

Studies in Northern Coinages of the Eleventh Century

Edited by C. J. BECKER

Det Kongelige Danske Videnskabernes Selskab
Historisk-filosofiske Skrifter 9:4



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København 1981

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Synopsis

- Brita Malmer: Imitations of Byzantine miliaresia found in Sweden, pp. 11–28 incl. 7 plates.
Mark Blackburn: An imitative workshop active during Æthelræd II's *Long Cross* issue, pp. 29–88 incl. 12 plates.
Michael Dolley: Imitation and imitation of imitation: Some problems posed by the non-English *Helmet* pennies with the name of Æthelræd II, pp. 89–111 incl. 8 plates.
–and Kenneth Jonsson: Imitative anticipation: Yet another dimension to the problem of Scandinavian imitation of Anglo-Saxon coins, pp. 113–118.
C. J. Becker: The coinage of Harthacnut and Magnus at Lund c. 1040–c. 1046, pp. 119–174 incl. 6 plates, and 2 lists.

Figures and Tables are not indicated here.

The papers have been edited by

C. J. BECKER

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Foreword

The five papers which are published by the Royal Danish Academy of Sciences and Letters in this volume are individual numismatic studies within a period of Northern coin history which is both fascinating and obscure. But they have a common background as contributions to a largescale international research project: the publications of the numerous silver hoards of the Viking-age buried in the soil of present-day Sweden. These hoards have preserved highly important material for the Arabic, Anglo-Saxon, German and Scandinavian coinages under circumstances which we are still seeking to understand fully.

It is well known among colleagues from all the academic disciplines involved – numismatics, history and archaeology – that the initiative for this project was taken more than thirty years ago by the late Nils Ludvig Rasmusson, the keeper of the Royal Coin Cabinet of the State Historical Museum in Stockholm. It was he who instituted the collaboration with colleagues in Germany, England and other countries. During the years which followed a large number of specialized notes and important papers on oriental and western coinages of the 9th, 10th and 11th centuries were published in international periodicals and in two special volumes of essays (*Commentationes de Nummis Saeculorum IX–XI in Suecia Repertis I–II*, Stockholm 1961 and 1968). Even major books and smaller monographs have been directly inspired by the project: Brita Malmer, *Nordiska mynt före år 1000* (Lund 1966), Gert Hatz, *Handel und Verkehr*

zwischen dem Deutschen Reich und Sweden in der späten Wikingerzeit (Stockholm 1974), and monographs by Michael Dolley and Brita Malmer.

During the last few years the first three volumes of the final publication of the Swedish hoards have been issued (*Corpus Nummorum Saeculorum IX–XI qui in Suecia reperti sunt*, Stockholm 1975 ff) in the name of the Kungl. Vitterhets Historie och Antikvitets Akademien in Stockholm.

There have been other and equally important contributions to the Northern coin history of the centuries in question which have not been directly related to the Swedish project. We have seen the publication, in the British Academy's *Sylloge of Coins of the British Isles*, of the complete Copenhagen collections of Anglo-Saxon and Hiberno-Norse coins, forming seven impressive volumes (1964–1974) by Georg Galster *et al.*, the Finnish Collections (1978) by Tuukka Talvio and the first volume of the Stockholm collection (1969) by Michael Dolley. There has also been Kolbjørn Skaare's book: *Coins and Coinage in Viking-age Norway* (Oslo 1976) and, recently, the publication of all the coin hoards from the island of Bornholm: Georg Galster, *Vikingtids møntfund fra Bornholm*. (Nordisk Numismatisk Årsskrift 1977/78).

International collaboration continues with the publication of the Swedish finds, the preparation of more *Sylloge* volumes and, not least, with further studies on the currency and coinage of the

Northern countries. Much more work remains to be done. The present papers may be considered contributions to this general research.

The present papers deal with Scandinavian coinages of the 11th century, and they all draw on material from the Swedish finds. From an early stage in the Swedish project responsibility for these and for the Byzantine coins in the vast material was given to Brita Malmer, then an assistant at the Historical Museum of the University at Lund. Her work on these series has resulted not only in her many published contributions,

but also in the reordering of many of the coins in the Stockholm coin cabinet. This is particularly the case with the imitations of English Æthelræd issues. Another series, the Danish coins of the 11th century, was treated in a more preliminary way, but the major part of the Stockholm material was sorted and partly arranged according to individual mints and dies. For the essays in this volume she has most generously permitted the other contributors to study the material placed under her care.

C. J. Becker.

Imitations of Byzantine Miliaresia found in Sweden

By Brita Malmer

In his well-known essay, "Einige Aufzeichnungen über in Schweden gefundene byzantinische Silbermünzen", printed in 1925, T.J.Arne gives details of 388 miliaresia found in Sweden. According to an inventory drawn up recently, but which is probably not completely exhaustive, the material consists at present of 500 specimens. The chronological distribution which closely follows that given by Arne, is as follows:

before 945	6
Constantine VII 945-959	71
Nicephorus II 963-969	12
John I 969-976	56
Basil II 976-1025	197
after 1025	106
undefined	52

As is the case with Arne's material, by far the largest number of miliaresia were found on Gotland, 438 out of 480 specimens with known find-spots, or 91%.

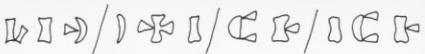

The number of miliaresia in the other Nordic countries is considerably lower. In present-day Denmark c. 40 pieces have been found up to now (Hauberg 1900 p. 22, Skovmand 1942 p. 210 but cf. Galster 1964), in Norway 3 or 4 (Skaare 1976 p. 53) and in Finland 19 (Sarvas 1973 p. 182).

In Swedish finds and collections 51 imitations of Byzantine miliaresia have been registered up till now, including mules and certain die-linked specimens, but not counting Danish imitations

from the 1030's and 1040's. The corresponding figures are 14 for Denmark, 3 for Norway and 18 for Finland. In all countries the number of imitations is conspicuously high in relation to the number of original Byzantine coins, c. 10-100%. In comparison it may be mentioned that for c. 35,000-40,000 English Viking-period coins in Swedish collections, we have c. 2000 imitations or 5-6%.

Most of the imitations are of Constantine VII's and Basil II's miliaresia, precisely those miliaresia that are most common in the finds. In one case even a coin of John I contributed as a source of inspiration. All the imitations found in Sweden are double-sided. The one-sided Basil II-imitations which have been found in Finnish finds (Sarvas 1973, no. 25-28) are absent in Sweden. Neither have any of the interesting imitations of somewhat later Byzantine types with a Madonna and Emperor and which form almost one third of the Finnish material, been found in Sweden up till now (Sarvas 1973, no. 30-34).

The imitations are described and grouped below. Only coins found in Sweden or specimens die-linked to these have been included with their dies in the consecutive numbering (nos 9-57). The remaining material belonging here is mentioned directly after the group in question and is indicated by *ad*. The Baltic and Russian material has had to be left out of the survey (cf. Kropotkin 1962, Tönisson 1962, Golenko 1965, Potin 1965, 1967 and 1968).

1. IHS4SXRI/ST4SNICA
2. +CONST'T'/PORFVROG'/CEROMANO/ENX·W EVSEB'/b'RWM EON
3. +IHS4SXRI/ST4SNICA *
4. +IWA NNI/ENX·W AVTO/CRAT, EVSEB'/b'ASILEVS/RWMMIOW'
5. ENTONTWNICAT'/b'ASILEICC WNST'
6. +b'ASIL'/CCW NSTAN'/PORFVROG'/NISTOIb'AS'/RWMMIOW'
7. /NISTVb'AS'/
8. /NISTVb'AS'/
9. 
10. 

Prototypes. No. 1–8. Plate 1.

Constantine VII

- 1/2 Miliaresion 945–959, Grierson 21.
a) KMK Syst. Coll., 2.81 g, 23 mm, ir.

John I

- 3/4 Miliaresion 969–976, Grierson 7.
a) SHM/KMK inv. 5307. Acquired from the Herbst Coll., Copenhagen. 2.66 g, 23 mm, 0°.

Basil II

- 5/6 Miliaresion 977–989, Grierson Class II A.
a) Grierson 17 g. SHM/KMK inv. 4126. Södra Byrummet, Visby, Gotland. Latest coin 1042–, Hatz 237. Clipped and pierced, 2.94 g, 23 mm, 0°.
b) Grierson 17d. SHM/KMK inv. 4126, Södra Byrummet, Visby, cf. 5/6 a. 2.48 g, 25 mm, 180°.
- 5/7 Miliaresion 977–989, Grierson Class II B.
a) Grierson 18e var. SHM/KMK inv. 12956. Kvarna, Vamlingbo, Gotland. Latest coin 994–, Hatz 73. 2.91 g, 26 mm, 0°.
- 5/8 Miliaresion 989–1025, Grierson Class IV. Not reproduced.

Basil II's miliaresia which most of the imitations found in Sweden have as prototype are divided by Grierson 1967 and 1973 into Class I, II A, II B, III and IV. It has been possible

to determine the class of 139 of the 197 Basil II-miliaresia in Swedish finds and museum-collections (many are only known to us through summary descriptions in written sources). The distribution is as follows:

Class I	–
Class II A	120 (of which 105 clipped)
Class II B	17 (of which 4 clipped)
Class III	–
Class IV	2 (fragmentary, 0 clipped)

Grierson's observation that on one hand miliaresia of Class II A are almost always clipped and on the other that clipping also occurs in Class II B is confirmed by the Swedish material.

I. Imitations mainly connected with Constantine VII. No. 9–17. Plate 2.

- 9/10 9. Cross crosslet as no. 1 but shorter and with only two steps at the base. Meaningless inscription with English lettering. Two borders of pellets, the outer one ornamented with globules.
10. A five-line meaningless inscription with English lettering. No ornament above and beneath inscription, cf. no. 2. Borders as no. 9.
a) SHM/KMK inv. 4126, Södra Byrummet, Visby, cf. 5/6 a. 1.93 g, 22 mm, 0°.

- 11. ✠Æ:DEFR/ƷDRÆ✠
- 12. ƷVIVƷ/OMHΛ†/IAVƷAV†VIV

- 13. ✠WJNƳ†/JƷVƷRIV
- 14. ○○○○/†VIV○/!VƷVƳ/○V////V°////

- 15. ○○○○/†VIV VIV/○V○VIV/†V○VƷ/○V○V○

- 16. ƷÆIFΛZΛHM=OLEFC
- 17. ✠ÆIƷZVΛ/VIV○†MΛ/NVΛVAV/VAVVIV/○V○

- 18. OMƷAS *KI/†VƷHIC
- 19. ○V○/†VIVHΛ/ƷVƷVΛV○/†VIVVΛVIV/VVIVIVIV/VVIVIVIV////

- 11/12 11. Cross without smaller crosses at right and left extremity, but with X and ○ as no. 5. Base, three steps, no globus. Slightly blundered inscription, +ÆDELREDREA+.
- 12. Retrograde, meaningless four-line inscription with English lettering. Absence of ornament.
- a) SHM/KMK inv. 2185. Grönby, Skåne. Latest coin 1024-, Hatz 156. Strip of the edge missing. 1.08 g, 21 mm, 0°. Hild. p. 166, no. 2.

- 13/14 13. Cross as no. 11 but coarser execution. Meaningless inscription with crude English lettering.
- 14. Meaningless inscription of crude, partly illegible characters. Traces of ornament.
- a) SHM/KMK inv. 26404. Coll. de Laval. 1.42 g, 21 mm, reg.
- b) SHM/KMK inv. 1318. Undrom, Boteå, Ångermanland. Latest coin 1050-, Hatz 278. Fragment, ca. 1/2, 0.65 g, ir.




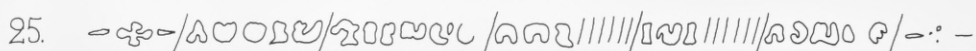


- 13/15 15. Diverging slightly from no. 14.
- a) KMMS F.P. 207:11. Kelstrup, Stillinge, Sjælland. Latest coin Cnut *Pointed Helmet*, Galster 1964, 57. 1.70 g, 20 mm, ir.

- 16/17 16. Cross with X, V base and two steps. A hand on either side of the cross. Slightly blundered inscription, +ÆIFSTANM=OLEGC.
- 17. Partly retrograde inscription with English let-

- tering and traces of the same name as on no.16, otherwise blundered. Beneath inscription ornament.
- a) SHM/KMK inv. 2185, Grönby, Skåne, cf. 11/12 a. Fragmentary, 1.00 g, 21 mm, 270°. Hild. p. 166, no. 3.
- b) KMK Syst.Coll. Two fragmentary pieces of the same coin, 1.22 g, 270°.

II. Imitation of miliaresia struck for Constantine VII, John I and Basil II. No. 18-19. Plate 3.

- 18/19 18. Cross crosslet as no. 1, but without globus beneath steps. On either side of the cross a head wearing crown and pendilia, cf. no. 5. Inscription as no. 1, but slightly blundered and with larger letters. Two borders of pellets, the outer one ornamented with eight globules.
- 19. A partly blundered five-line inscription connected with no. 4. Ornament above and beneath (?) inscription. Borders as no. 18.
- a) SHM/KMK inv. 6996. Hejslunds, Havdhem, Gotland. Stenberger 1947 no. 256. The find further contains 3 Samanid coins struck in 900, 907/8, 933/4, determined by B. E. Hovén. A fragmentary loop is firmly riveted to the coin. 3.21 g, 23 mm, 0°.

22. 
23. 
24. 
25. 
26. 
27. 

III. Imitations of Basil II's miliaresia. No. 20–40.

A. Slightly blundered or blundered inscriptions connected with those of original coins. No. 20–26 and no. 33. Plate 3–5.

- 20/21 As no. 5/6–7 with barbarous details in the design, such as the cross of pellets on the crowns, the ornament beneath inscription as well as traces of circle of beading. The inscriptions correspond to no. 5/6 with on the whole identifiable letters of the same size as on the original coins. Cf. Kropotkin 1962 Pl. 21, no. 1 = Golenko 1965 Pl. X, no. 1; as well as Morrisson 1970, p. 610, no. 6.
- a) SHM/KMK inv. 10461. Ösarve, Bäl, Gotland. Latest coin 1002–, CNS 1.2.2.161. 2.79 g, 22 mm, 180°.
- 22/23 22. As no. 5, but the busts' crowns lack crosses. Inscription mainly made up of English lettering with traces of the original text, e.g. letters 3–10. Border of pellets.
23. Inscription corresponds in the main to no. 6, but with larger and partly deformed letters.
- a) SHM/KMK inv. 8578. Mickels, När, Gotland. Latest coin 1092–, Hatz 358. Riveted loop, 4.12 g, 25 mm, 0°.
- ad22/23 Sarvas 1973, nos. 19–23, and Morrisson 1970, p. 611, no. 14, cf. Talvio 1979, are connected to no. 22/23, all with the ornament o (Grierson Class IV) on the side with the text. Owing to the loop and the bad striking the corresponding ornament on coin 22/23 a cannot be determined with certainty.
- 24/25 24. As no. 5 but obscure. Inscription made up of unidentifiable letters. Two borders of pellets, one linear border.

25. A five-line inscription of not closer identifiable letters connected with no. 6–7. Ornament above and beneath. One border of pellets, two linear borders.

- a) SHM/KMK inv. 18029. Helge, Stenkyrka, Gotland. Latest coin 1021–, Hatz 150. 2.34 g, 29 mm, reg.
- 26/33 26. As no. 5, with partly legible inscription corresponding to original examples. Double linear border.
33. A partly legible five-line inscription connected with no. 7. Line 1 and 2 retrograde. Double linear border.
- a) SHM/KMK inv. 5202. Nygårds, Västerhejde, Gotland. Latest coin 1036–, Hatz 210. Square flan, 2.64 g, 20 x 21 mm, 180°.
- b) SHM/KMK inv. 11300. Mannegårda, Lye, Gotland. Latest coin 1102–, Hatz 359. 1.87 g, 21 mm, 180°.

