EARDUULF: A SIGNIFICANT ADDITION TO THE COINAGE OF NORTHUMBRIA

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with a contribution by
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ON 12 August 1994, a coin issued for Earduulf of Northumbria was recovered by metal-detector in the parish of Burton Fleming,1 North Humberside. The first example known of this king’s coinage, it has been acquired by the British Museum.2

The Coin, and Associated Finds

Earduulf’s coin (pl. 3, 12), a styca struck by the moneyer Cudheard,3 may be described as follows:

Obv.: +EARDVVL•FR (the A, unbarred), round a central cross in an annulet of pellets; the R of REX has a bar above, to indicate the abbreviation; there may be a pellet before the initial-cross, or another bar, but accretion distorts the detail.

Rev.: +CVDHEARD (the C, of square form), round a central cross.

Weight: 1.13 g (17.4gr). Die-axis: 90°.

The specimen, which had been cleaned before it was reported and retains traces of surface oxidation, shows only a slight degree of wear (on the EA of the reverse) which might be attributable to the effect of circulation before loss.

Other Northumbrian coins reported from the site at Burton Fleming are a sceat of Eadberht (c. 737–58; from the same dies as Booth, Class B: B2)4 and two copper-alloy stycas from Group A in the second phase of production, c. 837–55. The first is for Archbishop Uigmund by the moneyer Coenred (c. 841–49; possibly from the same dies as CKN 427).5 The other is

1 Burton Fleming, also known as North Burton, lies on the Yorkshire Wolds, seven miles north-west of Bridlington. Thwing, the site of recent excavations which have revealed sceattas and stycas of Northumbria (site report forthcoming), lies less than three miles further west.

2 I am indebted to Mr M.J. Bonser for having told me so promptly of the discovery, and to Messrs Gary Parkin (the finder) and Bryan Snowball who went out of their way to enable me to photograph it for my records, before it was taken to the British Museum. I should like to be associated with Dr Andrew Burnett and Miss Marion Archibald in expressing to the British Museum Society and its Council our very warmest appreciation of their generosity in buying the coin for the national collection. I am grateful to the Department of Coins and Medals at the British Museum for the invitation to publish the specimen, and to the Trustees for allowing me to illustrate both it and other coins in this context. My thanks go also to those others who allowed me to photograph further examples of work by the moneyer Cudheard. Lastly, but by no means least of all, I must acknowledge the help of Mr M.R. Cowell, in the British Museum’s Department of Scientific Research, for the report of his analysis of the coin.

Miss Archibald has already acknowledged the coin’s acquisition with a short notice in the British Museum Magazine (21, 1995, 4). The specimen’s accession number is 1994-12-15-1.

3 It will be noticed that the preferred spelling for personal names on the Northumbrian coins eschews the conventional West Saxon forms. The latter’s liberal use of æ, w and þ is inappropriate to names of the northern kingdom, for æ is never used, both w (wen) and þ (thorn) occur in certain limited instances. Indeed, that the D with a diacritic stroke through the front curve may correctly be transcribed as þ should remain questionable. West Saxon convention notwithstanding, there is a body of opinion which supports the view that, in a Northumbrian context, the use of Northumbrian name-forms is altogether appropriate. (The modern w is retained for names known in a Southumbrian context.)


5 E.J.E. Pirie, Coins of the Kingdom of Northumbria, c. 700–867 (CKN) (Llanfyllin, 1996).
an irregular issue, a double-reverse naming Monne and Huactred, of c. 843/4 and later (from the same dies as CKN 470). No details of weight are available for these coins.6

A Gap Filled: the Need to Reappraise

Consideration of these finds must lead us to the conclusion that the main one, the styca of Earduulf, is not of itself extraordinary. Yet its discovery cannot be other than extremely significant, for this iota of evidence should help to clarify some confusion which exists about monetary policy in Northumbria during the years just before and after 800.

