

A SCEAT OF ETHELBERT I OF EAST ANGLIA AND RECENT FINDS OF COINS OF BEONNA

MARION M. ARCHIBALD AND VALERIE FENWICK
WITH M.R. COWELL

THIS paper discusses the penny ('sceat') of Ethelbert I of East Anglia (749–?) found during excavations at Burrow Hill, Suffolk, directed by Valerie Fenwick, formerly of the Department of Medieval and Later Antiquities in the British Museum. It was purchased by the British Museum Society and presented to the museum to mark the society's twenty-fifth anniversary in 1992, together with forty-seven other Anglo-Saxon coins from Burrow Hill (including fourteen Beonnas). The museum is most grateful to the society for its exceptionally generous support, which has not only secured the 'unique' Ethelbert sceat for the national collection but has also enabled this archaeologically and historically important group of excavated material to be kept together and accessible to students.¹

As the numismatic and historical aspects of the Ethelbert sceat can only be assessed in the context of the larger coinage of his contemporary Beonna of East Anglia (749–c. 760 or later), it is first necessary to discuss the plentiful new evidence which has become available since the issues of that reign were last reviewed a decade ago.²

The Coinage of Beonna

The recent finds, 1986–95

Thirty coins, listed in Appendix 1, have been recorded since the compilation of the 1985 corpus, bringing the total of Beonna's coins to one hundred and six: moneyers Werferth, 3; Efe, 73; Interlace type, 7; Wilred, 23. Two further forgeries (pl. 2, A and B) have also been noted and follow the list. Of the coins published in 1985, sixty-seven per cent came from the one hoard found at Middle Harling, Norfolk. By contrast, all thirty of the recently discovered coins were individual finds, only three without some indication of provenance. Exactly half of these additional coins were unearthed on excavations so that, most unusually and valuably, their precise contexts are known. In particular, it should be noted that the archaeological contexts of all the Beonna coins from the excavations at Burrow Hill, Suffolk (present total fourteen – five in 1985) and at several sites in Ipswich (present total seven – two in 1985) make it certain that they were individual losses and not dispersed hoards or purse contents. A total of six Beonnas have been found by independent metal-detector users at Middle Harling, but too far from the nucleus of the hoard for it to be likely that they were part of it.³ The four Beonnas from Barham, a major market or meeting-place site just north-west of Ipswich, were also found over a considerable area and may be accepted as isolated losses. The coins from all

¹ The publication of the coins from Burrow Hill, except for the sceattas of Beonna and Ethelbert I discussed here, has been reserved for the excavation report being prepared by Valerie Fenwick. All the coins are, however, part of the National Collection and are available for study in the British Museum.

² Marion M. Archibald with contributions by M.R. Cowell, R.I. Page and A.J.G. Rogers, 'The coinage of Beonna in the light of the Middle Harling hoard', *BNJ* 55 (1985), 10–54. See

also the earlier survey by H.E. Pagan, 'A new type for Beonna', *BNJ* 37 (1968), 10–15, and the discussion by D.M. Metcalf, *Thrymsas and Sceattas in the Ashmolean Museum, Oxford*, vol. 3 (London, 1994), 601–07 and 617–20.

³ Marion M. Archibald, 'The coins' in Andrew Rogers, *A late Neolithic, Saxon and Medieval Site at Middle Harling, Norfolk* (East Anglian Archaeology Report No. 74), 1995, pp. 46–7, Fig. 33.

the other known locations were singletons. The larger number of individual finds now known greatly increases the evidential value of the revised die representations and distribution patterns. The conclusions drawn in 1985 can thus be tested against a fuller and more reliable body of material.

Dies and die-combinations

Some recent finds are in poor condition or are badly struck, so that details of the pellet formations beside the letters on Efe reverses remain uncertain in some instances, but it has been possible to be satisfied of die identities or differences. The additional reverse dies show that some combinations of pellets around the initial cross are repeated on more than one die used with the same obverse, contrary to what appeared to be the case from the more limited evidence in 1985.⁴ The arrangements of pellets still appear systematic, but only fuller evidence will show whether they are really deliberately differentiated or merely random. The present pattern of die combinations is set out in Table 1. Among the additional coins there are no new lower dies but twelve new upper dies. This is in line with the estimations made by M.R. Cowell in his statistical analysis in 1985. The fuller data now available are considered by him in Appendix 2 and produce little change in the estimations: as before, only about one further lower die may be expected for Efe and about two for Wilred, but rather more upper dies are likely for both than the previous material had suggested.

TABLE 1 Die combinations in Beonna's coinage

Dies noted since 1985: Efe reverses (upper dies), R29–38; Interlace obverse (upper die), O4; Wilred obverse (upper die), O13. Only Efe R15 is used with more than one obverse die (O4 and O6). There are no 'new' lower dies. The number of coins of each die combination known is given in brackets.

Werferth

Obverse O1 with 1 reverse: R1 (3)

Efe

Obverse	O1	with	3	reverses:	R1 (1), R2 (3), R22 (3)
	O2		3		R3 (2), R4 (2), R5 (1)
	O3		11		R6 (2), R7 (2), R8 (2), R9 (1), R10 (3), R23 (1), R24 (1), R29 (1), R30 (1), R36 (1), R38 (1)
	O4		6		R11 (7), R12 (3), R13 (6), R14 (1), R15 (4), R32 (1)
	O5		2		R16 (1), R17 (3)
	O6		3		R15 (1), R18 (1), R19 (2)
	O7		1		R20 (1)
	O8		4		R21 (2), R25 (2), R31 (1), R33 (2)
	O9		2		R26 (2), R34 (1)
	O10		3		R27 (1), R35 (1), R37 (1)
	O11		1		R28 (1)

Interlace

Reverse R1 with 4 obverses: O1 (1), O2 (4), O3? (1), O4 (1)

Wilred

Reverse	R1	with	4	obverses:	O1 (1), O2 (2), O3 (1), O11 (1)
	R2		1		O4 (3)
	R3		2		O5 (3), O10 (3)
	R4		5		O6 (1), O7 (1), O13 (1), O14 (1), O15 (1)
	R5		1		O8 (1)
	R6		1		O9 (1)
	R7		1		O12 (2)

⁴ Archibald 1985, p. 22.

Among Efe's twenty-two additional coins there are ten new reverse dies. Four of them are paired with obverse O3, probably his earliest, increasing the number of reverses used with it to eleven. Further new reverse dies may be expected to fill out the ratios in other groups, but some obverses may have been associated with more reverses than others. There is still only one die link between obverses: reverse R15 is used with both obverses O4 and O6. For Wilred, the sole new obverse O15 (an upper die in the case of this moneyer) increases the number of obverses used with reverse R4 to five, the highest obverse to reverse die-ratio recorded for Wilred.⁵ M.R. Cowell's statistical estimations show that the average ratio of upper to lower dies is likely to be 5:1 for Efe and 4:1 for Wilred. The numbers of both obverse and reverse dies, and of extant coins, are also lower for Wilred, which suggests that his issues were on a smaller scale than those of Efe.

Only one further coin of the Interlace type, which is without moneyer's name, has come to light. It is from the sole interlace (lower) die known and is paired with a fourth obverse die O4 (pl. 1, 24). The all-runic inscriptions on the previous Interlace obverse dies are uninterrupted and end with 'rex' in full. Here, a second cross appears in the legend at six o'clock and the regal title is replaced by the same symbol found in this position on the obverses of Wilred's coins, except that the Interlace letter has a pellet in the bow. The symbol on the Wilred coins was interpreted by Professor R.I. Page as a nonce formation probably denoting 'rex'.⁶ The new obverse is not known paired with a Wilred reverse, but it provides a further link between the two issues already related by their technology and design details. The single additional coin of Werferth (pl. 1, 1) is from the same pair of dies as the two previously known. There are too few Werferth and Interlace coins for statistical analysis, but they are still represented by only a few coins from a single lower die in each case, which suggests that their issues were probably small.

