

# ACTIVE MINTS AND THE SURVIVAL OF NORMAN COINS

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## Introduction

THE two most characteristic features of Norman coins are their rarity and the periodic change in type which took place on average every two or three years. Norman coins are among the rarest substantive issues in the English series. Only the PAXS (William I Type 8) and Watford types (Stephen Type 1) are encountered with any frequency and these, between them, account for nearly 40% of the surviving specimens. They are represented by forty-five and forty-three pieces respectively out of the total of 244 Norman coins (not counting lots from hoards) listed in the first ninety-five Spink auction catalogues. Coins of the early part of Henry I's reign are notably rare, the same sales catalogues listing only twenty-nine specimens of the first twenty-four years of the reign (Types 1–13) (Table 1 Column C). A similar pattern is seen in the number of mints known to have been active; PAXS coins are recorded for sixty-five different mints and Watford coins for forty-six whereas for most types of Henry I fewer than twenty mints are known (Table 1 Column B).

An obvious (but incorrect) interpretation of these facts is that the PAXS and Watford types represent issues at least twenty times larger than those made during corresponding periods in the early and middle years of Henry's reign and that extra mints were opened to handle the load. Since coins in Norman times were mostly used for the payment of taxes, the payment of royal debts and for trade, increased requirements for coin by merchants or the royal treasury would be met by increasing the output of the major mints in merchant or royal cities such as London, Winchester or Lincoln, not by opening mints in distant parts of the country. The smaller mints were intended to provide for local needs which were likely to be modest and relatively constant.

We can assume that the frequent change of type was a fiscal device that enabled the king to collect licensing fees from the moneyers and maintain control over the currency. By requiring that taxes be paid in coin of the latest type, he would require the whole of the currency to be recoined with every type change. Even mints in remote areas would therefore have been active during each type. Since the volume of bullion in circulation would change only slowly with time, the size of each issue should not change much from one type to the next. Any fluctuations in output would be reflected in changes of output in the city mints. The output of the minor mints should remain small and relatively constant, but this is not the pattern suggested by the surviving coins.

How, then, can we account for coins of the PAXS and Watford types being twenty times more common than those of the early years of Henry I? The answer is to be found in the rate at which coins have survived rather than in the rate at which they were issued. There are two ways in which circulating coins can survive into modern times: coins may be lost casually, or hoards of coins may be hidden and not recovered. Casual losses of single pieces undoubtedly occurred, as indicated by the 139 single finds of Norman coins recorded in the Coin Register shown in Column D of Table 1, but if coins of each type circulated for an average of just over two years, the number of single finds of any one type recovered in the last two centuries will

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Normans and to Marion Archibald for permission to use her tentative listing of the Wicklewood hoard.

TABLE 1: Analysis of surviving coins by type

A <i>Type</i>	B <i>Mints known</i>	C <i>Sales</i>	D <i>Finds</i>		E <i>Hoards</i>	F <i>Estimated survival</i>
			<i>Single</i>			
William I						
1	36	14	1		200	60–200
2	43	15	3		1200 <sup>a</sup>	120–600
3	37	8	2		100	65–250
4	42	5	6		20	100–500
5	55	15	4		340 <sup>b</sup>	c.3000
6	34	5	1		80	55–180
7	41	5	12		20	90–500
8 PAXS	65	45	2		10000	?
William II						
1	47	6	3		140	200–1800
2	54	4	5		230 <sup>b</sup>	c.2500
3	48	8	4		140	200–1500
4	33	4	3		30	50–180
5	34	4	3		0	55–160
Henry I						
1	20	4 [35]	4 [6]		6	40–90
2	20	3 [23]	7 [8]		6	40–90
3	17	3 [17]	3 [4]		0	30–70
4	10	2 [7]	6 [8]		4	12–35
5	13	0 [8]	1 [2]		24	20–45
6	9	0 [9]	2 [2]		2	11–30
7	23	2 [44]	1 [4]		80	55–110
8	7	1 [7]	1 [2]		4	9–20
9	10	2 [14]	2 [2]		4	12–35
10	31	3 [35]	8 [16]		220	100–300
11	15	4 [17]	3 [9]		30	28–55
12	16	2 [10]	6 [5]		2	29–60
13	34	3 [45]	3 [7]		210	140–400
14	50	14 [204]	3 [3]		900	?
15	22	6 [227]	18 [26]		1000	c.2000
Stephen						
1 (Watford)	47	43	40		3000	?
2	18	7	8		200	100–500
4	18	1	5		150	100–500
7 (Awbridge)	36	6	18		60	120–500

