev. as no. 63, etc.

66. De Wit 140, ex Finn 15, 43. 1.08 g. Same rev. as nos. 63, etc.

67. Aldborough hoard 27. 1.26 g.

68. Alington hoard 9. 1.18 g. Same dies as no. 67.

69. Aldborough hoard 26. 1.14 g. (Indistinct. The letters T, T are almost invisible. Similar to no. 67?)

*Reverse sub-variety 15*

70. Aston Rowant (British Museum). (Obscure.)

*Reverse sub-variety 16*

71. Aston Rowant, 1988, lot 292c. 1.23 g. (Row of three dots below cross-on-steps.)

72. Thwing, North Yorkshire. Pirie 1984, 215, pl. 11, no. 18. 1.20 g. From Paddock Hill excavations, 1983. Perhaps the same rev. as no. 73. (Row of three dots below cross-on-steps.)

73. Papworth, Cambs. wnr. EMC 2010.0396. From Site 2. Same obverse as no. 37 (reverse sub-variety 6), perhaps the same rev. as no. 72.

*Reverse sub-variety 17 (four letters T, diagonally)*

74. Fitzwilliam Museum, *MEC* I, 690, ex Grantley 742. 1.07 g. Isoprobe analysis, 94% 'silver. Same dies as nos. 75–6. (Distinctive hat with large crown.)

75. Abramson 2013, 214, no. 40. Same dies as no. 74, etc.

76. Friesland province, Netherlands. K. Faber, ex colln. directeur Surhuisterveen. Same dies as nos. 74–5. wnr.

**Variety c.** Specimens are listed in accordance with the sub-varieties sketched in Fig. 2.

*Reverse sub-variety 1*

77. Pleshey, Essex hoard, 2008/2011. CR 2009, 144. 1.14 g. Same dies as nos. 78–9, and almost certainly the same obv. as no. 80. (This coin was

found on 15 April 2008, and two more from the same dies were found on 13–14 April 2011. They were adjudged, no doubt correctly, to constitute a hoard, and were processed as such, Treasure no. 2011T306.)

78. Pleshey, Essex hoard. 1.16 g. Same dies as no. 77, etc.

79. Pleshey, Essex hoard. 1.22 g. Same dies as no. 77, etc.

80. Higham, Kent. CR 1989, 69. 1.06 g. Almost certainly the same obv. as no. 77, etc.

81. Billericay, Essex. CR 1990, 180. 1.17 g. Same dies as nos. 82–4, and same obv. as nos. 37 and 73 of Variety b. (A mini-hoard, with a coin of Type C2?)

82. Stanfield, Norfolk. Same dies as no. 81, etc.

83. North Wymondley, Norfolk. 1.02 g. Same dies as no. 81, etc.

84. Freckenham, Suffolk (p.s.?). Abramson, 2013, 214, no. 10, ex M.J.B. Summer, 2010. Same dies as no. 81, etc.

*Reverse sub-variety 2*

85. Otterbourne, Hants, 1991. CR 1993, 167. 0.99 g. Same dies as nos. 86–7, and same obv. as 88–90. (On the obverse, note the row of three dots in front of the face.)

86. *NCirc* 1992, no. 1761. 1.29 g. Same dies as no. 85, etc.

87. Linton, Cambs p.s. CR 2009, 145. 1.1 g. Same dies as no. 85, etc.

88. Domburg 53, ex Boogaert colln. wnr. Same obv. as no. 85, etc.

89. Finn, 14, 39. 18.6 gr. = 1.21 g. Same dies as no. 90.

90. Wanborough, Surrey. Same dies as no. 89.

91. Spalding p.s. EMC 1999.0202. 1.31 g. (!)

*Reverse sub-variety 3 (see also nos. 113–15 below, in crude style)*

92. Aston Rowant, 1988 lot 289. 1.28 g. Same dies as no. 93.

93. Abramson 2013, 213, no. 20. Same dies as no. 92.

*Reverse sub-variety 4 (die-linked to sub-variety 5)*

94. London, South Bank = Battersea, Surrey, c.1985. Stott 1984, 243. 1.13 g. EMC 1984.1041. Same dies as no. 95.

95. Mack collection. EMC 1016.0073. 1.05 g. Same dies as no. 94.

96. Aston Rowant, 1988 parcel. Same rev. as no. 94, etc., and similar obv.

97. Carisbrooke p.s., Isle of Wight. Ulmschneider and Metcalf 2013, no. 54. 1.14 g. Same rev. as 94, and same obv. as no. 99.

98. Burgh Castle, Norfolk, 1954. EMC 2000.0045 = 2001.0743. 0.87 g. Worn and obscure, but similar to nos. 94–5, and belongs here in the list (different dies?).

