

The Weight Standard of the English Coinage 1158-1279

MARTIN ALLEN

IN 1279 'The Form of the New Money' (*Forma nove monete*) and the indenture of William de Turnmire both described the weight standards of Edward I's new coinage. 243 pennies were to be struck from a tower pound of silver (5,400 troy grains) and the new round farthing was to be made in slightly debased silver at a heavier standard.¹ There are no descriptions of the standard before 1279, but mint accounts record an 'increment' beyond 240*d.* to the pound from the 1230s, and in 1259 there is the first clear evidence that the royal mints were using a standard of 242*d.*, including an increment of 2*d.*² An account from the ecclesiastical mint of Bury St Edmunds in 1256-8 provides slightly earlier evidence that the increment was 2*d.* in the pound.³ It is reasonable to assume that a standard of 242*d.* to the tower pound was employed from the introduction of the Long Cross coinage in 1247, and it has been suggested that this might also have been the standard during the production of the Short Cross coinage of 1180-1247.⁴ This note will argue that more than 242*d.* were struck from a tower pound in 1180-1247 and that the standard may have been 246*d.* per tower pound in this period.

In her analysis of the Mayfield hoard Marion Archibald noted that the 348 recently minted Edwardian pennies in this find deposited *c.* 1307 were lighter on average than the Long Cross pennies in the 1969 Colchester hoard. She connected this with the reduction of the standard weight of the penny in 1279. The Mayfield pennies had an average (mean) weight of 21.9 gr. (1.42 g), but a preliminary analysis of the 1969 Colchester hoard provided averages of 22.3 gr.

¹ H.B.E. Fox and S. Fox, 'Numismatic history of the reigns of Edward I, II, and III [part 2]', *BNJ* 7 (1910), pp. 91-142, at pp. 100-1, 103-4, 112, 133-4, 137-8; C. Johnson, ed. and trans., *The De moneta of Nicholas Oresme and English Mint Documents* (London, 1956), pp. 56-61.

² C.G. Crump and C. Johnson, 'Tables of bullion coined under Edward I, II, and III', *NC*⁴ 13 (1913), pp. 200-45, at pp. 201, 205; C.E. Blunt and J.D. Brand, 'Mint output of Henry III', *BNJ* 39 (1970), pp. 61-6, at pp. 62-3; N.J. Mayhew, 'From regional to central minting, 1158-1464', in C.E. Challis, ed., *A New History of the Royal Mint* (Cambridge, 1992), pp. 83-179, at pp. 103, 105, 132-3; J.D. Brand, *The English Coinage 1180-1247: Money, Mints and Exchanges*, BNS Special Publication 1 (London, 1994), pp. 44-5.

³ M. Allen, 'Documentary evidence for the output, profits and expenditure of the Bury St Edmunds mint', *BNJ* 69 (1999), pp. 210-13, at pp. 210-11.

⁴ Challis, *New History of the Royal Mint*, p. 673.

(1.45 g) for London coins of Long Cross classes I, II, III and V, and an average of 22.1 gr. (1.43 g) for 1,000 class VI pennies of Bury St Edmunds in part 2 of the hoard.⁵ Archibald's final report on the Colchester hoard shows an average of 1.43 g for all mints combined in each sub-class, with a few exceptions.⁶ The difference between the Colchester and Mayfield data is relatively slight, as is the difference between a standard of 242*d.* to the pound and a penny of 22.3 gr. (1.45 g), before 1279, and a standard of 243*d.* and 22.2 gr. (1.44 g), after 1279. Nevertheless, Archibald's interpretation of these data raises the possibility that it might be possible to use hoard metrology to detect a change in the weight standard. The recent publication of a series of hoards of 1158–1279 by Archibald and Barrie Cook has made available a considerable amount of metrological data, which can be supplemented with information from other sources.⁷ The Table below contains statistics from nineteen hoards, including unpublished data for the Leconfield hoard (kindly provided by Dr Cook), and for the Brussels hoard (compiled by Messrs Ron Churchill and Bob Thomas, to whom I am grateful).⁸ The collection of data has been restricted to hoards with at least twenty coins, as the average weights of small numbers of coins are particularly vulnerable to distortion by individual specimens of unusually heavy or light weight. Additional averages have been provided for the latest coins in hoards deposited more than about fifteen years after the beginning of a coinage, to allow comparisons between the weights of relatively unworn coins at various periods.