## Notes on Table 1

Col. A. Coin Types according to Brook

Col. B. Number of mints recorded for the type

Col. C. Number of coins offered in Spink's Auctions numbers 1 to 95 excluding groups of coins from hoards [coins in *BMC* and *SCBI* for Henry I given in brackets]Col. D. Number of single finds recorded in the Coin Register (BNJ 57–60) [values given by Blackburn<sup>1</sup> in brackets]

Col. E. Estimate of the numbers of coins surviving in the hoards (see Table 4).

Col. F. Estimate of surviving coin based on the number of recorded mints and Figures 2 and 3.

a. Most of these hoards were concealed during the destruction of York in 1069 and contain between 30% and 50% of their coins from the York mint. These coins are not anticipated by the estimated survival.

b. There are, presumably, large unreported hoards for William I type 5 and William II type 2.

<sup>1</sup> M. Blackburn, 'Coinage and Currency under Henry I. A Review,' *Anglo-Norman Studies*, 13 (1991), 49–81.

be small, perhaps no more than twenty to 100 specimens in total.<sup>2</sup> Undoubtedly the largest number of surviving specimens come from hoards. It is no coincidence that the largest recorded Norman hoard, the Beauworth hoard, contained between 8000 and 12000 coins, almost all of William I's PAXS type.<sup>3</sup> It would be reasonable to suppose that the majority of the PAXS coins currently available to collectors comes from this hoard.

Since the system of regular recoinages appears to have ended with Henry I's purge of the moneyers in 1124 which is assumed to have terminated Type 14, it is necessary to treat the coinage before and after this date separately. During the earlier period the type was changed on average every 2.6 years under William I and II and every 1.7 years under Henry. After 1124 the pattern of regular recoinages was abandoned with Henry I's Type 15 and Stephen's Type 1 both being issued for periods of over ten years.

### Was the Whole Coinage Reissued at Every Type Change?

To demonstrate the hypothesis that the distribution of types in the surviving stock of Norman coins reflects the survival rate rather than the size of the original issue, it is first necessary to establish that the coins of one type were substantially reissued as soon as the type was changed. If this were the case, we would expect Norman hoards to contain coins of only one type or possibly two types if the hoard had been deposited during the period when the previous type was being reissued. Fortunately, it is easy to test this hypothesis by referring to the reports of coin hoards containing Norman coins. Of the thirty-four hoards from England and Wales known to have been deposited between 1066 and 1124, twelve are sufficiently large and listed in sufficient detail to provide useful statistics. Eight of these, listed in Table 2, have more than 89% of their coins from the latest two types.<sup>4</sup> Of the remaining four, Soberton, of which more later, has 72% of its coins of the latest two types. Only Wallbrook, Shillington and Corringham show a substantially different

TABLE 2: Number of Coins of the Last Two Types in Selected Hoards

<i>Name</i>	<i>Last Type</i>	<i>Penultimate Type</i>	<i>Earlier Types</i>	<i>Comment</i>
Rotherham	2	30	0	11 coins not recorded
Soberton	22	159 + 77	1	See text
York Bishopshill	42	5	0	About 10 coins not reported
Scaldwell	259	1?	0	Type of lone coin not identified
York Monksgate	30	42	1	2 coins not reported
Beauworth	6312	10	49	
Tamworth	167	97	30	
South Oxfordshire	18+	0	0	
Bournemouth	371	1	4	

For references see Table 4.

<sup>2</sup> The coin register has been a regular feature of the *British Numismatic Journal* since Vol.57. Over the eight years of Vols. 57 to 64 each type is represented on average by three to four single finds, or about 0.5 coins per type per year. Even though not all current finds are reported these are compensated for by the inclusion of a number of older finds. In earlier times when metal detectors were not available the rate would have been much lower than 0.5 coins, say around 0.25 coins or less per type per year. Until the late eighteenth century most finds

would have been treated as bullion. In the last two centuries, therefore, we might expect between twenty and 100 single finds per type to have found their way into the surviving coin stock, a figure that is consistent with the estimates given in Table 1.

<sup>3</sup> A bibliography of hoards mentioned in this paper is given in Table 4.