99. Aston Rowant (British Museum). Same obv. as nos. 94–6, 98, and, in the next sub-variety, 100–3.

*Reverse sub-variety 5 (die-linked to sub-variety 4)*

100. Dover, South of England Pure Gold metal-detecting rally near, Sept. 1997. wnr. Same obv. as

- nos. 97 and 99, and same dies as nos. 101–3. (Sub-variety 5 lacks the annulet between the cross and the steps.)
101. Datching, Sussex. CR 1989, 68. 0.93 g. Same dies as no. 100, etc.
102. Little Somborne, Hants. HAMP3895. 1.19 g. Same dies as no. 100, etc.
103. Otterhampton, Somerset. SOM-419EA5. 1.09 g. Same dies as no. 100, etc.
- Reverse sub-variety 6*
104. De Wit 147, ex Finn 18, 35. 0.99 g. Abramson 2013, 214, no. 60.
- Reverse sub-variety 7*
105. Alington hoard 7. 1.10 g. Same obv. as nos. 106–7.
106. Alington hoard 8. 1.16 g. Same obv. as nos. 105 and 107.
107. Brighstone, Isle of Wight. Ulmschneider and Metcalf 2013, no. 98. 1.11 g. Same obv. as nos. 105–6.
108. East Oxfordshire. EMC 2003.0138. 1.11 g.
- Reverse sub-variety 8*
109. Hunterian Museum, *SCBI* 2, no. 62, ex Coates. 1.16 g. Same dies as nos 110–12. (Row of three dots in front of face, as also on sub-variety 2. The hat, which should be broad-brimmed, is here less well understood.)
110. Aston Rowant (British Museum). Same dies as no. 109.
111. Roughton, Norfolk. 1.14 g. Same dies as no. 109.
112. Abramson 2013, 214, no. 35. Same dies as no. 109.
113. Grantham area. wnr. Information from a rough sketch. Probably the same dies as no. 109.
- Reverse sub-variety 3 (crude obverse)*
- Placing these coins here is dictated merely by ‘common sense’.
114. Kings Lynn hoard/grave find. 1.19 g. Same dies as no. 115, same obv. as no. 116.
115. Aston Rowant (British Museum). Same dies as no. 114.
116. Aston Rowant (British Museum). Same obv. as no. 114, and similar rev. The same rev. as no. 118.
117. Alington hoard. Same reverse as no. 114. 1.09 g.
118. Burnham Market, Norfolk. CR 1993, 169. 1.17 g. Same obv. as no. 114, etc., and same rev. as no. 116.
- Variety c? (Formally the same reverse as Variety d).**
- Reverse sub-variety 9*
119. Aston Rowant (British Museum). Same dies as nos. 120–3.
120. Aston Rowant. Glendinings, 1988, lot 290. 1.26 g. Same dies as no. 119.
121. Bolton Percy, Yorkshire. 1.18 g. Same dies as no. 119, etc.
122. Ashfield, Suffolk. CR 1990, 179. 1.06 g. Same dies as no. 119, etc.
123. Abramson 2013, 214, no. 50. Same dies as no. 119, etc.
- Variety d.** The quality of the obverse dies varies. A group of better workmanship (nos. 124–30) has been placed first.
124. Burnham Market/Overy, Norfolk. Site 18496. CR 1994, 148. From the same dies as nos. 120–4, and the same rev. as no. 125.
125. Roydon. SUSS-D9A201. From the same dies as no. 124.
126. *NCirc* July 1988, no. 4601. 19.7 gr. = 1.28 g. Same dies as no. 124.
127. De Wit 146, ex *NCirc* 1989, no. 3985. 1.17 g. Same dies as no. 124.
128. Fitzwilliam Museum, *MEC* 689, ex Grantley 742. Same dies as no. 124, the obverse now in a worn condition. Isoprobe analysis 94.6% ‘silver’.
129. Domburg 51, ex De Man. 1.16 g. Same dies as no. 124.
130. Chelmsford, Essex. CR 1993, 166. Same rev. as no. 124, etc.
131. Bledlow, Bucks. 1993. 1.16 g. Same dies as nos. 132–6, and same rev. as no. 137.
132. Great Dunham, Norfolk. EMC 2009.0370. 1.16 g. Same dies as no. 131.
133. Sledmere p.s., East Yorkshire. CR 2002, 109. 1.13 g. Same dies as no. 131.
134. Wiltshire. EMC 2008.0010. 1.21 g. Same dies as no. 131.
135. Aldborough hoard 33. 0.96 g. Same dies as no. 131.
136. Aldborough hoard 67. 1.18 g. Same dies as no. 131.
137. Isle of Sheppey, c.1995. 1.29 g. Same rev. as no. 131, and same obv. as no. 138.
138. Rendlesham survey, Suffolk. EMC 2011.0051. Same obv. as no. 137, and same rev. as no. 140, etc.
139. Alcester, Warks. 2003. Laight and Metcalf 2012, no. 11. 1.17 g. Same dies as no. 138.
140. Aylesbury, Bucks. 1997. 1.21 g. Same rev. as no. 131.
141. Bunny, Notts. CR 1999, 65. 0.78 g. Broken half, similar but indistinct.
142. Alciston, E. Sussex. HAMP-704A51. 1.09 g. Same rev. as nos. 143–5.
143. Teversham, Cambs. CR 2003, 88. 1.04 g. Same dies as no. 144.
144. Hindringham, Norfolk. CR 2002, 110. 1.20 g. Same dies as no. 143, and same rev. as no. 145.
145. Bassingbourne, Cambs. EMC 2010.0280. wnr. Same rev. as nos. 142–4.
- Provenanced coins which could not be die-checked include Coldred (Kent), Frilford, Old Warden, Oversley (Variety c), Wareham (Dorset), and Watlington.

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