

English Dies used in the Scandinavian Imitative Coinages

By Mark Blackburn

The suggestion that certain of the dies used to strike the Scandinavian imitative coinages of the late tenth and early eleventh centuries were official dies removed from English mints was first made in 1961 in two pioneering studies, one concerned with coins of Æthelred II's *Crux* and *Intermediate Small Cross* ('ISC') types (1), and the other a variety of issues mostly of the late 1010s and 1020s (2). Each applied the techniques of die analysis and stylistic analysis – which had been used so effectively in the Anglo-Saxon series – to show that coins which had for long been accepted as English were in fact imitations. A number of die-chains (groups of die-linked coins) were constructed containing improbable combinations of mints and types or coins of barbarous workmanship. These chains drew primarily on the systematic collection of Anglo-Saxon coins in Stockholm (that published by B. E. Hildebrand (3)) and so consisted of reasonably literate specimens, though most of them could be extended further into the blundered series of coins kept in the Scandinavian cabinets at Stockholm. Most of the imitations of Æthelred's and Cnut's coins including those in these die-chains are generally regarded as Scandinavian (4), none so far as we know has been found in Britain and, as we shall see, the scale of the operation indicated by the larger die-chains suggests that there was one or more major

mints producing anonymous imitations in southern Scandinavia (i.e. Denmark), which rivalled Sigtuna in central Sweden.

Among the imitative die-chains there are a number of dies that stand out as being so consistent with the recognized styles of English die-cutting that they can hardly be other than official English dies. Stylistic associations can, for the numismatist and archaeologist, be a dangerous criterion by which to identify the origin of a coin, die, or other object, particularly if applied to a small sample or in a superficial way. But several issues of the late Anglo-Saxon coinage have been subjected to detailed analysis, and local styles of die-cutting have been distinguished each thought to represent essentially the work of one man (5). In most cases the styles are internally very homogeneous and there are sufficient distinctive features in the design, the letters, and the form of the legend to make their identification reliable. It is a matter of judgement in an imitative coinage as to how far they succeeded in copying a particular style. In the Scandinavian series the die-cutters occasionally produced some very literate copies of good general appearance, but it appears that they did not attempt to capture a particular style in every detail, for if they had done so we should expect to find more coins which only just fail to copy it correctly. The same may not be true in other coinages,

where it may be much harder to distinguish official from unofficial dies.

Fortunately, evidence for the practice of transporting dies between England and Scandinavia does not rest on style alone. A much larger die-chain of coins of *Long Cross* type has recently been published which quite plainly has two elements, one English and the other Scandinavian (6). The English part of the chain consists entirely of coins of regular weight, struck from orthodox dies, all of the York mint, and there is minimal sharing of obverse dies between moneyers, as one would expect in a regular coinage. In the other part the coins have a much wider weight distribution, some being considerably heavier than English coins, there are die-links between 'mints' as distant as York, London, Chichester, Shrewsbury, Chester, and Lincoln, there are some very crude dies, some are quite illiterate, and there are mules (combinations of two types) between the *Long Cross* and *ISC* types which do not occur in the English series. The fact that these two elements are joined in one chain is clear evidence that some dies must have passed from the English mint to be used at an imitative workshop. The exact dividing line is difficult to draw, but, adopting an interpretation which favours the minimum number of transported dies, at least five pairs (obverses and reverses) seem to have been taken from the York mint to Scandinavia; though one of the obverses may have come from Lincoln rather than York. The abstraction can be quite closely dated to the middle of the *Long Cross* issue, c. 1000 on the chronology proposed by Dolley.

The Crux/ISC die-chain

Dolley and Butler thought that the *Crux/ISC* die-chain which they originally published also consisted of two

elements, some coins having been struck in England at York and the remainder at a Scandinavian centre (7). They suggested that two obverse and three reverse dies were taken from York, possibly by the moneyer Oscetel whose name is frequently repeated on the imitative dies in the chain. More recently the die-chain has been extended from 19 to 26 die-combinations (8) and, while it is now thought that more of the dies (probably five obverse and five reverse) are in fact English – some of a local York style only recently recognized (9) – it appears likely that all the coins in the chain were actually struck at the imitative centre. We know that each of the five obverse and reverse dies was used at the centre either because they combine with barbarous dies or because they were used to strike coins that are too heavy to be English (10). Thus a few years before the *Long Cross* dies were taken to Scandinavia, this group of *Crux* and *ISC* dies had been taken from York for use, very probably, at the same imitative mint.

Since the *Crux/ISC* die-chain was last considered in 1981 a number of new links have been discovered, the most important of which – a coin in the Berlin collection (11) – enables us to associate with it another group of *Crux* imitations representing a slightly earlier phase of activity, with yet more official English dies. 'York' imitations remain the dominant element of the chain as a whole, but it now includes copies of coins of Lincoln and Southwark. The new links have more than doubled the size of the chain – from 26 die-combinations to 55 – and it was felt that there would be a convenience to readers if the catalogue and illustrations of the previous part were republished here (with corrections and maintaining the old numbers) as well as setting out the extensions to it.

It is clear that the original die-chain (nos. 1-28,

including two of the new combinations) was contemporary with the very end of the *Crux* issue and the beginning of *Long Cross* in England; c. 997 on Dolley's chronology. This is shown by the hoard evidence (the Lilla Haltarve, Smiss, and Iholm hoards, whose English elements end with *ISC* or early *Long Cross* coins),

Table 1. The Coin Legends in the extended *Crux/ISC* die-chain (asterisks indicate English die-combinations, the remainder are considered Scandinavian)

English Obverse Dies			Scandinavian Reverse Dies		
	type	die-combinations		type	die-combinations
A +EDELRED REX ANGLOX	C	1-8, 27-8	g +AI-ÆOL'IOF'DOII ^V	A	7
B +EÐERED REX ANGLO ^X	C	9-11	h +MORIIIOIE ^V IIIOPII	A	8
C +ÆDELRÆD REX ANGLOX	A	12-15	k EOIEO-Λ'OEAIIEI:	A	11
D +ÆDELRÆD REX ANGLOX	A var	16-17	l +OSCEL II'Ō EOGR	C	13
E +EÐERED RE ^X ANGLO	C	18-26	m +OSCEL II'Ō COFR	C	14
F +ÆDELRÆD REX ANGLOX	C	29-33, 37-43, 55	n +OZCEL II'Ō EOCA	C	15
G +ÆDELRÆD REX ANGLOX	C	*34-6	p +IIOCEHEOIIIOIE	C	17
H +ÆDELRÆD REX ANGLOX	C	44	q +OZCETEL M'Ō EOGR:	A	24
I +ÆDELRÆD REX ANGLOX	C	45-6	r +OSCETELIIAIOHI-CEEIOI'	A	25
J +ÆDELRÆD REX ANGLOX	C	47-51	s +OZCETL M'Ō EOFIE'	D var.	26
<i>Scandinavian (?) Obverse Die</i>			t +VLF M'Ō LINC SAO	C	27
K +EDEIDII LEX ANGIOX	C	52-4	u +OSCEII M'Ō IORIIER	A	28
<i>English Reverse Dies</i>			v +HICOIVOVIIIDVIOIII	C	30
a +OBAN M'Ō EOFR	C	1, 18	w +[]IOSIIOVHOIIPISM	C	31
b +OSCETL M'Ō EOFR	C	2, 12, 19	x +VS.IIOIIPVIOIII'IOII	C	32
i +OSCETEL M'Ō EOFR	C	9, 22	y +OYIUCIMICIIOTVOC	C	33
j +ALDERÐ M'Ō EOF	C	10, 29	c' +B'YRHTR'IC M'Ō ZVDG	C	38
o +ARNCYTEL M'Ō EOFR	A	16, 23	d' +BYRIMOATA'N'AMIM	C	39
z +BYRHTRIC M'Ō SVÐG	C	*34	e' +BYRHA'IAEOIMDER'	C	40
a' +BYRHTRIC M'Ō SVÐG	C	*35	f' +'OB'AOIIIOUIO'/OOTIIO	C	41, 49
b' +BYRHTRIC M'Ō SVÐG	C	*36, 37	g' +ODOCOTEL M'Ō EOFR	C	42, 46
<i>Scandinavian Reverse Dies</i>			h' +ODDAZ' M'Ō EOFR'	C	43-5, 47, 52
c +OSCETL M'Ō EOFRII	A	3, 20	i' OVMHTOECHDOC+ (retrograde)	C	50
d +OZCET'IOREI	A	4, 21	j' +COEbCIOI'ETVOII	C?	51
e +'OZ'CETL II'Ō EOFRII:O	A	5	k' +O'DOAPMA'Ō'ED'IPI	C	53
f +AZCELTOEOMORII	A	6	l' +A-L'IOITELIOM'OI	C	54
			m' +BYRHA'IAEOIMDER'	C	48
			n' BYRHTRIC MO SVDG	C	55

and by the internal composition of the chain. Two or three of the obverses were products of the York die-cutting centre which only operated during the latter part of the issue. The other two obverses and one reverse were official *ISC* dies, a rare type introduced towards the end of the *Crux* period but soon withdrawn. Of the 16 imitative dies, five were *Crux*, ten were *ISC*, and one was a crude copy of *Long Cross*. It appears that no sooner had *Long Cross* coins begun

arriving from England, than this imitative workshop decided to adopt the new type and the die-chain was brought to an abrupt end.

The new part of the chain (nos. 29-55) differs, in that all the obverse and reverse dies are of the *Crux* type, and whereas in the original chain most of the imitative reverses reproduce the legend *Oscetel mo Eofr* from one of the English dies in the chain, that formula is not found in the new part. This suggests that it in fact precedes the original chain, and that virtually all the dies used to strike the earlier part were discarded when a new consignment was received from the York mint. The alternative hypothesis, that the two parts were struck in parallel at separate, though very similar, mints and the reverse die which links them was taken from one to another, is much less likely.