⁵ M.M. Archibald, 'The Mayfield (Sussex) 1968 hoard of English pence and French Gros, c.1307', in R.A.G. Carson, ed., *Mints, Dies and Currency: Essays Dedicated to the Memory of Albert Baldwin* (London, 1971), pp. 151-9, at pp. 154-6.

⁶ M.M. Archibald and B.J. Cook, *English Medieval Hoards: I. Cross and Crosslets, Short Cross and Long Cross Hoards*, BM Occasional Paper 87 (London, 2001), pp. 87-9, 104-12.

⁷ Archibald and Cook, *English Medieval Hoards*.

⁸ M. Allen, 'English coin hoards, 1158–1544', *BNJ* 72 (2002), pp. 24-84, lists the English hoards in the Table and their literature. The statistics for the Lark Hill and Leicester hoards are based upon the listing of coins from these hoards in D.F. Allen, *A Catalogue of English Coins in the British Museum. The Cross-and-Crosslets ('Tealby') Type of Henry II* (London, 1951). Churchill and Thomas have weighed 3,199 Canterbury pennies and 1,748 London pennies of class Vg from the Brussels hoard in batches, finding averages of 1.437 g for Canterbury and 1.432 g for London. The other hoards in the Table from the beyond the borders of England are published by F. Dumas and J.D. Brand, 'British coins in the Gisors (1970) hoard', *BNJ* 40 (1971), pp. 22-43; B.H.I.H. Stewart and J.D. Brand, 'A second find of English sterlings from Ribe (1958)', *NNÄ* 1971, pp. 38-59; G.C. Boon, *Welsh Hoards 1979–81* (Cardiff, 1986), pp. 405-9 [Wrexham]. The averages are derived from aggregates of weights of individual coins, with three exceptions (Brussels, Tealby and Ampthill). The figures for the Tealby hoard are based upon the report by T. Combe, 'A description of a large collection of pennies of Henry II discovered at Tealby, in Lincolnshire' *Archaeologia* 18 (1817), pp. 1-8, at pp. 7-8, which states that 5,127 coins weighed 19 lb. 6oz. 5 dwt. A. Pownall, 'On some pennies of Henry II found in a hollow stone at Ampthill, and lately presented to the Numismatic Society by Lieut.-Gen. C.R. Fox', *NC*² (1862), pp. 233-9, at p. 238, notes that the weight of 142 coins from the Ampthill hoard was 6 oz. 10 dwt. 8½ gr.

TABLE
Hoard metrology 1158-1279

<i>Period</i>	<i>Hoard</i>	<i>No. of coins</i>	<i>Average weight</i>
Tealby	West Meon (c. 1165-70)	30	1.36 g/21.0 gr.
	Lark Hill (mid-1170s)	182	1.42 g/21.9 gr.
		27 (class E)	1.43 g/22.1 gr.
	Tealby (mid-1170s)	5,127	1.42 g/21.9 gr.
	Amphill (c. 1175-80)	142	1.43 g/22.0 gr.
	Leicester (c. 1175-80)	147	1.39 g/21.4 gr.
		59 (class F)	1.38 g/21.3 gr.
Short Cross	Moor Monkton (c. 1185)	76	1.40 g/21.6 gr.
	Aston (c. 1193)	93	1.41 g/21.7 gr.
	Scotforth (c. 1195)	80	1.41 g/21.7 gr.
	Wainfleet (c. 1195)	380	1.41 g/21.7 gr.
	Bainton (c. 1200-5)	129	1.40 g/21.6 gr.
		79 (class IV)	1.41 g/21.7 gr.
	Claxby (c. 1217)	24	1.40 g/21.6 gr.
	Tockholes (c. 1218)	51	1.39 g/21.5 gr.
		28 (classes VI _d -VII _a)	1.39 g/21.5 gr.
	Gisors (c. 1245)	813	1.38 g/21.3 gr.
		31 (class VIII)	1.41 g/21.7 gr.
	Leconfield (c. 1245)	417	1.37 g/21.2 gr.
		121 (class VIII)	1.41 g/21.7 gr.
	Ribe 1958 (c. 1245)	166	1.35 g/20.8 gr.
Long Cross		25 (class VIII)	1.37 g/21.1 gr.
	Wrexham (c. 1245)	61	1.37 g/21.1 gr.
	Colchester 1969, part 1 (c. 1256)	11,325	1.43 g/22.1 gr.
	Welwyn Garden City (c. 1260)	36	1.41 g/21.7 gr.
	Brussels (c. 1265)	4,947 (class Vg)	1.436 g/22.16 gr.
	Coventry (c. 1270)	223	1.39 g/21.5 gr.
		95 (classes Vg-Vh)	1.44 g/22.17 gr.
	Colchester 1969, part 2 (c. 1275)	1,916	1.43 g/22.1 gr.