Metal content

The metal content of five of the post-1985 Beonnas is discussed by M.R. Cowell in Appendix 2. It was not possible to follow the comprehensive analysis programme undertaken for the earlier group for the recently discovered coins from many different sources (see Cowell, Appendix 4 in Archibald 1985, pp. 42–8). The coins for investigation this time were chosen from among the additional coins from Burrow Hill acquired by the British Museum. The basis of selection was that they should have been struck from at least one die for which no data were already available, either because the die was new or because a duplicate coin in the earlier corpus had been unsuitable for analysis. Among the latter was the Efe coin with the all Latin-letter obverse inscription from the Hunterian Museum (*SCBI Glasgow* 413 = 1985 Corpus C49), then the only known example. Two coins from this same obverse die, paired with different reverses, were among the additional coins from Burrow Hill. The die duplicate of the Glasgow coin was fifty-four per cent silver, placing it among Efe's earlier issues where its relatively small flan size suggests that it belongs. It proved impossible to obtain reliable results from the other coin. The results overall show that none of the coins was of metal either better or worse than among the larger group investigated in 1985.

Range of Beonna's coinage

The new evidence confirms that the surviving coins are and were broadly representative of Beonna's coinage. No new types, moneyers or lower dies have come to light, and only the

⁵ The two coins of reverse R4 analysed in 1985 were the basest and presumptively the latest of Beonna's coins at 22.9% and 25% silver (23.5% and 25.7% with the gold included). M.R. Cowell, 'Appendix 4. Analysis of

coins of Beonna and related issues' in Archibald 1985, p. 46.

⁶ R.I. Page, 'Appendix 2. The legends on the coins' in Archibald 1985, p. 37.

Interlace series has produced even an unrecorded variety of an upper die. The only additional coin of Werferth is from the same dies as the previous two, all three probably from different findspots. This suggests that the presence of a single specimen in the Middle Harling hoard was not simply the result of his better-metal coins having been selectively melted down after poorer issues had succeeded them, or of his coinage being under-represented because it was significantly earlier in date than the rest of Beonna's issues.⁷ The unworn condition of the Werferth coin in this hoard can therefore be advanced with greater confidence to support the thesis proposed in 1985 that Beonna's surviving coinage was issued over a relatively short period.

Novelties can never be ruled out (witness the Ethelbert sceat itself) but it is becoming less likely that a major series of Beonna's coins remains undiscovered. An early fine-silver issue is theoretically possible, but the earliest known sceattas of Eadberht of Northumbria (737–58), which appear to have been the inspiration of Beonna's coinage, do not exceed the postulated seventy-five per cent standard of Beonna's finest coins by Werferth.⁸ At the other end of the scale, the Northumbrian coinage, and indeed the preceding Series R sceattas of East Anglia itself, show that even baser and more illiterate coins are possible than were ever produced for Beonna. The basest known Beonna coins of Wilred, apparently on a twenty-five per cent silver standard, may well be the latest of his issues, as the final stages of such a downward course were perhaps overtaken by political events. The date of the intervention of Offa of Mercia (757–96) in East Anglian affairs and of his introduction of broad pennies in fine silver are both unknown, but his employment of Beonna's moneyer Wilred suggests a relatively short timescale, as discussed in the 1985 paper, p. 32.

Distribution and mints

The known findspots of Beonna coins recorded to the end of 1995 are set out in Table 2 and plotted by moneyer or type in fig. 1, maps 1–4, prepared by Brendan Moore. The findspot of the additional Werferth coin is unknown, so the thin distribution is unchanged from 1985.⁹ As coins of Efe outnumber those of Wilred by about three to one, it is to be expected that his coins will be more widely distributed over the East Anglian kingdom and beyond. The coin from Whithorn, Galloway, in south-west Scotland, is part of an exceptional group of Anglo-Saxon coins indicative of the importance of this monastic site and of its widespread direct and indirect contacts. Even allowing for this bias in Efe's favour, his coins are still more heavily represented in the north of East Anglia, and those of Wilred in the south-east. It is not surprising, as numbers increase, to find a Wilred in the north but it is, significantly, from Bawsey, a major trading site not far from the coast. At Burrow Hill, the representation of Efe is unexpectedly high for the south-east of East Anglia, with eleven Efes to three Wilreds, a ratio similar to that at Middle Harling. This pattern must be directly related to the function and history of this high-status site. There is one additional findspot for the Interlace type at Middle Harling, some two hundred and thirty yards from the hoard nucleus and most probably an independent loss. The validity of the location of the Interlace type in central East Anglia has received some support, both positively from this find, and negatively from the absence of the other types in its defined area of circulation in north-central Suffolk.

⁷ Metcalf 1994, pp. 604 and 618.

⁸ M.M. Archibald and M.R. Cowell, 'The fineness of Northumbrian sceattas' in *Metallurgy in Numismatics*, vol. 2, edited by W.A. Oddy (Royal Numismatic Society Special

Publication No. 19, London, 1988), pp. 55–64.

⁹ The recently-discovered coin of Werferth was said to have been 'possibly found near Thetford' but, as the findspot has not been confirmed, it has not been added to the map.

TABLE 2. Findspots of Beonna coins

After Middle Harling, the finds are listed from north to south.

Hoard	Werferth	Efe	Interlace	Wilred	Total
Middle Harling, Norfolk ¹	1	37	3	10	51
Isolated Finds					
Middle Harling, Norfolk ¹		3	1	2	6
'Harling area', Norfolk ²		1			1
Whithorn, Galloway		1			1
Bawsey, Norfolk ³				1	1
Fakenham, Norfolk		1			1
Bowthorpe, Norfolk		1			1
Caistor St Edmund, Norfolk		1			1
Quiddenden, Norfolk		1			1
'Norfolk'		1			1
'Norfolk/Suffolk borders'		1			1
Brandon, Suffolk		1			1
Exning, Suffolk		1			1
Royston (near), Cambs. ⁴		1			1
Bardwell, Suffolk			1		1
Pakenham, Suffolk			1		1
Hacheston, Suffolk		1			1
Debenham, Suffolk ⁵		1			1
Burrow Hill, Suffolk		11		3	14
Barham, Suffolk		1		3	4
Ipswich, Suffolk	1	3		3	7
'Near Ipswich', Suffolk ⁶		1			1
Unknown (England) ⁷	1	4		1	6
Dorestad, Netherlands			1		1
TOTAL	3	73	7	23	106

Notes to Table 2

¹ Since the hoard was listed in *BNJ* 1985, further coins have been discovered at Middle Harling but at such a distance from the nucleus of the hoard that it is unlikely that they were deposited with it (see the map of findspots in Rogerson 1995, p. 47, fig. 33). It has now also been established that four of the non-excavation coins listed with the hoard in 1985 are in the same category: MH53 (sceat Series U, archer/bird); MH64 (sceat Series R, '[t]illberit'); MH43 = C59 (Beonna, Wilred) and MH53 = C64 (Beonna, Wilred). All these apparently isolated site-finds of Beonna coins are therefore listed separately above. On the maps, the Middle Harling coins are cited as a + b i.e. hoard coins plus site-finds. The coin from the 'Harling area' is included with the latter.

² There are places called East, Middle and West Harling and also Harling Thorpe, so it is not certain which may be involved here but, as all are close together, this coin is included with the site-finds from Middle Harling in the map of Efe findspots.

³ There was some confusion over the findspot of this coin which was originally described as being from Burnham Market, also in north Norfolk, but the writer is reliably informed that it came from the coin-rich market site at Bawsey.

⁴ Royston is in Hertfordshire, but it is believed that the ancient market site near the town on which many early medieval coins, particularly sceattas, have been found is actually across the county border in Cambridgeshire.

⁵ This coin was one of those from 'unknown' findspots listed in the 1985 Corpus. Debenham may now be accepted as an authentic findspot. (See David Sherlock, 'The coins' in Fenwick 1984, pp. 44–52 at p. 46.)

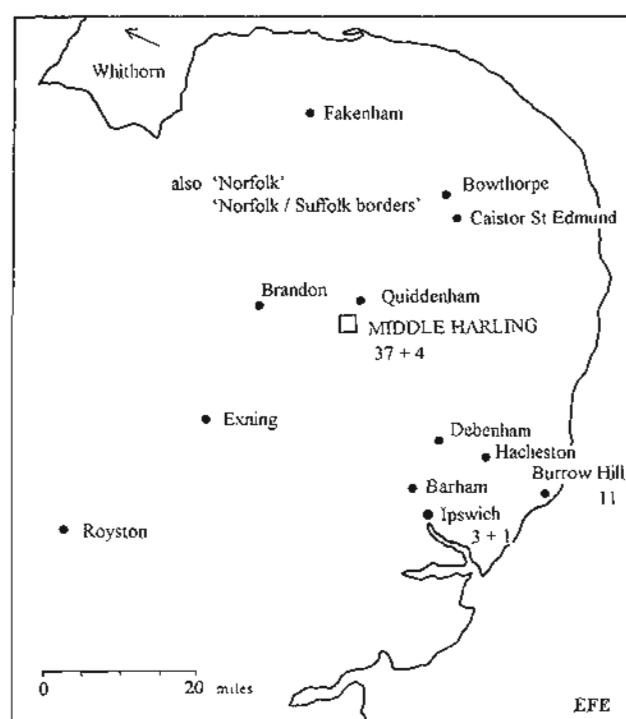
⁶ This nineteenth-century discovery is included as the '+ 1' with the (excavation) coins from Ipswich on the map of Efe findspots.