B. Blundered or meaningless inscriptions consisting mainly of English lettering. No. 27–32, 34–40. Plate 4–5.

- 27/34 27. Cross as no. 26, but steps absent. Busts as no. 26, but of simpler design, to l. chlamys and to r. loros. Meaningless inscription of four letters. Double border of pellets.
34. Meaningless five-line inscription. Absence of ornament. Double border of pellets.
- a) SHM/KMK inv. 22468. Bosarve, Stånga, Gotland. Latest coin 1027–, Hatz 171. Square flan, 2.48 g, 21 x 22 mm, ir.
- b) SHM/KMK inv. 5574. Sudergårda, Hellvi, Gotland. Latest coin 1002–, Hatz 117. Square flan, 2.19 g, 19 x 20 mm, reg.

28. 

29. 

30. 

- c) SHM/KMK inv. 5202, Västerhejde, Gotland, cf. 26/33 a. Fragmentary, square flan, 1.99 g, 270°.
- d) SHM/KMK inv. 12079. Stige, Indal, Medelpad. Latest coin 1021–, Hatz 152. 1.74 g, 21 mm, ir.
- e) KMK Syst. Coll. 1.65 g, 21 mm, reg.
- f) SHM/KMK inv. 5268-70, Källgårds, Stenkumla, Gotland. Latest coin 1011–, Hatz 130. 1.55 g, 20 mm, ir.
- 28/35 28. Cross as no. 26, but globus absent and only two steps at its base. Both figures wear the loros. Crowns replaced by beaded hairdresses with indication of pendilia. Meaningless inscription. One border of pellets.
35. Meaningless four-line inscription. Ornament above and beneath. One border of pellets.
- a) KMK Syst. Coll. 1.90 g, 21 mm, ir.
- b) KMK Syst. Coll. 1.77 g, 21 mm, ir.
- c) KMK Syst. Coll. 1.67 g, 21 mm, ir.
- d) KMMS F. P. 79:8, Enner, Tamdrup, Jylland. Latest coin c. 1030–, Galster 1964, 65. 1.65 g, 21 mm, ir.
- e) SHM/KMK inv. 1913, Torp, Böda, Öland. Latest coin 1056–, Hatz 302. 1.41 g, 22 mm, ir. *Cu 10.4, Ag 89.3, Au 0.36.*
- 29/36 29. As no. 28, but with two circles above the square pattern of the loros. Meaningless inscription.
36. Meaningless four-line inscription. Ornament above and beneath.
- a) SHM/KMK inv. 21026. Enggård, Rone, Gotland. Latest coin 1085–, Hatz 339. 1.68 g, 21 mm, ir.
- b) SHM/KMK inv. 21613. Kviende, Othem, Gotland. Latest coin 1035–, Hatz 198. 1.59 g, 21 mm, ir.
- c) KMMS, F. P. 207:9, Kelstrup, Sjælland, cf. no. 13/15 a. 1.53 g, 21 mm, ir.
- d) SHM/KMK inv. 26113, acquired 1959 from the former coin dealer Th. Högberg, Göteborg. 1.34 g, 21 mm, ir.
- e) SHM/KMK inv. 26697. Ekeskogs, Hejde, Gotland. Latest coin 1014–, Hatz 136. 1.30 g, 21 mm, ir.
- f) SHM/KMK inv. 12079. Indal, Medelpad, cf. no. 27/34 d. Fragment, c. 1/4. 0.26 g.
- g) Gotland? B. Ahlström AB, Auction 24, 24–25.10. 1981, Nr. 22. 1.31 g, 45°.
- 29/37 37. Meaningless three-line inscription. Ornament above and beneath.
- a) KMMS F. P. 207:8, Kelstrup, Sjælland, cf. no. 13/15 a. 1.45 g, 20 mm, ir.
- b) SHM/KMK inv. 1318, Boteå, Ångermanland, cf. no. 13/14 b. Strip of the edge missing, 1.45 g, 20 mm, ir.
- 29/38 38. Meaningless three-line inscription. Ornament above and beneath.
- a) SHM/KMK inv. 25384, Stale II, Rone, Gotland. Latest coin 1036–, Hatz 215. 1.57 g, 21 mm, ir.
- b) KMMS Coll. Thomsen 11985. Riveted loop, fragmentary, 1.29 g, 20 mm, ir.
- 29/39 39. Meaningless three-line inscription. Ornament above and beneath. Cross in lower and upper field between text and ornament.
- a) NMH, Nousis, Finland proper, after 1035, Talvio 1978, p. xxx. Fragment, c. 2/5, 0.94 g.
- 30/38 30. As no. 29, but cross lacks cross-piece. Meaningless inscription.
- a) KMMS F. P. 207:10, Kelstrup, Sjælland, cf. 13/15 a. 1.53 g, 21 mm, ir.
- b) KMMS. G. P. 1847 Coll. Bruun. 1.51 g, 21 mm, ir.
- c) Trollhättan priv. coll. 1.51 g, 21 mm, ir.
- d) KMMS F. P. 79:6, Enner, Jylland, cf. no. 28/35 d. 1.42 g, 21 mm, ir.
- e) UMK, Årstad hoard, Rogaland. After c. 1029, Skaare 1976 no. 95, Holmboe 1836, no. 84.
- 30/39 –
- a) SHM/KMK inv. 16295. Djuped, Styrnäs, Ångermanland. Latest coin 1030–, Hatz 186. 1.49 g, 21 mm, ir.
- b) KMMS Syst. Coll. Strip of edge missing, 1.38 g, 21 mm, ir.
- c) Gotlands Fornsal, Coll. Visby Läroverk. 1.3 g, 21 mm.
- d) KMMS G. P. 1369. 1.13 g, 21 mm, 0°. The coin was found in an Icelandic tobacco-box that for some centuries was preserved at the National Museum, Copenhagen. The box has now been returned to Iceland.

54. +FRIDCOLM·OEOFRVTR
 55. ○V○/NRHM/PNIM/IYUW/○Λ○
 56. IIII-†FDIIII
 57. ☉/IIIICEII/IIII

- 54/55 54. Freely copied from English prototype from the 1020's, cf. Dolley below p. 113, fig. 1. Inscription +FRIDCOLM·OEOFRVTR.
 55. Meaningless inscription divided into three lines. Ornament above and beneath.
 a) SHM/KMK inv. 2232. Enge I, Bunge, Gotland. Latest coin 1047-, CNS 1.2.19.1135. 1.22 g, 20 mm, reg.
 56/57 Freely copied from Æthelræd *Long Cross* type and no. 2, 4, 6 or 7. Meaningless inscriptions.
 a) SHM/KMK inv. 6471. Sundbro, Bälunge, Uppland. Latest coin 1051-, Hatz 287. Fragment, c. 2/5, 0.60 g, 20 mm.

B, 31/38 c); 1.59 (III B, 29/36 b); 1.57 (III B, 29/38 a); 1.55 (III B, 27/34 f); 1.53 (III B, 30/38 a); 1.53 (III B, 29/36 c); 1.51 (III B, 30/38 b); 1.51 (III B, 30/38 c); 1.50 (III B, 31/38 d); 1.49 (III B, 30/39 a); 1.45 (III B, 29/37 a); 1.42 (I, 13/14 a); 1.42 (III B, 30/38 d); 1.41 (III B, 28/35 e); 1.35 (III B, 31/38 e); 1.34 (III B, 29/36 d); 1.30 (III B, 29/36 e); 1.30 (III B, 30/39 c); 1.29 (IV, 34/46 b); 1.24 (IV, 48/46 a); 1.13 (III B, 30/39 d).

Die-linked with square flan: 2.83 (IV, 26/45 a); 2.64 (III A, 26/33 a); 2.48 (III B, 27/34 a); 2.41 (IV, 47/46 a); 2.19 (III B, 27/34 b).

3. 1.22–0.86 g

1.22 (V, 54/55 a); 1.00 (V, 51/52 a); 0.86 (V, 51/53 a).

The material in this survey has been grouped mainly according to the prototypes which were followed. If the coins are grouped according to weight instead, there emerges a heavy group (1), average weight c. 3 g, an intermediate group (2), average weight c. 1.6 g, and a light group (3), average weight c. 1.0 g.

1. 4.36–2.13 g

4.36 (III A, ad 22/23, Sarvas 1973 no 23); 3.63 (III A, ad 22/23, Morrison 1970 no 14); 3.16 (III A, ad 22/23, Sarvas 1973 no 21); 2.79 (III A, 20/21 a); 2.34 (III A, 24/25 a); 2.13 (V, 49/50 a).

Heavy coins with loop: 4.12 (III A, 22/23 a); 3.35 (III A, ad 22/23, Sarvas 1973 no 19); 3.21 (II, 18/19 a); 2.64 (III A, ad 22/23, Sarvas 1973 no 20); 2.51 (III A, ad 22/23, Sarvas 1973 no 22).

2. 1.93–1.13 g

1.93 (I, 9/10 a); 1.90 (III B, 28/35 a); 1.87 (III A, 26/33 b); 1.85 (III B, 32/40 a); 1.82 (III B, 32/40 b); 1.77 (III B, 28/35 b); 1.74 (III B, 27/34 d); 1.71 (III B, 31/38 a); 1.70 (I, 13/15 a); 1.68 (III B, 29/36 a); 1.67 (III B, 28/35 c); 1.65 (III B, 31/38 b); 1.65 (III B, 28/35 d); 1.65 (III B, 27/34 e); 1.63 (IV, 34/46 a); 1.61 (III B, 32/40 c); 1.61 (III B, 32/40 d); 1.61 (III

The heavy coins consist chiefly of group III A, Basil II-imitations with inscriptions relatively closely connected with original coins. The greater part of the intermediate group are from group III B, e.g. Basil II-imitations of which the inscriptions are very loosely connected with original coins and which are mainly made up of English lettering. The small light group is obscure as to design and inscription. There is possibly a certain connection with Danish issues from the 1030's and 1040's. No die-links joining the three weight-groups exist.

Weight-group 1.

Byzantine miliaresia from the 10th cent. and onwards normally weigh 2.95 g (Grierson 1973, p. 65, cf. Gordus and Metcalf 1977). Thus, the coins belonging to weight-group 1 follow the original coins most closely not only in design and inscription but also in weight.

Coins from this group are found in hoards in which the latest coin is as follows:

- 977– 18/19 a, Havdhem, Gotland (cf. Hovén–Malmer 1980)
 1002– 20/21 a, Bäl, Gotland
 1021– 24/25 a, Stenkyrka, Gotland
 1042– 49/50 a, Visby, Gotland
 1092– 22/23 a, När, Gotland

Specimens from this group are furthermore found in four Finnish grave-finds, dated by Sarvas to c. 1025 (ad 22/23). These coins found in Finland have certainly had Grierson's Class IV as a prototype which gives us a certain clue to the dating. Grierson is inclined to think that the striking of Class IV, the final issue of Basil II's *miliarsia*, was concentrated to the period before 995 or 1000 (1973, p. 611). On the other hand Class IV is not represented in the Estonian hoard from Vella, which seems to have as its latest coin Otto III 983–, but which is most commonly attributed to the beginning of the 11th cent. (cf. Mosser 1935, Rasmusson 1950, Sokolova 1961, Kropotkin 1962, no. 317, Grierson 1967, p.185). The remaining Basil II-imitations in weight-group 1 coincide with Grierson's Class II, dated 977-989.

Apart from their weight-connection with the original coins, the specimens of group 1 are somewhat dissimilar. Their minting areas may lie as wide apart as southern Russia, the Kiev- or Novgorod-areas and maybe also Scandinavia. For the group ad 22/23, Sarvas suggests Finland as minting-area (1973). Also their dating may vary. That they can principally be dated to the period preceding weight-group 2, i.e. before c. 1000, seems likely. Consequently Sarvas's dating of the specimens found in Finland to c. 1025 appears rather late.

Weight-group 2.

The main bulk of the imitations here discussed belong to this group. Besides the above-listed 38 whole specimens, another 18 coins, fragmentary or struck on square flans, are connected to this group.

The weight distribution for the 38 whole

specimens is even, from max. 1.93 to min. 1.13 and concentrated in the intervals 1.70–1.61 (10) and 1.60–1.51 (7). The average weight 1.59 has no connection with the original Byzantine coins. Instead, the weight corresponds to the Æthelræd *Long Cross*-type, struck c. 997-1003 according to Dolley's chronology. The average weight for this group is 1.57 g (Pettersson 1969). Already in the following type, *Helmet*, the average weight drops to 1.36 g. Cnut's first type, *Quatre-foil*, struck c. 1017-23, only weighs 1.06 g.

That the group is contemporary with Olof Skötkonung's *Long Cross*-imitations is confirmed by die-link no. 3 below, with coin no. 47/46 a as dating link (cf. Malmer 1965). A collation of the latest coins in the hoards including weight-group 2 gives the following picture.

- 1002– 27/34 b, Hellvi, Gotland
 1011– 27/34 f, Stenkumla, Gotland
 1014– 41/42 b, Etelhem, Gotland
 1014– 29/36 e, Hejde, Gotland
 1021– 26/45 a, 29/36 f, 27/34 d, Indal, Medelpad
 1023– 13/15 a, 29/36 c, 29/37 a, 30/38 a, 32/40 a, Kelstrup, Sjælland
 1024– 31/38 e, Nora, Ångermanland
 1027– 27/34 a, Stånga, Gotland
 1029– 30/38 e, Årstad, Rogaland
 1030– 28/35 d, 30/38 d, 31/38 a, 31/38 c, Enner, Jylland
 1030– 30/39 a, 32/40 b, Styrnäs, Ångermanland
 1034– 34/46 a, Viby, Närke
 1035– 29/39 a, Nousis, Finland proper
 1035– 29/36 b, Othem, Gotland
 1036– 26/33 a, 27/34 c, Västerhejde, Gotland
 1036– 29/38 a, Rone, Gotland
 1040– 31/38 b, Väskinde, Gotland
 1042– 9/10 a, Visby, Gotland
 1047– 32/40 e, Hurva, Skåne
 1050– 13/14 b, 29/37 b, Boteå, Ångermanland
 1056– 28/35 e, Böda, Öland
 1085– 29/36 a, Rone, Gotland
 1102– 26/33 b, Lye, Gotland
 1120– 32/40 c, Hjortsberga, Blekinge.

Coins no. 27/34 b and f, which are found in both the oldest hoards, are part of the die-link with Olof Skötkonung's Sigtuna coin, through which the weight-group's early dating is yet again confirmed.

It remains for us to examine weight-group 2 as regards die-links. Although weight-group 2 forms much more of a unity than weight-group 1 it is conceivable that the group is divided between two or more production centres. Within the group two small and two larger groups of die-linked coins can be distinguished.

Die-link 1. Imitation-group I (3 specimens).

- 13/14 a Syst. Coll., Stockholm
- 13/14 b Boteå, Ångermanland
- 13/15 a Kelstrup, Sjælland

Die-link 2. III A (2), IV (1).

- 26/33 a Västerhejde, Gotland
- 26/33 b Lye, Gotland
- 26/45 a Indal, Medelpad

Die-link 3. I (1), III B (6), IV (4).

- 27/34 a Stånga, Gotland
- 27/34 b Hellvi, Gotland
- 27/34 c Västerhejde, Gotland
- 27/34 d Indal, Medelpad
- 27/34 e Syst. Coll., Stockholm
- 27/34 f Stenkumla, Gotland
- 34/46 a Viby, Närke
- 34/46 b Syst. Coll., Stockholm
- 47/46 a Syst. Coll., Stockholm
- 48/46 a Syst. Coll., Stockholm

Very close to no. 34 but not identical is no. 10:

- 9/10 a Visby, Gotland

Die-link 4. III B (26).

- 29/36 a Rone, Gotland
- 29/36 b Othem, Gotland
- 29/36 c Kelstrup, Sjælland
- 29/36 d Syst. Coll., Stockholm
- 29/36 e Hejde, Gotland
- 29/36 f Indal, Medelpad
- 29/37 a Kelstrup, Sjælland
- 29/37 b Boteå, Ångermanland
- 29/38 a Rone, Gotland
- 29/38 b Syst. Coll., Copenhagen
- 29/39 a Nousis, Finland
- 30/38 a Kelstrup, Sjælland
- 30/38 b Syst. Coll., Copenhagen
- 30/38 c Private Coll., Trollhättan
- 30/38 d Enner, Jylland
- 30/38 e Årstad, Rogaland
- 30/39 a Styrnäs, Ångermanland
- 30/39 b Syst. Coll., Copenhagen

- 30/39 c Syst. Coll., Visby, Gotland
- 30/39 d Syst. Coll., Copenhagen
- 31/38 a Enner, Jylland
- 31/38 b Väskinde, Gotland
- 31/38 c Enner, Jylland
- 31/38 d Syst. Coll., Stockholm
- 31/38 e Nora, Ångermanland
- 31/38 f Syst. Coll., Stockholm

The wide geographical range in die-link 4 (26 ex) in comparison with link 3 (10 + 1 ex) is conspicuous. Die-link 4 includes find-spots in Jylland, on Sjælland and Gotland, in Norway, Medelpad, Ångermanland and Finland. Link 3 only represents Gotland, Närke and Medelpad. This important difference in distribution can hardly be explained only by the simple fact that link 4 contains more than twice as many specimens as link 3. Are there other differences between the two links?