The fact that coinage for the reign of Earduulf was lacking was first recognized by Lyon in 1957.7 He identified such coins as had previously been attributed erroneously to Earduulf the king as those properly belonging to the irregular issues (in copper alloy) which were in production later in the ninth century. The existence of this coin from Burton Fleming now compels examination of a variety of preconceived notions relating to the development of coinage in the northern kingdom. Of these assumptions, the principal views are in opposition to each other. On the one hand has been the opinion that the total absence of coins assignable to king (or archbishop), during the last four years of the eighth century and the first decade of the ninth, could only be explained by there having been a political, social or economic disaster of such magnitude that it became impossible for the authorities to maintain coinage of the quality achieved by previous rulers. Such failure in coin-production occurred just after Aethelred I had introduced a new style (which acknowledged the moneyer’s names), during the course of his second reign, c. 790-96.8 Further, since there was then a lapse of well over a decade, at least, before King Eanred found conditions favourable for restoration of the coinage at a lower standard of silver, the issues of Eanred and his successors, together with the contemporary issues of the archbishops, could, or should, in no way be related to the work of the eighth century – even to that of its closing years. In effect, the economic failure indicated an abrupt end to the Northumbrian sceatta coinage beside which the future stycas were the inferior issues of an impoverished and inflation-ridden kingdom.

In contrast is the view that the styca coinage of Northumbria began in the last decade of the eighth century (as soon as each coin recorded the moneyer’s name) and continued in production until c. 855. Within this period it developed in two main phases, of which the first had two stages. Initially, while the coins were still struck in silver, even silver of relatively poor quality, issues must have been intermittent rather than constant (as they seem to have become later, when the coins were of copper alloy), for evidence of die-linking is sparse. The absence of specimens attributable to King Earduulf, although remarkable, did not, therefore, necessarily negate the relationship of Aethelred I’s second-reign coinage to that of Aelfwald II and of Eanred, which has been discernible in the continuing work of the moneyer Cudheard.9

It seems advisable to recapitulate the evidence concerning the events of Earduulf’s life which were recorded in a variety of documents, both in Britain and on the continent, in order to establish the context of his coinage before commenting further on this conflict of theories. A variety of lesser points which require reassessment will emerge from a brief review of issues known for the period from c. 790 to c. 830.

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6 Apart from these, and a few worn Roman bronze coins which have not been examined, the site also yielded a pinhead with pellet-and-annulet decoration, which may be Anglian in origin.
9 E.J.E. Pirie, ‘Phases and groups within the styca coinage of Northumbria’, in Coinage in Ninth-Century Northumbria, as in n. 8, pp. 103-45.
Earduulf Himself

Earduulf, son of another Earduulf, does not seem to have been associated with the conspiracy of 789 which led to the murder of Aelfuald I, and to acceptance of Osred, son of Alchred, as king. Yet, once Osred himself had been deposed and Aethelred I restored to the throne in 790, the latter made Earduulf (who seems to have been in his second year of office as alderman) prisoner at Ripon and ordered his assassination. The attempt on his life failed. Kirby suggests that Ripon was Earduulf’s home territory and that the assassins were foiled by his supporters. He was found alive in the church at midnight after the brethren of the monastery there appear to have thought him dead and had carried his body to a tent outside. Alive he certainly was and, whatever temporary sanctuary Ripon could provide, escape into exile must have seemed imperative. Presumably he was in some way injured, perhaps badly. How soon, and how far, he travelled – and in what condition – we do not know.

On the death of Aethelred on 18 April 796, Osbald, the patrician, was first appointed successor by a few of the nobles, but within a month he was banished, to be succeeded by Earduulf who returned from exile. It would seem as if some who were not Osbald’s sponsors had taken steps to recall him as soon as Aethelred was killed, for although the Historia only speaks of twenty-seven days until Osbald was cast out, that time agrees with the Chronicle’s record of Earduulf’s acclamation on 14 May. Even if Earduulf were not then present in York, he must have been there for his consecration on 26 May by Archbishop Eanbald I, assisted by the bishops of Hexham, Lindisfarne and Whithorn. The speed of events seems to indicate that Earduulf had spent his exile in a refuge not too far distant. The following August the archbishop died and, within a week, his successor was consecrated as Eanbald II.

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In 798 the king defeated a force of conspirators gathered at Billington Moor, near Whalley, in Lancashire. The following year, Earduulf ordered the death of the alderman, Moll. Alchmund, son of Alchred, was assassinated in 800; his body was buried at Derby and his cult was adopted by Mercians in the West Midlands. The deaths of Moll and Alchmund may well have caused the archbishop to censure such killings. At the turn of the century, if not before, the king and his prelate became alienated, not least because Eanbald was supporting those who opposed Earduulf.