⁷ One of the coins in this category in the 1985 Corpus is here treated as the coin found at Debenham.

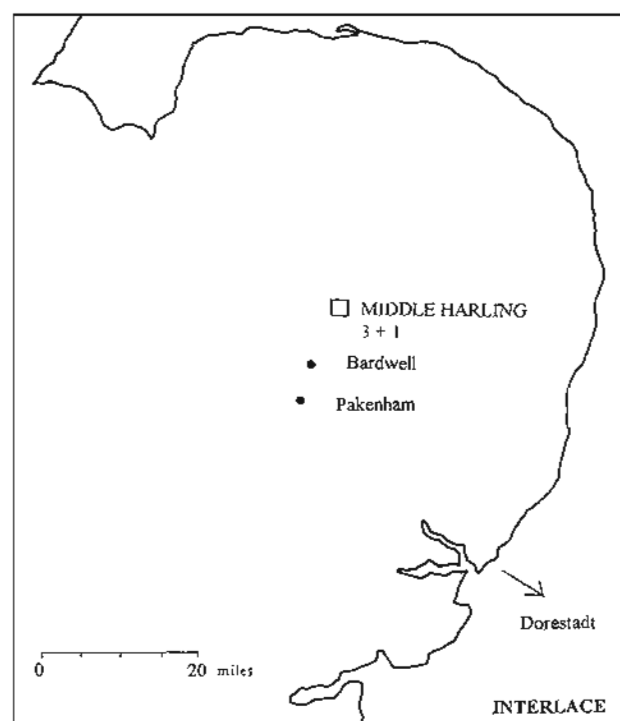
The distributions thus broadly reproduce the previous patterns, with Efe commoner in the north and west of East Anglia and Wilred in the south-east, and the Interlace type apparently between them. The precise location of the mints remains problematic. Technical considerations, including flan size, rule out a single sequence at the same mint for Beonna's coinage. The combined evidence suggests that there were at least two mints, one in south Norfolk and one in south-east Suffolk. Whilst acknowledging, as in 1985, that the minting places could have been at other locations in those areas, Thetford and Ipswich are the



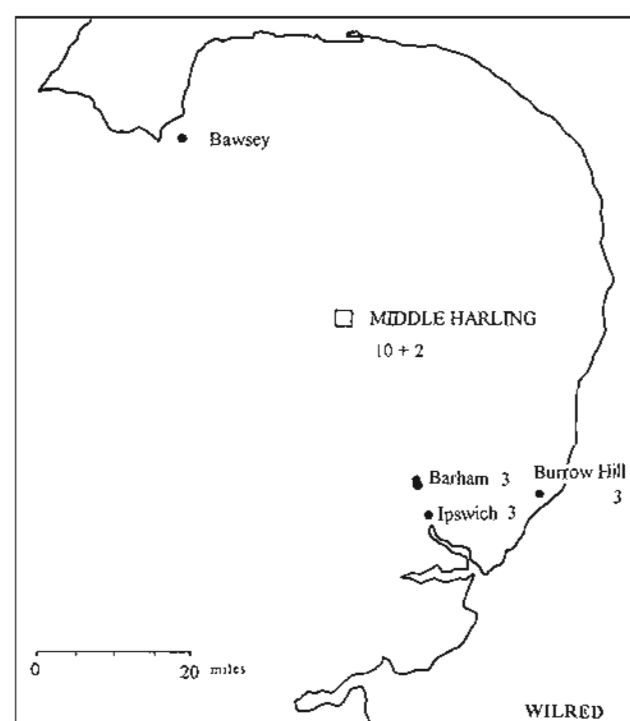
Map 1



Map 2



Map 3



Map 4

Fig. 1 Findspots of Beonna Coins

strongest candidates.¹⁰ A third mint for the Interlace type still seems to fit the evidence best. The writer has tentatively and more controversially suggested Beadricesworth (later Bury St Edmunds), but further evidence is needed before the question of the minting places can be decided with confidence.

Chronology

It has been argued above that the extant coins of Beonna are representative of the range of his coinage, and that it is likely to have been issued over a relatively short period of time. Production of coinage in the late sceatta period, when bullion was scarce, was normally at a low level. A reformed, regally explicit, coinage produced in a short burst of high activity would accord with an issue required for a specific political or military purpose, hence the writer's suggestion that Beonna's coinage was confined to a fairly narrow period around the death of Æthelbald of Mercia in 757 and for a few years thereafter. The coinage began in the north of East Anglia with Werferth's coins on a seventy-five per cent silver standard, and continued there with the coins of Efe aiming at fifty per cent standard. The coins of Wilred from the southern mint are at first on the same standard but soon fail to achieve it, ending with an issue apparently on a twenty-five per cent standard. The latest phase is at present represented by coins (only two of which have been analysed) from just one lower die associated with a higher than usual number of upper ones. The Wilred coins could have overlapped in time with the Efes of the same standard and continued later, or they could all have followed on after the Efe series. The Interlace coins from another southern East Anglian mint are on broad flans, which place them late in Beonna's coinage, but they did still manage to maintain the fifty per cent standard. The discussion of the chronology of Beonna's coinage cannot be taken further without taking account of the Ethelbert coin to which we must now turn.

The Ethelbert Coin

The findspot

Burrow Hill is located in the parish of Butley in south-east Suffolk, 10km (6.2 miles) due east of Sutton Hoo.¹¹ Formerly an island, it now forms part of the embankment of the Butley river 1.6km above its confluence with the Ore and the shingle bank separating it from the sea. About the same distance to the north-west lies Rendlesham, where the Wuffingas kings of East Anglia are believed to have had their palace. The investigation of the site in advance of gravel workings has been undertaken since 1978 by the Butley Excavation Group led by Valerie Fenwick, with the active support and encouragement of the then landowner, Sir Peter Greenwell, Bt., and his family. Not least from the quality of the finds, the site is clearly a high-status one. Its location, near to the heartland of the early East Anglian dynasty, suggests that Burrow Hill was possibly a royal site, but further work is needed before it can be fully evaluated. It is hoped that all the non-numismatic finds from the excavations will be acquired by the Ipswich museum. Meantime, there is a comprehensive display of the finds kindly loaned by James Greenwell in Woodbridge Museum.

¹⁰ Archibald 1985, p. 30. Kenneth Penn of the Norfolk Archaeological Unit and John Newman of the Suffolk Archaeological Unit have both drawn the writer's attention (pers. comm.) to the contemporary importance of *villae regales* and to the fact that several of the finds of Beonna coins have been made on or near the site of a *villa regalis*. The coins could possibly have been a palatine issue struck at places of royal residence, especially in the circumstances suggested below for the production of the coinage, but where it is possible to be certain about the minting place

of sceattas they are commercial and/or religious centres. To underline the fact that the mint locations are not yet certain, they are generally referred to below as 'the northern mint' or 'the southern mint' rather than by any specific name.

¹¹ For fuller details of the location and context see Valerie Fenwick, 'Insula de Burgh: excavations at Burrow Hill, Butley, Suffolk, 1978-81', *Anglo-Saxon Studies in Archaeology and History* 3 (Oxford University Committee for Archaeology, 1984), 35-54, especially at pp. 35-7.

The close proximity of the Burrow Hill coins in contexts which can be shown to have been deposited over a number of years is a clear warning of the danger of assuming an original single context ('dispersed hoard') for groups of coins retrieved by metal detectorists from plough soil. The excavation showed that Middle Saxon kitchen middens and cess deposits are likely to contain accidental losses in the form of coins and other small metal finds. Had the site been ploughed down there would have been no way of establishing that the sceattas were separate losses rather than a dispersed hoard.