Four of the six new obverse dies (G, H, I, and J) are official products of the main southern (Winchester) die-cutting centre. This centre initially supplied mints throughout the country and only later in the issue did local centres open to produce dies for the east, the north-east, and the south-west. The four dies might originally have been supplied to any mint in England, though probably not one in the north-east of the country towards the end of the issue. Another new die in the chain (K) has a portrait which is very similar to that of the Winchester-cut dies, though its legend is somewhat garbled. The shape and positioning of some of the letters is correct, and it is possible that this is an official die which has had the inscription recut. The sixth obverse die (F) is of quite a different style. It may well be English too, and belong to a group of dies found at mints in Kent, around London, and in East Anglia, and probably cut at London. The shape of the face, the high relief of the cheek, and the form of the eye are typical, as is the king's name commencing

'*Ædel...*' (12), but the identification cannot be as certain as in the case of the four Winchester-cut dies since this is a smaller and far more varied group, and it is possible that die F is a skilful imitation that has caught some features of the group. Five of these six dies were certainly used at the imitative centre as they are found in combination with imitative reverses. Die G, however, only occurs in a side chain with three regular and apparently official Southwark reverse dies of the moneyer Byrhtic (z, a', and b'), and as the coins struck from it (nos. 34-6) are of normal weight there is no reason to think that this die was ever taken to the imitative centre.

Twenty-one new reverse dies are added to the

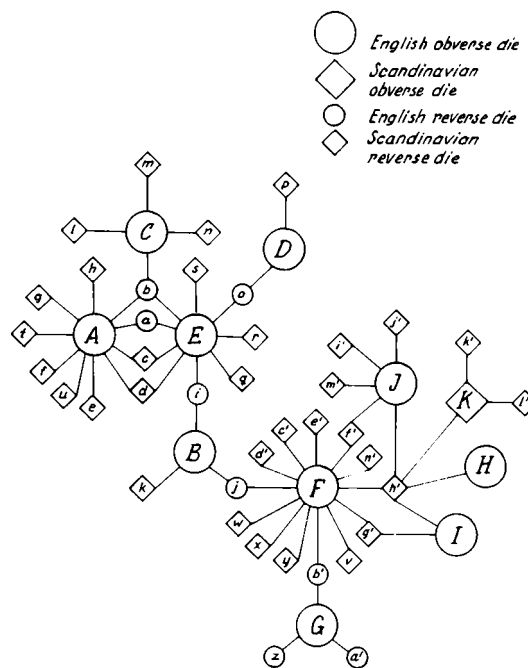


Fig. 1. Die-links in the *Crux*/ISC die-chain.

chain, and all except the three just mentioned are thought to be imitative. Two link directly with the original chain; one (u) has a blundered 'Oscetel' legend similar to those known previously, but the other (t) copies a Lincoln coin of the moneyer Ulf adding a new dimension to the chain. This coin has always been accepted as English, though it stands out in Mossop's corpus because of its anomalous York style and it has a blundered mint-signature (LINC-SAO). Given the context, the die is presumably imitative.

The 19 reverse dies in the new part of the chain fall into three groups; those rendering a Southwark legend, those with York legends, and the third group with legends that are quite meaningless. Eight dies render in varying degrees of competence +BYRHTRIC M' O SVÐG. Dies d', e', and m' are very corrupt and plainly imitations, and so it would seem is c', which as errors in the legend (ZVDG for SVÐG), a retrograde 'crux' in the angles of the cross, and a spidery style. The pellets interrupting the

moneyers name may be copied from flaws on die b' (one appears to be developing between the R and I on no. 37b). Die n' is more difficult to judge since it is only recorded from a single coin in poor condition, but there are indications that it is an imitative die. In contrast dies z, a', and b' are quite regular and of good style, and, as already indicated, they appear to be official Southwark dies. Their combinations with die G (nos. 34-6) appear to be English striking, but this group of coins is linked to the imitative chain by die b', which seems to have been taken from the Southwark mint to the imitative workshop where it was used with die F (no. 37), high weight showing that the combination is an imitative striking. If, as I suspect, die F is a London-cut die it could have been taken from Southwark with the Byrhtic reverse. This element of the chain was only discovered after my last visit to Stockholm, and it may be that a further search of the hoards and the systematic collection would reveal more die-links. The Byrhtic group is interesting, for it shows how the workshop copied its own dies

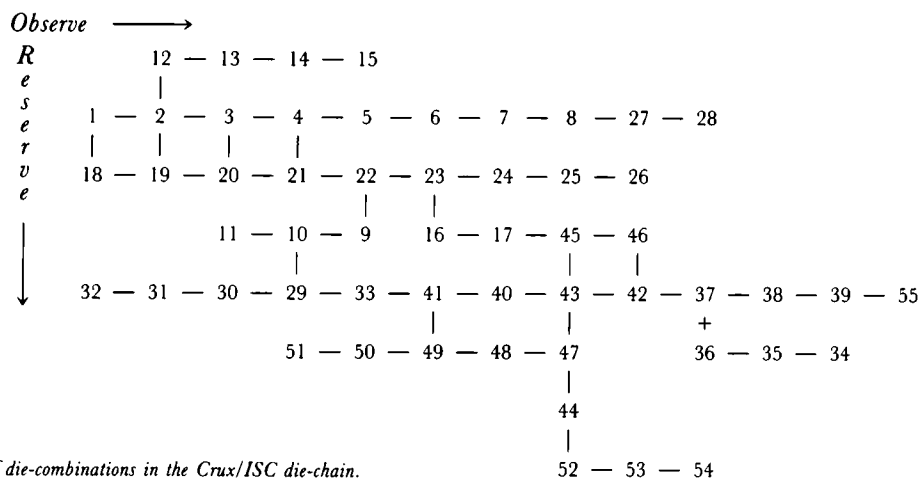


Fig. 2. The pattern of die-combinations in the Crux/ISC die-chain.

repeatedly, and it is thus unnecessary to postulate the presence of the moneyer Oscetel in order to explain the long run of dies attempting his name, attractive as the idea of a runaway moneyer might be.

Four dies in the new part of the chain reflect the names of the York moneyers, Oba, Od(d)a, and a corruption of Arncetel or Oscetel. It is satisfying to be able to show that the coins of 'Odocetel' (die g') are all false, since the name has long troubled philologists, although it has been explained as an anglicized form of Old Norse *Authketill*, despite the intrusive o (13). The name 'Oddaz' on another of the dies (h') has also caused difficulty, since it is in the genitive case and as such is almost unprecedented (14). The majority of coins with this form in fact belong to the die-chain and can now be seen as imitations – von Feilitzen's comments were based unwittingly on one of these (15). But a handful of coins remain which do appear to be genuine York products (16). Two other dies echo the names of Oba (f') and Od(d)a (k'), although they are very degenerate. The remaining seven reverse dies have only a miscellaneous series of letters which make no sense – die l' may distantly reflect an Arncetel or Oscetel legend – and we may note that a higher proportion of dies (about half) are illiterate in this part of the chain compared with a quarter in the other later part; perhaps the die-cutter was learning to take more care.

The 32 imitative reverse dies in this chain reflect a wide range of competence (see Table 1 and illustrations), though even the best have some errors in the inscription. The centre's reluctance to produce its own obverse dies is puzzling. The obverse with its portrait was technically more difficult to produce, but there were many crude imitations circulating in Scandinavia and it is hard to believe that the centre cared

so much about having obverses of fine style when many of its own reverse dies were so very crude. It is more likely that English dies possessed some technical quality which the Scandinavian die maker could not achieve, perhaps in the hardness of the metal. The reverse, being the upper die, would naturally have worn out more quickly than the obverse, but the ratio of reverses to obverses in this and the *Long Cross* die-chain is rather higher than one finds at English mints, suggesting the imitative dies had a shorter life – but the argument should not be pressed too far as we do not know whether the dies were used to capacity. The one thing that is clear is that for whatever reason English obverses were highly treasured.

The weights of the coins in the original die-chain vary widely from 1.08 g to 2.88 g, and even among die-duplicates such as the 45 in the Igelösa hoard (nos. 24d-av) there is considerable range (1.08 g-1.91 g) indicating that they were not struck to any particular weight standard (17). The intention appears to have been to convert silver into coins of a similar module and similar, though sometimes heavier, weight to the west European coins circulating in Scandinavia. Coined silver had a convenience and perhaps commanded a premium over bullion, but presumably it was used in transactions primarily by weight. When compared with the distribution of York coins of York style with which they were contemporary (Table 2), it is clear that the imitations were not intended to be put into circulation in England, or for that matter in the Hiberno-Norse communities in Ireland whose own coinage followed the English standard much more closely. The new part of the die chain shows a similar pattern to that of the original, though the range is narrower (1.25 g-2.05 g). In this earlier phase there appears to have been a better attempt to copy the

Table 2. Weight distribution of imitative coins in the *Crux/ISC* die-chain compared with the York *Crux* coins in the Stockholm and Copenhagen systematic collections.

	York Coins		Die-chain	
	Southern-cut dies	York-cut dies	Earlier part (nos. 29-33, 37-55)	Later part (nos. 1-28)
Above 2.50 g				1
2.45-.49 g				
2.40-.44 g				1
2.35-.39 g				1
2.30-.34 g				1
2.25-.29 g				
2.20-.24 g				
2.15-.19 g				1
2.10-.14 g				4
2.05-.09 g			1	2
2.00-.04 g				3
1.95-.99 g				2
1.90-.94 g			5	2
1.85-.89 g			4	3
1.80-.84 g	1		3	2
1.75-.79 g	1		7	8
1.70-.74 g	4		3	9
1.65-.69 g	1		3	6
1.60-.64 g	10		5	12
1.55-.59 g	6		2	5
1.50-.54 g	8	1	4	14
1.45-.49 g	5	9	2	8
1.40-.44 g	6	8	1	7
1.35-.39 g	3	13	2	9
1.30-.34 g	6	9	2	6
1.25-.29 g	2	7	2	9
1.20-.24 g		4		2
1.15-.19 g		3		2
1.10-.14 g				1
1.05-.09 g				2
Total analysed	53	54	46	123

distribution of the English *Crux* coins available in Scandinavia, although since the weight standard in England declined progressively during the issue the majority of imitations would have been heavier than those then being produced in English mints. One coin in this die-chain has been analysed (no. 24a) and shown to have *c.* 94 % silver (18), which is comparable with other Scandinavian imitations and with the standard used in England.