There was, however, not only internal dissent, as Kirby has remarked, but external interference as well. Coenwulf of Mercia had been giving refuge to Earduulf’s political enemies and, in 801, the Northumbrian king led an army into Mercia to begin a long campaign against Coenwulf’s massed forces. Peace was concluded, and promises of friendship made, after mediation by bishops and nobles on both sides. No mention is made of reconciliation, at this stage, with Archbishop Eanbald.

There is no information about the progress of events during the next few years. Entries in the Chronicle are intermittent rather than regular; the Historia lacks its sources of relevant facts. Only in text E of the Chronicle is it recorded that Earduulf, king of Northumbria, was driven from his kingdom in 806. Roger of Wendover, in the Flores Historiarum, has a longer passage, assigned to the year 808, where he names Aelfuald as the usurper who put Earduulf to flight and occupied the kingdom for two years. Could the discrepancy in dates (between 806, on the one hand, and 808, on the other) be explained by Roger having had access to a copy of the Frankish annals, whose reference to Earduulf in exile is dated 808? We may perhaps accept that the second exile of Earduulf’s life began in 806 and came to an end in 808, for the Annals of the Frankish Kings really do no more than record his continental journey in the months before his return to Northumbria. The year 808 is likely to be more accurate in that context than it is in Roger’s calculation of Earduulf’s actual expulsion.

It ought not to be assumed without question that Earduulf sought refuge with Charlemagne immediately after his deposition. If Earduulf had been badly wounded at Ripon, he may never afterwards have been a really fit man. If, after a year of exile from Northumbria, spent elsewhere in Britain, he decided to go to Rome, that project may have been intended as much as a pilgrimage as a means of seeking ecclesiastical help in accomplishing his restoration as king; the journey would afford a chance, en route, of visiting Charlemagne at Nijmegen. On his return, late in 808, not just to Britain, but to Northumbria itself, Earduulf’s party was escorted by envoys of both Pope and Emperor. The very terms escort and conduct, used in the annals, may be the language of diplomacy but they seem to suggest that Earduulf was as much in need of physical help as of moral and political support. Wallace-Hadrill comments on the lack of English record of reaction to remarkable intervention by foreign powers; he supposes that Archbishop Eanbald and Coenwulf of Mercia were each reconciled to Earduulf’s restoration — the one by papal persuasion, the other by imperial influence. But what factor can itself have induced Charlemagne and the Pope to act on Earduulf’s behalf? Could it possibly have been the realization that Earduulf wanted restoration for himself only as a means of securing, if he could, the succession for his son, Eanred? Was it this above all which ensured acquiescence in the circumstances, in both Northumbria and Mercia?

19 EHD I, as in n. 11, no. 3, p. 249.
21 EHD I, as in n. 11, no. 207, p. 796.
22 Kirby, as in n. 10, p. 157.
23 Stenton, as in n. 17, p. 94.
24 EHD I, as in n. 11, no. 4, p. 255.
25 Wallace-Hadrill (as in n. 18, pp. 171–2) notes the involvement of Coenwulf of Mercia in Earduulf’s downfall; he describes the archbishop of York as having had a leading part in the conspiracy. This would suggest that Aelfuald II was no more than a puppet of Eanbald II and his Mercian ally.
26 Extracts from the Annals of the Frankish Kingdom are included in EHD I, as in n. 11, p. 313, no. 21; it was in 809 that the envoys returned to Nijmegen and Rome and when, during the journey, the English cleric in the party was captured by pirates.
27 Wallace-Hadrill, as in n. 18, pp. 170–72.
There is a great diversity of opinion concerning the length, even the reality, of Earduulf’s second reign, which would seem to have been of some fifteen or eighteen months’ duration, if Eanred did not succeed, officially, until 810.28 Stenton recognized the end of Aelfuald II’s reign on Earduulf’s return in 808, but says no more than that Earduulf died in power in or before 810.29 Kirby still considers the possibility of Earduulf having had a second reign of as much as four years, leading to Eanred’s accession in 811 or 812.30 Earduulf’s restoration is mentioned by neither Simeon nor Roger; the former implies, and the latter states, that Eanred succeeded Aelfuald. Yet no annalist records the date of Earduulf’s death. It might seem as if his restoration led to no more than nominal power for a matter of months (had failing competence been the reason for his expulsion in 806?), while affairs of state were already effectively in Eanred’s control. Earduulf’s abdication, rather than death, in 810, would have led to Eanred’s consecration as king some time after the younger man became prominent. (This circumstance might explain the later uncertainty about the length of Eanred’s reign.) We lack any definitive record of both the date and the place of Earduulf’s death. That it occurred in or near Hexham may be inferred from Rollason’s brief reference to the king’s body having rested at Hexham, though he acknowledges that there is no evidence of its having been buried there.31

