

THE CHRONOLOGY OF SHORT CROSS CLASS Ia

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THE publication of the late John Brand's M.A. thesis on the Short Cross coinage has provided a comprehensive review of the documentary evidence needed to attempt a reconstruction of the chronology of class Ia.¹ In 1966 Brand, with F. Elmore Jones, made a major contribution to this chronology by arguing that L.A. Lawrence's class Ia was in production at the Winchester mint in July 1180,² but it is possible to go much further in the investigation of the subject.

R.W. Eyton was the first to note that the decision to issue a new coinage was taken at an Oxford session of the Curia Regis, dated by him to c. January 1180: 'in assisa apud Oxoniam quando consideratum fuit ut secunda moneta curreret'.³ Eyton did not give the source of this quotation, but it has been found to be a charter cited in a legal dispute in 1208, which only dates the Oxford Council to the twenty-sixth regnal year of Henry II (i.e. the year from 19 December 1179 to 18 December 1180).⁴ The Council must have occurred before Henry II's departure to Normandy, dated by Eyton to c. 15 April 1180.⁵ Brand was undoubtedly correct to infer that the Council probably met in February 1180, following J.H. Round's interpretation of a fine of 11 February 1180, witnessed at Oxford by all of the king's principal justiciars and four other justices.⁶ A tentative dating of the Oxford decision to February 1180 would be consistent with the departure of Richard of Ilchester, Bishop of Winchester, on an embassy to King Louis VII of France on 5 March 1180.⁷ Bishop Richard's subsequent return with the royal exchangers of Tours and Le Mans⁸ provides evidence supporting D.F. Allen's assumption that the preparation of the recoinage was one purpose of the visit,⁹ and it is relatively unlikely that the Oxford decision would have been made after the departure of a man so prominent in Henry II's financial business.¹⁰

The Oxford Council provides a probable *terminus post quem* of c. February 1180 for the introduction of class Ia, and the Winchester fire discussed by Brand and Elmore Jones provides a probable *terminus ante quem*. The *Winchester Annals* recorded a fire on the night of St. Swithin's eve 1180, which burnt the mint (*monetaria in Wintonia*), and spread to the greater and better part (*majorem partem et meliorem*) of the city.¹¹ Brand and Elmore Jones believed that the date intended by the *Winchester Annals* was the night of 1/2 July 1180,¹² but

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¹ J.D. Brand, *The English Coinage 1180–1247: Money, Mint and Exchange* (British Numismatic Soc. Special Publication 1, London, 1994).

² J.D. Brand and F. Elmore Jones, 'The Emergency Mint of Wilton in 1180', *BNJ* 35 (1966), 116–19.

³ R.W. Eyton, *Court, Household and Itinerary of Henry II* (London, 1878), p. 230 n. 4.

⁴ C.T. Flower, *Introduction to the Curia Regis Rolls, 1199–1230 A.D.* (Selden Soc. 62, 1943), p. 50.

⁵ Eyton, p. 231.

⁶ Brand, *The English Coinage 1180–1247*, p. 24; J.H. Round, *Feudal England* (London, 1895), p. 433.

⁷ Eyton, *Court, Household and Itinerary of Henry II*, p. 231.

⁸ *Magni Rotuli Scaccarii Normaniae sub Regibus Angliae*, edited by T. Stapleton (2 vols, London, 1840–4), I, p. 38.

⁹ D.F. Allen, *A Catalogue of English Coins in the British Museum: The Cross-and-Crosslets (Tealby) Type of Henry II* (London, 1951), p. lxxxix.

¹⁰ W.L. Warren, *Henry II* (London, 1973), pp. 311–13, discusses Richard of Ilchester's role in the reorganization of the financial administration of Normandy, and his importance as a special Baron of the Exchequer.

¹¹ *Annales de Wintonia in Annales Monastici*, edited by H.R. Luard (5 vols, Rolls Series 36, 1864–9), II, p. 62.