Weight. Link 3: (1.93), 1.74, 1.65, 1.63, 1.55, 1.29, 1.24. Average weight 1.58 g.

Link 4: 1.71, 1.68, 1.65, 1.61, 1.59, 1.57, 1.53, 1.53, 1.51, 1.51, 1.50, 1.49, 1.45, 1.45, 1.42, 1.35, 1.34, 1.30, 1.29, 1.13. Average weight 1.48 g.

Die axis. Regular die-axis here means 0°, 90°, 180°, 270°. Remaining die-axes are called irregular. In both links irregular die-axes predominate by 7 to 4 (link 3), respectively 13 to 7 (link 4). If one studies the division between the obverse dies included in link 4 an interesting difference can be observed. All links with no. 29 and 30 except for one, have an irregular die-axis whereas links with no. 31 have regular die-axes.

Square flan. In link 3 four specimens of 11 are struck on square flans. Square flans are absent in link 4.

The forming of the letters. In link 3 the letters are formed as on English coins. Triangle punches are often used, e.g. on no. 27, 34 and on the closely connected, but not die-identical no. 10. The five lines of text give a compact impression. In link 4 the letters are of more equal breadth, the number of lines varies and their setting is more spacious.

Double border. Link 3 has 7 specimens with double border, link 4 none.

Mules. Link 3 includes 4 hybrids, link 4 none.

Find-spots on Gotland. As it is mentioned above, 91% of all *miliaresia* found in Sweden were discovered on Gotland. As regards the imitations, Gotland does not hold the same strong position. Of the specimens found in Sweden of which the find-spot has been determined, 20 have been found on Gotland and 15 in other provinces. Gotland's position concerning imitations is over the average in link 3. 5 of 7 specimens with known find-spots were found there and none in southern Sweden or in Denmark. Gotland's position in link 4 is below average. Only 5 of 17 imitations with known find-spots were found there. 6 specimens come from the present-day Denmark. Accordingly, link 3 is more closely connected with Gotland, central- and northern Sweden than link 4, which has its centre point in Denmark.

Owing to its high weight average, 1.5 – 1.6 g, the die-link with the Sigtuna coinage and its appearance in early finds, the entire weight-group 2 and therefore die-link 3 and 4 can, as has been seen above, be dated to a relatively short period from the 990's onwards. A closer look at links 3 and 4 reveals such dissimilarities as to allow an assumption that these two probably contemporary die-links were produced in different geographical areas, here tentatively designated Northern area (Sigtuna) and Southern area (Denmark – Skåne). Below an attempt has been made to assign the remaining coins in weight-group 2 to the two minting areas.

Northern area.

Die-link 2. No. 26/33, 26/45. Two of the three specimens were found on Gotland, two are struck on square flans, one is a mule, the compact five-line inscription resembles no. 34 and 10.

No. 41/42 a-b. One specimen found on Gotland, both struck on square flans.

Southern area.

Die-link 1. No.13/14, 13/15. One specimen found in Denmark, one in Ångermanland, resemblances between no. 15 and 36–38 in link 4, absence of square flans. The fragmentary coin no. 11/12 a, found in Skåne, is connected with this die-link.

No. 28/35 a–e. Two specimens found on Jylland and Öland, resemblances with no. 29, 30, 31 respectively no. 36, 37, 38, absence of square flans.

No. 32/40 a–f. The five find-spots are on Sjælland, in Skåne, Blekinge, Ångermanland and in Finland, stylistic resemblance between no. 40 and 39, absence of square flans, all have regular die-axis, as is the case with no. 31/38 in link 4.

No specimen in the Southern area has double border.

Weight-group 3

Modelling itself on Cnut the Great's English coinage, the average weight in Skåne and on Sjælland dropped to just over 1 g during the 1020's (Hauberg 1900, p. 152). The Sigtuna coinage of the 1020's during Anund Jakob's reign has a slightly higher weight (Lagerqvist 1968, p. 402). From around 1030 minting in Sigtuna, the "northern minting area" is discontinued, but minting is still carried on in the "southern area". Weight-group 3 consists of coin no. 51/52 a, 51/53 a, 54/55 a, fragment 56/57 a and possibly the two fragmentary coins no. 16/17 a–b. The group is hard to define and it is not certain that all the coins are Scandinavian. Taking their weight into consideration, the coins of this group could be dated to the 1020's or 1030's.

Interpretation of the results

There are a number of heavy and large imitations of Basil II's *miliaresia*, often bearing inscriptions closely related to the original specimens, here called group III A (roughly corre-

sponding to weight-group 1). A more detailed investigation of the chronology of minting and the mints would require the study of the Baltic and Russian material. For the time being it seems natural to assume the predominance of a southern (not Scandinavian) minting area and an early dating.

Our main interest is held by group III B that contains the greater part of the miliareasia-imitations found in Sweden. In the article "A Contribution to the Study of Ethelred-imitations with illegible Inscriptions" (Malmer 1973), the present author was able to establish that positive criteria for a mint on Gotland at the beginning of the 11th century were lacking. On the other hand certain indications were found that suggested two workshops on the mainland in simultaneous production, one situated in southern Sweden (possibly Denmark) and the other in central Sweden. On the basis of the two die-links 3 and 4, it has now also been possible to divide the Byzantine imitations into a southern and a northern (or "central") minting-area.

Die-link no. 3 actually includes considerably more specimens than the 11 here treated, since at least 24 coins with the obverse inscription THREGR ON ZIT, e.i. Sigtuna, can be connected to the link through coin no. 47/46 (Malmer 1965, p. 39). A frequent use of square flans is characteristic of the coinage of Sigtuna and of the *Long Cross*-imitations of Sigtuna in particular (Malmer 1965, p. 33). The same goes for link 3, whereas square flans are altogether absent in link 4 and in the related coins from the southern minting area. It could be said that square flans are distinctive for exactly the northern minting area. One single coin in group III A, no. 26/33 a, with a well-formed design of the Emperors and partly legible inscriptions corresponding to the Byzantine original, is struck on a square flan. This coin, the only one in the group III A, has been assigned to the northern minting area (Sigtuna). The Basil II imitation no. 27/34, dominant in Sigtuna, has a strongly barbarous

design, very different in comparison with no. 26/33. A similar relationship can be seen as regards the imitations of Æthelræd's *Crux*-type that were copied in the 990's in Sigtuna. The earliest group of *Crux*-imitations, C1a, are more like the original coins than the following groups, in the same way as no. 26/33 is more closely connected to no. 5/6 than no. 27/34.

Among those imitations of Byzantine miliareasia that have been assigned to the southern minting-area, no coins from group III A are to be found. Even from other points of view the southern imitations are more isolated than the northern groups. For instance there are no mules through which the southern group may be linked with the rest of coinage.

Link 3 on the contrary, with its English/Byzantine/Swedish mules forms an excellent point of departure for the study of the barbarous imitations of Æthelræd's *Long Cross*-type, a considerable part of which were probably struck in the northern area.

Abbreviations and Literature

- CNS Corpus nummorum saeculorum IX-XI qui in Suecia reperti sunt, Stockholm 1975 ff.
 KMK Kungliga Myntkabinetet, Statens museum för mynt-, medalj- och penninghistoria, Stockholm.
 KMMS Den Kongelige Mønt- og Medaillesamling, Copenhagen
 NMH Nationalmuseet, Helsinki
 SHM Statens Historiska Museum, Stockholm
 Grierson Grierson 1973
 Hatz Hatz 1974
 Hild. Hildebrand 1881
 ir Die axis is not 0°, 90°, 180°, 270°.
 reg Die axis is 0°, 90°, 180°, 270°.
 UMK Universitetets Myntkabinet, Oslo
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1/2



3/4



5/6 a



5/6 b



5/7



Plate 1. Prototypes. Scale 2:1. Photo Georg Tamsalu, Stockholm (Plate 1-7).



9/10

11/12

13/14 a



16/17 a

Plate 2. Imitations mainly connected with Constantine VII. 2:1.



18/19



20/21



22/23



24/25

Plate 3. Imitation of miliaresia struck for Constantine VII, John I and Basil II (18/19) and imitations of Basil II's miliaresia (20-25). 2:1.



26 / 33 a



27 / 34 a



28 / 35 a



29 / 38 a



30 / 39 a



31 / 38 b



32 / 40 b

Plate 4. Imitations of Basil II's miliaresia. 2:1. Obverses.



26 / 33 b



27 / 34 a



28 / 35 e



29 / 36 a



29 / 37 b



31 / 38 b



30 / 39 a



32 / 40 b

Plate 5. Imitations of Basil II's miliaresia. 2:1. Reverses.

41 / 42



43 / 44



26 / 45



34 / 46 b

47 / 46

48 / 46

Plate 6. Mules of imitations as Plate 2-5 and imitations of English coins. 2:1.



49 | 50



51 | 52

51 | 53

54 | 55



56 | 57

Plate 7. Various Byzantine or Byzantine/English imitations. 2:1.

An Imitative Workshop Active during Æthelræd II's *Long Cross* Issue

by Mark Blackburn

Introduction and Summary

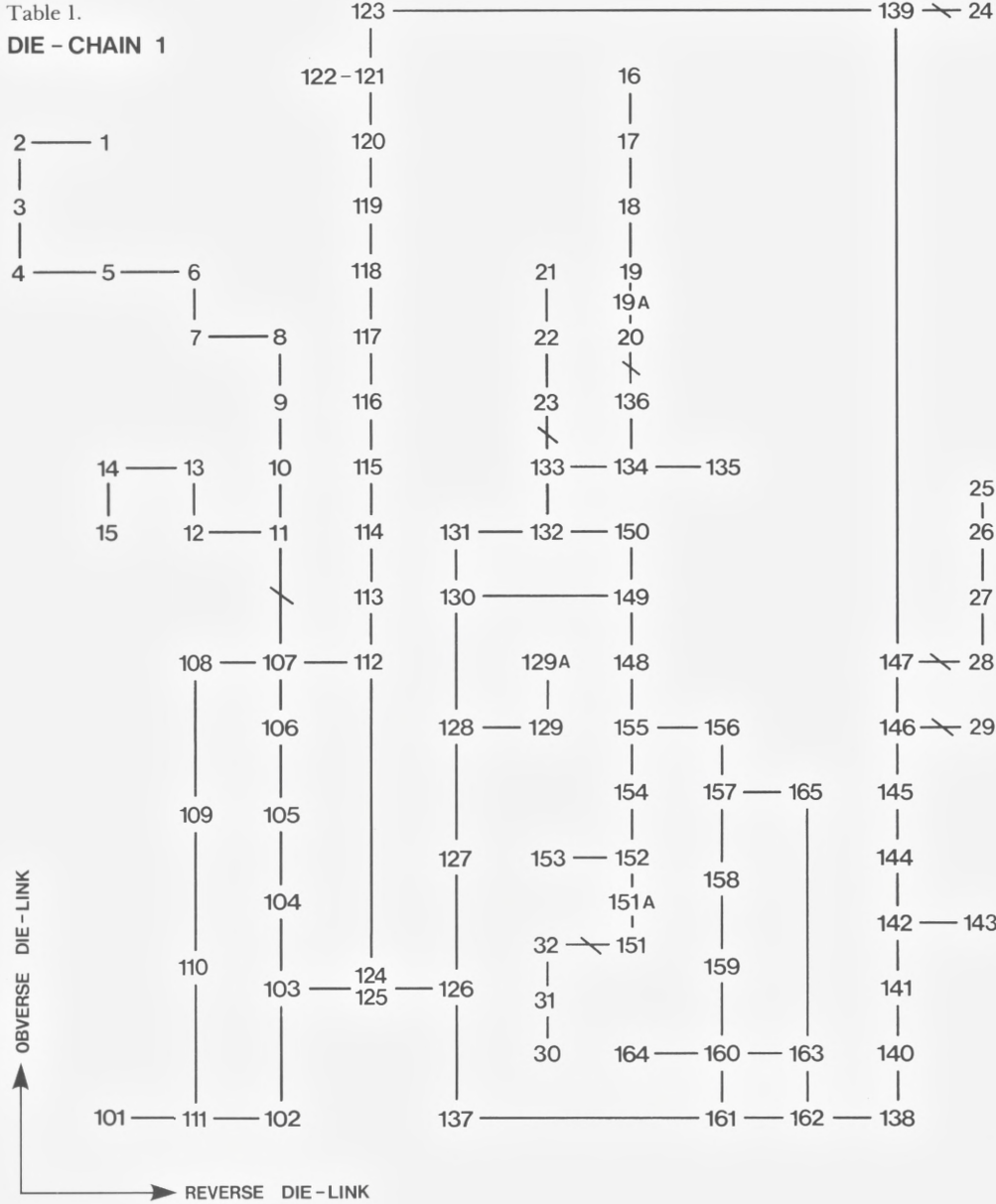
In the summer of 1976 I had the privilege of working alongside Professor Michael Dolley in the peaceful surroundings of the Swedish Royal Coin Cabinet, and while perusing the regional styles of Æthelræd II's *Long Cross* coinage I came across a number of quite unusual die-links between apparently English coins. Professor Brita Malmer, the then director of the Statens Museum for Mynt, Medalj, och Penninghistoria, showed an immediate interest and referred me to the large material of Æthelræd imitations with which she has been working for many years towards the compilation of a comprehensive catalogue and classification. A brief survey of this material revealed that some of these apparently English die-chains extended into the series of imitations with blundered or illiterate legends. At Professor Malmer's kind invitation Professor Dolley and I returned in 1977 to work on the imitations of the *Helmet* and *Long Cross* types respectively, and especially on those better classes of imitation which had hitherto been confused with coins of the English series.

The result, so far as the *Long Cross* imitations were concerned, was that many of the small die-chains gradually coalesced, with the discovery of further die-links, into one major and one minor chain. These have revealed a closely dated group of imitations, some of which are blundered and of crude work, while others are so competent that they have misled students of the English and Irish series alike for many years. The imitations can be shown to be roughly

contemporary with the latter half of the *Long Cross* issue in England, which is dated by Professor Dolley to c. 997 – c. 1003. Two phases of production can be distinguished; the first, apparently initiated by the transfer of several dies from the York mint, appears to have been influenced by English mint technology, which it presumably received with the dies, while the second phase is marked by the loss or disregard of that expertise in die-cutting and coin production. There is, as yet, insufficient evidence to identify the location of this 'imitative workshop' – a term, intended to be deliberately neutral in character, which does not presuppose anything about the nature of the workshop, its location, or the authority under which it operated. At this stage of the work which is being carried out on the Viking imitations it would be premature and detrimental to fetter those who will have the task of analysing the material as a whole with fixed concepts of moneymen, mints, and authorities. However, the evidence associated with the two die-chains considered in this paper suggests that this particular group of *Long Cross* imitations derives from a workshop which was situated somewhere to the east of the North Sea and north of the Danevirke. Notwithstanding this, the findings also have ramifications for the Hiberno-Norse series, emphasising its own uniformity and its influence in continental northern Europe. For the philologists too, these die-chains settle one or two problems by excluding certain coins with difficult legends from the English series, but they raise some new ones.

Table 1.