<sup>4</sup> At least another six hoards that are not reported in detail appear to follow the same pattern.

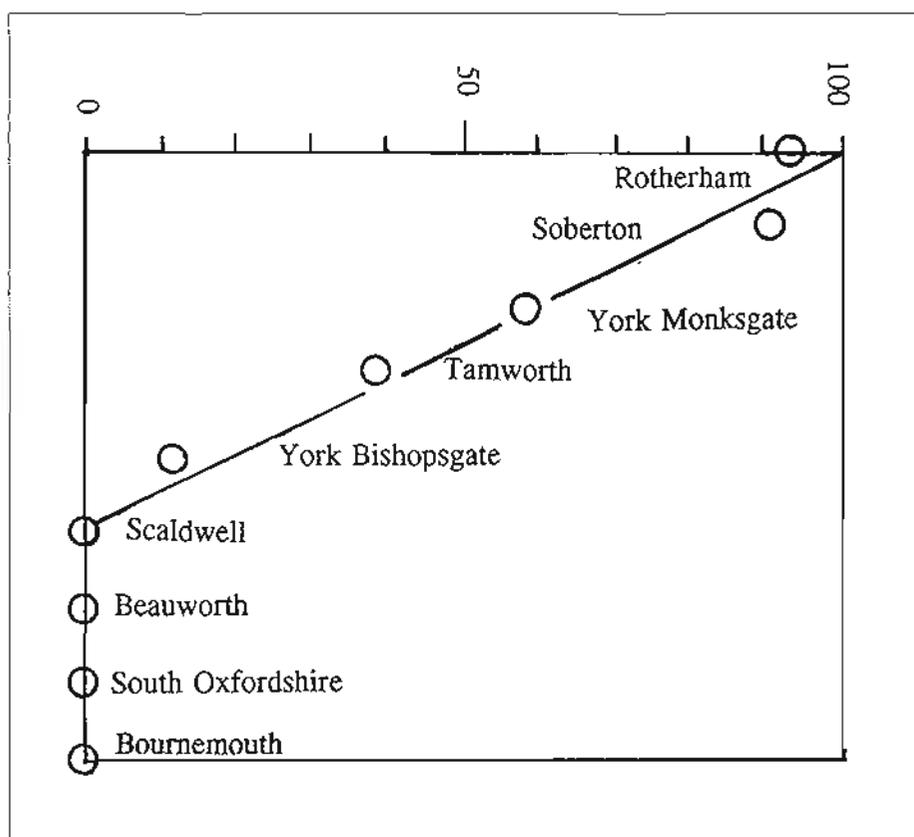


Fig. 1 Percentage of the penultimate type among the last two types present in nine hoards deposited between 1066 and 1124. Details are given in Table 2.

pattern, representing hoards that were probably accumulated over an extended period. Six of the seventeen post-1124 Norman hoards contain statistically useful information and all of these except the hoard from Lincoln (Malandry) appear to comprise only coins of the last two types, though since recoinages were much less frequent this is less surprising.

Thus the bulk of the coins found in over two thirds of the pre-1124 hoards come only from the two latest types and we can infer that earlier issues had been substantially withdrawn from circulation. It is then interesting to examine the relative proportions of coins of the last two types. Figure 1 plots, for the individual hoards deposited between 1066 and 1124, the ratio of the number of coins of the penultimate type to the total number of coins of the last two types present. Roughly half the hoards contain, apart from a scattering of pieces of earlier types, only coins of the current type. The other half contain varying amounts of coin of the penultimate type. If we assume that the deposit of hoards occurred randomly during the currency of the latest type present, Figure 1 suggests that the process of recoinage was substantially completed during the first half of the currency of each type, and therefore took between one and two years.

This model is nicely confirmed by the Soberton hoard which contains (apart from one earlier piece) 258 coins, 30% of them from the last type of Edward the Confessor, 61% of

Harold II and 8% of the first type of William I. This hoard shows that by the end of Harold's ten month reign, only two thirds of Edward's last type had been recoinced, suggesting that about fifteen months would be needed to complete the work. The small percentage of coins of William shows that the hoard must have been deposited late in 1066, shortly after William started issuing coins in his own name. Although few details are given, the hoard found in 1739 in Denge Marsh appears to have shown the same pattern.