¹² Brand and Elmore Jones, 'The Emergency Mint of Wilton', 116–17.

it might also have been 14/15 July.¹³ They proposed that Lawrence's class Ia was in production in Winchester before the fire, and that the Wilton mint was a temporary replacement for the Winchester mint after the fire, using dies brought from Winchester. Evidence provided by the application of the revised definition and new subdivisions of class Ia introduced in this volume by Jeffrey Mass requires a re-examination of these proposals.¹⁴ All of the five new subdivisions of class Ia were produced in both Winchester and Wilton (with the single exception of class Ia3 at Wilton), and the class Ia1 reverse die of the moneyer Rodbert with an unaltered Wilton mint-signature is earlier than his two dies altered from WIN to WIL (which are attributable to class Ia2 and class Ia4 or a later variety, respectively).¹⁵ The supply of the class Ia1 reverse die of Rodbert, and the opening of the Wilton mint, evidently preceded the apparent disruption of the activity of the Winchester mint associated with the fire by Brand and Elmore Jones. The disruption, if it was a single event, almost certainly occurred during the production of class Ia2: the three obverse dies apparently transferred from Winchester to Wilton were of classes Ia1 and Ia2, and the Winchester moneyer Henri is only known from a reverse die of class Ia2.¹⁶ It cannot be demonstrated that the fire directly caused the alteration of Rodbert's class Ia2 reverse die, the apparent transfer of dies, or the termination of the coinage of Henri, but the cumulative evidence for a fire-related disruption at the Winchester mint during the supply of class Ia2 dies is strong.

Brand and Elmore Jones's assumption that the Wilton moneyers Osber and Rodbert were also moneyers in Winchester may be justifiable, although only Rodbert is known to have used Winchester reverse dies altered for use in Wilton. The 1183/4 Pipe Roll recorded a debt of two marks owed by 'Osbertus monetarius de Wilton', for the use of the mint building (*domus*) in Winchester 'where the moneyers work' (*ubi monetarii operantur*).¹⁷ It might be concluded that 'Osbertus' worked as a moneyer in Winchester as well as in Wilton, although this conclusion seems to be contradicted by the expansion of the Winchester moneyer's name to 'Osbern' on a class Ia1 reverse die.¹⁸ It is possible that either this reverse die or the Pipe Roll recorded the name incorrectly.¹⁹

One or more of the exchangers associated with Winchester during the introduction of the Short Cross coinage may also have operated in Wilton, although none of the relatively plentiful Pipe Roll references to the costs of exchanging name Wilton.²⁰ The Winchester mint and exchange may have had a subsidiary operation in Wilton, unparalleled in 1180, as part of Winchester's central role in the organization of the recoinage.²¹ The Hampshire account in the

¹³ *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, edited by M. Biddle (Winchester Studies 1, London, 1976), p. 419 n. 8.

¹⁴ J.P. Mass, 'Of Dies, Design Changes, and Square Lettering in the Opening Phase of the Short Cross Coinage', *BNJ* 63 (1993), 20–52.

¹⁵ Mass, pp. 36–38.

¹⁶ Mass, pp. 38.

¹⁷ *Pipe Roll 30 Henry II* (Pipe Roll Soc. 33, 1912), p. 85.

¹⁸ Mass, 'Of Dies, Design Changes, and Square Lettering', 23.

¹⁹ The Winchester moneyer 'Osbern', named consistently by coins of classes III and IVa, may not be the same man as the 'Osber(n)' of classes Ia and Ib. I am very grateful to Dr David Crook of the Public Record Office for confirmation of the reading of the name on the 1183/4 Pipe Roll (E 372/30, r. 6d). The 1184/5 Pipe Roll (*Pipe Roll 31 Henry II* (Pipe Roll Soc. 34, 1913), p. 192) records a debt incurred by the borough of Wilton, concerning 'Osberto monetario'.

²⁰ Brunus Burdin and Mansellus (see below, p. 56), and also Walter f. Geroldi and Rolland, were exchangers in Winchester at various times.