DIE - CHAIN 1



DIE - CHAIN 2



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The Principal Die-chain

The study of die-links, one of the most useful numismatic techniques of analysis, has been used to great effect in the analysis of the Anglo-

Saxon coinage and has played a significant role in the revolution which has taken place in our understanding of that series over the last thirty years¹. The dies which were used to strike Anglo-Saxon coins were cut freehand, and consequently each die was unique and usually easily discernible from any other. Where two or more coins have been struck from a common obverse or reverse die they are said to 'die-link', and when die-links are found with both the obverse and reverse of a coin then they form a chain of die-links, or a 'die-chain'. There is a presumption that all coins which are die-linked or in a die-chain were struck more or less contemporaneously, and are from the same mint. However, in certain circumstances it may be clear that some of the coins in a die-chain are not of the same date, or not from the same mint as the others, and then special explanations have to be found.

Die-studies can be particularly useful when applied to imitative series where the coin legends do not give an indication of their origin. Professor Dolley, in a number of articles², has identified certain pieces as Hiberno-Norse relying on die-linkage as a criterion, and it has been possible to suggest that on two occasions an English die was taken to Dublin, and that once, even, a Hiberno-Norse die was taken to the mint of Man³. However, in the case of the much larger body of imitations which occur in Scandinavian and east Baltic hoards this technique has been applied to only a relatively small proportion of the coins, and then primarily by students of the Anglo-Saxon series as a means of distinguishing the genuine from the imitative⁴. The papers in this volume mark a departure from previous research in this respect, although only dealing with a small proportion of the total material⁵.

The principal die-chain, referred to as die-chain 1, is unusual for its very size, containing no less than 176 coins from 27 obverse dies and 65 reverse dies. There are exactly 100 different die-

1: In 1956 Dolley described the die-link as 'the most formidable single weapon at the disposal of the new generation of Anglo-Saxon numismatists which has emerged in England in the course of the last decade'; Dolley 1961A, p. 155.

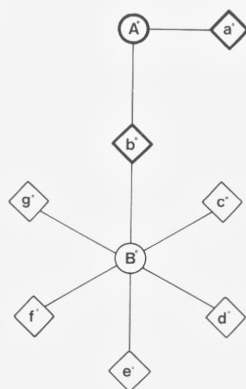
2: Conveniently summarised in Dolley 1972.

3: References to the transportation of dies to Viking mints are summarised in Blackburn 1977, p. 347.

4: For example, see Dolley 1960, Lyon, van der Meer, and Dolley 1961, and Dolley and Butler 1961 which primarily rely on material in the Systematic Collection of Anglo-Saxon coins in Stockholm, and in most cases the die-chains could be considerably enlarged if account were taken of the body of illiterate or semi-literate imitations in Stockholm.

5: One of the most puzzling of all die-links is to be found amongst the Scandinavian square flan coins, where of five die-identical coins two are apparently appreciably larger than the other three; Malmer 1973.

DIE – CHAIN 2



combinations. This die-chain is also notable for the variety of its composition. There are coins purportedly from seven different English mints – Chester, Chichester, ‘Cor’, Lincoln, London (?), Shrewsbury, and York. There are 11 coins in the name of the Dublin king, Sihtric III, or in the blundered form ‘Sisig’, some of which have the usual *Faeremn mo Dyfli* reverse, while others have pseudo-York or illiterate reverse legends. And finally, there are many coins which have ‘Æthelræd’ obverses combined with meaningless or semi-literate reverses. All the dies involved are of Æthelræd’s *Long Cross* type, save for two reverse dies which crudely imitate the (*Intermediate?*) *Small Cross* type. It will be suggested below that the coins in this and in the smaller die-chain, referred to as die-chain 2, can be divided into two groups, one of which was struck at the York mint and another which is the product of the imitative workshop^{5A}.

The die-chain is so large, and the die-linking so complex, that it has not been possible to indicate the die-links on the plates which accompany this paper, nor would it serve any useful purpose to describe the die-links verbally in any detail. The chain is, however, illustrated diagrammatically in Tables 1, 2, and 3. One specimen of every die-combination is illustrated (Plates

5A: Amendments suggested by this paper to the principal catalogues – BEH, Holm, *SCBI*, and *CNS* – will be found summarised in Appendix IV below.

I–XI) and the number by each illustration refers to the number of that die-combination in the catalogue (pp. 00–00).

Table 1 relates the position of each die-combination within the die-chain. All the die-combinations joined by a *vertical* line have a common *obverse* die, and those joined by a *horizontal* line have a common *reverse* die. The relationship between the English coins and the imitations can be clearly seen from this table, since combinations 1–32 are thought to have been struck at the York mint, and 101–165 are considered products of the imitative workshop. A bar cutting a horizontal or a vertical line indicates the point at which an obverse or a reverse die is thought to have been transported to the workshop.

Table 2 shows the interrelation of dies, rather than die-combinations (circles indicate obverse dies and lozenges indicate reverse dies). For each die it shows the dies with which it combines, and also the origin of those dies. Dies which are thought to have been cut at an official English centre are shown by thick lines, and imitative dies by thin lines.

Table 3 also indicates the links between the dies, while Table 4 sets out the combinations in which the various obverse and reverse, dies are represented.

(a) *Coins with illiterate or semi-literate legends*

The proposition that coins with meaningless reverse legends could not be the products of an English regal mint is perhaps obvious, but in the context of this extraordinary die-chain the point is a crucial one. From Eadgar’s Reform until the last quarter of the thirteenth century all English coins bore a reverse legend with the name of the issuing mint and moneyer. This acted as a guarantee by the moneyer of the weight and fineness of the coin he issued, and enabled the authorities to attribute responsibility for any breaches which were discovered. Work over the

last thirty years has emphasized the complexity and the efficiency of the late Anglo-Saxon administration in such matters as the production of dies and the control of coin standards. Such variations as occur in the appearance of dies can almost always be attributed to regional die-cutting centres, rather than to an individual within a mint, and fluctuations in the weight of late Anglo-Saxon coins have been shown to be the result of a deliberate economic policy⁶.

Against such a background it is extremely unlikely that an anonymous series of coins could have been issued from an English regal mint at the turn of the first millennium⁷. Indeed, there would seem to be no reason to do so. Had there been a political incident one might have expected Æthelræd's name to have been suppressed, but on these coins it was not. If the coins had been underweight, the omission of the mint and moneyer's name could have been seen as a device by English moneyers to avoid detection for making unlawfully light issues, but this cannot be so since most of the coins with illiterate reverses are considerably heavier than their regular English counterparts. The Vikings of Scandinavia, Ireland, or the Western Isles on the other hand, had every reason to produce imitations which were sufficiently 'coin-like' to be acceptable in trade, without wishing to impose the strict controls on weight which would have been necessary had they been intended to pass by tale as in England.

In die-chain 1 15 reverse dies (c', d', e', f', g', i', j', k', l', m', n', o', p', b'', and i'') have illiterate or semi-literate legends. They occur in the following combinations, none of which has ever been claimed in literature as the product of an Eng-

6: Petersson 1971, *passim*.

7: The situation was different at the beginning of the tenth century when the Danelaw apparently operated its own mint from which it issued blundered imitations of Edward the Elder's portrait coinage; see Mr. Timothy Clough's discussion of the Morley St. Peter hoard in *SCBI East Anglian Collections*.

Table 3a.

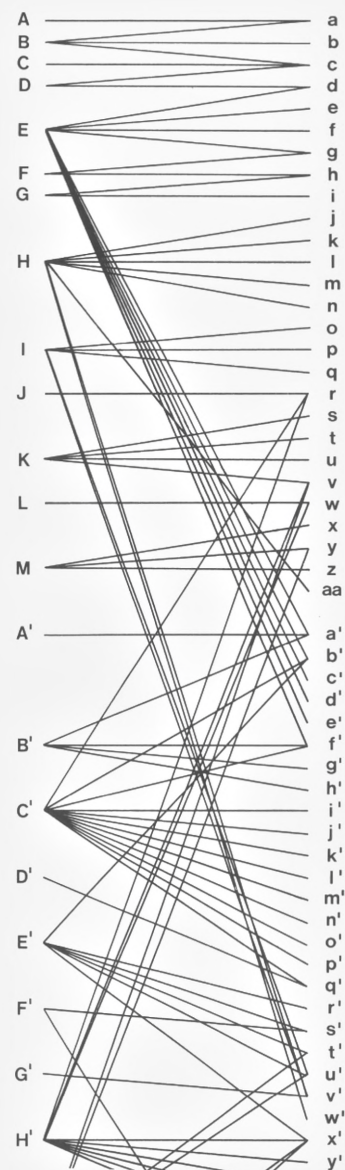


Table 3b.

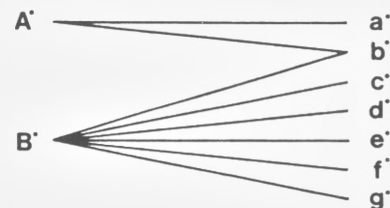


Table 4 (a) *Die-concordance: Die-chain 1.*

Obverse Die	Combination No.	Obverse Die	Combination No.
A	1	A'	101
B	2–4	B'	108–111
C	5	C'	112–121, 123–125
D	6, 7	D'	122
E	8–11, 102–107	E'	126–128, 130–131, 137
F	12, 13	F'	129, 129A
G	14, 15	G'	135
H	16–20, 134, 136	H'	138–142, 144–147
I	21–23, 132, 133	I'	143
J	24	J'	148–152, 154, 155
K	25–28	K'	153
L	29	L'	156–161
M	30–32	M'	162, 163, 165
		N'	164

Reverse Die	Combination No.	Reverse Die	Combination No.	Reverse Die	Combination No.
a	1, 2	x	30	t'	130, 149
b	3	y	31	u'	131, 132, 150
c	4–6	z	32, 151	v'	133–135
d	7, 8	aa	19A	w'	136
e	9	a'	101, 102, 111	x'	137, 138, 161, 162
f	10	b'	103, 124–126	y'	140
g	11, 12	c'	104	z'	141
h	13, 14	d'	105	a''	142, 143
i	15	e'	106	b''	144
j	16	f'	107, 108, 112	c''	145
k	17	g'	109	d''	152, 153
l	18	h'	110	e''	154
m	19	i'	113	f''	155, 156
n	20	j'	114	g''	157, 165
o	21	k'	115	h''	158
p	22	l'	116	i''	159
q	23	m'	117	j''	160, 163, 164
r	24, 123, 139	n'	118	k''	129A
s	25	o'	119	l''	151A
t	26	p'	120		
u	27	q'	121, 122		
v	28, 147, 148	r'	127		
w	29, 146	s'	128, 129		

Table 4 (b) *Die-concordance: Die-chain 2.*

Obverse Die	Combination No.	Reverse Die	Combination No.
A ^o	201, 202	a ^o	201
B ^o	203–208	b ^o	202, 203
		c ^o	204
		d ^o	205
		e ^o	206
		f ^o	207
		g ^o	208

lish mint, and we may confidently describe them as imitations:

104–9, 112–20, 144, and 159.

In most cases the legends consist of an arbitrary jumble of letters or letter-like symbols; in some cases they are retrograde in the sense that the initial cross comes at the end rather than the beginning of the purported legend, while others have no initial cross at all. Legends such as +OIERND MO COR (136) or the retrograde ×LIDFIN MO ESIH (106) appear at first to be based on literate models, although in neither case is the prototype obvious; the former is discussed below under ‘English’ mints since B. E. Hildebrand treated it as such. There is another group of semi-literate dies (p', q', and b'') where the original legend is clearly *Oscetel mo Efor*, yet interestingly *Oscetel* did not strike *Long Cross* at York.

(b) Coins with Hiberno-Norse legends

Eleven of the coins in this die-chain have a Hiberno-Norse legend, and have hitherto been considered products of the Dublin mint. One obverse reads +SIHTRC RE+ DYFLMI (M' – 162–3 and 165), and another has a legend which is probably a corruption of a Sihtric and an Æthelræd legend blundered to read ×SISIG RE+ ANGLSIO (L' – 156–61). One of the reverse dies which is found with both obverses has the name of the most common Dublin moneyer, +FÆRMN MO DYFLI (g'' – 157 and 165), while others have the names of York moneyers and York mint-signatures (156, 158, and 160–3), although they cannot be the products of Æthelræd's mint. One coin from the ‘Sisig’ obverse has a blundered reverse, +S.A. GOLIOM'DILIE (159). These coins were attributed to Dublin on the strength of their legends⁸, but the occurrence of several die-links with the main imitative series discussed in this paper indicates that these coins must be products of the imitative workshop, which is considered

below to have been situated in Scandinavia, and not in Ireland.

The existence of Scandinavian imitations of Hiberno-Norse coins was shown by Dolley as early as 1966⁹. At page 99 below he demonstrates that some *Helmet* imitations bearing Æthelræd's name and even some with English mint-signatures were produced, whether consciously or not, from Hiberno-Norse and not English prototypes. Sihtric's coins arrived in Scandinavia in large numbers in the same consignments as their Anglo-Saxon counterparts, and there they formed part of the common medium of trade¹⁰. It should occasion no surprise that Sihtric's name and the Dublin mint-signature were reproduced on the imitative coinage, as well as that of Æthelræd and his mints, although the relationship between the two series of prototypes clearly caused some confusion to the cutter of the ‘Sisig’ die.

(c) Coins bearing the names of English mints other than York

Die-chain 1 incorporates coins purporting to be from the mints of Chester, Chichester, ‘Cor’, Lincoln, London (or Lund), Shrewsbury, and York. The coins of ‘York’ are numerous and deserve separate consideration, but each of the other mints is only represented in this die-chain by a single reverse die. Some of these reverse dies are of a very high standard of workmanship and others are rather blundered, but upon analysis it appears that all the non-York coins are imitations.

‘Chester’ (101, 102, and 111): *Elewne mo Lec*. The moneyer is Ælewine and, although Chester occasionally occurs on the coins of this period as LEG, LEC is not otherwise recorded. The obverse die A' (101) is crude in execution and has the blundered legend +EDEIRÆD + AO. It is

8: Dolley 1966, p. 127.

9: Dolley 1966, pp. 146–7, and see also Dolley 1973B and Dolley 1974.

10: Blackburn and Dolley 1979.

plainly an imitation, and the 'Chester' reverse die, which has the same large lettering, appears to be its pair. Many of the coins are very heavy, and some have diameters of up to 20.8 mm. which would be unprecedentedly large for an English coin.

'Chichester' (152 and 153): *Ethestan mDo Cis*. Obverse K' (153) is of a style which is only found on coins of York, and die J' (152) is of anomalous and rather crude work. One would certainly not expect to find coins of these styles emanating from a mint in southern England. The lettering on the 'Chichester' reverse is large and irregular, and is unlike any of the forms which were current at mints in the south of England. These are the only coins of 'Chichester' with the rendering 'Ethestan' for the moneyer Æthelstan.

'Cor' (136): *Oiernd mo Cor*. The enigmatic mint 'Cor', which was accepted as an English mint signature by Hildebrand¹¹, is only known from this one die, and the purported moneyer 'Oiernd' is also otherwise unknown. The flan of the one recorded specimen is exceptionally large. In the context of this die-chain the piece must be considered an imitation, and the mint and moneyer illusory.

'Lincoln' (145): *Æthelnoth mo Linc*. This coin is to some extent problematic. The reverse die ap-

pears to be quite regular and would raise no objections as a Lincoln die, but, while the portraiture of the obverse could be a Lincoln copy of the early 'National' style discussed below, the obverse legend reading +ÆDELDRÉ REX ANGO contains two mistakes which raise a suspicion that this may not be an English die. The obverse die is also used in combination with an illiterate reverse, and with the reverses of 'London' (or Lund) and 'Shrewsbury', which are undoubtedly imitative. Other Scandinavian imitations of this mint, moneyer, and type are known, including some struck on square flans¹², and whether or not associated with those pieces, this coin ought also to be considered imitative.

'London' or Lund (142 and 143): *Æscil mo Lund*. The lettering on the reverse die is crude and clearly imitative, as is the blundered obverse die I' (143). There was no moneyer Æscetel at London in this type (all the coins recorded by Hildebrand are imitations), and it is arguable that these coins may have been struck by the moneyer Oscetel (*ON Asketill*) at Lund¹³. Oscetel is thought to have absconded from York to Scandinavia with a number of *Crux* and *Intermediate Small Cross* dies, and once there to have assisted in striking an imitative coinage using some dies which bore his own name¹⁴. A large number of these coins, including forty-five die-duplicates, occurred in the Igelösa hoard from Skåne and this has led Professor Dolley and Mrs. Smart to suggest that these *Crux* imitations might have been produced at Lund. The argument is not without its difficulties, since the imitations are probably to be dated c. 997, and, on the evidence of the German coins, the Igelösa hoard could not have been deposited before 1005. Thus there was ample time in which the parcel of imitations could have been carried to Igelösa from a workshop situated outside Skåne¹⁵. However, there is reason to believe that the imitations in die-chains 1 and 2 were produced at the same imitative workshop as the earlier *Crux* and *Intermediate Small Cross* imitations pub-

11: BEH Æthelræd 329, but it has subsequently been considered 'not English'; van der Meer 1961, p. 173.