Blackburn has listed foreign hoards containing coins of Henry I and these give a complementary picture.<sup>5</sup> Of the eight hoards with more than ten English coins, half, all from the Baltic,<sup>6</sup> cover a wide range of types, having fewer than 22% of their English coins from the last two types represented. The other half, mostly from France and Italy,<sup>7</sup> show a pattern similar to that found in the English hoards, having at least 84% of their English coins from the last two types. The pattern suggests that English coins circulated freely in the Baltic where they would not have been withdrawn at each type change, but elsewhere parcels of coins exported from England were kept intact until such time as they were recoinced into the local currency.

### Known Mints and Survival Rates

A testable consequence of the hypothesis that the present stock reflects the survival rate is that the number of known mints will depend on the coin survival rate. There were some sixty to seventy mints active at one time or another during the Norman period. Some, like those at London and the other large mercantile centres, employed several moneyers and produced a large volume of coin. Others, such as Launceston, had a single moneyer for whom coining would have been a part-time occupation. The output of the larger mints could, therefore, be as much as a hundred times that of a small mint. In the Beauworth hoard there were 777 PAXS coins (12% of the total) produced by eight different moneyers in London compared to only six coins (0.1% of the total) produced by Godric, the lone moneyer at Launceston. If these values are typical, one would expect to find a London coin in any hoard containing more than eight coins but one would need a hoard of 1000 coins before one would expect to find a coin of Launceston.<sup>8</sup> If the total number of surviving coins of a given type were less than 1000, there is a good chance that no coin of Launceston would be known and we might assume that its mint had been dormant during this period. Coins of Launceston are known for only seven of the thirty-two Norman types, which agrees well with the prediction (given in Table 1) that there are only about seven types with more than 1000 surviving specimens.

The number of mints represented in various parcels of coins is shown in Figures 2 and 3, each parcel being the coins of one type from a particular hoard. The parcels are identified in Table 3. Many hoards show a tendency to favour local mints, but most also have a good mixture of coins from mints across the country. Where one or more local mints are heavily overrepresented, these coins have been excluded from the parcel as noted in Table 3. The solid lines in the figures represent a fit to parcels of different periods and are drawn so as to show the expected behaviour for extremely large parcels (all mints included) and extremely small (each coin from a different mint). The exact shape of these curves cannot be predicted as they depend on the relative outputs of the mints. The larger the difference

<sup>5</sup> M. Blackburn, as in n. 1.

<sup>6</sup> Hallsarve (1942), Kohtla-Käva (1957), Kose (1982) and Burgu (1967)

<sup>7</sup> Bari (1891), Pré St Evroult (1910), Beauvais (1987) and Vaïda (1896)

<sup>8</sup> D.M. Metcalf has shown ('Notes on the 'PAXS' type of William I', *Yorkshire Numismatist* 1 (1988), 13-26) that the contents of the Beauworth hoard favour nearby mints in the south and east and may not accurately represent the outputs of individual mints, but the trend is clear.

TABLE 3: Numbers of Coins and Mints in Various Hoard Parcels

<i>Name</i>	<i>Type</i>	<i>Coins</i>	<i>Mints</i>	<i>Comments</i>
Rotherham	Ha	30	13	
Corringham	Ha	19	9	
York Bishopshill	Wm I-1	5	2	
	Wm I-2	28	9	Excluding 14 of York
Scaldwell	Wm I-5	199	38	Excluding 60 of Northampton
York Monksgate	Wm I-5	24	11	Excluding 18 of York
	Wm I-6	16	8	Excluding 14 of York
Beauworth	Wm I-5	25	13	
	Wm I-6	24	18	
	Wm I-7	16	10	
	Wm I-8	6216	57	
Tamworth	Wm I-8	29	24	
	Wm II-1	63	33	Excluding 26 of Tamworth
	Wm II-2	136	36	Excluding 19 of Tamworth
Shillington	Wm II-1	32	19	
	Wm II-2	52	21	
	Wm II-3	62	26	
	Wm II-4	16	9	
	Hy I-7	17	7	
Bournemouth	Hy I-14	362	44	
Lincoln	Hy I-7	26	9	
	Hy I-10	159	29	
	Hy I-11	5	4	
	Hy I-13	217	35	Excluding 72 of Northampton
	Hy I-15	46	11	
South Kyme	Hy I-15	9	5	
	St-1	196	31	Excluding 48 of Lincoln
Watford	Hy I-14	49	19	
	Hy I-15	91	14	Excluding 165 of London
	348 coins not recorded	St-1	380	
Prestwich	Hy I-15	57	13	
	St-1	634	41	Excluding 121 of Chester
Linton	Hy I-15	7	5	Not shown in Figure 3
	See text	St-1	39	Not shown in Figure 3
		St-2	40	Not shown in Figure 3
Wicklewood	Hy I-15	13	5	
	St-1	28	15	Excluding 10 of Norwich
	St-2	60	12	Excluding 37 of Norwich
	St-6	48	11	Excluding 62 of local mints
	St-7	13	8	Excluding 10 of Norwich
Awbridge	St-7	21	8	