The coin (pl. 2, 31, natural size and X2)

Obv.: 'eþ æl be rt' in runes laid out between the limbs of a saltire pommée with, at the centre, a large pellet in a circle of pellets; pellets are distributed between the letters thus: 'e2þ2 æl/ 1b3e/ r3t'; all within an outer circle of largish pellets.

Rev.: 'ti æl re d' in runes laid out between the limbs of a saltire pommée with, at the centre, a large pellet within a circle of tiny pellets, all within a linear circle; pellets are distributed between the letters thus: t2i5 3æ3l/ r3e 3d3 (a pellet also above and below the 'e'); all within an outer circle of smallish pellets.

Weight: 1.20g (18.5gr). Die axis: 270°. Metal: 41.5% silver (plus 0.6% gold etc; see Appendix 2).

Ref.: BM 1992-11-35-28.

On the 'eþælbert' side, both the design features and the runes are drawn with a heavier hand and in higher relief than on the 'tiælred' side and are presumptively of a slightly different date and/or by a different die-cutter. This suggests the possibility (although not requiring it) that there may have been at least one other die in this issue. It is not possible to be certain which side is the technical obverse and occupied the lower position during striking.

The inscriptions

The runes are, as on most of the coins of Beonna, carefully formed and unambiguous. The runic inscription 'eþælbert' is clearly a form of the OE name normalised in its West Saxon spelling as Æthelbeorht. The use of the rune 'e' where the conspicuously different rune 'æ' might be expected and *vice versa* may be paralleled on the earlier runic sceattas of East Anglia, where coins reading 'æpa' are succeeded by those reading 'epa' indicating, it is believed, different orthographic forms for the sound at the start of the same name.¹² It is, however, just possible that the abnormal letter order has a technical rather than a linguistic explanation: the die-cutter intending 'æþelbert' but reversing the æ and e in hypercorrection while attempting what was perhaps an unfamiliar mirror-image inscription.

The interpretation of 'tiælred' is less straight forward. The prototheme 'tiæl', taken as it stands, is an abnormal formation and the author suggested in a preliminary publication that it might be a pronunciation spelling of the theme Ceol.¹³ Dr Fran Coleman has kindly advised that while a name in Ceol- is onomastically possible, a form with Til- is preferable from the point of view of Old English orthography. One explanation which she puts forward is that the runic 'æ' and 'l' have been transposed and that the name being essayed was Tilered with 'æ' for 'e' being a compositional vowel regularly found between the elements of ditheumatic proper names, for example in that of Alfred's moneyer at London, Tilewine.¹⁴ This is an

¹² D.M. Metcalf, *Thrymsas and Sceattas in the Ashmolean Museum, Oxford*, vol. 1 (London, 1993), pp. 106-7; Page 1985, p. 40 gives 'epa' (? 'æpa').

¹³ Marion Archibald and Valerie Fenwick, 'King Albert's penny', *British Museum Magazine*, Spring 1993, Number 13, 19.

¹⁴ The writer is grateful to Dr Fran Coleman of the University of Edinburgh for her expert advice and for

sanctioning quotations from her paper discussing the problems presented by the inscriptions on this coin, 'More meetings of philology and linguistics - with a little help from their friends: on a recently-discovered Anglo-Saxon coin', which is forthcoming in the *Festschrift for Professor Matti Rissanen*, edited by Terttu Nevalainen and Leena Kahlas-Tarkka, Department of English, University of Helsinki.

attractive solution as a transposition of letters also appears to have taken place in the obverse legend as discussed above. The presence of 'tilberht' as a moneyer's name, with a pellet between the two themes, in the immediately preceding runic sceatta type, Series R, also suggests that the prototheme here might have been the same, following the familiar manner of Anglo-Saxon name-giving in the possible context of a moneyer dynasty. A moneyer also called Tilred (this time with no interelemental 'e') produced coins for Ecgbearht of Wessex at Winchester during the period c. 828–c. 839, but the name was not known earlier until the discovery of the present coin.

The issuer

The inscription on each side of the Burrow Hill coin is simply a personal name, so that either side could indicate the issuer or the moneyer.¹⁵ The absence of titles at this time is not a problem, as some coins of Offa lack any form of REX, and moneyers' names are not normally qualified by an abbreviation of *monetarius* until the early ninth century. As the die with the king's name could occupy either the upper or the lower position, the technical obverse here is not material to this particular question. The most acceptable interpretation is that this coin was struck by a moneyer Tilered for a king called Æthelbearht.¹⁶ The sceat's similarity to the known coins of Beonna, added to its Suffolk findspot, strongly suggest that this Æthelbearht reigned in East Anglia and around the same time. The written sources mention two kings of that name in East Anglia in the eighth century, who will be referred to throughout this discussion as Ethelbert I and Ethelbert II.

1. Ethelbert I

Ethelbert I here represents that 'Alberht' who is mentioned uniquely in the Norman compilation called the *Historia Regum*, but in a part attributed to the early eleventh-century monk Byrhtferth of Ramsey. There 'Alberht' is said to have divided the kingdom of the East Angles with 'Hunbeanna' (interpreted as two persons, Hun and Beonna) after the death of Ælfwald in 749.¹⁷ Historians have accepted this annal as based on genuine tradition.¹⁸ The relevant passage in the only surviving manuscript, dated to the late twelfth century, in the library of Corpus Christi College, Cambridge, is shown in Fig. 2.¹⁹ The spelling of the name presents no difficulty as the change from Æthel- to Al- is a normal development in the forms of OE names.²⁰ The date of Alberht's death or departure is not known.

2. Ethelbert II

Ethelbert II here represents that 'Æthelbrihtus' king of the East Angles who, on the authority of the *Anglo-Saxon Chronicle*, was killed on Offa's orders in 794.²¹ He was afterwards venerated as a saint. *The Handbook of British Chronology* no longer gives credence to any of

¹⁵ This coin has the same design on both sides, which is also used as the reverse type only on the issues by the moneyers Werferth and Efe. It could theoretically be a double reverse with two moneyers' names, but the interpretation suggested below is to be preferred.

¹⁶ Ceolred of Mercia (709–16) is too early to be a possible candidate. The near-contemporary churchmen of these names are also unlikely.

¹⁷ Dorothy Whitelock, *English Historical Documents* 1 c. 500–1042, 2nd edn (Oxford, 1979), p. 265. The writer owes the information that this section of the *Historia* is now attributed to Byrhtferth of Ramsey to the advice of Dr Simon Keynes.

¹⁸ *Handbook of British Chronology*, edited by F.B. Fryde, D.E. Greenway, S. Porter and I. Roy, third edition, 1986, p. 9.

¹⁹ CCC MS 139 j 63r and 63v. The photographs of the text are reproduced here by kind permission of Corpus Christi College, Cambridge.

²⁰ The writer is grateful to Dr Veronica Smart for her advice (pers. comm.) on this matter.

²¹ This spelling of the name appears in the Anglo-Saxon Chronicle: *The Anglo-Saxon Chronicle, a Collaborative Edition*, general editors D. Dumville and S. Keynes, D. Dumville and M. Lapidge, vol. 17, *The Annals of St Neots with Vita Prima Sancti Neoti* (Cambridge, 1986), p. 39.

and copiam sibi negata uidit. Rediit g
 sup ripam fluminis expectare uolens do
 nec aqua diminueret: ut transire posset.
 S; cum tribz diebz expectat; aqumq; abscq;
 et amisset in gremium defunctus est.
 b. h. t. r. p. f. i. o. u. r. t. e. a. w. a. c. h. o. n. g. a. b. e. n. i. a. c. u. s.
 a. e. t. a. m. a. n. n. o. e. o. d. e. h. e. r. e. b. a. l. d. a. b. a. l. o. b. i. t.
A nno. dcc. xl. yr. ælfwald rex
 orientaliū angloꝝ defunctus est.
 regnauitq; hunbeanna ælberht sibi diuifert.
A nno septingentesimo. l. eadberht rex ky
 nny. Ifum epm in urbem bebbam captiuū
 adduxerit. basilicamq; beati petri obfide
 fecit in lündisfarnea. Offo filius aldfredi q;
 coronatu est cum. l. tribz.
A nno. dcc. l. v. eathred rex occidentaliū
 tixonum obiit. cui regni sceptru sigberht
 accepit.
A nno ab incarnatione
 dñice. dcc. l. vi. eadberht rex. xviii.