The extended *Crux/ISC* die-chain now contains 181 coins that are believed to be imitations struck from 10 obverse and 38 reverse dies in 52 different die-combinations. In the imitative element of the main *Long Cross* die-chain there are 130 coins struck from 17 obverse and 42 reverse dies in 66 die-combinations. These are large coinages, comparable in scale with those of Sigtuna, Dublin or some of the larger mints in England, and the more so if one considers that there may be other coins of the same origin that do not tie into the die-chains. It has been argued that both chains emanated from the same mint, which was probably situated in Denmark in a centre enjoying close links with England, and in particular with York (19). Lund is a possibility, though the absence from the Igelösa hoard of coins of the earlier phase of the *Crux/ISC* chain suggests that the mint may have been further west, most of the 51 coins from the later phase having arrived in a single parcel. The revised find distribution for the chain as extended (Table 3) still primarily reflects Danish and Swedish trade routes in Northern Europe, although the emphasis on southern Scandinavia and the West Slav region is if anything strengthened. The absence of square flan coins from either chain lends weight to Brita Malmer's observation that these seem to have been a feature of the coinages from central Sweden (20).

Table 3. Find provenances of imitative coins in the *Crux/ISC* die-chain

	Number of Coins	
Sweden		
Gotland	20	
Medelpad	1	
Södermanland	1	
Uppland	1	
Ångermanland	1	24
	—	
Denmark		
Blekinge (now Sweden)	3	
Fyn	5	
Sjælland	1	
Skåne (now Sweden)*	6 (+45)	15 (+45)
	—	
Presumed Swedish or Scanian finds**		60
Norway		1
Finland		3
Estonia		1
Iceland		2
Poland (or presumed West Slav)		8
Russia		1
		—
		160
Coins with no provenance		21
		—
Total		181

Notes:

* Includes 45 die-duplicates from the Igelösa hoard.

** Unprovenanced coins in the Royal Coin Cabinet, Stockholm or the Uppsala University collection.

Transported dies

The extension to the die-chain thus provides further evidence for the transportation of dies between England and Scandinavia; a reverse die (b') evidently taken from Southwark and at least three (H, J, and I), probably four (F), and possibly five (K) obverse dies

extracted from unidentified English mints, in addition to the five pairs of *Crux* and *ISC* dies from York which occur in the original part of the chain. This extension appears to represent an earlier phase of activity at the imitative workshop, though just how much earlier we are not in a position to tell, for the duration of this coinage could have been anything from several months to a few years. It is tempting to associate the abstraction of the reverse die – perhaps with some of the obverses – from the Southwark mint with the Viking presence in London during 994, however the dies were not necessarily taken by force and they may have been acquired subsequently by agreement. It seems that English dies were obtained not simply to establish new mints, but, as already remarked, they appear to have been highly prized and demand for them continued for another 25 years or more. The number of examples of transported dies which can be identified in later issues of Æthelred and Cnut is impressive, and Brita Malmer's publication of the imitations in the Stockholm collection will no doubt reveal more. The following is a provisional list of obverse dies in the Scandinavian imitative coinages *c.* 995-1025 which are thought to have come from English mints. We are not in a position to give a comparable list of reverse dies since they can often only be recognized after a comprehensive study of dies and weights, and further work is required in both the English and Danish series in order to identify transported dies after *c.* 1025, if indeed they exist.

Crux (*c.* 991-7)

1-3. York style. Dies A, B, and E in the chain below.

4-7. Winchester style (supplied to mints throughout the country).

Dies H, I, and J, and possibly K in the chain below.

8. York style. BEH 980; *SCBI* Copenhagen ii 1511 (die-linked with Sigtuna, see Blackburn 1981a, p. 426-7).

Intermediate Small Cross (c. 997)

- 1-2. Winchester style (supplied to mints throughout the country; these dies appear to have been taken from York with an *ISC* reverse). Dies C and D in the chain below.

Long Cross (c. 997-1003)

- 1-2. York style. Dies E and K' in the *Long Cross* die-chain (Blackburn 1981b).
- 3-4. London style (supplied to mints throughout the country; these dies were abstracted from York). Dies H and I in the *Long Cross* die-chain.
5. Lincoln style. Die C' in the *Long Cross* die-chain.
6. London style. BEH 194 (Lyon, van der Meer, and Dolley, chain K). This die is rusty and appears to have lain idle before being used in this die-chain c. 1020.

Last Small Cross (c. 1009-1018)

1. Lincoln (later) style. BEH 209, 399, 2668; *SCBI* Copenhagen ii 1454, 1489; *SCBI* Helsinki 1043-4, 1060-1 (Lyon, van der Meer, and Dolley, chain M).
2. York Style. BEH 655, 660; *SCBI* Copenhagen ii 712, 1386, 1487, 1494, 1505-6; *SCBI* Helsinki 1042.
3. York style. *SCBI* Copenhagen ii 1486, 1507; *SCBI* Helsinki 1030-2, 1037-40.
4. York Style. *SCBI* Copenhagen ii 1492; *SCBI* Helsinki 1041.
5. Lincoln (early) style. BEH 2788; *SCBI* Copenhagen ii 859, 1488.
6. London style. BEH 2221, 3407; *SCBI* Copenhagen ii 713, 1102 (Scandinavian origin is demonstrated by a square flan specimen of the 'Cissbury' coin in the British Museum).
7. London style. *SCBI* Copenhagen ii 1508; *SCBI* Lincolnshire Collections 1934.

Quatrefoil (c. 1018-24)

1. York style. BEH 1447, 3552; *SCBI* Copenhagen iii 3880; *SCBI* Helsinki 1079 (Lyon, van der Meer, and Dolley, chain D).
2. York style. *SCBI* Copenhagen iii 1488.
3. Lincoln (early) style. BEH 3518, 3518 bis; *SCBI* Copenhagen iii 3842 (Lyon, van der Meer, and Dolley, chain F).
4. Lincoln (early) style. BEH 193, 865, 2050; *SCBI* Copenhagen iii 557, 2204-5, ?4228; *SCBI* Helsinki 1077 (Lyon, van der Meer, and Dolley, chain K).

5. Lincoln (mid) style. BEH 2020 (Lyon, van der Meer, and Dolley, chain L).
6. Lincoln (late) style. BEH 252; *SCBI* Copenhagen iii 293, 4240; *SCBI* Helsinki 1066-7 (Lyon, van der Meer, and Dolley, chain G).
7. Stamford style. BEH 666, 2210, 3063; *SCBI* Copenhagen iii 737-8, 2382. (Probably English, though the Stamford style is not sufficiently homogeneous to make a firm identification possible).
8. Stamford style. BEH 667; *SCBI* Copenhagen iii 2383. (Probably English, see last).
9. Thetford 'A' style. BEH 2019, 3780 (Lyon, van der Meer, and Dolley, chain L).
10. Thetford 'A' style. *SCBI* Helsinki 1068. (The identification of this coin as an imitation relies solely on its illiterate reverse, and confirmation from die-links with other imitations would be desirable. This obverse was also used to strike apparently regular coins of the Cambridge mint, BEH 1062-3; *SCBI* Copenhagen iii 1100-1).
11. London 'A' style. BEH 154, 2200, 2670; *SCBI* Copenhagen iii 4227; *SCBI* Helsinki 1076, 1078 (Lyon, van der Meer, and Dolley, chain K).
12. London 'A' style. A coin in the Mölndal hoard (SHM Inv. 7219) from Västergötland, attributed by Malmer to the Danish mint of Ørbæk (Malmer 1983, illustrated).
13. London 'C' style. BEH 3060-2, 3064. (Possibly English; the die has all the features of London 'C' style, but is unusual in having the legend commencing at 12 o'clock rather than 7 o'clock, a characteristic found on only a small number of dies of this style, cf. BEH 2102).

There are two points which emerge from this list. The first is that although there may have been some increase in the number of dies taken to Scandinavian mints after Cnut's conquest of England, the practice was already well established under Æthelred II. Further study of the die-chains commenced by Lyon, van der Meer, and Dolley ought to enable us to tell roughly when the *Last Small Cross* dies were abstracted, whether during or immediately after the

war which resulted in the Danish conquest of England in 1016. The presence of at least one early Lincoln die suggests that they were not just taken at the very end of the issue, i.e. at the beginning of Cnut's reign. One new development under Cnut is that a few dies appear to have been actually commissioned from the Lincoln die-cutter, bearing +CNVT REX DÆNORVM. These coins, and those of *Last Small Cross* type in the

name of Cnut with his English title (Hildebrand type Cnut A) some of which may also be Lincoln products, require more detailed treatment elsewhere, for they are critical to the dating not only of his first Danish coinage but also of the introduction of *Quatrefoil* in England. For the present we may illustrate two obverse dies with the Danish title of *Last Small Cross* and *Quatrefoil* types (Fig. 3a and c), and beside them



Fig. 3. a and c Coins with Cnut's Danish title struck from dies made at Lincoln; b and d Lincoln coins of similar style (2:1).

two regular Lincoln dies (Fig. 3b and d) which it is suggested were produced by the same die-cutting centre (21).

The second point is a geographical one. The dies are of several different styles and must have been obtained from a variety of mints. 'York' style dies were only used at York and so could only have been taken from there. 'Lincoln' style was used mainly at the Lincoln mint, but it is also found on some coins from the east Midlands and East Anglia. Similarly the 'Thetford' style was used in East Anglia and the east Midlands (one such die, Quatrefoil no. 10, may have been taken from Cambridge), and 'Stamford' style dies occur mainly at Stamford and its neighbouring mints. The 'London' die-cutting centre(s) in *Last Small Cross* and *Quatrefoil* supplied mints in the east of the country – London, Kent, East Anglia, and the east Midlands. The absence of dies of 'Winchester' style and the various western and south-western styles of *Last Small Cross* and *Quatrefoil* is notable. Thus the transported dies came essentially from eastern England, indeed all save the Southwark die discussed above could have been obtained from mints in the Danelaw, with which the Scandinavian countries had strongest cultural and commercial links. This perhaps suggests that the dies were largely obtained by agreement rather than piracy, which would be consistent with those dies apparently commissioned for Danish mint(s). If so it raises interesting questions about the control of dies and responsibility of a moneyer who parted with a current die, for most of the transported dies appear to have been taken during the course of an issue rather than after the end when they had become obsolete. It is of relevance here that the imitations were not being made with a fraudulent intention, for putting into circulation in England.