For references see Table 4.

Only coins identified by type and mint included in the above totals.

in the output of the different mints, the higher the line will lie on the graph since more coins will be needed before the smaller mints are likely to be represented. The broken lines represent the limit of possible values, the lower line representing parcels in which every coin is from a different mint and the vertical lines representing the total number of mints known for the period in question. Figure 2 shows parcels of coins from the reigns of William I and William II and indicates that between sixty and seventy mints were active. Figure 3 shows parcels of coins of Henry I and Stephen and indicates that between fifty and sixty mints were active except during Henry I Type 15 (open squares) and Stephen

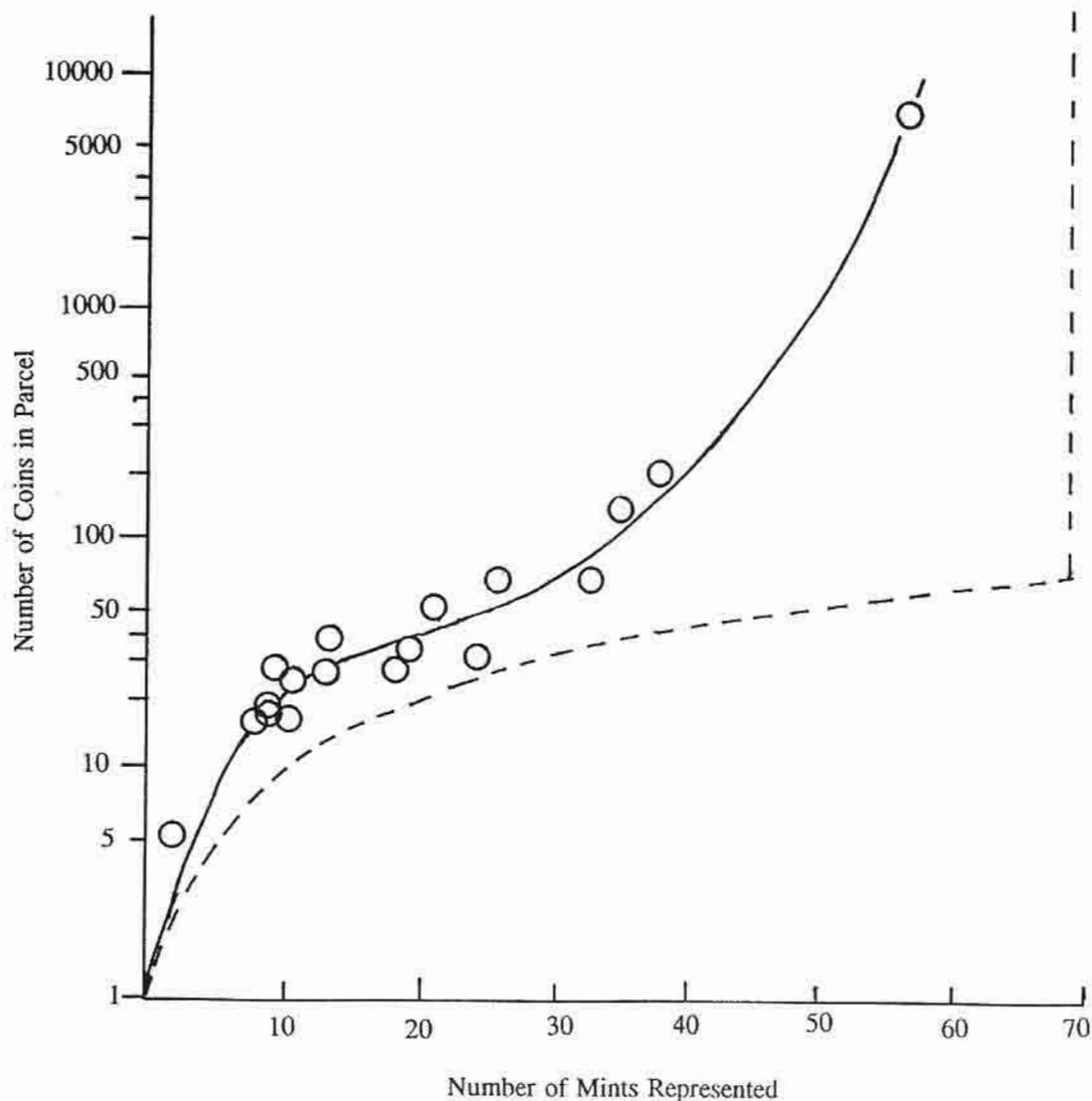


Fig. 2 Number of coins *versus* the number of mints found in various parcels of coins issued between 1066 and 1100 from hoards. Details are given in Table 3.

Types 2 and 6 (shaded squares). During these types only about twenty to thirty of the mints were active, indicating that about half were closed following the purge of the moneyers. Most of these mints were reopened under Stephen but his Types 2 and 6 are only known from mints in the eastern half of the country.

Using Figures 2 and 3, one can estimate the number of mints that will be represented in any particular parcel of coins, given that one knows the total number of mints that were active, or, conversely, one can estimate how many coins of a given type have survived by noting how many mints are known. The scatter of points on the graph gives some idea of the accuracy with which these numbers can be estimated. The estimate is more accurate for small parcels. Type 4 of Henry I, for example, is predicted to have between twelve and thirty-five surviving specimens, a figure that is in excellent agreement with the nineteen known specimens of this