12: Mossop 1970, plate x, nos. 15 and 16, and there are two problematic coins which on the basis of style and the form of the moneyer's name could be Hiberno-Norse; *SCBI* Chester i 462-3.

13: A suggestion first made by Michael Dolley; Dolley 1961B.

14: Dolley and Butler 1961.

15: An example of a dislocated group of die-duplicates can be found in the 1964 Kolodesi hoard from central Russia. The parcel which was redeemed to the State Historical Museum in Moscow, estimated to represent approximately half the total hoard, contained 12 die-identical *Long Cross* imitations of a type well known from the Swedish finds and which are surely Scandinavian; Beljakov and Janina 1977, nos. 71-82.

lished by Dolley and Smart. *Oscetel* is a name found on a number of *Long Cross* imitations – usually with a pseudo-York mint-signature, although he was not a York moneyer in this type – and several dies in die-chain 1 (p', q', a'', and b'') attempt to render his name, presumably reproducing it either out of habit or because he actually assisted in their production. If any sense is to be attached to the legend +ÆSCTL MO LVND beyond a chance combination of this moneyer and a pseudo-London mint signature, the Lund interpretation should not be considered untenable.

'Shrewsbury' (141): *Ælfheh mo Scro*. The reverse die is of good quality, and if not actually English, it is a very accurate copy of a Shrewsbury die. The obverse is from the same die as that used to strike the pseudo-Lincoln coin discussed above. The wide spread of weights and the very large flans of these coins leave one in no doubt that they were struck at the imitative workshop.

(d) Coins bearing a York mint-signature

Of the sixty-five reverse dies in die-chain 1, no less than forty-two bear what purport to be York mint-signatures, but it is necessary to consider how many of these, if any, were actually produced for the York mint. An English find provenance would be very good evidence of English striking, but none of the coins in this die-chain have a find provenance from England or elsewhere in the British Isles, and so it is necessary to look to other criteria.

In some cases it is possible to identify a die of English manufacture by its style. The dies used to strike the late Anglo-Saxon coinage were cut by hand using only a small range of punches and instruments, and involving a large element of freehand composition. Studies have revealed that for certain issues dies were cut at a number of centres, each of which supplied the mints in a particular region. It is often possible to distinguish the work of different centres either by minor variations in the composition of the bust,

or by differences in the size and shape of the epigraphy which in turn depends on the dimensions of the punches which were employed at the centre. Such distinctions can be illustrated in the *Long Cross* type itself in which, as Mr. Talvio has pointed out, the die-centre which supplied the London mint composed its dies by making the pellet which formed the king's ear the centre point of the die, whereas that which primarily supplied the Winchester mint used some other method causing the centre point of the die to fall on the king's cheek^{15A}. The latter die-cutting centre also used smaller punches, thereby producing small neat lettering and, incidentally, longer legends.

A detailed study of the regional styles in *Long Cross* has still to be completed, but preliminary work suggests that at the commencement of the issue there were two principal die-cutting centres, one serving mints in the south, particularly mid-Wessex, and another, which served London throughout the type and which initially also supplied dies to other parts of the country including York. In view of the wide distribution it achieved, the style of dies from this latter workshop may usefully be described as the 'National' style. Later in the issue a number of other regional styles can be discerned, for example, the so-called 'Subsidiary' style found in London and eastern England and others probably based in Kent, Chester, Shrewsbury, Lincoln, Stamford (?), and perhaps York.

In the case of eleven of the obverse dies which occur in this die-chain we can say with confidence that they were produced at an English die-cutting centre. Ten dies can be recognised as being of the 'National' style mentioned above (i.e. A, B, F, H, I, J, K, L, N, and G'). Die C' is of a style which occurs on coins of Lincoln, Stamford, Thetford, Norwich, and Cambridge (see Fig. 1.; (i) is a coin of Lincoln from the List hoard (no. 212) typical of this style, and (ii)

15A: Talvio 1978B.

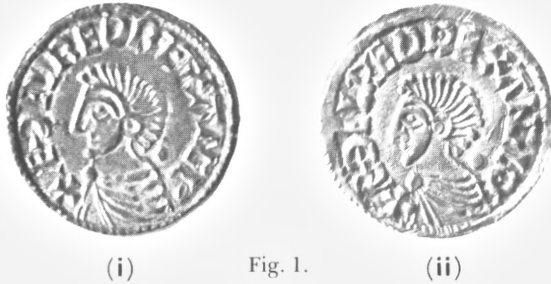


Fig. 1.

shows die C'; 120). The style is distinguished by a rather squat bust composed of thick strokes, the lower line to the eye is pronounced, and the slightly wavy hair often protrudes in front of the forehead. The lettering is bold and untidy. The letter A is normally barred at the top, and occasionally it also has a cross stroke, as on die C'. This die appears to have been abstracted from a mint in north-east England and taken to the imitative workshop where it was used to strike coins with illiterate reverses.

In an English mint a moneyer will often have used the same obverse die over a longish period and during one or more changes of reverse die, and we can expect to find among regular coins that some obverses combine with two or more reverses of the same moneyer. At an imitative mint this is not the case, for even if each workman used only one obverse die until its life was exhausted, the selection of a replacement reverse die would presumably have been quite arbitrary, and one would not expect to find any particular pattern. Of the eleven dies identified as English on stylistic grounds, B is used with two Ira reverses; F with two Ulfcetel reverses; H with four Eadric reverses; I with two Arnthur reverses; K with three Oban reverses; and M with three Wulfsige reverses. It should also be noted that each of the die groups just mentioned (except F) lies at the end of a side chain, and based on this evidence it is suggested that the following combinations must be regarded as regular products of the York mint:

1 – 3 (Ira), 17 – 19A (Eadric), 21 – 23 (Arnthur), 25 – 27 (Oban), and 30 – 32 (Wulfsige).

Further cause for thinking that a number of the coins in this die-chain are regular York products lies in a consideration of the total material recorded in Hildebrand, *BMC*, and the first twenty-five volumes of the *Sylloge of the Coins of the British Isles*. The moneyers Arnthur and Ira are known to have been active in both the preceding and the succeeding type, yet all their recorded *Long Cross* coins are present in this die-chain. Similarly all the coins of Oda, who is known for the two preceding types at York, form part of the die-chain. Eleven of the thirteen coins of Thurstan (active at York in all Æthelræd's types from *First Hand* to *Last Small Cross*) and five of the seven coins of Wulfsige (active in *Helmet* and *Last Small Cross*) occur in either die-chain 1 or 2. If all these coins were considered imitations, it would leave a very strange minting pattern at York.

On the evidence which we have seen so far, at least 24 coins in die-chain 1, should be considered English, from the York mint, and at least 79 coins are thought to have been struck at the imitative workshop. The precise attribution of the remaining 73 coins in the chain, which all essay the York mint-signature, is in many cases difficult. On their face they ought to be accepted as English coins, yet we know from those which are struck from patently imitative obverses that a fair proportion of the workshop's reverse dies bore a 'York' mint-signature. Thus four of the six reverse dies which occur with the 'Sihtric' and 'Sisig' obverses, and four of the six reverse dies which were used with the principal obverse in die-chain 2 (which although not linked to this die-chain, probably emanates from the same workshop), essay a York moneyer and mint-signature. Certain of the dies produced for the workshop are extremely competent copies of their prototypes. The 'Sihtric' obverse and the 'Færemin' reverse show almost faultless tran-

scription of the legends, even to the point of placing a + in Rex as is typical on Hiberno-Norse pieces. The 'Sihtric' bust is very close to those found on early Dublin pennies of this class having a squarish, if less elongated, profile. Only the shape of the letters, which lack the usual crisp serifs, warns one that these might not be Dublin-cut dies. The execution of the 'Shrewsbury' reverse is faultless, but in the face of such a formidable imitator we would be unjustified in asserting that the die was English, and had been abstracted from the Shrewsbury mint. Conversely, and to add to our problems, the genuine York coins in this and Æthelræd's other issues are somewhat heterogeneous in style and their legends occasionally contain errors; for example, *Long Cross* coins of Hildulf (*SCBI* Mack 973), Oban (*BEH* 778), Othgrim (*SCBI* Yorkshire 93), and Thurulf (*SCBI* Yorkshire 105–6) each contains features which cannot be paralleled elsewhere. Dividing the York-signed coins in this die-chain on grounds of style and literacy alone would therefore be dangerous.

Three obverse dies in this die-chain are quite distinctive and appear to have been cut by the same hand. Dies E (8–11 and 102–7), G (14–15), and K' (153) each have a rather rude appearance – with fairly large lettering and a bust which has a curved back, thick and wide spaced lines to the hair, a large eye, and an arc to the ear which extends to the cheek – and two of the dies occur with plainly imitative reverses. Three further imitations with similar obverse features are known to the writer, although not in die-chain 1; two coins, die-duplicates, with an illiterate reverse legend +CE:COHRMOGE-I [Plate X, 301] and another, probably from the same obverse die, with a reverse legend +PVLSTIN MO COO [Plate X, 302], which Hildebrand attributed to Colchester¹⁶. A York coin of Wengos (*BEH* 983) [Plate X, 303] may also belong to the same group of dies. In view of their associations with patent imitations one might think that these dies were not English work, but copies. However, one die

(die G) seems almost certainly to have been used at York¹⁷, and therefore the whole group should probably be regarded as official English dies. Coins with this style of obverse are not known from English mints other than York, hence it is probable that these dies are the product of a local York die-cutting centre, and that the three which are associated with imitative reverses were abstracted for use in Scandinavia.

The attribution of the York-signed coins in the catalogue below has been based primarily on their position in the die-chain and their association with patently imitative pieces, leaning in favour of an interpretation which minimises the number of English dies transported to the imitative workshop, and which makes as few reattributions as possible. The principal grounds for each attribution are set out below under the appropriate moneyer's name.

Arnthur (21–23) These coins are among those which have already been considered English above. The obverse die was probably abstracted to the imitative workshop where it was used to strike coins bearing the moneyer's names 'Wulf-sige' and 'Oda' (*q.v.*).

Cetel (15) Struck from a 'National' style obverse, there is no reason to suspect that this coin is other than English. The reverse, which is composed of letters of varying sizes, is probably the product of one of the northern die-cutting centres.

Eadric (17–19A) These coins are all considered English above.

Ira (1–3) Although the reverse dies show irregular features these coins are all considered English above.

16: The two blundered pieces are in the Royal Coin Cabinet, Stockholm among the Æthelræd imitations, nos 94 (wt. 1.86 g., die-axis 270°, dia. 1.99 mm. – illustrated here) and 95 (wt. 1.10 g., die-axis 45°, dia. 20.6 mm.). The moneyer of the pseudo-Colchester piece, 'Wulstin', is hapax, and the coin (*BEH* 328) appears to be imitative.

17: See page 43 below.

Leofstan See 'Die-chain 2' below.

Oban (25–7) These coins are all considered English above. The reverse die u (27), which is irregular and slightly blundered, is probably the work of a northern die-cutting centre.

Oda (28, 130–32, and 147–50) One coin is ascribed to York, and the rest, it is suggested on balance, are imitations, although this division should not be regarded as certain. The coins were struck from five obverse and three reverse dies.

Two obverses (I and K) are English, but die I was transferred to the workshop after having been used by Arnthur to strike coins at York. The remaining three (E', H', and J') were each used at the imitative workshop; they are of anomalous work, and none of them has any features which argue for an English origin. Die H', which is found in combination with reverses bearing mint-signatures of 'Lincoln', 'London' or Lund, and 'Shrewsbury', as well as a semi-literate 'Oscetel' reverse, has already been discussed above. Die J' was certainly used at the workshop to strike 'Chichester' imitations and a pseudo-Stircar of York (155) piece. Although die E' is only known with York-signed reverses, Table 2 shows that this die is intimately related in the die-chain to the dies E, C', H', and J' which could be considered the workshop's four principal obverse dies. Furthermore, one of the 'York' reverses found in combination with die E' reads STIRCEIR, which is a dubious form of the ON name *Styrkarr* (see below), and for these reasons this obverse is considered to have been amongst the battery of dies used by the workshop.

A similar problem appertains to the three 'Oda' reverse dies, each of which has irregular features, although not so irregular that they could not be English dies. According to the present interpretation die v (+ODA MΩO EOFRPI) is an English reverse die, which was transported to the imitative workshop and there altered by the addition of a cross to the second heraldic quarter, but u' (+ODA MO EOFRI;

also cross in second heraldic quarter) and t' (+ODA M'O EOFRPIC) were used only at the workshop. While it could be argued that u' and t' may be transported English dies, the number of such travelling dies should not be increased more than is strictly necessary. However, if they were not English in origin, it would seem that the workshop's die-cutter expanded the York mint signature on die t' in a perfectly correct manner and without, it would seem, any direct prototype to copy.

Othgrim, Odgrim (4–8) All these coins are considered English. The reverse c is of inferior execution, blundering 'D' for 'Ð' and dropping an 'M' after the moneyer's name. The obverses C and D are unusual and both render 'Æ' as 'E'. However, this latter feature is a characteristic of York-cut dies in other types (i.e. *Crux* and *Last Small Cross*), and since all the 'Othgrim' dies occur consecutively in one side-chain these stylistic features are insufficient to rebut an English attribution. At the top of this side-chain an 'Othgrim' die occurs with die E, one of the group of distinctive dies discussed above which are thought to be local York products. This obverse die was later taken to the workshop, but it may be assumed that the 'Othgrim' coins were struck before it left York.

Oscetl (121, 122) These coins are undoubtedly imitations. Oscetel (ON *Asketill*) was a York moneyer from *First Small Cross* to *Crux*, but the only *Long Cross* coins in his name are imitations. The coins are struck on very large flans and have a wide range of weights. The reverse die and one of the obverses (122) are of unskilled production, quite different for example from the expertise which produced the 'Sihtric' and 'Færemin' dies. Other renderings of this moneyer's name, some with derivatives of the York mint-signature, have been discussed above.

Steorcer, Steorger, Styrce, Stirce, Stircar, Stirceir (9, 29, 128–29A, 137–38, 146, 154–56, and 160–64) This moneyer presents problems for numismatists and philologists alike. 'Steor-

cer', the most common form in *Long Cross*, appears to be an unusual anglicism of the ON *Styrkarr*, and probably refers to the same York moneyer whose name was rendered as 'Styrgar' under Edward the Martyr (*SCBI* Yorkshire M13), 'Styrcar' in Æthelræd's *First Hand* type (*SCBI* Copenhagen ii 298) and 'Stirgr' in the *Crux* type (*SCBI* Merseyside 543). In *Long Cross* no less than six forms of the name are known.

The form 'Steorger' is certainly unusual, and all the coins with that reading have hitherto been attributed to Dublin, since it occurs, *inter alia*, with the 'Sisig' and 'Sihtric' obverses (160, 163) which were considered Hiberno-Norse dies¹⁸. The change in the letter 'C' to 'G' could have been a craftsman's error, and its repetition on three separate dies does suggest the work of an imitator. Two of those three dies are included in die-chain I (w and j"), and both were at some stage probably used at the imitative workshop. However, die w seems from its combination with an English die of 'National' style (29) to have started its life at the York mint. The apparent consonant change 'C' to 'G' is also found in this type on a number of dies of Ulfcetel (*q.v.*) which are considered English, and where the variety of endings to the name precludes the possibility that the change was a mistake repeated by copying. 'Steorger' appears on balance to be an intentional English form, as do the earlier 'Styrgar' and 'Styrgr' legends^{18A}.