The average weights for Short Cross hoards in the Table range from 1.35 g (20.8 gr.) to 1.41 g (21.7 gr.). All of the averages for hoards of c. 1185-c. 1217 are 1.40 g or 1.41 g, and two of the three averages for coins of class VIII (c. 1242-7) in hoards of the 1240s are 1.41 g. In contrast, the Colchester hoard data already discussed and the coins of Long Cross classes Vg and Vh in the Brussels and

Coventry hoards provide significantly higher averages, in the range of 1.43 g–1.44 g. It is difficult to avoid the conclusion that the Short Cross coinage of 1180–1247 was produced at a lighter weight-standard than the 242*d.* to the tower pound standard of the Long Cross coinage in 1247–78, and that the standard was changed in 1247.

The suggestion that the standard of the Short Cross coinage was lighter than 242*d.* per tower pound might seem to conflict with the evidence of the recorded assays or ‘combustions’ of coins offered in payment in the exchequer, but this apparent contradiction is explicable.⁹ In each combustion 240 pennies were melted and refined, and any difference in weight between the resulting ingot and one pound weight was noted. A schedule of combustions in 1181 records deficiencies from 4*d.* to 6¼*d.* in a pound of 240*d.*, and in 1196 the deficiencies were between 4½*d.* and 8½*d.* Later schedules of combustions show greater maximum deficiencies, as might be expected if the weights of coins in circulation were declining as a result of wear. A deficiency of 6*d.* was the most common result of the combustions of 1181 and 1196, and in the 1170s the *Dialogus de Scaccario* stated that a loss of 6*d.* should be allowed, to take account of the copper added to the silver before minting.¹⁰ This might be thought to imply that the exchequer samples of 1181 and 1196 did not have any deficiency in weight before the assay, as would be expected if more than 240*d.* was struck from a tower pound of silver of coinage alloy. This apparent difficulty is removed if we accept John Brand’s suggestion that the results of the combustions were silently adjusted, to make allowance for the lack of fineness of the coinage alloy and the loss of silver in the assaying process.¹¹

The minting charges in the Long Cross recoinage of 1247–50 may provide indirect evidence of the Short Cross weight-standard. Owners of Short Cross coins had to pay 16*d.* to exchange a tower pound of their old money for new Long Cross pennies during the recoinage. This 16*d.* consisted of the king’s customary seignorage of 6*d.*, another 6*d.* in substitution for the six pennyweights of copper added to each pound of silver of market purity to reduce it to the sterling fineness of the English coinage, and 4*d.* to compensate for a lack of fineness of the old coins officially found at a public assay on 11

⁹ Results of exchequer combustions are reviewed by Brand, *The English Coinage 1180–1247*, pp. 59–62, 64–6; idem, ‘The Exchequer in the Later Twelfth Century’, unpublished PhD thesis, Polytechnic of North London 1989, pp. 99–100, 133–4.

¹⁰ C. Johnson, ed., *Dialogus de Scaccario* by Richard, Fitz Nigel, and, *Constitutio domus regis*, revised edition with corrections by F.E.L. Carter and D.E. Greenway (Oxford, 1983), pp. 36–9; Brand, *English Coinage 1180–1247*, pp. 61, 67.

¹¹ Brand, *English Coinage 1180–1247*, p. 69; idem, ‘Exchequer in the Later Twelfth Century’, pp. 142–53.