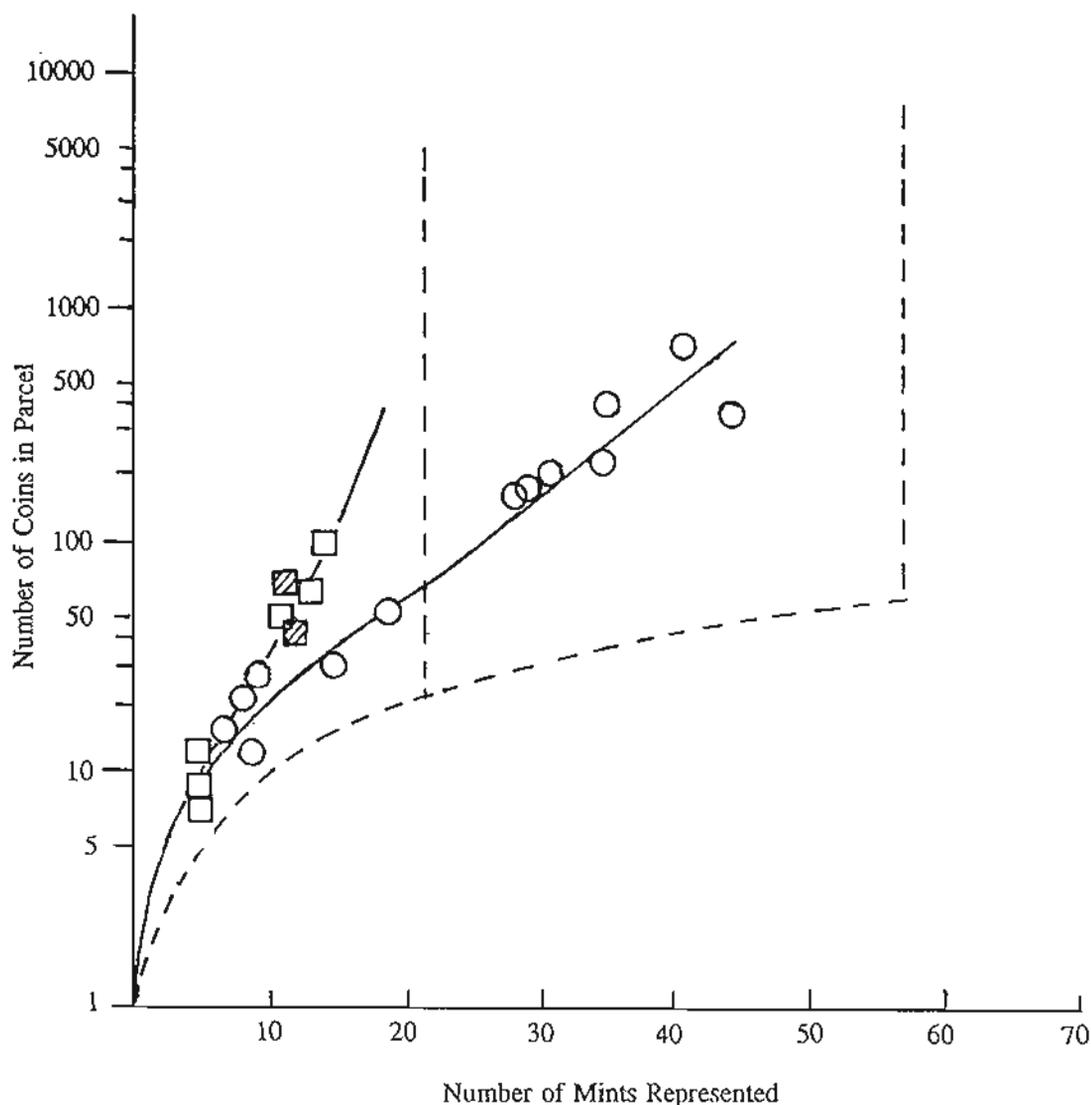


Fig. 3 Numbers of coins *versus* the number of mints found in various parcels of coins issued between 1100 and 1154. Open squares correspond to Henry I Type 15 and shaded squares to Stephen Types 2 and 6. Details are given in Table 3.

type.<sup>9</sup> For large parcels, the uncertainty is increased by the compressed scale of the vertical axis and the difficulty of knowing the exact position of the line. Thus estimates of survival rates greater than 1000 are more qualitative than quantitative. Further uncertainties arise from the assumptions (which may not be valid) that the distribution of the outputs of the mints did not change during the periods considered and that the contents of the hoards reflect the distribution of the coins in circulation.

<sup>9</sup> J.J. North, *NCirc* 101 (1993), 194.

The number of known mints is shown in column B of Table 1 and the estimate of the number of surviving coins based on the number of known mints if given in column F.<sup>10</sup> In most cases the estimate of surviving coins is in reasonable agreement with the number of coins reported in the hoards and in single finds. There are a few significant discrepancies. The number of coins reported in hoards for William I Type 2 exceeds the estimate of survivals because most of these hoards were deposited during the devastation of York in 1069 and contain a very large proportion (30–50%) of coins from the York mint. The survival estimate does not make allowance for the possibility of such a large representation of a single mint among the surviving coins. The opposite effect is observed for William I Type 5 and William II Type 2 in which the estimates of survival greatly exceed the number of coins recorded from hoards, likely reflecting large unrecorded hoards from these two periods.<sup>11</sup>