One of the most singular factors in the whole extraordinary tale of Earduulf is that he was buried at Breedon-on-the-Hill in Mercia.32 Why should he have been buried outside the kingdom if he had died in power? It has been implied that this interment occurred at a later stage,33 as if the monastic brethren at Breedon, with a morbid taste for bones, translated the king’s corpse from another burial-site so that their outstanding house could become the centre of Earduulf’s veneration, as Derby had become the focus of Alchmund’s cult. One could argue that Earduulf was buried there because he had never been restored to power and, on death, must be treated as an enemy of the king, Aelfuald; burial for him outside Northumbria would be comparable to his opponent’s burial at Derby. Yet, if that were so, pietas on Eanred’s part might then have caused him to bring the remains back to Northumbria. It must be sheer conjecture to suggest that Earduulf was buried at Breedon because, although he may have died in retirement within Northumbria, it had been at Breedon that he had found refuge on previous occasions – in sanctuary from Coenwulf and beyond the writ of Eanbald.

At Breedon there developed the cult of Earduulf as saint. He was sanctified not because he was a murdered king but because he had, in life, miraculously survived an attempt at assassination.34 The present church at Breedon, a Norman foundation which preserves late eighth-century sculpture from the earlier monastic buildings,35 is still dedicated to Saints Mary and Hardulph.36

The Context of Earduulf’s Coinage

The foregoing outline of events may clarify in some measure the probable climate of Earduulf’s reign. The circumstance of the total reign having been interrupted by the
The usurpation of Aelfuald II raises the question of whether Earduulf’s coinage belongs to the time before his deposition or to that following his restoration. It seems clear enough, however, that the decade of 796 to 806 is a far more likely period than are the dark years of 808 to 810. Indeed, die-cutting for this one coin from Burton Fleming has features in common with that of Cudheard’s previous work for Aethelred I (see below). Although the reality of issues for Earduulf is now attested, there is still no means of estimating the scale of production. Even if it were limited, there is still no good reason for judging the coinage to have failed c. 800, after a brave but brief attempt to maintain the status quo.

The account of events concerning Earduulf may also serve to indicate that, for a period when there was still a considerable degree of political unrest within Northumbria, there is no overt sign of any crisis, such as Viking raids, having had an effect cataclysmic enough to bring an abrupt halt to official business within the kingdom before 806. However much Booth might hold to the contrary, Sawyer has argued that the earliest Viking (Norse) visitations, such as those to Lindisfarne in 793 and to Jarrow in 794, were on a small scale, concerned with land-settlement rather than with the accumulation of loot. Only at a later stage did the Danish incursions intensify and achieve a long-term effect on people of the kingdoms north and south of Humber. Whatever calamity may possibly have caused the cessation of the northern annals for some years after 806 cannot have influenced the main period of Earduulf’s reign, before that point. Even were there still no coins known for Earduulf, to assert the existence of a time apparently so beset with difficulty that there was (perhaps even before 796) a complete break with the established policy for coinage seems to be a mere canard, for it has taken no proper account of what was to come during the reign of Eanred. It is a great pity that one historian, at least, appears to have accepted, somewhat uncritically, this view of drastic economic collapse.

The assumption of calamity will now have to be reconsidered, if not wholly discounted, by its advocates. As far as the coinage is concerned, there never has been — still less is there now — any cogent reason for divorcing the later coins of Aethelred I’s second reign, at the end of the eighth century, from the issues which followed for decades into the ninth century. Recognition (and initial interpretation) of the styca coinage has depended on tracking back from the regal issues for Aethelred II and his predecessor, Eanred, through coins attributable to Aelfuald II, as far as those belonging to the years c. 790–96, to find the first examples of coins naming king and moneyer, in the second reign of Aethelred I. The break with the past occurred when regal issues ceased to bear a stylized animal (a stag) on the reverse, and when issues for king and archbishop, jointly, came to an end. Introduction of the moneymen’s names must indicate, as the late Stuart Rigold realized, ‘the beginning of a new system’ for the coinage of Northumbria. This new, different, practice must justify the use of a different name for the coins themselves: sceattas for the previous issues, but styca for all coins, regal and episcopal, which name their moneymen.
The Regal Coinage of c. 790 to c. 815: a Summary