Conclusions

The concept of official dies being taken out of the jurisdiction for use in another system of coinage is, it must be admitted, an unusual one especially when occurring on the scale suggested here. That the imitative coinages concerned are the product of a mint or mint(s) in southern Scandinavia grows more certain the larger the die-chains become and the more closely one looks at their weight patterns. The east coast distribution of the transported dies is in itself some evidence of a Scandinavian origin for the series. Style alone can be a dangerous criterion by which to judge the origin of dies, though it is a technique which has been acutely developed in the Anglo-Saxon series, and, as we have seen, there are now a number of instances where the attributions of English die-cutting centres have the independent support of detailed die and weight analyses demonstrating that they had been used for a time in English mints. Furthermore the practice of transporting dies was not confined to the Scandinavian series. There are several well attested cases of English dies of this same period being taken for use in the Hiberno-Norse coinage – not surprisingly from western mints, Watchet, Gloucester, and Chester – and of Dublin moneyers commissioning die-cutters in London and Chester to produce dies in the name of Sihtric Silkbeard (22). There is also one case of an obverse die and possibly a reverse being taken from Dublin to establish a mint on the Isle of Man in the 1020s (23). But perhaps the most extraordinary case is that of two York moneyers, Hildolf and Colgrim, who appear to have obtained dies from the die-cutter in Dublin (24). The complexity of this pattern of die transfers is remarkable, and we should not be surprised if we find there were similar exchanges of dies between mints within Scandinavia.

Catalogue of coins in the CRUX/ISC die-chain

Each die combination is given an arabic numeral which also refers to an illustration on the accompanying plates. The illustrated coin is indicated by an asterisk. Each die has been assigned a letter, upper case for obverse and lower case for reverse dies. Unless otherwise indicated dies are considered to have been manufactured in Scandinavia and die-combinations to have been struck in Scandinavia. In the right hand column the types of the obverse and reverse dies are indicated using Hildebrand's abbreviations:

A = Small Cross; C = Crux; D = Long Cross.

1 Aa +EDELRED REX +OBAN M̄O EOFR C
ANGLOX

Obv. = 2-8 and 27-8 English Rev. = 18 English rev. die
obv. die of York style. of York style.

*a) Stockholm (BEH 774) 1.66 g/25.6 gr; 45°

b) Liverpool (SCBI 29, 536); ex Nelson (1953); ex Baldwin (1946) 1.52 g/23.5 gr; 0°

2 Ab As I above +OSCETL M̄O EOFR C
Obv. = 1, 3-8, and 27-8 Rev. = 12 and 19 English
rev. die of York style.

a) Stockholm (BEH 813) 2.42 g/37.3 gr; 90°

b) Stockholm (BEH 813 bis) 1.72 g/26.5 gr; 90°

*c) Lund; ex Igelösa hoard 1.68 g/25.9 gr; nr

d) Lund; ex Igelösa hoard 1.62 g/25.0 gr; nr

e) Lund; ex Igelösa hoard 1.50 g/23.1 gr; nr

f) Trondheim; ex Dronningens Gate hoard 1.52 g/23.5 gr; 90°

3 Ac As I above +OSCETL M̄O
EOFR II C/A

Obv. = 1-2, 4-8, and 27-8 Rev. = 20

*a) Stockholm (BEH 810) 1.45 g/22.4 gr; 0°

4 Ad As I above +OZCET̄ IO EOREI C/A
Obv. = 1-3, 5-8, and 27-8 Rev. = 21

a) Stockholm (BEH 805) 1.75 g/27.0 gr; 180°

*b) Stockholm (BEH 805 bis) 2.03 g/31.3 gr; 0°

c) Poznań (Blackburn *NCirc* 1978, p. 578 no. 179) nr; 90°

d) Reykjavik; ex Gaulverjabær hoard (no. 56)

(cut halfpenny) 0.80 g/12.3 gr; nr

5Ae As I above +OZ̄' CETL M̄O
EOFR II:O C/A

Obv. = 1-4, 6-8, and 27-8

a) Stockholm (BEH 812) 1.89 g/29.2 gr; 235°

b) Stockholm (BEH 812 bis¹) 2.32 g/35.8 gr; 270°

*c) Stockholm (BEH 812 bis²) 1.65 g/25.5 gr; 90°

d) Stockholm (I 1295); ex Kännungs hoard 2.14 g/33.0 gr; 90°

e) Liverpool (SCBI 29, 1055); ex Nelson; ex Ryan 805 2.10 g/32.4 gr; 270°

f) Moscow; ex Kolodeži hoard 1.70 g/2.62 gr; nr

g) British Museum; ex Morgan (1915); ex Evans; found in Sweden 1.72 g/26.5 gr; 270°

h) English private collection; ex Duke of Argyll 1.32 g/20.3 gr; 270°

i) English private collection 2.01 g/31.0 gr; 90°

6 Af As I above +AZCELTOEO-
MEOR II C/A

Obv. = 1-5, 7-8, and 27-8

*a) Stockholm (BEH 628) 2.11 g/32.6 gr; 165°

b) Stockholm (BEH 628 bis) 1.26 g/19.4 gr; 345°

7 Ag As I above +AI-HEOL'HOF'-
DO II' C/A

Obv. = 1-6, 8, and 27-8

*a) Stockholm (I 1293) 1.43 g/22.1 gr; 45°

b) Copenhagen (SCBI 7, 1523); ex Siökrona (1883) 1.64 g/25.3 gr; 45°

8 Ah As I above +MOPII-OIOELIIO-
PII C/A

Obv. = 1-7 and 27-8

*a) Stockholm (I 1296) 2.08 g/32.1 gr; 270°

b) Stockholm (I 1297) 1.36 g/21.0 gr; 90°

c) Stockholm (I 1298) 2.02 g/31.2 gr; 180°

d) Stockholm (I 1299) 1.62 g/25.0 gr; 270°

e) Stockholm (I 1300) 2.11 g/32.6 gr; 270°

f) Stockholm (I 1301) 2.06 g/31.8 gr; 270°

g) Stockholm (I 1302) 1.95 g/30.1 gr; 270°

	h) Stockholm; ex Myrände hoard (<i>CNS</i> 1:1.19 1756) 1.41 g/21.8 gr; 0°				
	i) Copenhagen (<i>SCBI</i> 7, 1522); ex Kelstrup hoard 2.88 g/ 44.4 gr; 270°				
	j) Helsinki (<i>SCBI</i> 25, 944); ex Nikkilä-Nousiainen hoard 1.76 g/27.2 gr; 0°				
	k) Łódź (Blackburn, <i>NCirc</i> 1978, p. 578, no. 180); ex Płock hoard 1.75 g/27.0 gr; nr				
	l) Berlin; ex H. Grote 1.72 g/26.5 gr; 0°				
	m) J.F. Chown; bought Dolphin Coins (London) 1974 2.39 g/36.9 gr; 270°				
9 Bi	+ÆDERED REX ANGLO ^x Obv. = 10 and 11 English obv. die of York style.	+OSCETEL M ^o O EOFR Rev. = 22 English rev. die of York style.	C		
	*a) Stockholm (BEH 809) 1.75 g/27.0 gr; 90°				
10 Bj	As 9 above Obv. = 9 and 11 Possibly an English striking (see note 10).	+ALDERÐ M ^o EOF Rev. = 29 English rev. die of York style. See discussion of moneyer's name in Black- burn 1981a, 434.	C		
	*a) Stockholm (BEH 607 bis) 1.48 g/22.8 gr; 0°				
11 Bk	As 9 above Obv. = 9 and 10	EOIEO-Λ'OEAIEII: C/A			
	a) Stockholm (I 1291) 1.39 g/21.4 gr; 180°				
	*b) Stockholm (I 1292) 1.08 g/16.7 gr; 180°				
12 Cb	+ÆDELRAED REX ANGLOX Obv. = 13-15 English <i>Intermediated Small Cross</i> obv. die. Possibly an English striking (see note 10).	As 2 above Rev. = 2 and 19	A/C		
	*a) Copenhagen (<i>SCBI</i> 7, 282; ex Iholm hoard (fragment missing) 1.32 g/20.4 gr; 270°				
13 Cl	As 12 above Obv. = 12 and 14-15			+OSCEL II ^o O EOCR A/C $\frac{v c}{r x}$	
	*a) Stockholm (BEH 804) 1.62 g/25.0 gr; 90°				
14 Cm	As 12 above Obv. = 12-13 and 15			+OSCEL II ^o O COFR A/C $\frac{r x}{c v}$	
	*a) Copenhagen (<i>SCBI</i> 7, 281); ex Lt Ahlander of Visby (1850) (pierced) 1.28 g/19.8 gr; 270°				
15 Cn	As 12 above Obv. = 12-14			+OZCELII ^o OEOCA A/C $\frac{r x}{c v}$	
	*a) Stockholm; ex Lilla Haltrave hoard 1.54 g/23.8 gr; 135°				
16 Cn	+ÆDELRAED REX ANGLOX Obv. = 17 English <i>Inter- mediate Small Cross</i> obv. (with sceptre added). Possibly an English striking (see note 10).	+ARNCYTEL M ^o O EOFR Rev. = 23 English <i>Inter- mediate Small Cross</i> rev. die.	A var/A		
	*a) Stockholm (BEH 610) (chipped) 1.44 g/22.2 gr; 180°				
	b) Copenhagen (<i>SCBI</i> 7, 222); ex Iholm hoard 1.44 g/ 22.2 gr; 180°				
17 Dp	As 16 above Obv. = 16			+ΛIOGEHEOII- OIE $\frac{c x}{v r}$	A var/C
	a) Stockholm (I 1340); ex Sallmunds hoard 1.70 g/26.2 gr; 270°				
	*b) (Stockholm (I 1341) 1.74 g/26.8 gr; 180°				
18 Ea	+ÆDERED REX ANGLO Obv. = 19-26 English obv. die of York style.			As 1 above Rev. = 1	C