March 1248.¹² Modern analyses of Short Cross and Long Cross coins have failed to show a relative deficiency in the fineness of the Short Cross coinage, and the results of the assay of 1248 have been characterised as a 'public relations exercise' to justify the recoinage and its increased minting charges.¹³ Nicholas Mayhew has suggested that the extra charge may have been related to the light weight of the old Short Cross coins in circulation at the time of the recoinage.¹⁴ It is also possible that the extra 4*d.* per tower pound may have been based upon the difference between a standard of 246*d.* per pound before the recoinage and a new standard of 242*d.*

If the standard of the Short Cross coinage was 246*d.* per pound (with a penny of about 22.0 gr. or 1.42 g), this could have had its origin in the minting of an extra 6*d.* beyond 240*d.* to pay the seignorage. Stewart Lyon has suggested that at the time of Domesday Book, in 1086, it may have been customary to strike sufficient pennies from each tower pound to pay 240*d.* to mint customers, and the minting charges in addition.¹⁵ There could not however have been a simple division of 246*d.* per pound between 240*d.* for the customer and 6*d.* for seignorage from 1234, when the mint accounts begin to include an extra profit from the receipt of seignorage by weight (*de cremento denariorum receptorum per pondus et numeratorum per numerum*).¹⁶ If this system was applied to a coinage struck at 246*d.* to the pound, a seignorage of 6*d.* by weight would have provided $6d. \times 246/240 = 6.15d.$ per pound in new coins.

Pamela Nightingale has proposed that a standard of 240*d.* to the tower pound with a penny of 22.5 gr. (1.46 g) was instituted in 1158, so that the minting of a troy pound of silver would provide 240*d.* for the owner of bullion and 12*d.* for the king's seignorage.¹⁷ There is no documentary evidence for the size of the seignorage during the *Cross-and-Crosslets* (*Tealby*) coinage of 1158–80, but there is no reason to believe that it was 12*d.* The earliest known evidence for the

¹² Johnson, *The De moneta*, pp. xxvi–xxvii, 53–5; *Calendar of Patent Rolls 1247–1258*, pp. 12–13; C.E. Challis, 'Assays and assaying in the reigns of Henry III and Edward I', in *Later Medieval Mints*, pp. 76–86, at pp. 82–3; Mayhew, 'From regional to central minting', pp. 107–9, 115.

¹³ N.J. Mayhew and D.R. Walker, 'Crockards and pollards: imitation and the problem of fineness in a silver coinage', in N. J. Mayhew, ed., *Edwardian Monetary Affairs (1279–1344). A Symposium held in Oxford, August 1976*, BAR 36 (Oxford, 1977), pp. 125–46, at pp. 132–5, 141–2.

¹⁴ Mayhew, 'From regional to central minting', p. 108.

¹⁵ S. Lyon, 'Marks, oras, pounds and sterlings: an international retrospective', BNJ 75 (2005) Forthcoming.

¹⁶ Brand, *The English Coinage 1180–1247*, pp. 44–5.

¹⁷ P. Nightingale, 'The evolution of weight standards and the creation of new monetary and commercial links in northern Europe from the tenth century to the twelfth century', *EcHR* 2nd ser. 38 (1985), pp. 192–209, at pp. 204–7; idem, '“The king's profit”: trends in English mint and monetary policy in the eleventh and twelfth centuries', in N.J. Mayhew and P. Spufford, eds., *Later Medieval Mints: Organisation, Administration and Techniques. The Eighth Oxford Symposium on Coinage and Monetary History*, BAR International Series 389 (Oxford, 1988), pp. 61–75, at pp. 61, 65, 70.