²¹ W.J. Andrew, 'A Numismatic History of the Reign of Henry I (1100–1135)', *NC* 4th ser. 1 (1901), 1–502, at pp. 407 and 449 assumed that the Wilton moneyers were often seconded from the Winchester mint, in and before the reign of Henry I. J.J. North, *English Hammered Coinage Volume I Early Anglo-Saxon to Henry III c. 600–1272*, 3rd edn. (London, 1994), pp. 148, 150, 158, 166–7, 177–8, 186, 196, 201, 206 and 218 lists thirty-nine unequivocally different moneyers' names for Wilton before the Short Cross coinage, some of which may represent more than one man at different times (most notably 'Thurcil' in the reign of Edward the Confessor and the equivalent name 'Turchil' in the reign of Henry I). Only thirteen of these thirty-nine names are known from coins of Wilton and Winchester in the same reign, and it cannot be assumed that all of the appearances of a name at both mints indicate the sharing of a moneyer. The name 'Willem' found on Henry III Long Cross coins of both mints refers to 'Willelmus filius Radulfi' or 'Willelmus Mauger' at Wilton, and 'Willelmus Prior' at Winchester (*The De Moneta of Nicholas Oresme and English Mint Documents*, translated and edited by C. Johnson (London, 1956), pp. 100 and 104).

1179/80 Pipe Roll, evidently with reference to Winchester, records the sending of treasure to various places to make the (new) money (*ad faciendum (novam) monetam*), and the despatch of materials to the mints or moneyers of England (*monetariis Anglie*).²² The same roll also records the sending of dies from Winchester to Oxford and Northampton, and back to Winchester,²³ which caused Brand to suggest plausibly that dies were being made in Winchester.²⁴

The opening of the Wilton mint might possibly have been prompted by Wilton's status as an important royal borough.²⁵ If the absence of explicit documentary references to exchanging in Wilton was caused by an actual absence of paid exchangers, it is conceivable that the mint was primarily for the king's use, sharing moneyers with another royal centre (namely, Winchester).²⁶ D.F. Allen suggested that the Oxford mint was not associated with any exchangers, because it was opened during the recoinage to provide the king with new money.²⁷

After the Winchester fire the next, problematic, evidence for the chronology of class Ia is provided by the coins and documented activities of Philip Aimer. This important exchanger and moneyer, described as a native of Tours (*natione Turonicus*) by Ralph de Diceto,²⁸ was probably the exchanger of Tours who accompanied Richard of Ilchester on his return to England in the summer of 1180. Eyton believed that Bishop Richard remained in Normandy until July, witnessing a charter dated by Eyton to c. July 1180.²⁹ Brand was probably correct to assume that Philip Aimer's arrival, and hence his coins, should be dated after the Winchester fire.³⁰ The class Ia1 reverse die of 'Aimer' recorded by Mass³¹ was almost certainly supplied to Philip's son before the fire,³² and the earliest of Philip's own 'Fił Aimer' reverse dies, attributable to class Ia3,³³ were probably supplied between the fire and about the end of August. Philip's first dated period of payment as an exchanger began on 29 August 1180,³⁴ and his class Ia3 reverse dies may have been provided at about that time, to convert some or all of the silver he received into the new money. Certainly, the payment of melters (*fusores*) from dates in September at two places where exchangers were paid from 29 August³⁵ is consistent with the conversion of accumulated silver after an initial period of using a 'float'.³⁶ It is possible that Philip received his class Ia3 dies after August 1180, but a tentative date of c. July/August for the production of class Ia3 dies would be compatible with evidence discussed below.

The first dated payment of Philip Aimer was part of a series of payments to twelve exchangers from 29 or 31 August to 6 October 1180, recorded in the 1179/80 Pipe Roll. These payments may relate to the first period of a new system of exchanging, following the arrival of

²² *Pipe Roll 26 Henry II* (Pipe Roll Soc. 29, 1908), p. 131.