The *Historia Regum* annal for 749 begins at the bottom of folio 63r (above right) and continues, naming 'ælberht' in the top line of folio 63v (below left). Corpus Christi College, Cambridge, MS 139.

the information in late chronicles about the antecedents of Ethelbert II.²² It has however accepted, as the given dates would almost certainly require, that he was a different person from the namesake who is said to have shared the kingdom in 749.²³ Ethelbert II has been identified with the 'King Ethilberht' who issued the broad pennies of the she-wolf and twins reverse type by the moneyer Lul, contemporary with Offa's Light Coinage.²⁴

Ethelbert I came to the throne in 749 and Ethelbert II was killed in 794, but there is no reliable written evidence about the date of Ethelbert II's accession or of the dates of the accession and death of any king or kings who ruled in the period between.²⁵ It is only by considering the 'epælbert' coin in the context of the issues of Beonna and Offa that its date and attribution can be suggested.

Typological associations and location

The obverse and reverse designs of the 'epælbert' coin, consisting of a prominent cross or saltire with the letters of the legends placed in its quarters, associate them with the reverses of the Werferth and Efe coins rather than with the Wilred or Interlace issues. The presence of many pellets around the letters, although not apparently arranged here in any deliberate pattern, is also a feature of the Efe rather than the Wilred coins. The 'd' on the 'tælred' side is of the normal runic form with intersecting staves, whereas those on the Wilred dies have, without exception, a different form, with no intersection and an additional vertical staff.

It must be decided whether this association with the Werferth/Efe group is chronological or geographical. Unfortunately, the doubt over which side of the 'epælbert' sceat is the technical obverse (which distinguishes the issues of the northern East Anglian mint from the southern

²² *Handbook* 1986, p. 9, omitting details in the 1961 edition, p. 19, from the genealogy of the East Anglian kings which, with others, precedes *The Chronicle of John of Worcester*. It places Æthelred between Beonna ('Beorna') and Ethelbert II. This source is unreliable because it appears to have no independent authority, and to depend on the *Passio* of St Ethelbert which says that Ethelbert's father was Æthelred. The earliest surviving version of the *Passio* dates from the early twelfth century but its hagiographical content and parallels with other saints' lives make its evidence suspect. (See M.R.

James, 'Two lives of St Ethelbert', *EHR* 32 (April 1917). The existence of another king between Beonna (accessed 749) and Ethelbert II (died 794), remains likely.

²³ *Handbook* 1986, p. 9.

²⁴ I. Stewart, 'The London mint and the coinage of Offa', in *Anglo-Saxon Monetary History*, edited by M.A.S. Blackburn (Leicester, 1986), 27–43, at pp. 31–2, and earlier papers there cited.

²⁵ The *Passio* gives specific dates of birth and accession for the saint himself, but they are unreliable (see note 22 above).

ones) rules out that approach. Its weight at 1.20g is higher than all but one known coin of Beonna, but its silver content of 41.5% (42.1% with the gold added) matches that of the lower end of Efe's coinage and the main series of Wilred's. It cannot however represent an earlier issue at the southern East Anglian mint contemporary with the start of Efe's coinage in the north, because its broader flan makes it almost impossible to place it at the same mint before the earliest of the Wilreds on their particularly narrow ones. Nor can it be easily located after the Wilreds because of the continuity between that moneyer's sceattas for Beonna and his fine-metal broad pennies for Offa. The findspot of the 'eþælbert' in Suffolk might seem good evidence for a southern origin, but as it came from Burrow Hill, where coins of Efe outnumber those of Wilred by eleven to three, a northern source of the 'eþælbert' would be quite acceptable in that context. It is thus preferable to accept the clear typological association of the 'eþælbert' with the Werferth/Efe group, which points to a northern origin, and the putative mint at Thetford.

Relative chronological position

The 'eþælbert' coin's broader flan equally rules out placing it before the smaller-flan Werferths, as does its much lower silver content, even after taking account of its higher weight and stylistic similarity. Neither can it come between the Werferths and the early Efes, as the latter are still on smaller flans and are of better metal. Stylistically, too, such sequences would be difficult to justify, since the central motif on the Werferth and Efe reverses is a square, which follows on naturally from the Series R design whereas, on the 'eþælbert', it is a circle. In flan size the 'eþælbert' is smaller than the Interlace type, but its metal is baser. Its stylistic differences make it unlikely to have originated in the same place. On the basis of design, metal content and flan size, therefore, the best place for the 'eþælbert' is after the Beonna coins by the moneyer Efe at the northern mint. The heavy weight, if indicative of the issue as a whole, suggests that Ethelbert was attempting to restore the coinage to its original penny/sceatta standard of c. 1.25g, although unable, apparently, to return to a higher silver content.

Ethelbert I or Ethelbert II

The close typological associations with the coins of Beonna suggest that the 'eþælbert' coin is more easily attributed to Ethelbert I than to Ethelbert II. The analytical and archaeological evidence also strongly supports an attribution to Ethelbert I. M.R. Cowell says in Appendix 2 that 'the Ethelbert coin is made of the same alloy and contains the same minor components as those of Beonna' and concludes that 'the Ethelbert coin is similar to those of Beonna and is consistent with it being a contemporary issue'. The coin was a single find contained in a primary deposit of food debris in the bottom of a ditch. It was securely sealed by multiple overlying deposits and oyster middens. The context also contained two Efe coins of Beonna and a broken Series R sceat, while a series of overlying deposits of midden material contained single coins which provided a sequence extending into the ninth century. The attribution to Ethelbert I thus seems to be as secure as present evidence will allow. The identification of the issuer also depends on the likely historical context. There is no reliable evidence about the contemporary state of affairs in East Anglia between the accession of Ethelbert I and the death of Ethelbert II, so what follows is largely speculative, but it is consistent with the chronological framework of the coinage established above.

The coinage in its historical context – a hypothesis

Oman proposed that Beonna, a hypocoristic form of a name in Beorn- or -beorn, may be identified with Beornred who succeeded to the throne of Mercia after the murder of Æthelbald

in 757.²⁶ If this is correct, it would suggest that, when Alfwald of East Anglia died in 749, Æthelbald of Mercia used his dominant position in southern England to install Beornred, a senior member of one of the branches of the Mercian royal family and a potential heir, as joint client-ruler with Ethelbert I, probably a member of the East Anglian dynasty. It would be natural for Beonna to be based in the north of East Anglia, leaving the local ruler with the Wuffingas heartlands in the south-east. Nothing whatever is known of Hun.²⁷

When Æthelbald was murdered by his retainers in 757, Beornred/Beonna returned to his native Mercia as king. It was around this time that Beonna's intensive coinage by Efe was produced, principally, it may be suggested, to promote his dynastic ambitions. After a weak start with a small issue, by Werferth, of silver-rich coins whose standard could not be sustained, a large amount of baser coin was produced quickly by Efe. The high ratio of upper to lower dies, especially early in the series, would support this hypothesis, as a similar pattern has been recognised elsewhere when a large issue was produced over a short period, often to meet military requirements.²⁸ Before the year was out, Offa had replaced him on the Mercian throne and 'put Beornred to flight'.²⁹ It may be postulated that he fled back to East Anglia where, for the moment, Offa could not reach him. It may be recalled that following the annal for 758 in the *Chronicle of John of Worcester* Beonna is among a number of kings said to have ruled 'in these times' and in the genealogy of the East Anglian kings to have been 'in Offa's time'.³⁰

The one known coin of Ethelbert I was struck after the last of the Efe series at the northern mint. Ethelbert may have taken the opportunity of Beonna's departure and difficulties in Mercia in 757 to make a bid to restore an independent and re-united East Anglian kingdom, a pattern which was to recur several times in Mercian-East Anglian relations for the next century. On Beonna's return, Ethelbert I's days were probably numbered. It would seem likely that this was so, because the next coins of Beonna were struck, not in the north as before, but at the centre of the old East Anglian dynasty's power in the south-east.³¹ As Beonna's coinage by Wilred with a new type and technique represented a fresh start, it is not surprising that the first of the series were struck on smaller flans and nearer the fifty per cent standard than the last of the previous northern issue. They quickly increased in diameter and the silver content declined. All the coins of Beonna are mixed together in the Middle Harling hoard but Ethelbert I is absent. Coins of this brief and rare issue would have become statistically less significant in the general currency as the Wilred coins were added to those in circulation. A representative need not necessarily be expected in the total of fifty-one coins in the Middle Harling hoard.