So far, for the main regal issues of Aethelred I’s second reign, the moneyers Ceolbald, Tiduulf and Hnifula are known (pl. 3, 1–3) as well as Cudheard. The first has a greater variety of motifs for the obverse dies than have the others, and he rarely gives the king a title; on the reverse, the initial C is either square or round in form. The second, Tiduulf, has some variety in spelling of the king’s name, but is consistent in the use of the title and in a limited range of motifs. Hnifula is akin to Tiduulf in the use of motifs, but is consistent in rendering the king’s name as EDILRED, without title. The order in which these men may have worked must be acknowledged as indeterminate for the present. It cannot be assumed that they were all operating at the same time. Cudheard, already placed last because of his on-going work, for Aelfuald and Eanred, is consistent in showing the king’s name and title as AEDILREDR (pl. 3, 4–9). One obverse is known with the legend retrograde (pl. 3, 10–11). Most of the obverse dies show an abbreviation sign over the R, for the incomplete REX. On the reverse dies, the moneyer’s own initial C is invariably square in form. On both obverse and reverse, he invariably uses the small cross as central motif.

It is not possible to be precise about when, during the years 796 to 806, this recently-recovered coin of Earduulf (pl. 3, 12) was issued. The style of die-cutting for the reverse is very similar to that of Cudheard’s personal dies used in striking coins for Aethelred, so perhaps there was not too long an interval between the making of the earlier tools and that of the later one. Yet, since no actual inter-reign link (dependent on the use of one and the same reverse for each king) has been recognized, an early position for Earduulf’s coin cannot be established unequivocally. The obverse die is similar to those of the moneyer’s coins for Aethelred, in that the king’s title is rendered as R, with a contraction-mark, for the abbreviation. Unlike the earlier obverses, however, this one has the small cross enclosed in a circle, as the central motif. This design was not new; it had been used for Aethelred, by Ceolbald in the obverse position and by both Tiduulf and Hnifula in the reverse (see pl. 3, 1–3).

One of the minor puzzles connected with the attribution of coins to Aelfuald II is why, at that stage, c. 806–08, the king’s name was recorded in the vernacular; so far no coins are known which show the first element as AELF, or even as ELF. It may be no more than that the name lent itself more easily to such a form than did the names Aethelred or Eanred. The length of name leaves no room for any indication of title, even in abbreviated form. The style of lettering on the obverses of these coins which name Cudheard on the reverse is finer than that on the sceattas of Aelfuald I, so there is no real reason to suppose that Cudheard was the pioneer moneyer who introduced the new coinage during Aelfuald I’s second reign, c. 778–88. To do so would imply that the official was still working almost twenty-five years later, for Eanred. Clearly, there was a different die-cutter from those employed beforehand for both Aethelred and Earduulf, and then later for Eanred. There is no initial-cross on the reverse dies; the rendering of the moneyer’s name has the round C, lower-case H and final T (in place of D). Of the three specimens illustrated (pl. 3, 13–15), the first two have a common reverse.

It is only on the coins of Cudheard for Eanred, presumably struck early in the latter’s reign, that the second element of the name drops the E, to become -HARD. The dies for these last...
coins by this moneyer show some variety of style in lettering, yet on specimens known so far the king’s title is confined to the initial R, and the central motifs are small crosses. The four examples illustrated (pl. 3, 16-19) are from various sources. The British Museum has three specimens (BMC Northumbria 72, 73 and 74: the first and last, ex Hexham, 1832), not shown here, which are each struck from further different combinations of dies. Of all these coins BMC 72 may be the earliest, for it alone shows the barred A (on both obverse and reverse) which continues the previous usage.

In the light of present evidence it appears probable that, in the time of Earduulf as in that of Aelfuald II, regal production was limited to the work of one moneyer. During the first year or two of Eanred’s reign Cudheard may still have been the only moneyer. There is still no certainty that Huaetred was his contemporary or even his immediate successor. For comparison, however, the coins illustrated (pl. 3, 20–21) show Huaetred’s variety of style and his use of both the small cross and the cross-in-annulet as motifs.