²³ *Pipe Roll 26 Henry II*, p. 136.

²⁴ Brand, *The English Coinage 1180–1247*, p. 31.

²⁵ *A History of Wiltshire Vol. VI*, edited by E. Crittall (Victoria County History, London, 1962), pp. 7–9, provides a convenient summary of the development of Wilton as a royal borough, held by the king or his family until the fourteenth century.

²⁶ I owe this suggestion to Lord Stewartby.

²⁷ Allen, *A Catalogue of English Coins*, p. xci.

²⁸ *Radulfi de Diceto Decani Londoniensis Opera Historica*, edited by W. Stubbs (2 vols., Roll Series, London, 1876), II, p. 7.

²⁹ Eyton, *Court, Household and Itinerary*, pp. 231 and 233.

³⁰ J.D. Brand, 'Philip Aimer – Exchanger and Moneyer', *NCirc* October 1973, 371–2.

³¹ Mass, 'Of Dies, Design Changes, and Square Lettering', pp. 40–1

³² *Pipe Roll 27 Henry II* (Pipe Roll Soc. 30, 1909), p. 81, records a payment to 'Aimer the son of Philipp' (*Aimeri filii Philippi*).

³³ Mass, pp. 40–2. It might be argued that 'Fił Aimer' was intended to indicate Philip Aimer's son, but the son was 'fili[us] Philippi' (see note 32), not 'filius Aimeri'. 'Filip(e)', not 'Aimer', would probably have been the designation of Philip Aimer on his coins if he had not used 'Fił Aimer'.

³⁴ *Pipe Roll 26 Henry II*, p. 8.

³⁵ *Pipe Roll 26 Henry II*, pp. 62 and 82.

³⁶ J.D. Brand, 'The Shrewsbury Mint, 1249–1250', in *Mints, Dies and Currency: Essays Dedicated to the Memory of Albert Baldwin*, edited by R.A.G. Carson (London, 1971), pp. 129–50, at pp. 130–4 discusses a record of assays which, he argued, may possibly provide evidence of the conversion of silver into new coins beginning five days after the opening of an exchange primed with a float.

Philip, who took up the management of the recoinage (*nummismatis innovandi procurationem suscepit*), according to Diceto.³⁷ Before this period ordinary moneyers may have been allowed to exchange the products of their own dies, as they had done before the recoinage.³⁸

None of the dated payments of 29/31 August to 6 October were specifically stated to be for exchanging in a particular place, but five centres of exchanging can be identified (leaving the possible activities of exchangers in Wilton as a matter of speculation): London, Exeter, Northampton, Winchester and York. The payments in the accounts of the honour of Berkhamstead, and London and Middlesex,³⁹ were almost certainly for exchanging in London, and there was a separate undated payment to Philip Aimer explicitly for that purpose (*ad faciendum cambium Regis apud Lond'*).⁴⁰ The Devon payment and associated costs of exchanging are immediately followed in the roll by expenses incurred in Exeter Castle,⁴¹ and treasure was sent to Exeter to make the (new) money (*ad monetam faciendum*).⁴² The exchangers paid in the Northamptonshire account⁴³ received an undated payment in another account, stated to be for the exchangers of Northampton (*cambitoribus Regis de Norh'*).⁴⁴ Brand believed that the payment of Brunus Burdin and Mansellus in the Hampshire account⁴⁵ was for exchanging in Lincoln, because the 1180/1 Pipe Roll recorded that they took treasure from Northampton to Lincoln,⁴⁶ but J.H. Round more plausibly suggested that they were employed in Winchester.⁴⁷ There were undated payments for exchanging in Winchester (*ad faciendum cambium Regis apud Wintoniam*) in other accounts.⁴⁸ Finally, the Yorkshire payment is followed in the roll by exchanging expenses which include the cost of transporting treasure to York.⁴⁹

The five securely identified places of exchange of the 29/31 August to 6 October 1180 payments correspond with five of the six places of production of class Ia, as it has been redefined, and with none of the mints subsequently opened for the production of class Ib (i.e. Carlisle, Lincoln, Oxford and Worcester). Class Ib mints could have operated without having exchanging costs recorded in the 1179/80 Pipe Roll, but it may be suggested that class Ib was not yet in production on 6 October 1180.