The only extant *Long Cross* coins bearing Stir- or Styr- forms of this name are contained in this die-chain. On purely numismatic grounds, the only coin likely to have been struck in England reads 'Styrce' (9). The authenticity of that piece may even be open to doubt since it is struck from die E, which, although thought to be English, was also used at the imitative workshop. Any of the other four reverse dies might have been cut in England and transported directly to the workshop, but, with the possible exception of die k" (129A), irregularities in their legends suggest otherwise. If, as seems likely, the 'Stirce', 'Stir-

car', 'Stirceir', and one of the two 'Styrce' forms are all products of the imitative workshop, this may reflect on the sort of die-cutter who was employed there. He appears to have been an imaginative man whose aim was not solely to copy what was put before him, and he was sufficiently educated to intelligently vary the anglicised forms of this Norse name in the Roman, rather than the runic, alphabet. Ironically, the one die in this chain with the normal English form 'Steorce' was one of the workshop's key reverse dies; it links the 'Sihtric' and 'Sisig' obverses with two of the principal imitative dies (E' and H'), and may itself be considered imitative.

Sumerlida (10, 20, and 110) Of the three reverse dies, n (20) is combined with the 'National' style obverse, which struck the coins of the moneyer Eadric, and it may be presumed English. Die f (10) is combined with the by now familiar die E which is thought to be of English origin and to have been taken to the workshop after a period of use in York. The serified letters and the pellets in the reverse legend are suspicious, as is the mint-signature (EOR), but for want of more positive evidence that it is not English the coin is here attributed to York. Both obverse and reverse of 110 are of relatively good style, reminiscent perhaps of die C (5) which is considered English. However, since the obverse is only otherwise known combined with three purely imitative dies this combination must be treated as imitative.

Thurstan, Thorstan (24, 103, 123–27, and 139–40) Only one die combination has been

18: van der Meer 1961, p. 173 so attributes BEH Æthelræd 870, although Smart 1968, p. 229 prefers a Scandinavian attribution.

18A: Mrs. Smart informs me that this conclusion can be supported on philological grounds. (G) and (K) are the same consonant differing only in the one being the voiced and the other the unvoiced form. The use of the voiced form has been found in documents of the Norman period, and it does not therefore surprise one to find evidence of an earlier practice.

ascribed to York, but four further combinations (103 from die E and 123–5 from die C') are from dies regarded as English, although they are thought to have been struck at the imitative workshop. It has already been remarked that die C' is an English die of a style common to Lincolnshire and East Anglian mints; we cannot be sure whether this die was ever used at York, but we do know that it was used extensively at the workshop, as were the reverse dies of 123–5 (see combinations 126 and 139). Thus combinations 123–5 may be regarded as imitative strikings, and it follows that 103 should be similarly regarded since it was struck from the same reverse die as 124 after a cross had been added to the first heraldic quarter. If it subsequently transpires that dies of the style of die C' were supplied to the York mint these four combinations could be attributed to York without any distortion of the interpretation given to the remainder of this die-chain.

The form 'Thorstan' occurs on coins of *First Hand*, *Crux*, and *Helmet* types, but this (140) is the only *Long Cross* coin with that reading. The obverse die is the same as that which struck the pseudo-Lincoln coin and it is, on balance, considered imitative. Once again one has the choice in deciding whether this is yet a further transported reverse die, or whether it is a copy of a lost prototype, or whether the workshop's die-cutter of his own initiative produced an alternative Norse rendering of the moneyer's name.

A further 'Thurstan' imitation occurs in die-chain 2.

'Unnulf' (158) The coin has a 'Sisig' obverse and is an imitation. Professor Dolley has suggested that it is a corruption of the York moneyer Sunulf¹⁹.

Ulfgytel, Ulfgetl (11–15) Ulfcetel was a York moneyer in each type from Æthelræd's *Long Cross* to Cnut's *Quatrefoil* issue. Hildebrand recorded four *Long Cross* coins, and in each case he

19: Dolley 1972, p. 31.

20: BEH 972–3 and 978–9; Smart 1968, p. 230.

read the second element of the moneyer's name as starting with the letter C, and in this Mrs. Smart has followed him²⁰. However, it is clear from an examination of the coins that on each of them the letter has an additional upright, and is thus a G. Seven coins of the 'G' form occur in this die-chain, from which one might conclude that they are imitations and that this is a copyist's mistake. However, there are good reasons for thinking that this is not the case, but that all the coins are English. The combinations occur consecutively in one side chain, and are struck from three obverse dies; one of 'National' style (12 – 3), and two which belong to the group of distinctive dies which are thought to have been cut at York (11 and 14 – 5). If these coins were to be considered imitations, the only *Long Cross* coins of this moneyer recorded in BEH, *BMC*, *SCBI*, or elsewhere which would remain would be BEH 978, 978 bis, and 4357, which are die-linked, the first two by a common obverse die and the second two by a common reverse die. However, even BEH 978 has the 'G' form, reading ULFGITEL, and ironically the obverse reads ANGDO instead of the more usual ANGLO. But if 'G' for 'C' is an imitative trait these coins must also go, leaving Ulfcetel represented by no extant coins in *Long Cross*. Further the variety of forms in which the name occurs—Ulfgytel, Ulfgetl, and Ulfgitel—refutes any argument that this might be a simple mistake proliferated by copying. As with the coins reading 'Steorger' (*q.v.*), the substitution of the letter G for C can be said on purely numismatic grounds to be an English practice rather than an imitative one.

Wulfsige (30–32, 133–35, 151, and 151A) Combinations 30 – 2 are considered English on the grounds discussed above. The other two (151 and 151A) are almost certainly workshop products, of which at least one is from a transported reverse die (z), since their obverse (J') has been considered above in relation to the coins of 'Oda' to be imitative.

Die-Chain 2

The second die-chain contains 14 coins struck from two obverse and seven reverse dies; their relationships are indicated in Tables 1–4 above. One obverse is English, of our so-called ‘National’ style. The other obverse has an almost wild look to the portrait, the legend reads +EDERED REX ANGLEOX, and it is almost certainly imitative. This die combines with one illiterate reverse (208), and another reading +DEOVHG MO CEN (207), which is at best semi-literate, for although it has hitherto been classified as a Canterbury coin, there is no moneyer whose name could have inspired the meaningless ‘Deouhg’.

The remaining coins in this die-chain are all York or pseudo-York pieces in the name of the moneyers Leofstan (201–5) and Thurstan (206). There is no reason to think that those struck from the English obverse (201–2) are not English products. It is likely, therefore, that the reverse die used to strike 203 was an English die transported from York to a centre of imitation. This die, of the moneyer Leofstan, had a pellet in the second heraldic quarter, which was punched nearer to the top than to the centre of that quarter. The two dies which struck 204 and 205 were clearly copied directly from this reverse, since they too have a pellet at the top of the second quarter. The final combination (206) is an imitation of a coin of the York moneyer Thurstan, imitations of which also occur in die-chain 1.

Although there is no die-link between this die-chain and die-chain 1, they have many features in common. Die-chain 2, for example, contains an English die transported from the York mint, a majority of ‘York’ imitations, and two illiterate or semi-literate imitations. It contains only *Long Cross* coins, and that they are contemporary with both the English issue and the coins in die-chain 1 is clear, since one of the imitations in die-chain 2 (207(b)) occurred in the List hoard. Bearing in

mind these factors and the similarities which are discussed below in the diameter and weight distributions, it is very probable that the imitations in this chain emanate from the same imitative workshop as those in die-chain 1.

Production of Dies at the Workshop

The dies produced at the imitative workshop fall naturally into two groups. The first, which will be called the ‘superior’ group, is technically very good; the lettering is well formed and evenly spaced, and the portraiture and legends have been copied from the originals with considerable care. In a number of cases it has already been remarked that a die is so well executed that it could pass as English, although all the coins struck from it are certainly imitations. The ‘Sihtric’ obverse and ‘Færemin’ reverse dies also demonstrate the skill of the workshop’s die-cutter; compare combination 165 (Fig. 2 (i)) with a genuine coin of Dublin from the Ytlings hoard (Fig. 2 (ii)) which has almost identical legends and could even have been the very piece which was copied. The die-cutter has captured the square profile of the hair and its close strokes, but he was unable to simulate the distinctive serifed lettering with the tools available at the workshop. Occasionally the legends differ from their prototypes because of some thoughtless mistake, but in other cases the legend has been varied in such a way as to suggest the deliberate act of a man who was literate in the Roman script and who recognised the anglicised forms of Scandinavian personal names. To this group belong the imitative dies which essay the mint-signatures of ‘Chichester’, ‘Lincoln’, ‘Shrewsbury’, and ‘York’ (except those of ‘Oscetel’), and also those which imitate Hiberno-Norse coins.

The second or ‘inferior’ group embraces the imitations of ‘Chester’, ‘Cor’, ‘London’ or Lund, and ‘Oscetel’ of ‘York’, as well as a large number of illiterate or semi-literate dies. In general, they



Fig. 2.

are poorly executed and suggest the work of a less skilled die-cutter who may not have understood the legends which he was copying. However, it should be noted that many of the 'inferior' dies do not even attempt to be plausible copies of their English prototypes, and it is perhaps doing the craftsman less than justice to describe his dies as 'blundered' when he was clearly not intending to produce meaningful legends. Three obverse dies belong to this group: A', D', and I' (101, 122, and 143). Each of them has a blundered Æthelræd legend and a stylistic portrait which could be described as typically Scandinavian. There are many more reverse dies belonging to the 'inferior' phase of die-cutting; it is difficult to draw an exact division, but at least twenty fall into this category. Reverse dies normally have a shorter life than obverse dies, but at an English mint the ratio of reverses to obverses rarely exceeded three to one, and in Æthelræd's reign it was normally less than two to one. These later 'inferior' reverses are mostly found in combination with either English or 'superior' imitative

obverses, and they were presumably manufactured to replace the earlier dies as they wore out. The inference is either that at the imitative workshop the life of an obverse die was eked out beyond that which it would normally have had at an English mint, or that the reverse dies produced by the workshop were made of a poorer material which broke down after only a moderate amount of use.

The Coin-Weights

Petersson's histogram of the weights of Æthelræd's *Long Cross* issue as a whole shows two peaks corresponding to approximately 1.70 g. and 1.40 g. His statistics for the mint of York, after deducting the weights of those coins which he included but which this paper identifies as imitations, show three maxima at approximately 1.70 g., 1.50 g., and 1.35 g. (see Table 5, column 8). In *Long Cross* the weight standard fell during the issue, although there is thought to have been a brief reversion to a heavy weight standard at certain mints at the very end of the issue²¹.

The weight distribution of the genuine York coins in die-chain 1 incorporates some coins struck to the heavy standard and some struck to the light standard, but the majority of them have weights which correspond with the middle standard. Clearly some of the abstracted dies had been used during the earlier heavy standard, and some of them were die-linked with dies which remained in use at York during the later light period. The distribution indicates, however, that most, if not all, of the abstracted dies were taken from the mint while the weight standard was approximately 1.50 g.

The weight distribution of the superior group of imitations in die-chain 1 is by and large very similar to that of the genuine York coins. The distribution of imitations with the 'York' mint-signature (Table 5, column 3, ignoring the two heaviest and one lightest which are from the 'Oscetel' dies) falls within the same range as the

21: Lyon 1971, pp. 106-7, and 110.

Weight (Grammes)	Die – chain 1					Die – chain 2 (201 – 8)	York (after Pettersson less 'York' imitations)
	York (1-32)	Imitations (101 – 164)					
		'York'	Other 'mints'	'Hiberno Norse'	Illiterate reverses		
1	2	3	4	5	6	7	8
2.30 – 2.34					1		
2.25 – 2.29					1		
2.20 – 2.24							
2.15 – 2.19					1		
2.10 – 2.14							
2.05 – 2.09					1		
2.00 – 2.04				1			
1.95 – 1.99				2			
1.90 – 1.94		(1)	3		1		
1.85 – 1.89			1		2	1	
1.80 – 1.84		(1)	2		2		2
1.75 – 1.79	1	1	2		3	1	15
1.70 – 1.74	1	3	4		4	1	38
1.65 – 1.69	1	1	1	1	1	1	42
1.60 – 1.64	2	3	5	4	6		27
1.55 – 1.59	2	4		1	4	2	11
1.50 – 1.54	5	10	3	4	2	1	13
1.45 – 1.49	12	6	1		1	1	18
1.40 – 1.44	5	8	2		1	2	9
1.35 – 1.39	8	4	4		2		22
1.30 – 1.34	2	(1)	2			1	7
1.25 – 1.29	1	1					2
1.20 – 1.24		(1)					2
1.15 – 1.19							1
1.10 – 1.14							1
1.05 – 1.09							1

Table 5 Coin-weights

genuine York coins, and groups particularly in the range 1.40 g. – 1.55 g. The pseudo-Hiberno-Norse pieces lie very compactly between 1.51 g. and 1.66 g. However, the weight distribution of the 'Chichester', 'Lincoln', and 'Shrewsbury' imitations is more diverse, and that of the 'Shrewsbury' pieces in particular varying between 1.35 g. and 1.94 g., corresponding more closely with the pattern shown by the coins struck from the inferior group of dies.

The weights of the inferior group of imitations lie between 1.22 g. and 2.34 g. and are randomly distributed between those limits. Even coins from a single pair of dies show wide variation; e.g. 101 ('Chester', 1.42 g. – 2.00 g.), 109 (illiterate, 1.56 g. – 2.06 g.), 122 ('Osceitl' of 'York', 1.22 g. – 2.02 g.), and 144 (semi-literate 'Osceitl', 1.38 g. – 2.34 g.). It is apparent that these coins were intended to be traded by weight, not by tale, and provided the size and

Diameter (mm.)	Die-chain 1					Die-chain 2 (201 - 8)	York (Hildebrand coins excluding imitations)
	York (1-32)	Imitations (101 - 164)					
		'York'	Other 'Mints'	'Hiberno- Norse'	Illiterate reverses		
1	2	3	4	5	6	7	8
21,0		(1)	1		1		
20,9			1		1	2	
20,8			1				
20,7		(2)			2		
20,6		(1)			2	1	
20,5			1				
20,4					2		
20,3		(1)	1		1		
20,2			2		3	1	2
20,1			1	1	1		1
20,0	2	3	2		3	1	5
19,9	1	6	1	1			5
19,8	4	6	1	2	3		10
19,7	5	6		1			13
19,6	4	1	3	1	3		8
19,5	4	1					13
19,4	2	1	1	1	2		5
19,3	1						4
19,2		1			2		
19,1							
19,0							1

Table 6 Diameters

thickness of the module were approximately the same as those of Anglo-Saxon coins no specific control was put on the weight standard.

It is not clear, because of the small sample, whether the coins in die-chain 2 conform to the weight distribution of the superior or the inferior groups of die-chain 1. The three heaviest coins are from the semi-literate dies, while all the 'York' signed imitations lie within the range 1.33 g. - 1.57 g.

The Diameters

The diameters of genuine York coins in the Stockholm Systematic Collection lie strictly between 19.0 mm. and 20.2 mm., although few exceed 20.0 mm. (Table 6, column 8). Considering the imitations once again in two groups the pattern which emerges is similar to that shown by their weights. The pseudo-York coins all lie at 20.0 mm. or below, except for the coins of 'Oscetel' whose six recorded diameters measure well above 20.0 mm.. The pseudo-Hiberno-Norse coins and the 'Chichester' imitations each have flans measuring 20.1 mm. or below, and

accordingly they also follow the standards employed at the York mint. The imitations of 'Shrewsbury' are mostly struck on larger flans, akin to those used with the inferior group of dies.

There was less control placed on the diameter of the coins struck from the inferior group of dies. The coins with meaningless reverses and those reading 'Chester', 'Cor', 'London'/Lund, and 'Oscetel' of 'York', range randomly between 19.2 mm. and 21.0 mm., with the majority measuring more than 20.0 mm.

The sizes of only five coins in die-chain 2 have been recorded. The two semi-literate pieces are very large, while the three recorded with a 'York' mint-signature measure 20.0 mm., 20.2 mm., and 20.6 mm. suggesting a correspondence with the inferior, rather than the superior, group of die-chain 1.