The Need for Further Work on the Earliest Styca

Even if the thesis of continuity is already acceptable, it must be acknowledged that, within the complete development of the styca coinage, some matters pertinent to the first phase still await clarification. Phase I (c. 790–c. 835) is itself divisible into Ia (c. 790–c. 830) and Ib (c. 830–35), both of which still require considerably more study than they have yet received, since most of the surviving specimens are scattered throughout many separate collections. As a start, for Phase Ia, Booth’s corpus of coins of Aethelred I (which includes sceattas struck for Aethelred and Archbishop Eanbald I, jointly), and of Aelfuald, should be regarded as a preliminary study, which needs revision and expansion to cover not just this single coin for Earduulf but the first issues, in silver, by moneyers working for Eanred, up to about 830. The record should encompass also the contemporary issues for Archbishop Eanbald II. The small volume of material so far known may still limit the extent to which die-linking can be used to confirm connections or establish grouping, but at least the general framework of production, within the period as a whole, must be recognized before cognate studies can develop soundly.

Ecclesiastical issues certainly take their place in the coinage of the period, but their relationship to the regal emissions is not yet altogether clear. It has been suggested that when Aethelred I reformed the coinage he discontinued the practice of joint emissions for king and archbishop but did not instead give Eanbald I the right to issue on his own. If any coins of the reign can be identified as those intended for church purposes, they may be the work of the moneyer Cudcils whose reverse dies appear to portray a small shrine. It has been thought that it was only in the reign of Eanred that provision was eventually made for the archbishop’s own coins, first by regal moneyers (Cynuulf and Eaduini) striking for Eanbald II as well as for the king, then by the moneyers Eaduulf and Edilueard who worked for him alone. Perhaps this interpretation should sometime be amended to allow for Eanbald II having begun his coinage some years before Eanred came to the throne, with Cynuulf and Eaduini as episcopal officials who became, in due course, regal moneyers instead. Yet, in view of the antipathy which existed between King Earduulf and the archbishop, it may be considered unlikely that Earduulf would have introduced the archbishop’s right to an independent coinage. The present reading of the evidence could well stand.

However this matter may be resolved, it should remain clear that the years between 810 and 830 were not devoid of coinage. Both regal and episcopal moneyers were at work. Nevertheless, all the indications seem to point towards there having been, between 790 and 830, a number of separate issues, struck intermittently by one or two moneyers, as and when

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47 Pirie, as in n. 5.
48 Booth, as in n. 8, pp. 76–82.
49 Pirie, as in n. 9, p. 111.
required, rather than continuous and intensive production on a par with what was to follow in Phase II (c. 837–55), once a more definite team of officials struck in copper alloy. That striking during Phase Ia must have been intermittent was first recognized from the circumstance that Cudheard, having worked for Aelfuald II, must have worked also at the beginning of Eanred’s reign.\(^\text{50}\) Far from all Eanred’s other moneyers who used silver for their output having been bunched together about 830,\(^\text{51}\) they were more likely to have been operating at intervals between about 812 and 830. The order in which some of the others worked, after Cudheard, is still far from certain. It is only likely that Daegberct and Eaduini were near the end of the sequence in silver, for they were among the first to strike in copper alloy, during the brief period of Phase Ib (c. 850–35).

Acknowledging the intermittent nature of Northumbria’s coin production in the early ninth century (and perhaps also during the eighth-century reigns) should curb any tendency to extravagance in estimating the volume of coinage in circulation at any one time. There are no substantial numbers surviving of any issue and it seems most unwise to claim that the few specimens we know now represent the millions which were originally minted.\(^\text{52}\) The view that the quality of silver must necessarily be a factor in distinguishing one coinage from another is also open to question.\(^\text{53}\) The eighth-century coinage of sceattas is not consistently of a high degree of fineness, and the idea of a deliberate change from good to poor-quality metal seems to be more illusory than real.

We shall probably never be able to reconstruct the order and pattern of issue for the earliest stycas quite as fully as for those of Phase II. Yet, collation of all the relevant material should serve as the basis for analysis of style and die-identity and the achievement, in some measure, of a sequence of work clearer than can now be understood. Collation would help also in providing some detail of context, within a general framework, for other coins recovered either as strays or from controlled excavation (where the need for precision of attribution is perhaps more crucial). Either category of find can, as the Burton Fleming coin demonstrates, itself contribute to the record new material which clarifies or enhances our understanding of developments.

**The Burton Fleming Discovery in Relation to Other Finds**

References to Charlemagne, which occur in the narrative of Aethelred I as well as of Earduulf, do not at this stage justify discussion of the Carolingian connection which is discernible in the circumstance that contemporary Carolingian coins have been found on styca sites in Northumbria, at a time when other alien (Southumbrian) coinage seems to have been excluded.