There is a significant gap in the recorded payments to exchangers between 6 October and 11 (or, in one case, 12) November 1180. In the 1180/1 Devon account 11 November was called the day on which exchanging (or the local exchange at Exeter) began (*quo cambium incepit*).⁵⁰ Brand and Elmore Jones were right to caution that the Pipe Rolls probably only provide an incomplete record of the exchangers' fees,⁵¹ but the gap evidently indicates a real cessation of the exchangers' work. During this period of inactivity the exchanges were reorganized. When the payments resume several exchangers seem to have moved,⁵² four previously unrecorded exchangers' names appear,⁵³ and new exchanges in Nottingham, Norwich and Worcester seem to have been added to the five reliably identified for the earlier dated payments.

A payment to exchangers for the period 11 November 1180 to 12 April 1181 in the 1180/1 Nottinghamshire and Derbyshire account⁵⁴ was referred to Lincoln by Brand,⁵⁵ but it is part of

³⁷ *Radulfi de Diceto*, II, p. 7.

³⁸ N.J. Mayhew, 'From Regional to Central Minting, 1180–1464', in *A New History of the Royal Mint*, edited by C.E. Challis (Cambridge, 1992), pp. 83–178, at pp. 85–95 reviews the status and activities of moneyers before and during their loss of their exchanging role in the 1180 recoinage.

³⁹ *Pipe Roll 26 Henry II*, pp. 8 and 150.

⁴⁰ *Pipe Roll 26 Henry II*, p. 144.

⁴¹ *Pipe Roll 26 Henry II*, pp. 89–90.

⁴² *Pipe Roll 26 Henry II*, p. 131.

⁴³ *Pipe Roll 26 Henry II*, p. 82.

⁴⁴ *Pipe Roll 26 Henry II*, p. 58.

⁴⁵ *Pipe Roll 26 Henry II*, p. 131.

⁴⁶ Brand, *The English Coinage 1180–1247*, p. 27; *Pipe Roll 27 Henry II*, p. 66.

⁴⁷ *Pipe Roll 26 Henry II*, p. xxviii.

⁴⁸ *Pipe Roll 26 Henry II*, pp. 30 and 148.

⁴⁹ *Pipe Roll 26 Henry II*, p. 62.

⁵⁰ *Pipe Roll 27 Henry II*, pp. xxii and 27; Allen, *A Catalogue of English Coins*, pp. lxxxix–xc.

⁵¹ Brand and Elmore Jones, 'The Emergency Mint of Wilton', 116; Brand, *The English Coinage 1180–1247*, p. 26 n. 28.

⁵² Brand, *The English Coinage 1180–1247*, pp. 28–30 provides a review of the evidence.

⁵³ Brand, 'Philip Aimer', p. 372.

⁵⁴ *Pipe Roll 27 Henry II*, p. 11.

⁵⁵ Brand, *The English Coinage 1180–1247*, p. 29.

a set of *cambium* expenses preceded and followed in the roll by other expenses incurred in Nottingham. There are payments elsewhere in the 1180/1 roll for the taking of treasure to Nottingham for exchanging there (*ad faciendum ibi cambium*).⁵⁶ Payments to Philip Aimer in the 1179/80 Norfolk and Suffolk account *ad faciendum cambium*⁵⁷ need not have been for exchanging in Norwich, but payments for 11 November 1180 to 12 April 1181 in the following year's Norfolk and Suffolk account⁵⁸ may well have been. These 1180/1 payments are followed in the roll by the cost of carrying treasure, *ad faciendum cambium* and sent to London on many occasions (*missi Lond' multis vicibus*),⁵⁹ suggesting that an exchange in Norwich was supplied with new money and repeatedly sent old money or other silver exchanged to London in return. Payments for 11 November 1180 to 24 December 1180, 11 November 1180 to 12 April 1181 and 12 April 1181 to 29 September 1181 in the Worcestershire account, with payments for the carriage of treasure to and from Worcester *ad cambium faciendum*,⁶⁰ indicate the existence of an exchange in Worcester.