Nature of The Workshop and Dating

A very substantial coinage was produced at the workshop; one which can be compared with the output of some of the more major mints in Europe. In these two die-chains alone there are recorded 141 imitations struck from 48 reverse dies, and elsewhere a number of other *Long Cross* imitations have been discussed, some of which may also have come from this same workshop²². The output approaches in scale that of the Winchester or York mints in *Long Cross* (for which Petersson records 195 and 213 specimens respectively in public collections²³), and it is comparable with Olof Skötkonungs *Crux* coinage (of which Professor Malmer records 226 specimens²⁴), or the Dublin *Crux* issue (for which 88 coins from 54 reverse dies are recorded by Professor Dolley²⁵).

The workshop must have employed a fair sized team to strike this coinage. Winchester had ten moneyers in this issue and York had twenty-one, although they may not all have been active simultaneously, nor need they have been enga-

ged full-time. Four, or perhaps five, personal names occur on the Sigtuna *Crux* coinage, and on Sihtric's issue there are eight names which combine with a Dublin mint-signature, but we should be wary of inferring a status equivalent to an English moneyership from this. There is no indication that the imitative workshop was organised as a mint, such as was known in England, operated by individuals who, by virtue of a franchise, took responsibility for and probably received a commission on those coins struck under their auspices. The coinage is anonymous both as to the issuing authority and the mint personnel, and it may even be that this imitative coinage was issued by a private individual. Even if there were no moneyers as such, the workshop must have employed several men physically to strike the coins, and they must have been backed up by at least a rudimentary administration.

The workshop received a number of dies from England. On any interpretation of die-chains 1 and 2 a minimum of three obverse and five reverse dies must have been transported from the York mint, and on stylistic grounds, although there is no evidence that they were actually used in an English mint, two further obverses (C' and K') are thought to be of English manufacture. The full tally of transported dies is, therefore: -

obverses: E, H, I, C', and K'

reverses: r (Thurstan), v (Oda), w (Steorger), z (Wulfsige), and b° (Leofstan)

We can be fairly certain that the dies were abstracted from York (excepting perhaps die C') mid-way through the issue (i.e. based on Dolley's chronology c. 1000 ± 2 years) for two reasons. It has already been noticed that the genuine York element of die-chain 1 was largely struck to the

22: Blackburn 1980.

23: Petersson 1969, table 18; but figures adjusted to take account of the reattributions suggested in this paper.

24: Malmer 1965.

25: Dolley 1973A.

second weight standard, and that the early dies, which were used to strike coins to the heavy weight standard, must have gone out of commission by the time that the abstracted dies were used at York. Secondly, the 'National' style in *Long Cross* can be broken down into an early and a late variety. The early dies, to be seen for example in the Shaftsbury²⁶ and Digeråkra²⁷ hoards, have the ethnic ANGLOX or ANGLO, while the later dies have a more angular bust and often end ANGL. Obverse dies B, F, I, and J are of this latter variety of the 'National' style. Die C' is from the die-cutting centre which served Lincolnshire and East Anglian mints, and the absence of coins of this style from the Shaftsbury hoard indicates that this also could not have been an early *Long Cross* die.

The workshop appears to have received a good deal of expertise and knowledge which enabled it for a period to strike coins on the same size flan, to a similar weight standard, and regulated to within the same limits of tolerance as was employed at English mints. The die-cutter was not merely a skilful imitator, but he demonstrated a working knowledge of the Roman alphabet, an ability to recognise and modify anglicised forms of Scandinavian personal names, and a predilection for producing dies rendering the name of a York moneyer and a York mint-signature. It seems likely that the abstraction of dies and the acquisition of expertise by the workshop were related, and that someone from the York mint travelled across the North Sea carrying several dies with him, and perhaps also some tools and equipment to cut

dies and to produce flans. The man may have been a York moneyer or die-cutter, but in any event he must presumably have been a man of some ability and rank for the imitative workshop, which by then had probably been established for some years²⁸, to have allowed him to reorganise its techniques of production. It is very improbable that he went to the workshop with an official sanction because, apart from the political hostility that existed between Æthelræd and Svend Tveskæg, if dies were to have been supplied officially, it is inconceivable that those bearing the name of an English moneyer – his guarantee for the weight and fineness of the coins produced with the dies – would have been given for the use of others overseas, or that partially worn dies would have been sent. Our man probably defected of his own accord, but with what degree of unofficial sympathy and assistance from within the York mint we cannot know; for this was not an isolated event. A few years earlier a Scandinavian centre producing imitations had received some *Crux* and *Intermediate Small Cross* dies from the York mint. The pattern had been very similar. The transported York dies were used in conjunction with a number of pseudo-York *Crux* and *Small Cross* dies, and a number of illiterate *Small Cross* dies. Professor Dolley and Mrs. Smart have suggested that it was the moneyer Oscetel who decamped on that occasion with English dies, and support for this may be found in the frequency with which his name occurs on imitations in that die-chain. Oscetel's name continued to be used on the imitative coinage, even on the succeeding *Long Cross* issue for which he was never even a moneyer at York. The incidence of four dies in die-chain 1 which attempt to render Oscetel's name, and the similarity of the pattern of minting (i.e. anonymous coinages struck on a large scale from a combination of York dies and internally cut dies, mostly copying the York mint-signature) suggests that the same imitative workshop was responsible for both the *Crux* and

26: Dolley 1956.

27: *CNS* 1:2 4 and Blackburn 1980, which discusses and illustrates the *Long Cross* element of this hoard.

28: Some of the evidence for associating the imitative workshop with the *Crux* and *Small Cross* imitations identified in Dolley and Butler 1961 is discussed below, but see also M. Blackburn, "A Scandinavian *Crux*/*Intermediate Small Cross* die-chain reappraised", *Viking-age Coinage in the Northern Lands*, Ed. M. Blackburn and D.M. Metcalf, Oxford 1981.

the *Long Cross* groups. Did Oscetel arrange for the dies to be sent from York, or did some other person from the York mint follow his earlier example? Of the five moneyers whose names were on the abstracted *Long Cross* dies, Leofstan, Oda, and Steorcer did not strike coins in England after *Long Cross*. Could one of these men have decamped; perhaps Steorcer whose name appears on no less than five dies made at the workshop, each with a different spelling some of which strive towards a purer Scandinavian form of his name?

Based on the quality of the die-cutting and the distributions of weights and diameters, the imitations in die-chains 1 and 2 can be divided into two phases, as has been seen. In both phases some of the English obverse dies were used, and so they must both post-date the abstraction of the dies from York. During the first phase the workshop strove with success to emulate the high standards of the York mint, and it chose to imitate English and Hiberno-Norse coins with great accuracy. It is a tribute to those in charge of the workshop that coins of this phase have deceived students of the English and Hiberno-Norse series for so long. In the second phase controls on the weight standard and the diameter of the flans were relaxed. The new dies which were produced were technically inferior, and on many no attempt was made to render literate legends; it was sufficient for there to be a border of letter-shaped symbols. The workshop's aim was merely to convert silver bullion into pieces of a familiar design which could be conveniently traded by weight.

These two phases must have followed each other in rapid succession since there is every indication that they did not continue much beyond the end of the currency of *Long Cross* in England. Neither of the die-chains incorporate imitations of Æthelræd's succeeding *Helmet* issue, a class of imitations discussed by Professor Dolley below. Further, coins of both phases occurred in the three major *Long Cross* hoards

which were deposited before the introduction of *Helmet*; viz. Igelösa, List, and Gaulverjabær finds. All the imitations in these die-chains are therefore roughly contemporary with the last half of the *Long Cross* issue in England, which is dated by Professor Dolley to c. 997 – c. 1003.

Location of the Workshop

The view has been taken by students of the Anglo-Saxon coinage that almost all the illiterate or semi-literate imitations of Æthelræd's issues found in continental northern Europe were struck in Scandinavia. This is qualified by certain Hiberno-Norse imitations which have been found with highly blundered legends, although a number of distinctive features makes them readily identifiable, and there is now a recognition that a few pieces which borrow Anglo-Saxon designs may have emanated from the lands south and east of the Baltic²⁹. However, Professor Malmer has questioned whether some of the blundered coins, and in particular the *Crux* and *Small Cross* pieces discussed by Dolley and Smart in 1961³⁰, might not derive from a source within the British Isles³¹. Such an authoritative view deserves careful consideration, especially bearing in mind the close connections which have been shown to exist between the

29: Mr. Tuukka Talvio has identified a bracteate of the *Long Cross* type as potentially Finnish and he has alluded to a group of imitations of possible Estonian origin; Talvio 1978A. Miss Tatjana Berga has suggested that a very crude *Long Cross* imitation from a Latvian hoard may have been locally produced; Berga 1977.

30: Dolley and Butler 1961.

31: 'It would seem reasonable to suppose that the long die-link chains, so skilfully interpreted by Dolley and his colleagues, emanate from some peripheral area of the British Isles, in association or in competition with neighbouring official English coinage' (Malmer 1972, p. 19). In a previous paper Professor Malmer had suggested that the group of blundered *Crux* and *Small Cross* pieces may have been struck in north-east England; Malmer 1965, pp. 50–2.

imitative workshop and the York mint. It has been argued above ('Coins with literate or semi-literate legends') that, by virtue of their weights and the nature of their legends, the imitations in die-chains 1 and 2 are unlikely to be the product of an English regal mint, and thus, notwithstanding the close links, it would seem that these pieces do not merely represent a special phase of striking at York³². We should therefore look at sites in the British Isles other than York for support for the 'insular' theory.

It has already been noted that we are dealing here with a substantial coinage – both in the volume of the production and the number of dies employed – and, furthermore, one which was produced over a period of several years. It is clear that it could not have been made by just a few men working informally, but rather, the evidence suggests that these coins came from a wealthy and moderately stable environment; especially so, if, as is suggested, the earlier 'Oscetel' imitative *Crux* series is also to be associated with the workshop. Either the authority striking the coins itself had large resources in silver bullion which it needed to convert into coin, or the workshop was situated in a place where there was a strong public demand for such conversion, as for example in a trading centre. Nor need it necessarily have been restricted to one site; Professor Dolley has mooted the possibility that some of the Scandinavian imitations may have been produced by a mobile team moving between a number of centres and striking coin as it was required³³. The imitations in these die-chains vary so greatly in weight that they seem to have been intended for use in a market where they would be traded by weight and not by tale, which accordingly must have

been situated outside Æthelræd's England. However, the workshop appears to have had some direct contact with England and especially with York, from which is obtained dies and probably some technical know-how. It is, therefore, perhaps not unreasonable to associate the workshop with some Viking trading centre which had contact with York.

In the British Isles, Dublin is the most obvious candidate for the site of the workshop. Sihtric's mint produced contemporary *Crux* and *Long Cross* imitations with pseudo-English legends, and a number of the coins in die-chain 1 bear a Dublin mint signature. However, modern research has demonstrated the homogeneity of the Dublin coinage at this period, in its weight, its flan size, and its own insular style. The List hoard shows that, at the time when the imitations which we are considering were being produced, the Dublin coinage was set into a more or less stereo-type style of portrait and distinctive serified lettering, both of which are wholly lacking from die-chains 1 and 2³⁴. There are a small number of coins which lead the Dublin *Long Cross* series and which do not exhibit these standard features, but they all have highly literate legends and their workmanship can be distinguished from the material which is before us. Apart from these, most of the anomalous pieces which had heretofore been considered Hiberno-Norse are reattributed to either England or Scandinavia in the final section of this paper. In essence there is no place for the workshop's imitations in the early Dublin coinage, and the hoard evidence must be thought conclusive of this. Not a single specimen of either the 'Oscetel' *Crux* imitations or the workshop's *Long Cross* imitations has been found on Irish soil; all have been found east of the North Sea. Yet certainly in the *Crux* period very few Hiberno-Norse coins reached Scandinavia – only nine of the extant *Crux* coins of Sihtric have been found outside the British Isles, and, as Professor Dolley has observed, these curiously

32: Professor Malmer came to the same conclusion in relation to the groups of blundered coins which she was considering; Malmer 1972, p. 19.

33: Dolley 1978A.

34: Blackburn and Dolley 1979.

include three pairs of die-duplicates³⁵. Sihtric's contemporary *Long Cross* coins, although more plentiful on the Baltic shores, have also been found in fair numbers in the Anglo-Celtic Isles.

If not Dublin, were there any other centres in the British Isles which could have sponsored a coinage of such a nature and size? It would need to have been a Viking settlement, for the indications are that the indigenous populations of Ireland, Scotland, and the Western Isles were coinless³⁶. In the Hiberno-Norse sphere there is reference in the sources to a number of other settlements in Ireland, most notably Limerick which was independent of Dublin and also traded extensively with northern Europe. Other potential sites might be seen in the Viking communities in the Hebrides and other islands on the northern route to Scandinavia. Professor Dolley has convincingly identified a mint on the Isle of Man in the 1020s, but in this case probably thirty of the thirty-one provenanced specimens have been found from various sites on Man itself, and the one other piece comes from a Gotlandic find³⁷. However, there is no positive evidence in die-chains 1 and 2 to support the identification of a second Viking mint in the British Isles at the turn of the millennium, nor do the strong associations with the mint of York necessarily favour an insular site for the workshop, over a Scandinavian one.

The failure of these imitations to occur in the Anglo-Celtic Isles should be set in the general context of British and Irish finds of this period. The number of *Long Cross* coins, not including Hiberno-Norse pieces, which have been found in the British Isles is very small in comparison with the wealth of the Baltic shores, but it is not entirely insignificant. The list is not easy to compile, partly due to the poverty of the records made by British antiquaries in the nineteenth and even the twentieth centuries, but those that are known to have been found in these islands are as follows (divided between finds from England, 1–20, and elsewhere, 21–25):

1. Honey Lane Market, London (1837) – a hoard of eight *Long Cross* coins. (Dolley 1958, pp. 99–102)
2. Great Barton, Suffolk (c. 1850) – a fused pile of approximately 48 coins. The upper and lower coins are of *Long Cross* type, and since 'one-type' hoards are typical in this period, the remainder are probably of the same type. (Dolley 1958, pp. 99–102)
3. Harting Beacon, Sussex (1892) – a hoard of five *Long Cross* coins. (Dolley 1958, pp. 104–7)
4. Shaftsbury, Dorset (1940) – a hoard of 92 *Long Cross* coins deposited early in that issue. One coin, now in Mr. C. E. Blunt's collection, is light in weight and from irregular dies which purport to be of Winchester and the moneyer Ælric, although otherwise we know of no such moneyer at that mint. Professor Dolley considered the piece a contemporary (i.e. English?) forgery³⁸, while Tuukka Talvio has inferred that its die-duplicate which occurred in the Nousiainen hoard is a Scandinavian imitation and he compares it with two pieces in the Copenhagen collection³⁹. No die-link has yet been found which might settle its origin, but meanwhile the possibility must be recognised that this Wessex hoard may have contained a Scandinavian imitation. If this is the case, the explanation could lie in an observation made by both Baldwin⁴⁰ and Dolley⁴¹ that the hoard seems to be the purse of a traveller from the northern Danelaw, and it is quite feasible that a good imitation could have entered circulation via the market

35: Dolley 1978B.

36: Dolley 1966, pp. 37–8.

37: Dolley 1976A.

38: Dolley 1956.

39: See note to *SCBI* Helsinki 951.

40: Baldwin 1941.

41: Dolley 1956, p. 273.