It is more relevant to acknowledge that one of the early arguments against Earduulf having had a coinage for his reign lay in the facts that no representative specimens had been recorded in the composition of the Hexham hoard, recovered in 1832, and that none was present among the site finds from Whitby Abbey, excavated between 1920 and 1926.\(^\text{54}\) Indeed, none has yet been recovered at Whithorn or Flixborough, where more recent work has also revealed substantial numbers of coins.\(^\text{55}\) Some such coin-productive sites are at present the subject of a particular study;\(^\text{56}\) they include the metal-detecting areas at Cottam and Newbald which, like Burton Fleming, are in North Humberside.

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50 There seems to have been some misunderstanding about the use of the term intermittent in relation to the coinage of the eighth and ninth centuries in Northumbria (Booth, as in n. 8, p. 73); the word can appropriately be used not just because there might have been reigns for which no coins were known, but because there were reigns within which moneyers’ work shows signs of having been occasional rather than constant.
51 Lyon, as in n. 7, p. 235.
52 Booth, as in n. 8, p. 73.
53 Booth, as in n. 8, p. 58.
55 The complete range of finds from excavations at Bamburgh, c. 1971–75, is unfortunately still unknown.
Hexham has long been regarded as a hoard which opened considerably earlier than others. Perhaps, now, one can suggest that the cache (which lacks coins of Aelfuald II also) should be identified as one which opened effectively (or re-opened) in the early years of Eanred’s reign and which was added to what had been an earlier purseful of stycas for Athelred I. Excavation finds, which usually represent coin losses rather than hidden savings, can and do include specimens which contribute additional detail to the record of a series, yet neither they nor the strays, so often now recovered by metal-detector, can be expected to offer a complete sequence of issues at any one site.

In the neighbourhood of Burton Fleming itself, excavations at Paddock Hill, Thwing, between 1983 and 1987, recovered evidence of some settlement there during the eighth and early ninth centuries, although the main portion of the site represents prehistoric use. Sixteen Northumbrian coins were found: five sceattas and eleven stycas. Of the latter, four are of Phase Ia, three of Phase Ib; four coins represent Phase II, from c. 837 until c. 843/4. Although none is of Athelred I’s second reign and, needless to say, King Earduulf’s coinage is not present, the earliest stycas are one for Aelfuald II (see pl. 3, 15) and three for Eanred. The proximity of such a settlement as that at Thwing to the place where Earduulf’s coin has been recovered should dispel any impression that Burton Fleming may once have been out in the backwoods of Northumbria.

Conclusion
Discovery of this coin for Earduulf of Northumbria has occurred at a time when a flux of recoveries (particularly from excavations and, to a large extent, also by metal-detector) has already made available for Northumbrian studies a wide variety of hitherto unrecorded numismatic detail. More than most other such finds, the Burton Fleming specimen provides the impetus for reassessment of conflicting theories concerning the provision of coinage in Northumbria about the year 800. Attribution of the coin to the styca series, already established by Aethelred I and soon to be continued by Aelfuald II and Earduulf’s son, Eanred, has drawn attention to the need for much further study of material relevant to Phase I, so that the period c. 790 to c. 830-35 can be more clearly understood.

[57] The absence of coins for Aelfuald in the Hexham hoard has been one factor in the argument favouring attribution of the relevant coins by Cudheard to Aelfuald 1 (779-88), before rather than after the issues of Athelred I’s second reign. The most recent discussion of the matter (D.M. Metcalf, Thrymsas and Sceattas in the Ashmolean Museum, Oxford, 3 (London, 1994), 594–7) was published before the evidence of Earduulf’s coin could be taken into account.

[58] The Womersley, 1967, hoard of fourth-century Roman coins (Yorkshire Archaeological Journal 42/2 (1968), 127–29), which shows a marked decline in numbers for the years 335 to 341, may seem an unlikely comparison in making the point that hoard-compositions can exhibit within themselves fluctuations which must reflect the original opportunities for saving. There must always have been occasions when hoarding was temporarily in abeyance.