	<p>a) Stockholm (BEH 773) 1.38 g/21.3 gr; 225°</p> <p>b) Stockholm; ex Kyrkebys hoard (fragment missing) 1.20 g/18.5 gr; 225°</p> <p>c) Stockholm; ex Kännungs hoard 1.16 g/17.9 gr; 180°</p> <p>d) Stockholm; ex Djuped hoard 1.48 g/22.8 gr; 225°</p> <p>e) Visby; ex Karls hoard 1.92 g/29.6 gr; 180°</p> <p>*f) Lund; ex Igelösa hoard 1.60 g/24.7 gr; nr</p> <p>g) Leeds (SCBI 21, 70); ex Thornton 1.28 g/19.8 gr; 180°</p> <p>h) C.S.S. Lyon; bought Spink; ex Duke of Argyll 1.31 g/20.2 gr; 225°</p> <p>i) Liverpool (SCBI 29, 537); ex Nelson (1953); ex Lumb (1946) 2.15 g/33.2 gr; 315°</p>				
19 Eb	As 18 above Obv. = 18 and 20-6	As 2 above Rev. = 2 and 12	C		
	<p>a) Reykjavik; ex Gaulverjabær hoard (no. 51) 1.97 g/30.4 gr; nr</p> <p>*b) C.S.S. Lyon; bought Spink; ex Duke of Argyll 1.52 g/23.5 gr; 315°</p>				
20 Ec	As 18 above Obv. = 18-19 and 21-6	As 3 above Rev. = 3	C/A		
	<p>a) Stockholm (BEH 811) 1.59 g/24.5 gr; 315°</p> <p>*b) Lund; ex Igelösa hoard 1.67 g/25.7 gr; nr</p>				
21 Ed	As 18 above Obv. = 18-20 and 22-6	As 4 above Rev. = 4	C/A		
	<p>*a) Stockholm (BEH 806) (pierced) 1.57 g/24.2 gr; 345°</p> <p>b) Copenhagen (SCBI 7, 1464); acquired 1861 1.69 g/26.1 gr; 270°</p>				
22 Ei	As 18 above Obv. = 18-21 and 23-6	As 9 above Rev. = 9	C		
	<p>Possibly an English striking (see note 10).</p> <p>*a) Stockholm (BEH 809 bis) 1.38 g/21.3 gr; 270°</p>				
23 Eo	As 18 above Obv. = 18-22 and 24-6	As 16 above Rev. = 16	C/A		
				24 Eq	As 18 above Obv. = 18-23 and 25-6
					+OZCETEL M ⁻ O EOCR.: C/A
					<p>a) Stockholm (BEH 808) 1.52 g/23.5 gr; 45° (analysed 93% Ag, 0.32% Au; Malmer 1981, no. 7).</p> <p>b) Stockholm (BEH 808 bis) 1.37 g/21.1 gr; 45°</p> <p>c) Helsinki (SCBI 25, 943); ex Asikkala hoard 1.79 g/27.6 gr; 225°</p> <p>*d) -av) 45 specimens at Lund from same dies; ex Igelösa hoard. Weights in grams: 1.08, 1.24, 1.26, 1.28, 1.28, 1.28, 1.28, 1.29, 1.30, 1.33, 1.33, 1.34, 1.37, 1.39, 1.39, 1.42, 1.42, 1.42, 1.46, 1.46, 1.47, 1.47, 1.49, 1.50, 1.51, 1.52, 1.52, 1.53, 1.53, 1.53, 1.53, 1.58, 1.58, 1.60, 1.62, 1.62, 1.63, 1.63, 1.64, 1.67, 1.78, 1.80, 1.80, 1.86, 1.91.</p>
				25 Er	As 18 above Obv. = 18-24 and 26
					+OSCETELIIAIOHI ⁻ CEEIOII C/A
					<p>*a) Stockholm (BEH 807) 1.71 g/26.4 gr; 135°</p> <p>b) Stockholm (BEH 807 bis) 1.86 g/28.7 gr; 135°</p> <p>c) Copenhagen (SCBI 7, 1465); ex Stockholm (1854) 1.38 g/21.3 gr; 0°</p>
				26 Es	As. 18 above Obv. = 18-25
					+OZCETLM ⁻ O EOFIEI C/D var Pseudo-Long Cross rev. on which cross does not pierce legend.
					*a) Stockholm; ex Smiss hoard (Jonsson 1975, no. 338) 1.62 g/25.0 gr; 90°

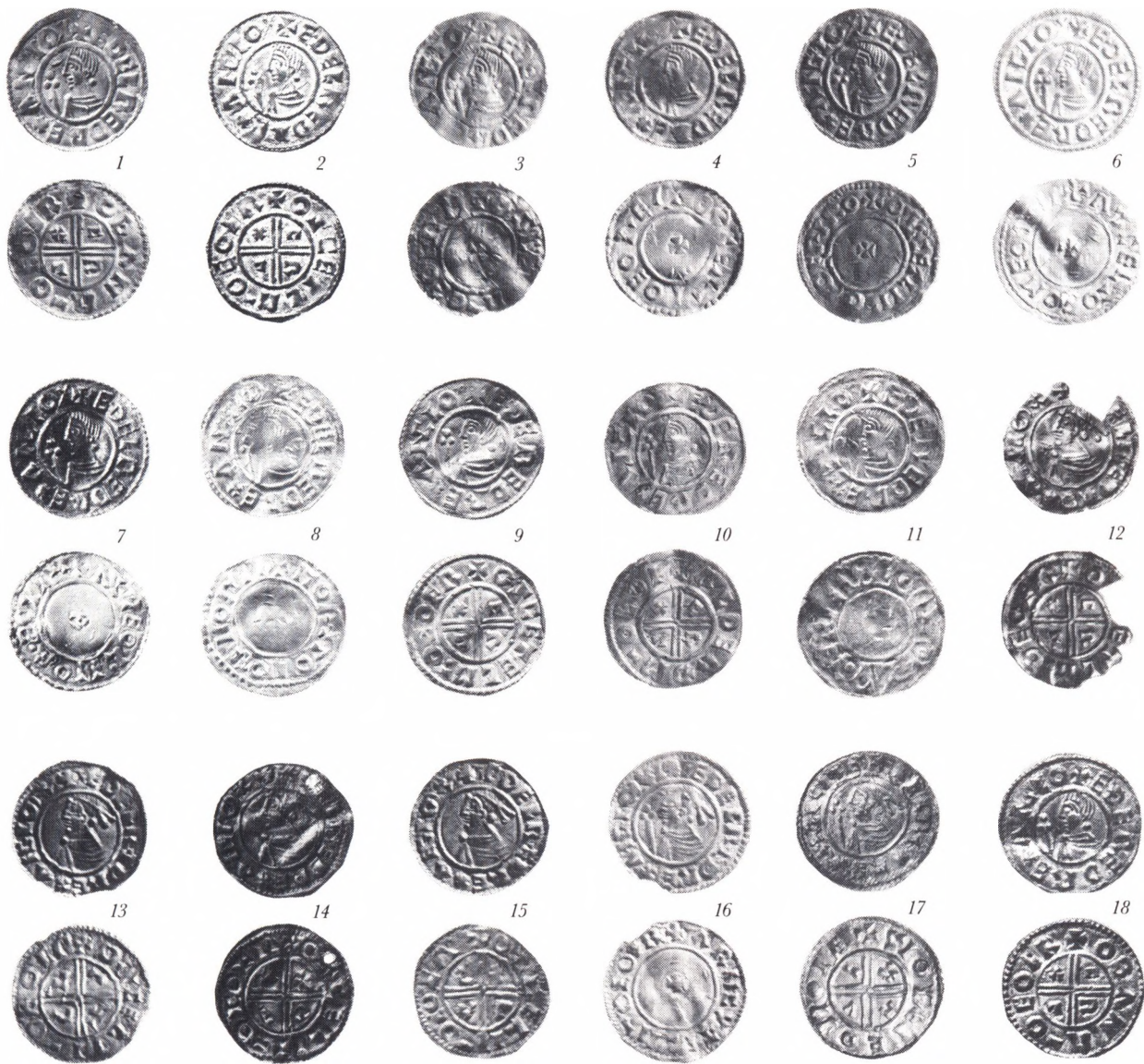


Plate 1. *Crux/Intermediate Small Cross die-chain*

27 At	As 1 above Obv. = 1-8 and 28	+VLF M ^o LINGSAO C $\frac{x c}{v r}$	*a) Copenhagen (<i>SCBI</i> 7, 1514); ex Iholm hoard 1.31 g/ 20.2 gr; 0°
	*a) Stockholm (BEH 1948) 1.11 g /17.1 gr; nr [Mossop 1970, pl. VII, 12] b) Stockholm (BEH 4348) (fragment) 0.67 g/10.3 gr; 90°		
28 Au	As 1 above Obv. = 1-8 and 27	+OSCEII M ^o IORIHER C/A	*a) Stockholm; ex Digeråkra hoard (<i>CNS</i> 1.2 4:1305) 1.59 g/ 24.5 gr; nr b) Stockholm; ex Thuleparken hoard 1.72 g/26.5 gr; 30° c) Stockholm (I 1329) 1.87 g/28.9 gr; 120° d) Stockholm (I 1330) 1.52 g/23.4 gr; 120°
	*a) Spink auction no. 34 (14 March 1984), lot 621 1.23 g/ 19.0 gr; 90° (pecked)		
29 Fj	+ÆDEL RÆD REX ANGLOX Obv. = 30-3, 37-43, and 55 Probably an English die of London style.	As 10 above Rev. = 10	C
	*a) Berlin; ex Bierzłowo (Birglau) hoard 1.70 g/26.2 gr; 180° [no. 10b in Blackburn 1981a, but obv. identity mistaken]		
30 Fv	As 29 above Obv. = 29, 31-3, 37-43, and 55	+IICOIVOVFIIDVII- OIII $\frac{r x}{i v}$	C
	*a) Dresden (231) 1.50 g/23.1 gr; 270° [cast of obv. damaged] b) Copenhagen (<i>SCBI</i> 7, 1513); ex Thomsen (pierced) 1.19 g/18.3 gr; 270° c) Stockholm (I 1326); ex Gärestad hoard 1.54 g/23.7 gr; 270° d) Stockholm (I 1327) 1.86 g/28.7 gr; 240° e) Stockholm (I 1328) 1.90 g/29.3 gr; 260°		
31 Fw	As 29 above Obv. = 29-30, 32-3, 37-43, and 55	+..IOSIIOVHOOIII- PISM $\frac{r v}{x c}$ Reading uncertain	C
32 Fx	As 29 above Obv. = 29-31, 33, 37-43, and 55	+VS.IIOIPIVIOIII- IOII $\frac{v x}{c r}$	C
	*a) Stockholm; ex Digeråkra hoard (<i>CNS</i> 1.2 4:1305) 1.59 g/ 24.5 gr; nr b) Stockholm; ex Thuleparken hoard 1.72 g/26.5 gr; 30° c) Stockholm (I 1329) 1.87 g/28.9 gr; 120° d) Stockholm (I 1330) 1.52 g/23.4 gr; 120°		
33 Fy	As 29 above Obv. = 29-32, 37-43, and 55	+OYIUCIMICIIO- TVOC $\frac{x c}{v r}$	C
	*a) Stockholm (I 1331); ex Stige hoard 1.68 g/25.9 gr; 280°		
34 Gz	+ÆDEL RÆD REX ANGLOX Obv. = 35-6 English obv. die of southern style.	+BYRHTRIC M ^o SVÐG $\frac{x c}{v r}$ English rev. die.	C
	An English striking (see p. 104 above).		
	*a) British Museum; ex Morgan 1915; ex Evans; from Sweden 1.41 g/21.8 gr; 180°		
35 Ga'	As 34 above Obv. = 34 and 36	+BYRHTRIC M ^o SVÐG $\frac{x c}{v r}$ English rev. die.	C
	An English striking (see p. 104 above).		
	a) Copenhagen (<i>SCBI</i> 7, 1190); ex Iholm hoard 1.45 g/ 22.4 gr; 90°.		