In the early years of Henry's reign few hoards were deposited and the estimated surviving stock of around twenty to 100 coins of each type comes almost entirely from single finds. Blackburn has examined the survival frequencies of coins of this reign in single finds (Table 1 column D in brackets),<sup>12</sup> in English and foreign hoards, and in the *British Museum Catalogue* and the *Sylloge of Coins of the British Isles* (Table 1 column C in brackets). While Henry's early coins are rare among the surviving coins and in the British hoards, they are not particularly rare in foreign hoards or among single finds. Of the types issued before 1124 none (apart from Type 10) is represented among the single finds by a number that is statistically different from 3 (6 using Blackburn's figures).<sup>13</sup> These results confirm that single finds were, at the time when they were lost, equally plentiful among each of the Norman types. The rarity of coins of the early part of Henry's reign is attributable to the lack of hoards, which is itself a compliment to the good management of Henry's government.

Although this analysis makes assumptions that are difficult to verify and are possibly not valid, the general consistency of the results tends to confirm the picture presented here. Sometimes a bias can be spotted, as in the case of the Linton hoard in which many more mints are represented than would be expected for the eighty-nine coins described. However, these represent only half the hoard, since the other half was not recorded. Since the number of recorded mints corresponds to the number that would be expected for all 180 coins in the hoard, it is likely that the reported portion had been carefully selected and the unreported part consisted only of duplicates. In cases where coins listed as found in the hoards have been melted down the survival estimates will be too high. In other cases, as noted above, the presence of large numbers of local coins in a hoard may make the estimate too low. In spite of these uncertainties, the survival estimates should prove a useful guide to those studying Norman coins and their mints.