Exchanging could have begun in Worcester without the opening of a mint, as seems to have occurred in Nottingham and Norwich. However, it may be suggested that the Worcester mint probably began its production of class Ib in November 1180, as part of a reorganization of exchanging and minting associated with the prohibition of the old (Cross-and-Crosslets or Tealby) money, from 11 November 1180, recorded by 'Benedict of Peterborough' and Diceto.⁶¹

There is no convincing evidence for the existence before 11 November of any of the mints starting production with class Ib. The reference to the sending of dies from Winchester to Oxford and then Northampton, and back to Winchester, in the Pipe Roll compiled after Michaelmas (29 September) 1180,⁶² does not necessarily imply the existence or imminence of minting in Oxford.⁶³ Similarly, the sending of treasure to Worcester for an unspecified purpose, also recorded in the 1179/80 roll,⁶⁴ does not have to be interpreted as evidence of the establishment of a mint before 11 November. It is probable that production of class Ib dies began between the end of the first period of employment of exchangers at class Ia minting-places on 6 October, and the opening of new exchanges on 11 November.

The evidence discussed so far, and some tentative inferences, can be conveniently summarized in a table.

<i>Dates (in 1180)</i>	<i>Evidence/Events</i>	<i>Inferences</i>
c. February	Council of Oxford	Ia1 introduced, and superseded by Ia2
c. February–July		
1/2 or 14/15 July	Winchester fire	Ia2 in production in Winchester
July (?)–29 August	Arrival of Philip Aimer	Ia3 introduced July or August?
29 August–6 October	First period of exchangers at Ia minting-places	Ia3, Ia4, or Ia5 dies in production 6 October
6 October–11 November	No dated payments to exchangers	Ib introduced during a reorganization of exchanges
11 November	Second period of exchangers begins; probable exchange and mint in Worcester	Ib in production

⁵⁶ *Pipe Roll 27 Henry II*, pp. 51 and 156.

⁵⁷ *Pipe Roll 26 Henry II*, pp. 15 and 24.

⁵⁸ *Pipe Roll 27 Henry II*, p. 81.

⁵⁹ *Pipe Roll 27 Henry II*, p. 81.

⁶⁰ *Pipe Roll 27 Henry II*, p. 20.

⁶¹ Allen, *A Catalogue of English Coins*, pp. lxxiii–iv and xcii.

⁶² *Pipe Roll 26 Henry II*, p. 136.

⁶³ Brand, *The English Coinage 1180–1247*, p. 27, assumes

that treasure intended to prime an exchange was sent to Oxford 'almost certainly before Michaelmas 1180 and perhaps during the summer', citing a payment recorded in *Pipe Roll 26 Henry II*, pp. 130–1, 'pro locandis caretis ad portandum thesaurum ad Oxineford mittendum monetariis de Euerwich'. However, this treasure was carried to Oxford 'to be sent' (*mittendum*) to the moneyers of York.

⁶⁴ *Pipe Roll 26 Henry II*, p. 131.

The numbers of obverse dies found by Mass may provide some equivocal evidence for a refinement of the chronology. Dies could have been supplied and used at widely fluctuating rates during 1180, but the potential evidence of numbers of dies must still be considered. Mass has recorded 31 obverse dies of class Ia1, 34 of Ia2, only 3 of Ia3, and 42 of Ia4.⁶⁵ He has identified at least 17 Ia3 reverse dies, but it may be tentatively suggested that Ia3 was of relatively short duration, and that the other types may have had longer, very approximately equal durations. A speculative chronology consistent with Mass's statistics and the other evidence discussed may have some limited usefulness.