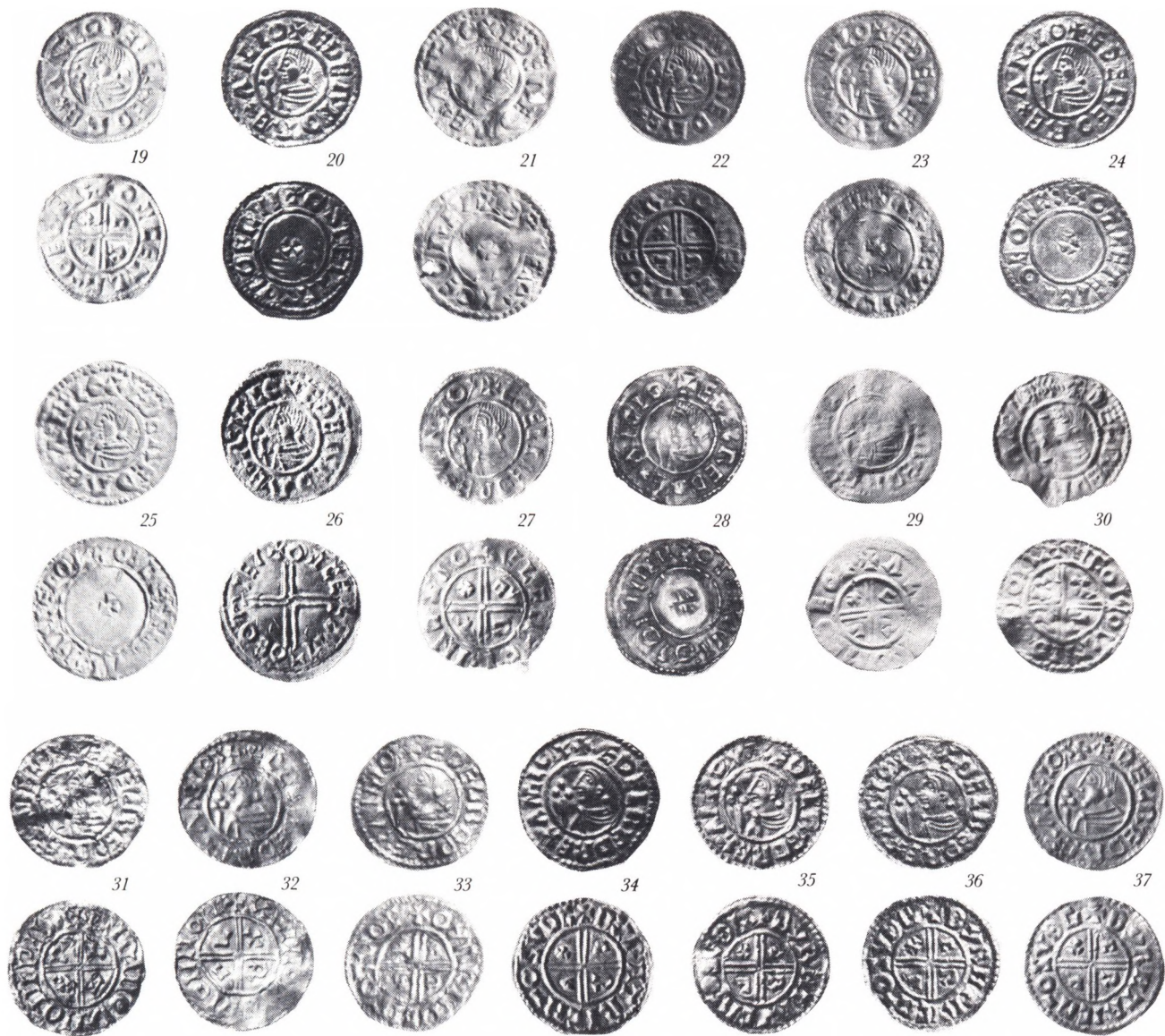


Plate 2. *Crux/Intermediate Small Cross die-chain*

36 Gb' As 34 above	+BYRHTRIC M̄O SVDG	C	*a) Stockholm (I 1332); ex Johannishus hoard 1.77 g/27.3 gr; nr
Obv. = 34-5	$\frac{x c}{v r}$ Rev. = 37 English rev. die.		
An English striking (see p. 104 above).			
*a) ?; ex Elmore-Jones (Glendining 12 May 1971), lot 762 1.52 g/23.4 gr; nr			
37 Fb' As 29 above	As 36 above	C	*a) Stockholm; ex Digeråkra hoard (CNS 1.2 4:1304) 1.25 g/19.3 gr; nr
Obv. = 29-33, 38-43, and 55	Rev. = 36		b) Stockholm (I 1283); ex Skäggs hoard 1.46 g/ 22.5 gr; 0°
a) Helsinki (SCBI 25, 107); ex Nikkilä- Nousiainen hoard (fragment) 0.57 g/8.8 gr; 180°			
*b) Stockholm (BEH 3648) 1.78 g/27.5 gr; 90°			
c) Tallinn; ex Kunda hoard nr; nr			
38 Fc' As 29 above	+B'YRHTR'IC M̄O ZVDG	C	*a) Stockholm; ex Gudings hoard 1.68 g/25.9 gr; 270° b) Stockholm (I 1333) 1.94 g/29.9 gr; 180° c) Stockholm (I 1334); ex Sturkö hoard 1.78 g/27.5 gr; 90°
Obv. = 29-33, 37, 39-43, and 55	$\frac{c x}{r v}$		
a) Copenhagen (SCBI 7, 1188); ex Iholm hoard (pierced) 1.47 g/22.7 gr; 0°			
b) Stockholm (BEH 3645) 1.60 g/24.7 gr; 180°			
*c) British Museum; presented by F. Elmore-Jones 1959 1.27 g/19.6 gr; 20°			
d) ?; ex Glendining & Co. sale 14 March 1973, lot 3; ex Stryjewo Wielkie hoard nr; nr			
e) Visby; ex Karls hoard (fragment) nr; nr			
Note. A coin with the same obverse and reverse legends and arrangement of 'crux', and probably from the same dies, occurred in the Ösarve hoard (CNS 1.2 2.342; 1.10 g/17.0 gr). Another coin from the Karls hoard is said to be from this obverse, but a different 'Brihtric' reverse (Dolley, Lund- ström, & van der Meer 1967, 68).			
39 Fd' As 29 above	+BYRIMOATA'N- 'AMFM	C	*a) Stockholm; ex Garde hoard 1.41 g/21.7 gr; 240°
Obv. = 29-33, 37-8, 40-3, and 55	$\frac{i v}{v r}$		
40 Fe' As 29 above	+BYRHA'IAEOIM- DER'	C	*a) Stockholm; ex Gudings hoard 1.68 g/25.9 gr; 270° b) Stockholm (I 1333) 1.94 g/29.9 gr; 180° c) Stockholm (I 1334); ex Sturkö hoard 1.78 g/27.5 gr; 90°
Obv. = 29-33, 37-9, 41-3, and 55	$\frac{c x}{r v}$		
*a) Stockholm; ex Digeråkra hoard (CNS 1.2 4:1304) 1.25 g/19.3 gr; nr			
b) Stockholm (I 1283); ex Skäggs hoard 1.46 g/ 22.5 gr; 0°			
41 Ff' As 29 above	+ 'OB'AOIIIOU'IO'/- OOTIIO	C	*a) Stockholm; ex Gudings hoard 1.68 g/25.9 gr; 270° b) Stockholm (I 1333) 1.94 g/29.9 gr; 180° c) Stockholm (I 1334); ex Sturkö hoard 1.78 g/27.5 gr; 90°
Obv. = 29-33, 37-40, 42-3, and 55	$\frac{r x}{v c}$ Rev. = 49		
*a) Stockholm; ex Gudings hoard 1.68 g/25.9 gr; 270°			
b) Stockholm (I 1333) 1.94 g/29.9 gr; 180°			
c) Stockholm (I 1334); ex Sturkö hoard 1.78 g/27.5 gr; 90°			
42 Fg' As 29 above	+ODCOTEL M̄O EOFR	C	*a) Stockholm; ex Garde hoard 1.41 g/21.7 gr; 240°
Obv. = 29-33, 37-41, 43, and 55	$\frac{x c}{v r}$ Rev. = 46		
*a) Stockholm; ex Garde hoard 1.41 g/21.7 gr; 240°			
43 Fh' As 29 above	+ODDAZ' M̄O EOFR'	C	*a) Stockholm; ex Gudings hoard 1.68 g/25.9 gr; 270° b) Stockholm (I 1333) 1.94 g/29.9 gr; 180° c) Stockholm (I 1334); ex Sturkö hoard 1.78 g/27.5 gr; 90°
Obv. = 29-33, 37-42, and 55	$\frac{x c}{r v}$ Rev. = 44-5, 47, and 52		
a) Reading (SCBI 11A, 76); ex Stenton; bought Baldwin 1.37 g/21.1 gr; 0°			
b) York (SCBI 21, 73); bought Seaby; ex Carlyon- Britton II 1068 1.75 g/27.0 gr; 0°			
*c) Stockholm (BEH 799) 1.60 g/24.7 gr; 270°			
d) Stockholm (BEH 799 bis) 1.64 g/25.3 gr; 270°			
e) Uppsala (Holm 87) 1.76 g/27.1 gr; nr [double struck, so confusing the obv. legend]			