Ethelbert I's coinage was thus probably struck in 757, and his reign may have ended shortly afterwards. Beonna's coinage continued, but the unworn condition of the Middle Harling coins means that it cannot be extended very much later, possibly to c. 760 or just afterwards. Beonna

²⁶ C. Oman, *The Coinage of England* (Oxford, 1931), p. 16. Oman was, however, concerned to remove Beonna's coinage from East Anglia and to attribute it to Mercia during the period of Beornred's rule there in 757. The East Anglian origin of the series is now beyond doubt.

²⁷ One interpretation of the evidence is that 'Hun' is a hypocoristic form of a name in Hun- or -hun.

²⁸ C.J. Howgego, 'Coinage and military finance: the imperial bronze coinage of the Augustan east', *NC* 142 (1982), 1-33, especially pp. 16-17 and the papers there cited in footnote 90. Howgego's own material includes one issue (possibly from Syria) with sixteen reverse dies paired with one obverse; he quotes another Asian issue with twenty or more reverses to one obverse, and a Bar Kokhba issue with twenty-nine reverses to a single obverse. The writer is grateful to Dr A.M. Burnett for this reference.

²⁹ *Anglo-Saxon Chronicle*, annal of 757 (Whitelock 1979, p. 176).

³⁰ *The Chronicle of John of Worcester*, edited by R.R. Darlington† and P. McGurk, and translated by J. Bray† and P. McGurk, vol. II, *The annals from 450 to 1066* (Oxford, 1995), pp. 200-01. In the preceding tables (to be published in vol. I) he is said to have been king 'in Offa's time'.

³¹ Accepting the identification of Beonna with Beornred still leaves other possible hypotheses, but they seem less convincing e.g. that all the coins of Beonna, including the Wilred issue, were struck around 757, and that Ethelbert I then reigned in East Anglia until Offa's takeover. This seems less likely, principally because it would require the compression of Beonna's issues into a very brief period. If Beonna was not Beornred then there is no external context for the issue and it is even more difficult to put forward absolute dates.

could have continued to reign without issuing any more coins, but the continuity of the moneyer Wilred into Offa's reign in East Anglia, as discussed in the 1985 paper, p. 32, suggests that the interval was probably fairly short. It is not known when Offa had secured his position in Mercia sufficiently to turn his attention to re-asserting Mercian overlordship in East Anglia. Other students have suggested *c.* 770,³² but to the writer this seems a bit late, and she would prefer *c.* 760–65. Wilred's coins for Offa stand apart stylistically as well as by reason of their moneyer, who strikes no later coins for Offa. There would seem to be an interval between Offa's Wilred coins and those of his East Anglian Light Issue with different designs and on wider flans struck by other moneyers.

The East Anglian kings (if any) who followed between Beonna and Ethelbert II must have ruled as clients of Offa and therefore, on analogy with his policy elsewhere, remained coinless, with local issues struck in the name of their overlord. Ethelbert II took a more independent line and issued his she-wolf and twins coinage. The circumstances of the issue of these coins is unknown and cannot be dated precisely but they were almost certainly struck before Offa increased the weight of his coinage *c.* 792. Their moneyer Lul is known in Offa's East Anglian Light Issue, and is working for him in his Heavy Issue, presumptively after Ethelbert II's murder in 794. He then produces coins for Eadwald the local king after Offa's death, and lastly for Coenwulf after his reassertion of Mercian control over East Anglia.

Conclusion

The precise date and historical context of the 'ethælbirt' penny excavated at Burrow Hill must at present remain uncertain, but an attribution to Ethelbert I rather than to his later namesake killed on Offa's orders in 794 is reasonably secure. Its discovery has vindicated the late and hitherto unsupported *Historia Regum* annal that an 'Alberht' was ruling in East Anglia in the middle of the eighth century.

APPENDIX 1: CORPUS OF COINS OF BEONNA NOTED SINCE 1985

1. The coins are listed under moneyers in numerical order of lower dies as in 1985 *Corpus*.
2. The obverse/reverse die numbers cited are those identified in *BNJ* 1985. Previously unrecorded dies were numbered in a continuing arbitrary sequence for each moneyer as the coins came to light. The new dies are:

Werferth	O - / R -
Efe	O - / R29–38
Wilred	O15 / R -
Interlace	O4 / R -
3. In the legends, Roman letters are denoted by capitals and runic letters by lower-case letters, following Professor R.I. Page in *BNJ* 1985, p. 37. At Interlace and Wilred × denotes the bindrune for 'rex'.
4. The groups of pellets on reverses are shown in a standardised form to denote their number before and after the initial cross and letters of the reverse legend.
5. The central motifs on obverse and reverse are noted below the respective legends.
6. An asterisk denotes a coin shown on the plates. Apart from the Burrow Hill coins, all acquired by the British Museum, excavation coins are not shown unless their dies were not previously known. They are, or will be, illustrated in the excavation reports, and are mentioned here in advance of these publications by kind permission of the excavation directors named. Coins from previously known dies quoted from sale catalogues where they were illustrated are also not shown here.
7. Previously unrecorded dies are shown twice life size on plate 2.
8. All the coins in this list were isolated finds. In particular, the additional Middle Harling coins were found too far from the nucleus of the hoard to be part of it. They are quoted by their number (Archibald 1995, no. xx) as

³² M.A.S. Blackburn and M.J. Bonser, 'Single finds of Anglo-Saxon and Norman coins – 2', *BNJ* 55 (1985), 55–78, at p. 72, Table 2; J.J. North, *English Hammered Coinage* Vol. 1, 3rd edn (London, 1994), p. 90.

listed by M.M. Archibald 'The coins' in A.J. Rogerson, *A Late-Neolithic, Saxon and Medieval Site at Middle Harling, Norfolk*, East Anglian Archaeology 74, British Museum and Norfolk Archaeological Unit, 1995, pp. 46-53.

9. The authors are grateful to the museum colleagues, archaeologists, collectors, coin dealers and metal-detector users named below for drawing their attention to finds, and also to C.S.S. Lyon, T. Plunkett, P. Finn, P.D. Mitchell, M. Sharp and M. Sinclair.

	<i>obverse</i>	<i>reverse</i>	<i>dies</i> <i>O/R</i>	<i>weight</i> <i>g/gr</i>	<i>die</i> <i>axis</i>
Werferth					
C1.*	+BEONnaREzs pellet in circle Unknown findspot. Shown by the late Captain A.J. Arnot at the British Museum in April 1990; Arnot sale. Buckland Dix and Wood 21.iii.1995, lot 44 (no provenance). (The late Captain Arnot told the writer that it was 'possibly found near Thetford', but there is no certain evidence.)	p1+1 we3 rf er square	1/1	1.01g/15.6gr	180°
Efe					
C2.*	+BEONna REX cross Middle Harling, Norfolk. M/D find 1987 by D. Bailey (Archibald 1995, no. 64); Glendinings 9.xii. 1987, lot 541.	3+3 3E3 3F3 1E3 five pellets	1/22	0.75g/11.5gr	235°
C3.	+BEONna REX pellet in circle Brandon, Suffolk. Excavation find 018 7014 (6634) (Robert Carr).	+ E F E five pellets	2/3	1.02g/15.7gr	0°
C4.*	+BEONna REX pellet in circle Burrow Hill, Suffolk. Excavation find. British Museum, 1992-11-35-31.	+ E F E five pellets	2/4	1.00g/15.4gr	225°
C5.*	+BEnna REss pellet in circle Middle Harling, Norfolk. M/D find 1987 by D. Bailey (Archibald 1995, no. 65).	?+? ?E? 3F3 3E3 single pellet	3/29	1.26g/19.4gr	315°
C6.*	+BEnna REss pellet in circle Burrow Hill, Suffolk. Excavation find. British Museum, 1992-11-35-39.	1+ 3E3 3F3 E3 pelleted cross	3/30	1.05g/16.2gr analysed: 49% silver	225°
C7.*	+BEnna REss pellet in circle Ipswich (Foundation Street), Suffolk. Excavation find IAS 4601-0733 (Keith Wade and John Newman).	+ 1E3 3F1 3E3 pelleted cross	3/36	0.90g/13.9gr	225°
C8.*	+BEnna REss pellet in circle Burrow Hill, Suffolk. Excavation find. British Museum, 1991-22-35-38.	1+ 3E3 3F3 3E3 pelleted cross	3/38	0.94g/14.5gr analysed: 53.5% silver	135°
C9.*	+BEONna REX 'Harling Area', Norfolk. (Information and photograph from M.J. Bonser, 27.xi. 1994.) This coin could be from several places with 'Harling' in their names all situated near Middle Harling. On the distribution map above, this coin is grouped with the non-hoard coins from Middle Harling.	3+1 3E3 3F3 3E3	4/13	1.06g/16.3gr	c. 180°
C10.*	+BEONna REX pellet in circle Unknown findspot. First noted at the Cumberland Coin Fair 9. xi. 1985, then C.J. Martin's List Vol. xiii No. 5, 1985, H8 (information from J. Sadler); shown British Museum, August 1986. This coin had been pierced for use as an ornament; one hole between the o and n of Beonna has been plugged, and an indentation on the diametrically opposite edge is probably the remains of another.	3+1 3E3 3F3 3E3 pelleted cross	4/15	1.02g/17.7gr	180°