[59] Further finds may be expected from Burton Fleming itself. Already, in October 1995, a sceat for Aethelred I and Archbishop Eanbald I (jointly) has been recovered, and any others will also be reported. This may serve as a reminder that the site which is attested by the very name Burton has not yet been located, nor its nature investigated by excavation. The place-name has been discussed by Margaret Gelling (‘The place-name Burton and variants’, Weapons and Warfare in Anglo-Saxon England, edited by S.C. Hawkes (Oxford, 1989), pp. 145–33). She suggests that in Mercia such names may identify a system of defence posts in operation until the Danish wars of the late ninth century. The hypothesis may be an attractive one, and with some foundation in that kingdom. For the scatter of Northumbrian examples, however, eight of which cluster in the area between Spurn Head and the River Derwent, the theory may require some modification. Dr Gelling herself remarks (p. 146) that, if these were intended for coastal defence, the lack of examples north of Scarborough is curious. However tempting it may be to associate Burton Fleming and its local fellows with defence against further Viking onslaughts, it is difficult to reconcile the dearth of more northerly settlements, similarly named, with precautions taken in the immediate aftermath of the Norse raids against Jarrow and Lindisfarne. Fortification which earned the name Burhtun for some early settlements in this area may not have occurred until later in the ninth century, at least, when York itself was more closely threatened.
The coin was analysed by energy dispersive X-ray analysis (EDX) using a scanning electron microscope (SEM). The instrument used was a JEOL 840SM with a Link Analytical 860 X-ray analyser. The choice of this particular technique was governed by the small dimensions of the coin, the requirement to cause the minimum amount of damage, and the need to obtain reliable results for the major components of the alloy.

The EDX technique is in principle non-destructive. However, the well-known effects of surface enrichment on silver coins, a specific example of the surface alteration of metals caused by corrosion and metallurgical effects, mean that for a reliable analysis of the bulk of the coin it is necessary to remove or avoid the unrepresentative surface layers. This was achieved by polishing a small section on the edge of the coin to a 1 μm finish using standard metallographic procedures. The section was examined visually in the SEM to ensure that uncorroded core metal was exposed and representative areas were then analysed. The average composition was as follows:

<table>
<thead>
<tr>
<th>Element</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>44%</td>
</tr>
<tr>
<td>Copper</td>
<td>49%</td>
</tr>
<tr>
<td>Gold</td>
<td>&lt;0.5%</td>
</tr>
<tr>
<td>Lead</td>
<td>1.1%</td>
</tr>
<tr>
<td>Zinc</td>
<td>2.0%</td>
</tr>
<tr>
<td>Tin</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

The precision and accuracy are approximately ±2–3% for silver and copper and ±10–20% for the remaining elements. A preliminary qualitative analysis by non-destructive X-ray fluorescence (XRF) confirmed the above and also showed gold to be present but its concentration was below the detection limit for EDX-SEM.

The metal used for the coin is a base silver-copper alloy containing minor amounts of zinc and tin and traces of lead and gold. The zinc and tin have almost certainly been introduced into the alloy fortuitously along with the copper by using brass and/or bronze to alloy with the silver. Some of the lead may also have been introduced in this way but the remainder, and all of the gold, is associated with the silver through the refining method used and the original metal source. This alloy composition is typical of silver coinage of the ninth century.

KEY TO PLATE 3

With the exception of 12a (shown at 3:1), all the illustrations appear at the scale of 3:2.

Aethelred I

1. Ceolbald. Whitby excavations, 1920–26; Booth, as in n. 8, no. 9.
2. Tiduulf. Yorkshire Museum, York: ex Hexham, 1832; Booth, no. 60; CKN 21.
3. Hnifula. British Museum: BMC Northumbria 429 (Aethelred II), ex Hexham, 1832; Booth, no. 56.
11. Cudheard: same obv. as 10. Lyon collection; Booth, no. 46.

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60 J. Condamin and M. Picq, ‘Changes suffered by coins in the course of time and the influence of these on the results of different methods of analysis’, Methods of Chemical and Metallurgical Investigation of Ancient Coinage, edited by E.T. Hall and D.M. Metcalf (London, 1972), pp. 49–66.
61 The procedures used were similar to those described in K. Schmitt-Korte and M. Cowell, ‘Nabataean coinage. Part 1, the silver content measured by X-ray fluorescence analysis’, NC 149 (1989), 33–58. This article also describes the effects of corrosion and other factors which contribute to the alteration of the surface composition of silver coins.
Earduulf


Aelfwald II

15. Cudheard. Paddock Hill excavations, Thwing, North Humberside, 1985; Booth, no. 2.

Eanred