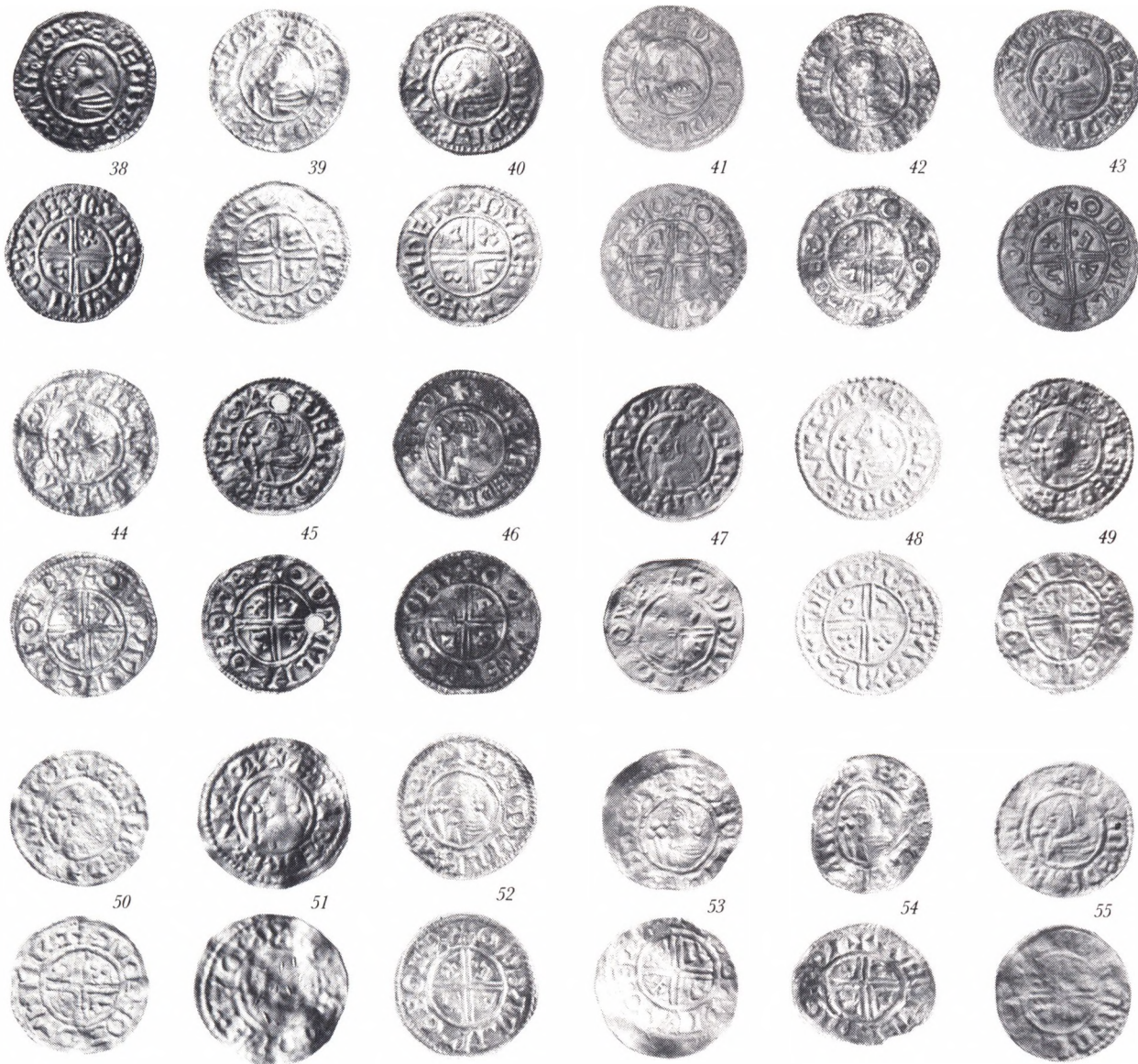


Plate 3. *Crux/Intermediate Small Cross die-chain*

44 Hh'	+ÆDEL RÆD REX ANGLOX English obv. die of southern style.	As 43 above	C	Obv. = 47 and 49-51	$\frac{v r}{x c}$
	a) Leeds (<i>SCBI</i> 21, 74); ex anonymous collection (1957) 1.34 g/20.7 gr; 45° *b) Stockholm; ex Fardume hoard 1.87 g/28.9 gr; 40° c) Stockholm; ex Digeråkra hoard (<i>CNS</i> 1.2 4:1272) 1.82 g/28.1 gr; 230°	Rev. = 43, 45, 47, and 52		*a) Stockholm (I 1284) 1.52 g/23.4 gr; 250° b) Stockholm (I 1285) 1.82 g/28.1 gr; 80° c) Stockholm (I 1286) 1.48 g/22.8 gr; 80°	
45 Ih'	+ÆDEL RÆD REX ANGLOX Obv. = 46 English obv. die of southern style.	As 43 above	C	Obv. = 47-8 and 50-1	$\frac{v r}{x c}$
	*a) Copenhagen (<i>SCBI</i> 7, 280); ex Naumann (1846) (pierced) 1.83 g/28.2 gr; 270°	Rev. 43-4, 47, and 52		As 41 above Rev. = 41	C
				a) Belfast; ex R. Carlyon-Britton (1962) 1.93 g/29.9 gr; 90° *b) Stockholm; ex Hårnacka hoard 1.62 g/25.0 gr; 350° c) Stockholm (I 1287) 1.84 g/28.4 gr; 70° d) Stockholm (I 1288) 1.66 g/25.6 gr; 340° e) Stockholm (I 1289) 1.79 g/27.6 gr; 340° f) Visby; ex Karls hoard nr; nr [obverse die identity uncertain]	
46 Ig'	As 45 above Obv. = 45	As 42 above Rev. = 42	C	Obv. = 47-9 and 51	OV MHTOE OCHDOC+ (retrograde) $\frac{v x}{r c}$
	a) Copenhagen (<i>SCBI</i> 7, 277); ex Iholm hoard 1.75 g/ 27.0 gr; 90° *b) Stockholm (BEH 795) 2.05 g/31.6 gr; 240° N.B. Another specimen with the same legends occurred in the 1884 Hallföse hoard (<i>CNS</i> 1.3 2:197). It is no longer in the Stockholm collection, and was presumably exchanged or sold as a duplicate.			*a) Stockholm (I 1338) 1.62 g/25.0 gr; 0°	C
47 Jh'	+ÆDEL RÆD REX ANGLOX Obv. = 48-51 English obv. die of southern style.	As 43 above	C	Obv. = 47-50	+COEbMOPE- TVON Reading uncertain. A very worn die, weakly struck; the central device is illegible but presumably <i>Cruz</i> type.
	a) Berlin; ex Bierzglówo (Birglau) hoard 1.56 g/24.1 gr; 320°	Rev. = 43-5 and 52		*a) Stockholm (I 1290); ex Garestad hoard 1.39 g/21.4 gr; 170°	C/C?
48 Jm'	As 47 above	+BYRHA ^ˆ IAEOIM- DER	C	Obv. 53-4 Possibly a recut English die of southern style.	As 43 above Rev. = 43-5 and 47
				*a) Stockholm (I 1316); ex Bosarve hoard 1.70 g/26.2 gr; 70°	

53 Kk' As 52 above	+O'DOAPMA'O'ED'I- PI	C
Obv. = 52 and 54	$\frac{c r}{x v}$	
*a) Stockholm (I 1307); ex Amlings hoard 1.90 g/29.3 gr; 200°		
54 Kl' As 52 above	+A-L'IOITELII- IOM IO	C
Obv. = 52-3	$\frac{v c}{c v}$	
*a) Stockholm (I 1306) 1.92 g/29.6 gr; 260°		
55 Fm' As 29 above	+BYRHTRIC MO SVDG	C
Obv. = 29-33 and 38-43	$\frac{x c}{v r}$ Probably an imitative die.	
*a) Berlin; ex Bierzglowo (Birglau) hoard 1.87 g/28.8 gr; 90°		

The Collections

Belfast: Ulster Museum, Belfast, U.K.

Berlin: Staatliche Museen zu Berlin, D.D.R.

British Museum: British Museum, London, U.K.

Copenhagen: Den Kgl. Mønt- og Medaillesamling, National Museum, Copenhagen, Denmark

Dresden: Staatliche Kunstsammlungen, Dresden, D.D.R.

Eskilstuna: Eskilstuna Museer, Eskilstuna, Sweden.

Helsinki: National Museum of Finland, Helsinki, Finland

Leeds: Leeds City Museum, Leeds, U.K.

Liverpool: Merseyside County Museums, Liverpool, U.K.

Lund: Lunds Universitets Historiska Museum, Lund, Sweden

Łódź: Muzeum Archeologiczne i Etnograficzne, Łódź, Poland

Moscow: State Historical Museum, Moscow, U.S.S.R.

Poznań: Muzeum Narodowe, Poznań, Poland

Reading: Stenton Collection, Reading University, U.K.

Reykjavik: National Museum of Iceland, Reykjavik, Iceland

Stockholm: Kungl. Myntkabinettet, Statens Museum for Mynt-

Medalj- och Penninghistoria, Stockholm, Sweden

Tallinn: Historical Institute of the Estonian Academy, Tallinn, Estonian S.S.R.

Trondheim: Det Kgl. Norske Videnskabers Selskabs Myntkabinett, Trondheim, Norway

Uppsala: Universitets Myntkabinett, Uppsala, Sweden

Visby: Gotlands Fornsal, Visby, Sweden

York: Yorkshire Museum, York, U.K.

The hoards

Each hoard is described by its findspot, parish, province, and country, followed by its date of discovery, museum record number, and, in parentheses, a reference to the find in *CNS*, Blackburn and Jönsson 1981 ('B&J'), or Kluge 1981 ('K'), and the *terminus post quem* of the hoard. Reference is then given to the relevant entries in the Catalogue of Coins above.

Amlings, Linde, Gotland, Sweden. 1911 SHM Inv. 14565 (B&J G98; *t.p.q.* 1025) 53 a.

Bierzglowo (Bierglau), Toruń, Bydgoszcz, Poland. 1898 (B&J W97; *t.p.q.* 1024) 29a, 47a, 55a.

Bosarve, Stånga, Gotland, Sweden. 1939 SHM Inv. 22468 (B&J G106; *t.p.q.* 1030) 52a.

Digeråkra, Barlingbo, Gotland, Sweden. 1928 SHM Inv. 18744 (*CNS* 1.2.4; B&J G58; *t.p.q.* 1002) 32a, 40a, 44c.

Djuped, Styrnäs, Ångermanland, Sweden. 1919 SHM Inv. 16295 (B&J S48; *t.p.q.* 1024) 18d.