C11.*	+BEOnna REX pellet in circle	3+1 3E3 3F3 3E3 pelleted cross	4/15	0.73g/11.3gr	180°
Bowthorpe, Norfolk. M/D find, 1991: <i>BNJ</i> 1991, CR 119 (Mark Blackburn and Andrew Rogerson). This coin is broken and incomplete.					
C12.*	+BEOnna REX pellet in circle	2+2 3E3 3F3 E3 pelleted cross	4/32	1.25g/19.3gr analysed: 50% silver	180°
Burrow Hill, Suffolk. Excavation find. British Museum, 1991-11-35-35.					
C13.	+BEOnna REX pellet in circle	3+1 3E3 3F3 3E3 five pellets	5/17	0.99g/15.3gr	75°
Whithorn, Galloway, Scotland. Excavation find, 1984. E.J.E. Pirie, 'The early medieval coins' no. 62, in P. Hill, <i>Whithorn and St Ninian: the excavations of a monastic town 1984-91</i> , Stroud 1996 (P. Hill, D. Barrett, and photographs from E.J.E. Pirie).					
C14.*	+BEOnna REX pellet in circle	+3 3E3 3F 3E3 pelleted cross	6/19	1.10g/17.0gr	180°
Middle Harling, Norfolk. M/D find September 1988 by T. Frost (Archibald 1995, no. 66).					
C15.	+BEOnna REX pellet in circle	+ 3E3 3F3 3E3 pelleted cross	8/21	0.43g/6.6gr	270°
Ipswich (Buttermarket), Suffolk. Excavation find IAS 3014-2154 (Keith Wade and John Newman).					
C16.*	+BEOnna REX pellet in circle	3+2 3E3 3E3 1E3 pelleted cross	8/25	1.17g/18.0gr	90°
Burrow Hill, Suffolk. Excavation find. British Museum, 1992-11-35-33. This coin has only two pellets after the initial cross, whereas 1985 <i>Corpus</i> C48 from the same dies has had an extra pellet added; although rather ragged, it appears to be deliberate rather than just a flaw.					
C17.*	+BEOnna REX pellet in circle	?2+3 2E3 3F3 3E3 pelleted cross	8/31	1.00g/15.4gr	0°
Quiddendenham, Norfolk. M/D find shown at Norwich Museum May 1993: <i>BNJ</i> 1993, CR 201 (John Davies).					
C18.*	+BEOnna REX pellet in circle	?3+?2 3E3 3F3 3E3 pelleted cross	8/33	0.98g/15.1gr analysed: 55.5% silver	0°
Burrow Hill, Suffolk. Excavation find. British Museum, 1992-11-35-32.					
C19.	+BEOnna REX pellet in circle	?3+?2 3E3 3F3 3E3 pelleted cross	8/33	0.53g/8.2gr	270°
Ipswich (Buttermarket), Suffolk. Excavation find IAS 3014-1263 (Keith Wade and John Newman).					
C20.*	+BEONNA REX (Ns retrograde) pellet in circle	+ 3E3 3f3 3E3 pelleted cross	9/26	1.03g/15.9gr analysed: 54% silver	180°
Burrow Hill, Suffolk. Excavation find. British Museum, 1992-11-35-29. Same dies as <i>SCBI Glasgow</i> 413 (1985 <i>Corpus</i> , C49). The Burrow Hill coin shows that there are two pellets before the F, not three as was misread in 1985 from the Glasgow specimen, which is unclear in that area).					
C21.*	+BEONNA REX (Ns retrograde) pellet in circle	+ 3E3 ?F? 3E3 pelleted cross	9/34	0.96g/14.8gr too corroded to analyse	180°
Burrow Hill, Suffolk. Excavation find. British Museum, 1992-11-35-30.					
C22.*	+BEOnna REX cross	1+1 ?2E3 1F?3 3E3 single pellet	10/35	0.99g/15.3gr	270°
Fakenham, Norfolk. M/D find summer 1992 by R. Wood (information and photograph from M.R. Bonser and Derek Chick).					
C23.*	+BEOnna REX cross	1+1 3E3 3F3 3E3 single pellet	10/37	0.94g/14.5gr	135°
Barham, Suffolk. M/D find autumn 1986 by T. Marsh. British Museum, 1990-2-12-5. The previous coin from this obverse die, BMC 1 = 1985 <i>Corpus</i> C.50, appears to be a later striking as the flaw between the R and the E of REX is more developed; this is also consistent with its being on a broader flan.					

NN. Beonna, moneyer Efe.
Debenham, Suffolk, probably before 1832. This coin is not given a number here because it is probably one of the three coins which were first published in the nineteenth century, 1985 *Corpus* C13, C43 and C50.

Note: the Efe coin in *SNC* November 1989, no. 5901, 'Found in Newmarket some years ago', is the coin said to have been found at Exning listed in the 1985 *Corpus* C31.

Interlace

C24.* +ben+na X Interlace pattern 4/1 1.11g/17.1gr 0°
Middle Harling, Norfolk. M/D find 1987 by T. Frost. This coin is over-struck, possibly on itself (Archibald 1995, no. 69).

Wilred

C25.* +ben+na X +wil+red 2/1 0.94g/14.5gr 180°
pellet in circle pellet in circle
Bawsey, Norfolk. M/D find 1992 by R.G. Peach.
Sotheby 19. iv. 1993, lot 67 'Burnham Market' (withdrawn); Dolphin Coins Fixed Price List No. 4, Summer 1993, no. 5047; Sotheby, 12. vii. 1993, lot 294 (not sold). (There was some initial confusion over the findspot but the writer has been reliably informed that it was from Bawsey.)

C26. +ben+na X +wil+red 5/3 0.99g/15.3gr 180°
pellet in circle cross
Ipswich (Foundation Street), Suffolk. Excavation find IAS 4601-0113 (Keith Wade and John Newman).

C27.* +ben+na X (retrograde) +wil+red 10/3 1.13g/17.4gr 90°
pellet in circle cross
Burrow Hill, Suffolk. Excavation find, British Museum, 1992-11-35-40.

C28. +ben+na X +wil+red 10/3 0.98g/15.1gr 180°
pellet in circle cross
Unknown findspot. First noted summer 1990 (information, Derek Chick); Captain A.J. Arnot sale, Buckland, Dix and Wood, 21. iii. 1995, lot 45.

C29.* +ben+na X +wil+red 15/4 0.55g/8.5gr 225°
pellet in circle pellet in circle
Ipswich (St Peter's Street), Suffolk. Excavation find 5203-0713 (Keith Wade and John Newman).

C30.* +ben+na X (retrograde) +wil+red 12/7 0.81g/12.5gr 180°
pellet in circle pellet in circle
Barham, Suffolk. M/D find by T. Marsh. British Museum 1986-8-46-18.

FORGERIES

A* +BEOnna rEx 1+1 3E3 3F3 3E3 1.19g/18.3gr 315°
pellet in circle pellet in circle
Recognised as false by M. Trenerry, Truro, who showed it at the British Museum, November 1988. Although from different dies from the forgery noted in 1985, the style and aberrant details are so similar that the maker was probably the same.