Classification of Dies

Tentative Dating of Die-Production (in 1180)

Ia1	c. May/June–June/July
Ia2	c. June/July–July/August
Ia3	c. July/August
Ia4	c. July/August–September/October
Ia5	c. September/October–October/November

Pipe Roll references to exchangers' salaries indicate that the recoinage was substantially completed by Easter (28 March) 1182, and the last dated payment to an exchanger ended at Michaelmas 1182.⁶⁶ If, following my tentative chronology, about three to five months are allowed for the production of a minimum of 111 obverse dies of classes Ia1 to Ia4 (the total number of dies recorded by Mass), the minimum number of obverse dies required for approximately two years of recoinage might be estimated to have been between c. 533 ($24/5 \times 111$) and c. 888 ($24/3 \times 111$). These speculative calculations depend upon the assumption that the rate of die-production was constant, but the rate may have increased when mints were opened for the production of class Ib, and decreased towards the end of the recoinage. Nevertheless, it is instructive to compare my estimates with D.M. Metcalf's partly conjectural estimate of the number of obverse dies used to produce the Cross-and-Crosslets coinage (1,044).⁶⁷ It can be assumed that some of the Cross-and-Crosslets money produced since 1158 would no longer have been available for recoinage in 1180 or later,⁶⁸ reducing the potential need for Short Cross dies, but the minting of imported silver and other bullion would have had a contrary effect on the consumption of dies. Thus it is quite possible that between c. 533 and c. 888 obverse dies, or slightly more, would have been required to coin the old money and other silver offered at the exchanges during two years of recoinage. It may be concluded that the proposed tentative chronology is consistent with the evidence of die statistics, although it must be acknowledged that this evidence is too speculative to be decisive.

⁶⁵ Mass, 'Of Dies, Design Changes, and Square Lettering', *passim*. Mass has not systematically recorded Ia5 obverse dies for all of the Ia mints. The numbers of reverse dies are more problematic than the numbers of obverse dies, as many reverses cannot be definitively classified.

⁶⁶ *Pipe Roll 28 Henry II* (Pipe Roll Soc. 31, 1910), pp. xxiii and 146; Brand, *The English Coinage 1180–1247*, p. 30; I. Stewart, 'King John's Recoinage and the Conference of Moneyers in 1208', *BNJ* 59 (1989), 39–45, at p. 42.

⁶⁷ D.M. Metcalf, 'A Survey of Numismatic Research into the Pennies of the First Three Edwards (1279–1344) and their Continental Imitations', in *Edwardian Monetary Affairs (1279–1344): A Symposium held in Oxford, August 1976*, edited by N.J. Mayhew (BAR 36, Oxford, 1977), pp. 1–31, at pp. 6–7 and 26–31. Metcalf estimated the number of dies not represented in Allen, *A Catalogue of English Coins*, assuming that the unrepresented dies had the same average output as the represented dies. He was almost certainly right to believe that

the unrepresented dies had a lower average output, and the number of unrepresented dies actually used would have been higher than the estimated number in consequence.

⁶⁸ M.M. Archibald, 'Wastage from Currency: Long-Cross and the Recoinage of 1279', in *Edwardian Monetary Affairs*, pp. 167–186, estimates that at least a million pounds from a total of about £1,683,270 to £1,729,182 of Long Cross pennies produced between 1247 and 1278 was lost from currency before it could be exchanged in the subsequent recoinage. P. Spufford, *Money and its Use in Medieval Europe* (Cambridge, 1988), pp. 161, 229–30, 390 and 403 discusses the export of Long Cross money to the Rhineland by Richard of Cornwall, its imitation there, and the Brussels hoard containing over 80,000 Long Cross pennies; all of which have no parallels in the Cross-and-Crosslets coinage. However, the aggregate wastage of Cross-and-Crosslets coins through export, melting, hoarding and accidental loss, during a period of circulation similar to that of the Long Cross coinage, cannot be entirely disregarded.