## Conclusions

The information obtained from hoards and single finds show that during the Norman period prior to the purge of the moneymen in 1124, when the system of regular recoinages ended, (i) coins of each type were withdrawn from circulation and reminted during the first half of the currency of the following type, (ii) the distribution of surviving coins among the different types reflects the distribution of hoards and not the size of the original issue, and (iii) the

<sup>10</sup> The mint count is based on the listing by E.J. Harris that appeared in a series of articles in *SCMB* 1983–88.

<sup>11</sup> Blackburn (as in note 4) has speculated that there may also be an unrecorded hoard from early in Henry I's reign. If this is the case, Table 1 suggests that it is unlikely to have contained more than 100 coins.

<sup>12</sup> Blackburn, as in note 1.

<sup>13</sup> The larger number of single finds for Type 10 suggests that it likely was issued over a longer period than other types of the reign. A period of four years seems likely, reducing the average length of the other issues to 1.5 years.

number of coins recorded in hoards and the number of recorded mints can be combined to show that between sixty and seventy mints were active during the reigns of William I and William II but that this number fell to between fifty and sixty during the reign of Henry I. Only about twenty-five mints survived the purge of 1124, though the number was restored after the accession of Stephen. The number of known mints can be used to estimate the number of surviving coins, suggesting that there are probably large unrecorded hoards deposited during Type 5 of William I and Type 2 of William II.

TABLE 4: Selected Bibliography of Norman Coin Hoards

<i>Name</i>	<i>Last Type</i>	<i>Size</i>	<i>References</i>
Rotherham (1939)	Wm I-1	43	Inv. 318; BP 262
Soberton (195)	Wm I-1	259	Inv. 334; BP 263
Denge Marsh (1739)	Wm I-1	c.500	BP 265; <i>NC</i> (1957) 186–190
York Bishopshill (1882)	Wm I-2	c.55	Inv. 386; BP 273; <i>SCBI</i> Yorkshire Pt I xxxvi
Corringham (1994)	Wm I-3	100	<i>NC</i> (1996) 291
Wallbrook (1872)	Wm I-5	c.7000	Inv. 255; BP 261
Scaldwell (1914)	Wm I-5	260	Inv. 323; BP 284; <i>BNJ</i> 28, 650–1
York Monksgate (1851)	Wm I-6	73	Inv. 390; BP 285; <i>SCBI</i> Yorkshire Pt. I, xxxvi
Beauworth (1833)	Wm I-8	c.10000	Inv. 77; BP 287
Tamworth (1877)	Wm II-2	285	Inv. 350; BP 288; <i>NC</i> (1992) 129–132
Shillington (1871)	Hy I-7	c.250	Inv. 330; B9; <i>CH</i> 4–352; <i>NC</i> (1992) 111–132
South Oxfordshire (1948)	Hy I-13	18	B15
Bournemouth (1901)	Hy I-14	376	Inv. 49, 71; B17; <i>NC</i> (1977) 180–3
Lincoln (Malandry) (1971)	Hy I-15	774	B19; <i>CH</i> 1–359
South Kyme (1922)	St-1	324	Inv. 337; B25
Watford (1818)	St-1	1227	Inv. 372; B28
Prestwich (1971)	St-1	1065	B32; <i>CH</i> 1–360
Linton (1883)	St-2	180	Inv. 235; B31
Awbridge (1905)	Hy II-1	180	Inv. 16
Wicklewood (1989)	Hy II-1	342	B37; M. Archibald Private communication

Inv. J.D.A. Thompson, *Inventory of British Coin Hoards AD600–1500*, RNS Special Publications No. 1.

BP M. Blackburn and H. Pagan, 'A Revised Checklist of Coin Hoards from the British Isles c.500–1100', *Anglo-Saxon Monetary History. Essays in memory of Michael Dolley*, Leicester University Press, 1986, pp. 291–313.

B M. Blackburn, 'Coinage and Currency under Henry I: a Review', *Anglo-Norman Studies* XIII (1991), 51–81.

*CH* *Coin Hoards*. Royal Numismatic Society

*NC* Numismatic Chronicle

*BNJ* British Numismatic Journal