B* Die-duplicate of previous 1.13g(17.4gr) -
This forgery was shown at the British Museum by D. Palmer in 1991 for A. Fordham of Granta Coins, Cambridge, who kindly gave permission for the coin to be analysed. The metal, surface-tested non-destructively by M.R. Cowell in the British Museum Research Laboratory, is certainly modern, not ancient, silver.

APPENDIX 2: STATISTICAL AND ANALYTICAL INVESTIGATION OF THE BEONNA AND ETHELBERT COINAGES

M.R. COWELL

1. Estimation of the original number of dies used

The number of Beonna coins known has increased appreciably since the previous publication, and it therefore seemed desirable to revise the die study which was carried out in 1985. The intention was, as before, to estimate the probable original numbers of dies, and to determine the average number of reverse dies used with each obverse die (or *vice versa*), for the coins of the moneyers Efe and Wilred. As noted before, the calculation of die numbers is undertaken with caution because the aim is to estimate a quantity indirectly. That is, the numbers of dies which are absent must be deduced from the frequencies of those which are present. All non-empirical methods used for the calculation of die numbers assume a random sample and some make allowances for non-uniform die lifetime or unequal output. However, the exact parameters of production of a particular series are of course unknown and therefore any statistical model of the process, and the results derived from its application, must remain approximate.

The methods used in the previous study (Muller 1981 and Carter 1984)³³ make the assumption that the output of each die is not uniform and gave the following results for the data available in 1985.

TABLE 1. Die estimates based on 1985 data

Type	Coins	Observed dies	Estimated dies	
			(Muller 1981)	(Carter 1984)
Efe, <i>obv.</i>	51	11	13–14	12±1
<i>rev.</i>	51	27	37–42	47±6 <i>rev./obv.</i> 4±1
Wilred, <i>obv.</i>	16	13	indeterminate	54±26
<i>rev.</i>	16	7	indeterminate	10±2 <i>obv./rev.</i> 5.4±3

Note, that although twenty-eight reverse dies of Efe are documented in the 1985 report, only twenty-seven were included in the die study, and, similarly, only thirteen of the fourteen obverse dies then known of Wilred were included.

Since 1985, a further twenty-two examples of Efe's coins have been noted and six of Wilred. As would be expected from the results of the previous die study, the Efe coins revealed no new obverse dies but ten new reverse dies. Similarly, one new obverse die of Wilred has been observed but no new reverse dies. The statistics of the current data are summarised below in the form of frequency tables.

EFE

Obv.		Rev.	
k	F(k)	k	F(k)
1	2	1	20
3	2	2	10
4	2	3	5
5	1	5	1
7	2	6	1
16	1	7	1
22	1		
n=73, d=11		n=73, d=38	

WILRED

Obv.		Rev.	
k	F(k)	k	F(k)
1	10	1	2
2	2	2	1
3	3	3	1
		5	2
		6	1
n=23, d=15		n=23, d=7	

³³ J.W. Muller, 'Estimation de nombre originel de coins', *PACT* 5 (1981), 157–72.

statistics', in *Problems of Medieval Coinage in the Iberian Area* (Barcelona, 1984), 91–104.

³⁴ G.F. Carter, 'Numismatic calculations from die-link

Where n is the number of coins in the sample, d is the number of unique dies and $F(k)$ is the number of dies which are represented by exactly k coins.

The formula used to calculate die numbers was that proposed by Esty (1986: formula H1)³⁵ which assumes unequal output and gives the same results as Carter's (1984) empirical estimator. The results obtained were as follows.

TABLE 2. Die estimates based on present (1995) data

Type	Coins	Observed dies	Estimated dies (Esty method, H1, 1986)		
Efe, <i>obv.</i>	73	11	12	(11–13)	
<i>rev.</i>	73	38	64	(47–87)	<i>rev.:obv. ca.5:1</i>
Wilred, <i>obv.</i>	23	15	34	(19–67)	
<i>rev.</i>	23	7	9	(7–13)	<i>rev.:obv. ca.1:4</i>

The revised estimates of the numbers of Efe obverse and Wilred reverse dies are almost unchanged. For the more numerous reverse dies of Efe and obverses of Wilred there are some differences although, given the errors in the estimates, these are hardly significant. The die ratios (averages for the individual moneyers) are also similar to the previous estimates.

2. Analyses of further coins of Beonna and of the coin of Ethelbert

Introduction

In the previous publication of the series (Archibald 1985) a comprehensive selection of the then known Beonna coins were analysed using a combination of X-ray fluorescence (XRF) and energy dispersive X-ray analysis (EDX) in a scanning electron microscope (SEM). The results showed that the coins of the moneyer Efe and the Interlace type were essentially the same composition and contained on average about 51 per cent silver. Coins of the moneyers Werferth and Wilred were however respectively finer (at about 70 per cent) and baser (at about 41 per cent) than those of Efe. The numbers of coins of Efe which were analysed included a wide range of the known dies. It was concluded, from the similar results which were obtained, that there was no evidence for more than one standard being used for Efe's coins. A selection of the newly discovered coins of Efe have also now been analysed for additional confirmation of the previous results. As before, coins from different dies were examined to test for differences between the Efe issues.

Analysis

All the coins were analysed using a Link ISIS energy dispersive analyser (EDX) in a scanning electron microscope (SEM), a Jeol 840SM model. On the basis of comparative analyses, the results should be compatible with those obtained for the Beonna coins previously analysed using XRF and EDX-SEM. For the current analysis, a small section on the edge of each coin was polished to a μm finish to remove unrepresentative surface material. This area was then viewed in the SEM and, where possible, at least two sub-areas free of corrosion were analysed and the results averaged. The results obtained are listed below in Table 3.

TABLE 3 EDX-SEM Analyses of Efe Coins of Beonna and Ethelbert

Reign	Reg. No.	Dies	%Ag	%Cu	%Au	%Pb	%Zn	%Sn
Beonna	1992-11-35-39	3/30	49	43.5	1.3	1.1	1.4	3.4
Beonna	1992-11-35-38	3/38	53.5	40	0.8	1.5	0.3	4.0
Beonna	1992-11-35-35	4/32	50	41	1.0	1.3	2.1	4.5
Beonna	1992-11-35-32	8/33	55.5	38	1.3	1.5	<0.2	3.4
Beonna	1992-11-35-29	9/26	54	38	1.9	1.9	<0.2	4.1
Ethelbert	1992-11-35-28	1/1	41.5	53.5	<0.6	2.0	<0.4	2.6

The precisions (reproducibilities) of the above results are about ± 2 –3% relative for silver and copper and about ± 10 –50% relative for the remaining elements. The accuracies are similar.

³⁵ W.W. Esty, 'Estimation of the size of a coinage: a survey and comparison of methods', *NC* 146 (1986), 182–215.

Discussion

The previous analyses of the Beonna coins showed them to be essentially silver-copper alloys containing some tin, lead, zinc and gold. The tin and zinc and some of the lead were probably introduced with the copper in the form of bronze and brass, whereas the remainder of the lead and all of the gold were associated with the silver and derive from the ore type or refining processes.

The fineness of the above coins, which averages 53.7 per cent if the gold is included with the silver figure, is slightly higher than the previous average but well within the previous range (44–58 per cent). In fact, the difference is insignificant and the current results are quite compatible with the previous interpretation that there is no evidence of multiple standards for the Efe coins.

The Ethelbert coin is of the same alloy type and contains the same minor components as those of Beonna. Although baser than the Beonna coins of Efe it is nevertheless within the overall range of Beonna's issues which include two other moneyers. The coins of moneyer Wilred for example lie in the range 23–50 per cent silver with which the Ethelbert coin, at 41.5 per cent silver, is clearly compatible. The Ethelbert coin may therefore be contemporary with those of Beonna.

Conclusions

The Burrow Hill Beonna coins are consistent with the previous analyses of the series. The Ethelbert coin is similar to those of Beonna and is consistent with it being a contemporary issue. However, it is not possible, from this limited coin data, to determine the relative chronology of Beonna and Ethelbert from the scientific evidence alone.



C1



C2



C4



C5



C6



C7



C8



C9



C10



C11



C12



C14



C16



C17



C18



C20



C21



C22



C23



C24



C25



C27



C29



C30



PLATE 2



Efe R29



Efe R30



Efe R36



Efe R38



Efe R32



Efe R31



Efe R33



Efe R34



Efe R35



Efe R37



Inter 04



Wil 015



Ethelbert



Ethelbert x 2



False B



False B x 2



False A