Dronningens Gate, Trondheim, Sør-Trøndelag, Norway. 1950 T 16978 (B&J N41; *t.p.q.* 1030) 2f.

Fardume, Rute, Gotland, Sweden. 1917 SHM Inv. 16009 (B&J G94; *t.p.q.* 1024) 44b.

Garde, Stenkyrka, Gotland, Sweden. 1902 SHM Inv. 11619 (B&J G140; *t.p.q.* 1048) 42a.

Garestad, Edestad, Blekinge, Sweden. 1888 SHM Inv. 8503 (B&J D110; *t.p.q.* 1056) 30c, 51a.

Gaulverjabær, Árnessýsla, Iceland. 1930 (Eldjárn 1948; B&J 17; *t.p.q.* 1002) 4d, 19a.

Gudings, Vallstena, Gotland, Sweden. 1909f SHM Inv. 13867 (B&J G68; *t.p.q.* 1005) 41a.

Hallföse, Dalhem, Gotland, Sweden. 1884f SHM Inv. 7551 and 7669 (*CNS* 1.3.2; B&J G148; *t.p.q.* 1056) 46.

Härnacka, Estuna, Uppland, Sweden. 1984 SHM Dnr. 249/84 (B&J –; *t.p.q.* 1018) 49b.

Igelösa churchyard, Igelösa, Skåne, Sweden. 1924 SHM Inv. 17532 (B&J D48; *t.p.q.* 1003/4) 2c-e, 18f, 20b, 23b, 24d-av.

Iholm, Bregninge, Fyn, Denmark. 1853 FP 128, 358, 393 (B&J D46; *t.p.q.* 1002) 12a, 16b, 31a, 35a, 38a, 46a.

Johannishus, Hjortsberga, Blekinge, Sweden. 1866 SHM Inv. 3491 (B&J D123; *t.p.q.* 1120) 39a.

Kännungs, Helvi, Gotland, Sweden. 1934 SHM Inv. 20879 (B&J G83; *t.p.q.* 1018) 5d, 18c.

Karls, Tingstäde, Gotland, Sweden. 1966 GF C10396 (B&J G124; *t.p.q.* 1039) 18e, 38e, 49f.

Kelstrup, Stillinge, Sjælland, Denmark. 1859 FP 207 (B&J D58; *t.p.q.* 1024) 8i.

Kolodeži, Kaluga, Russia, U.S.S.R. 1964 (K R19; *t.p.q.* 1059) 5f.

Kunda, Estonia, U.S.S.R. 1894 (K E16; *t.p.q.* 1030) 37c.

Kyrkebys, Hejnum, Gotland, Sweden. 1886 SHM Inv. 8032 (B&J G95; *t.p.q.* 1024) 18b.

Lilla Haltarve, Lokrume, Gotland, Sweden. 1928 SHM Inv. 18945 (B&J G40; *t.p.q.* 997) 15a.

Myrände, Atlingbo, Gotland, Sweden. 1893 SHM Inv. 9392 (CNS 1.1.19; B&J G112; *t.p.q.* 1036) 8h.

Nikkilä, Nousiainen, Finland. 1895 NM 3132, 3579 (B&J F31; *t.p.q.* 1036) 8j, 37a.

Ösarve, Bäl, Gotland. 1897 SHM Inv. 10461 (CNS 1.2.2; B&J G63; *t.p.q.* 1002) 38.

Pätiälä, Asikkala, Tavastia, Finland. 1934 NM 36033 (B&J F18; *t.p.q.* 1014) 24c.

Plock, Warszawa, Poland, 1946/7 (B&J W57; *t.p.q.* 1006) 8k.

Sallmunds, Mästerby, Gotland, Sweden. 1853 SHM Inv. 1948 (B&J G77; *t.p.q.* 1018) 17a.

Skäggs, Väskinde, Gotland, Sweden. 1848 SHM Inv. 1456 (B&J G85; *t.p.q.* 1018) 40b.

Smiss, Tingstäde, Gotland, Sweden. 1970/1 SHM Inv. 29976, 30256 (Jonsson 1975; B&J G55; *t.p.q.* 999) 26a.

Stige, Indal, Medelpad, Sweden. 1904 SHM Inv. 12079 (B&J 45; *t.p.q.* 1021) 33a.

Stryjewo Wielkie, Ciechanów, Warszawa, Poland. Before 1973 (B&J W155; *t.p.q.* 1044) 38d.

Sturkö, Sturkö, Blekinge, Sweden. 1890 SHM Inv. 8770 (B&J D44; *t.p.q.* 1002) 41c.

Thuleparken, Eskilstuna, Södermanland, Sweden. 1977 (Jonsson 1979; B&J S62; *t.p.q.* 1035) 32b.

Corrections to certain published catalogues

The following coins in the die chain were published as English in their original catalogues, but are now considered to be Scandinavian strikings. Some of the reattributions have already been published, but for convenience they are set out again here. Additional coins have been added to the Stockholm systematic collection since Hildebrand's catalogue and these are indicated by 'bis'.

B. E. Hildebrand, *Anglosachsiska mynt*, 2nd edn (Stockholm, 1881): Nos. Æthelred II 609, 610, 628, 628 bis, 773, 774, 795, 799, 799 bis, 804, 805, 805 bis, 806, 807, 807 bis, 808, 808 bis, 809, 809 bis, 810, 811, 812, 812 bis¹, 812 bis², 813, 813 bis, 1948, 3645, 3648, 4348.

S. Holm, *Studier öfver Uppsala universitets anglosaxiska myntsamling* (Uppsala, 1917): No. 87.

Sylloge of Coins of the British Isles

Vol. 7 (Copenhagen, part ii): Nos. 222, 277, 280, 281, 282, 1188.

Vol. 11A (Reading): No. 76.

Vol. 21 (Yorkshire Collections) Nos. 70, 73, 74.

Vol. 25 (Helsinki) No. 107.

Corpus Nummorum Saeculorum: Nos. 1.2 4:1272, 1.3 2:797; ? 1.2 2:342.

Notes

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1. Dolley and Butler 1961. The coins are included in the die-chain described and illustrated below.
2. Lyon, van der Meer, & Dolley 1961.
3. Hildebrand 1881.
4. The principal exceptions are the stylistically distinct Hiberno-Norse imitations struck in Dublin, and a group of *Quatrefoil* coins recently identified as insular imitations, their light weights suggesting they were intended as fraudulent copies. They will be the subject of a future paper in *BNJ*. Brita Malmer has argued in favour of a British origin for some or all of the coins in these die-chains (Malmer 1965 and 1972), but see Blackburn 1981b, 50-6 and Blackburn 1981a, 425-6.
5. There is an extensive literature in the subject, summarized in Stafford 1978. Cnut's *Quatrefoil* issue is the subject of a detailed analysis in Blackburn & Lyon, forthcoming.
6. Blackburn 1981b.
7. Dolley & Butler 1961, 218.
8. Blackburn 1981a.
9. Blackburn 1982.
10. Blackburn 1981a, 431, where it was stated that four of the reverse dies could be shown on grounds of weight to have been used at the centre, but the same is now true of the fifth (cf. no. 29a below). In a few cases (nos. 10, 12, 16, and 22), where English obverse and reverse dies are combined and the weights fall within the normal range of English coins, it is not possible to say whether they were struck at York before the dies were abstracted or in Scandinavia afterwards, though probability perhaps favours the latter.
11. No. 29a in the chain below. The coin was originally listed as no. 10b in Blackburn 1981a with the comment 'obverse die identification not certain' as it was based on some rather weak foil impressions. However, it became clear from the plaster casts prepared for Dr. Bernd Kluge's forthcoming *Sylloge* of the collection that the obverse was struck from a different die, one that belonged to a chain already noticed in Blackburn 1982, 338, note 4.
12. Compare, for example, *SCBI* Cambridge 668 (Lympne); *SCBI* Copenhagen 757 (London), 996 (Maldon), 1169 (Southwark).
13. Smart 1981, 16.
14. Smart 1982, 113.
15. von Feilitzen 1969, 12.
16. The specimens known to me are struck from two reverse dies both reading +ODDAS M̄O EOFR and of York style. One is found with both a Winchester-cut obverse (Stockholm; ex St Haglunda hoard (SMH Inv. 18287), 1.34 g), and a York-cut obverse (BEH 798, 1.36 g; *SCBI* Copenhagen 279, 1.37 g; Oslo, 1.35 g; and Lund systematic, 1.38 g). This latter obverse die also occurs with a reverse bearing the moneyer's name in the usual nominative form, +ODDA M̄O EOFR PIC (BEH 797, 1.37 g; *SCBI* Copenhagen 278, 1.35 g). The second Oddas reverse is found on a coin in the Igelösa hoard (1.50 g) with a different York-cut obverse (I am grateful to William Lean for drawing my attention to this).
17. Blackburn 1981a, 431-3.
18. Malmer 1981b, 126, no. 7.
19. Blackburn 1981a, 435-7.
20. Malmer 1973; 1981a.
21. The coins illustrated in Fig. 3 are all in the National Museum, Copenhagen: a. Copenhagen (Haugberg 1900, no. 1) b. *SCBI* Copenhagen ii 593; c. Copenhagen, ex Bruun no. 1313. (Haugberg 1900, no. 3); d. *SCBI* Copenhagen iii 1654.
22. References to the abstracted dies are collected in Blackburn 1981a, 427; the commissioned dies of *Long Cross* and *Quatrefoil* types will be discussed elsewhere.
23. Dolley 1976.
24. The *Long Cross* coins of Hildulf are discussed in Blackburn 1977, 348-9 and 1981b, 57. The *Helmet* coins in the name of Colgrim, which Dolley regarded as Hiberno-Norse, in fact appear to be English, but the arguments must be saved for another occasion.

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Abbreviations

- BEH** Hildebrand 1881
- BNJ* *British Numismatic Journal*
- CNS* *Corpus nummorum saeculorum IX-XI qui in Suecia reperti sunt*
- I** followed by a number, indicating a coin in the collection of imitations at Stockholm
- ISC* *Intermediate Small Cross type*
- NC* *Numismatic Chronicle*
- NCirc* Spink's *Numismatic Circular*
- NNUM* *Nordisk Numismatisk Unions Medlemsblad*
- NNÁ* *Nordisk Numismatisk Årsskrift*
- nr** not recorded
- SCBI* *Sylloge of Coins of the British Isles*
- SCMB* *Seaby's Coin and Medal Bulletin*
- t.p.q.* *terminus post quem*