rate of seignorage is in an account of the expenses of Richard I's naval expedition as part of the Third Crusade in 1190, which includes £32 10s. in seignorage (*pro monetagio*) on the minting of 1,300 pounds of silver, equivalent to 6*d.* per pound.¹⁸ Derek Allen advocated the existence of a 22.5 gr. standard in 1158–80 on more empirical grounds. He cited as evidence Taylor Combe's record of the weight of 5,127 coins in the Tealby hoard, equivalent to an average of over 21.9 gr., Assheton Pownall's report on the Ampthill hoard and the metrology of the coins in his own *British Museum Catalogue* of the series.¹⁹ Allen noted that the modal range of weights in the *BMC* was 22.1–22.5 gr. The average weight of 806 undamaged pennies of all classes in the *BMC* is 1.41 g/21.7 gr., which equals the highest averages for Short Cross hoards in the Table. The averages for the Tealby, Lark Hill and Ampthill hoards in the Table exceed all of the Short Cross averages. In apparent contradiction of this, the average for class F (c.1174–80) in the Leicester hoard is only 1.38 g/21.3 gr., but the figure for coins of class F in the *BMC* from other sources is 1.41 g/21.8 gr. The Leicester hoard seems to have been particularly badly affected by clipping, which would have reduced average weights.²⁰ If the Leicester hoard can be safely disregarded, it may be tentatively suggested that the weight standard of the coinage in 1158–80 was heavier than the standard of 1180–1247. It is certainly possible that the standard of 1158–80 was 240*d.* per tower pound.

The suggestion that the weight standard of the English coinage in 1180–1247 was 246*d.* per tower pound is consistent with the available evidence, but more data are needed to test this assumption further. The only definitive evidence would be an explicit statement of the standard in an English mint document of 1180–1247, the discovery of which seems unlikely. Even without such evidence there is reason to doubt the assumption that the standard was 242*d.* per pound before 1247. The most recent published figures for the outputs of the London and Canterbury mints between 1220 and the end of the Short Cross coinage in 1247 are based upon an assumed standard of 242*d.*, but if the standard was 246*d.* they would have to be revised, as listed in the Appendix.²¹

¹⁸ *The Great Roll of the Pipe for the Second Year of the Reign of King Richard the First Michaelmas 1190 (Pipe Roll 36)*, ed. D.M. Stenton with introduction by C. Johnson, Pipe Roll Society 39 (London, 1925), pp. xxiii, 8–9.

¹⁹ Allen, *A Catalogue of English Coins in the British Museum*, pp. xli–xliii; Combe, 'A description of a large collection of pennies', pp. 7–8; Pownall, 'On some pennies of Henry II', p. 238.

²⁰ Thirty-two coins in the *BMC* are described as 'clipped' or 'possibly clipped', and eleven of these are from the Leicester hoard. All such coins have been excluded from the statistics in this article derived from the *BMC*.

²¹ Challis, *New History of the Royal Mint*, pp. 673–4, tabulates the outputs of 1220–47, using the weights of coins issued, as published by Blunt and Brand, 'Mint output of Henry III', and a standard of 242*d.* per tower pound.

APPENDIX
Mint output 1220-1247

<i>Period</i>	<i>London output</i>		<i>Canterbury output</i>		<i>London and Canterbury output</i>	
	<i>242d.</i>	<i>246d.</i>	<i>242d.</i>	<i>246d.</i>	<i>242d.</i>	<i>246d.</i>
July 1220—	£9,088	£9,238	£34,310	£34,877		
Nov. 1222						
March 1225—					£21,881	£22,243
July 1226						
July 1226—					£23,510	£23,899
March 1229						
July 1234—	£17,975	£18,272	£20,420	£20,757		
July 1235						
July 1235—	£18,732	£19,041	£28,534	£29,005		
July 1236						
July 1236—	£19,323	£19,642	£35,050	£35,629		
July 1237						
July 1237—	£7,775	£7,904	£12,726	£12,937		
Feb. 1238						
Feb. 1238—	£10,944	£11,125	£17,831	£18,126		
Feb. 1239						
Feb. 1239—	£9,615	£9,774	£24,768	£25,177		
Feb. 1240						
Feb. 1240—	£21,756	£22,115	£29,155	£29,637		
Feb. 1241						
Feb. 1241—	£12,483	£12,690	£14,828	£15,073		
Feb. 1242						
Feb. 1242—	£23,321	£23,706	£16,932	£17,212		
Feb. 1243						
Feb. 1243—	£37,937	£38,564	£35,109	£35,689		
Feb. 1244						
Feb. 1244—	£29,497	£29,984	£19,025	£19,340		
Feb. 1245						
Feb. 1245—	£24,920	£25,332	£28,600	£29,073		
April 1246						
April 1246—	£38,985	£39,629	£28,200	£28,666		
Nov. 1247						