- places of either Lincoln or York. (Dolley 1956; and *SCBI* Mack 922 and 975)
5. Micklegate, York (1882) – a hoard of less than 30 coins, but only five are described, each of which is of *Long Cross* type. (*SCBI* Yorkshire p. xxxiii; nos. 87, 92, 99, 1035, and M112)
 6. Walbrook, London (1872) – the famous ‘City’ hoard, which was deposited c. 1066, contained two *Long Cross* coins. (Thompson 1956, no. 255)
 7. Newchurch, Kent (before 1944) – a single find of *Long Cross* type (Bath, Ælfric). (*SCBI* Yorkshire, 1035A)
 8. Kingston-upon-Thames, Surrey (1888) – a single find of *Long Cross* type (London, Edsige). (*SCBI* Oxford i, 539)
 9. Horncastle, Lincolnshire (1975/6) – a single find of *Long Cross* type (Rochester, Eadwerd). (Mossop 1976)
 10. Old Erringham, Sussex (before 1965) – a *Long Cross* coin (Lewes, Ælfgar) found during excavations. (*Med. Arch.* ix (1965) p. 175)
 11. Sulgrave, Northamptonshire (1963) – a *Long Cross* coin (London, Leofric) found during excavations. (Blackburn 1979)
 12. Mildenhall, Wiltshire (1978) – a single find of *Long Cross* type (Lincoln, Sumerlida) donated by the finder, Samuel Moorhead of Marlborough School, to Devizes Museum (to be published by P. H. Robinson)
 13. Lincoln (before 1854) – a *Long Cross* coin (Lincoln, Dreng) recorded by the antiquary E. J. Willson as “found in Lincoln”. (to be published by Blackburn, Dolley and Colyer in a forthcoming fascicle of the Lincoln Archaeological Trust)
 14. Lincoln (1975) – a *Long Cross* coin (Lincoln, Ælfsige) found during excavations on the site of St. Paul in the Bail. (*SCBI* Lincolnshire 1954)
 15. Stonehenge, Wiltshire (before 1925) – one *Long Cross* coin (London, Æthelwerd) found during excavations. (*SCBI* West Country 536)
 16. Nailsworth, Gloucestershire (1875) – a *Long Cross* coin (Gloucester, Wihtsige). (*SCBI* West Country 526)
 17. Cheddar Palace, Somerset (1960/2) – a *Long Cross* coin (Thetford, Osbern) found during excavations. (*SCBI* West Country 548)
 18. North Curry, Somerset (before 1892) – one *Long Cross* coin (Winchester, Byrhsige) found in a churchyard. (*SCBI* West Country 558)
 19. Whepstead, Suffolk (before 1865) – a *Long Cross* coin (Stamford, Edwi). (Wells 1942, p. 86, no. 96)
 20. Meols, Cheshire (before 1908) – “a York penny of Æthelræd’s common type” (*Long Cross?*). (Dolley 1961C)
 21. Compton, Hampshire (before 1979) – a cut halfpenny of *Long Cross* type reading ... DRIC M’0 L... (probably London, Godric). (Metcalf 1979)^{41a}
 22. Derrymore, Co. Westmeath, Ireland (1872) – a small hoard which contained at least nine Hiberno-Norse and two English *Long Cross* coins. (Dolley and Ingold 1961, pp. 250–5; Dolley 1966, p. 58, no. 4)
 23. Knockmaon, near Dungarvan, Co. Waterford, Ireland (1912) – 14 coins from this hoard are described and illustrated by line drawings in Jennings 1912. The latest piece, a coin of *Long Cross* type purporting to be of ‘Bath’, moneyer ‘Edstan’, has been considered Hiberno-Norse. The legends as read by Jennings are blundered, however, the coins
- 41A: This coin’s obverse die is not of the ‘National’ style suggested by Metcalf, but belongs to a late group of dies which were probably cut at Stamford where they are most commonly found, see page 59 below. Although coins of this style are not otherwise known to the writer to occur at London, a few dies are known to have reached mints as far south as Maldon (Toga), Sudbury or Southwark (Leofwine), and Lewes (Merewine). Godric was a prolific London moneyer, and Metcalf’s identification seems the most probable.

- were clearly in poor condition and the transcriptions may not do this piece justice. Although the obverse legend has the characteristically 'Irish' + for X in the king's title, the style of the bust is not particularly Hiberno-Norse, and it is more closely related to a group of dies which were used mainly at mints in north-western England, but which are also known from Bath⁴². This group of dies often has a blundered form of the king's ethnic, and at least one Chester die has the form RE+ in the obverse legend⁴³. The attribution of the Knockmaon piece is at present uncertain, but until a die-link is found which demonstrates its 'Irishness', the coin should probably be better regarded as a genuine Bath product. (Jennings 1912; Dolley 1966, p. 57, no. 2)
24. Fourknocks, Co. Meath, Ireland (1950) – a hoard containing 27 Hiberno-Norse and two English coins, one of which was of *Long Cross* type. (Dolley and Ingold 1961, pp. 250–5; Dolley 1966, pp. 63–4, no. 6)
25. Park Llewelyn, Maughold, Isle of Man (1835) – a hoard containing an uncertain number of Hiberno-Norse, Hiberno-Manx, and English coins, probably including a *Long Cross* coin (London). (Dolley 1976B)
26. 'Ireland'? (before 1758) – two *Long Cross* coins (Huntingdon, Osgut; and Hertford, Godric) were illustrated as nos. 11 and 12 on the White plate of coins in Duane's collection, which was engraved in 1758 and re-published in the supplement to the second edition of Simon's *Essay Towards an Historical Account of Irish Coins etc.* (Dublin, 1810). The plate is headed "Ancient coins found in Ireland", but the authenticity of this provenance has been questioned. (Dolley and Ingold 1961, p. 248)

The number of coins of *Long Cross* type (not including those that are Hiberno-Norse) known to have a British or Irish find provenance

probably exceeds 200, but we have detailed descriptions of only some 135 coins. Furthermore the depositing of the Shaftesbury hoard may well ante-date the group of *Long Cross* imitations with which this paper is concerned, and thus the number of insular finds which are contemporary with that group and of which we have detailed descriptions is only some 43 coins. Based on these figures, an *argumentum e silentio* against an insular origin appears to be far from strong. Even having regard to the scale of the workshop's production which has been suggested above, we could only have expected one or two pieces to have been found here if they had been intended for circulation in England. If, however, the imitations were struck for a local Viking market outside the English jurisdiction, as is more likely, the position would be slightly different. Both the Dublin and Manx coinages have been found in reasonable quantity in their own locality, and the same might have been expected if the workshop had occupied an insular site. Furthermore, if the suggested association between the workshop and the group of *Crux* and *Small Cross* imitations is correct, those expectations should be even higher.

The arguments for an insular origin of some of the imitations are certainly not untenable, but it is hard to find positive evidence to support them. Professor Malmer's views were largely influenced by a distrust of exported dies and a desire to give some meaning to the many literate English legends which appear among these coins. The apparent scale of removal of dies from York is surprising, but the abstraction of at least two English dies is well attested at just this period by the Hiberno-Norse series⁴⁴. Nor does it follow that copying of Old English legends is more likely to have taken place in an insular setting than in Scandinavia, where we know it occurred even in the production of the national

42: Discussed below, p. 59

43: *SCBI* Copenhagen ii 485.

44: *Supra*, p. 31 n. 3.

coinages of Sweden and Denmark. A high proportion of the workshop's dies are in fact blundered or illiterate, and, as Dr. Suchodolski has pointed out⁴⁵, such coinages were intended for economic rather than prestige purposes, and their legends held little importance to the authorities which produced them. In relation to an anonymous series of coins, it is difficult to establish an origin without the positive support of hoard evidence, and for this reason students of British and Irish numismatics have been loath to accept a reattribution of any of these so-called barbarous imitations to their series.

The hoard evidence which we do have for these coins deserves some analysis. In the case of 39 per cent. of the imitations in die-chains 1 and 2 we know of their exact find provenance (see Table 7 and Appendix III), and for a further 54 per cent., although we do not know the precise spot where they were found, by virtue of the collection which they are now in or the presence of peck-marks, we can be confident that they were not found in either Britain or Ireland. The finds range as widely as Iceland, Russia, and Poland, but the vast majority comes from the old territories of Sweden and Denmark⁴⁶.

The distribution does not obviously present any unusual concentration of finds from which we might identify the locality of production. The pattern revealed in Table 7 probably represents Danish and Swedish trade links in northern Europe, reflecting in some measure the general acceptance which these coins appear to have enjoyed. Save for the absence of finds from the British Isles, the pattern is broadly similar to the distribution of English coins of this period,

45: Suchodolski 1971.

46: The absence of Norwegian finds from this list should not be considered significant, since the writer had not had the opportunity of studying the hoards from Norway before this paper was completed, but see the Postscript on page 61.

47: For a discussion of the archaeological evidence for such trade links from the York excavations see MacGregor 1978.

which suggests that the imitations entered circulation by the same routes as the tribute money which was taken from England (i.e. the markets of Denmark and Sweden). Indeed this coinage may have been produced specifically to satisfy the needs of such a market centre, which could have established the relevant links with York through its trade; for York's reputation as an emporium of Anglo-Scandinavian traders, with a bias towards southern Scandinavia and the Baltic shores, is well established⁴⁷.

Table 7 Find-provenances of imitations in Die-chains 1 and 2

	<i>Number of coins</i>	
Sweden		
Gotland	27	
Medelpad	1	
Uppland	2	
Presumed Swedish finds*	60	90
Denmark		
Blekinge (now Sweden)	1	
Bornholm	3	
Slesvig (now B.R.D.)	3	
Skåne (now Sweden)	4	
Sjælland	3	14
Estonia		3
Finland and Karelia		5
Iceland		1
Latvia		1
Poland		1
Russia		1
Scandinavia or Baltic Region**		15
		131
Coins with no indication of provenance		10
Total number of imitations		141

Notes:

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

** Unprovenanced coins which have peck-marks.

The political and economic climate in southern Scandinavia about the millennium was clearly suitable for the production of a major coinage. The Baltic was awash with silver in the form of both coin and bullion, and trade apparently thrived. Only a little earlier, experiments in a national coinage based on an Anglo-Saxon model had been instituted by the Swedish, Danish, and Norwegian monarchs – in the case of the former, with considerable success – and anonymous imitations of Æthelræd's issues had been and were to be produced in considerable numbers.

Where and by whom these imitations were issued for the present remains a mystery, even if arguments can be advanced to support a range of candidate sites and putative minting authorities. One possibility, that those coins in die-chain 1 which read *Æsctl mo Lund* may refer to a mint at Lund in Skåne, rather than that of London, has already been considered above, albeit with no great conviction, especially since there is no firm evidence to show that Lund was an established centre before Cnut's accession in Denmark. An alternative suggestion, made to the writer by Professor Dolley, is that Svend's army may well have known the need to convert silver bullion, obtained during its campaigns, into specie to facilitate payments for supplies and to troops, and it may have struck coin at one or more of its camps in Denmark.

However, it is not possible on the evidence reviewed in this paper alone to propose the site or sites at which Æthelræd imitations were produced. There is a great deal more material which should be studied before any authoritative suggestions are made, and it will not assist those who will have that task, if one site over any other is preferred in this paper. All one can say is that the internal evidence of these two die-chains suggests that this particular group of *Long Cross* imitations was struck at a workshop which was situated somewhere east of the North Sea and north of the Danevirke.

Implications for the Hiberno-Norse series

The identification of coins which have apparently English legends as Hiberno-Norse imitations has been influenced from two sources; the measure of Englishness, by studies in the Anglo-Saxon series, and the measure of 'Irishness', using die-studies and comparisons of style. Otto Alcenius was probably the first student to identify Hiberno-Norse imitations amongst the 'English' series⁴⁸, and refinements to the traditional attributions have been made by a number of specialists since his ideas were given publication by Nordman. The most comprehensive account to appear in recent years of the tally of English mints and moneyers copied on the Dublin coinage was published by Professor Dolley in 1972⁴⁹. With the progressive publication of material in the *Sylloge* series, and more recently in the *Corpus Nummorum Saeculorum IX–XI*, and particularly with the discernment of regional schools of die-cutting in all but one of Æthelræd's substantive issues our understanding of what constitutes a regular English coin is developing markedly. Equally from the 'Irish' side, with the publication of the Danish national collection, soon to be followed by the publication of the Hiberno-Norse coins in Stockholm, and the relevant elements of the Igelösa and List hoards, the homogeneous nature of Sihtric's coinage has been made clear⁵⁰. Although the existence of Scandinavian imitations of Hiberno-Norse coins has been suspected for many years, most coins reading 'Sihtric' or 'Dublin' have had to be

48: Dolley and Talvio 1977.

49: Dolley 1972; further references in this section to Dolley are to this paper unless otherwise indicated.

50: *SCBI* Copenhagen v publishes the Hiberno-Norse coins in the Danish national collection, those in the Royal Coin Cabinet, Stockholm will form the subject of a future fascicle in the same series, and the Hiberno-Norse elements of the Igelösa and List hoards are discussed in Dolley 1978D and Blackburn and Dolley 1979 respectively.

accepted as Hiberno-Norse for lack of sufficient evidence with which to question that attribution. The coins of 'Sisig' have been particularly misleading as a measure of the type of workmanship which was produced in Dublin, and reliance on them as comparative material has resulted in a number of somewhat anomalous pieces being attributed to Dublin. In this paper we have seen that, on the basis of die-links, eleven pseudo-Sihtric coins, from six different reverse dies (including one pseudo-Dublin die) have been reattributed from the Hiberno-Norse series, and in particular all the 'Sisig' coins are now considered Scandinavian. In the light of these findings, it is now an opportune time to review those attributions which are not supported by the evidence of die-links, but which are based primarily on considerations of style. One coin, with a Bath mint-signature, moneyer Edstan, has been considered on page 53 above, and on balance an English attribution is now preferred.

Huntingdon was cited by Dolley as a mint which was imitated by the Dubliners from a coin of the moneyer 'Osgut' (BEH 1387) [Plate X,

304]. Although that coin has an obverse legend ending RE+ ANGO, which is suggestive of an 'Irish' origin, the style of the portrait is more acceptably English than 'Irish'. It is from the same obverse die, but a different reverse, as SCBI Copenhagen ii 445, and by 1975 Dolley had apparently reconsidered his earlier attribution, for the die-linked coin does not appear in the fascicle of Hiberno-Norse coins in the Copenhagen collection. Another 'Huntingdon' coin, illustrated as no. 11 on the White plate of Duane's coins which was republished in the supplement to Simon's *Essay*⁵¹ ought, in the absence of a die-link, to be considered English and of a style found most commonly on coins of Lincolnshire and East Anglia.

Of the 'York' mint, five moneyers were thought to have been reproduced on the Hiberno-Norse coinage. The 'Unnulf' coin, which bears the 'Sisig' obverse, is considered above to be Scandinavian. Similarly, three of the five 'Steorcer' reverse dies which were hitherto thought to be 'Irish' are considered in this paper to be Scandinavian, and the remaining two to be English. The coins which Dolley cites of the moneyer 'Hildulf' are from an obverse die which has some very 'Irish' features, however, I have recently suggested that all the coins of this moneyer are in fact English⁵².

A number of coins in the name of Thurulf of York come from an obverse die which has some distinctive Hiberno-Norse features, most notably the legend which reads +ÆDELRED REX AIGMI. The bust is not typical of any known English style, but it does resemble the stylised bust found on the Hiberno-Norse coins of this issue. Thus far the coins appear 'Irish', but the pattern of die-linking suggests persuasively that Thurulf's coins are all genuine York products. Of the 24 coins recorded from public sources, 19 come from the 'Irish'-looking obverse die, but from five different reverse dies⁵³. They may be listed:

51: Simon 1810.

52: Blackburn 1977, pp. 348–9. To the twelve *Long Cross* coins of Hildulf recorded in that note, there can be added a further five specimens which confirm the observed pattern. Four are from the 'Irish'-looking obverse:

Reverse 2.

(iii) Visby; *ex* Karls hoard (chipped) 1.48 g./22.8 gr.; 270°.

(iv) Schleswig; *ex* List hoard (no. 593) 1.48 g./22.8 gr.

(v) Schleswig; *ex* List hoard (no. 594) 1.49 g./23.0 gr.

: *Reverse 3.*

(vii) Schleswig; *ex* List hoard (no. 595) 1.52 g./23.4 gr., and only one is from the 'National' style dies:

(iii) Schleswig; *ex* List hoard (no. 596) 1.52 g./23.4 gr.

53: One coin in the Estonian State Historical Museum, *ex* Maidla hoard (1974), has not been illustrated but it is clear from the publication that it is from this obverse die, although it is not possible from the legend to distinguish the reverse die; Leimus 1979, no. 916 (weight 1.60 g./24.7 gr.).

Reverse 1^{53A} +DVRVLF M'O EO'FR

- a) Stockholm (BEH 954) 1.46 g./22.6 gr.; 90°.
- b) Stockholm (BEH 956) 1.46 g./22.6 gr.; 270°.
- c) Stockholm (BEH 956 bis) 1.52 g./23.5 gr.; 270°.
- d) Stockholm – *ex* Kännungs hoard.
- e) Stockholm – *ex* Myrände hoard (CNS 1.1 19:1751) 1.56 g./24.1 gr.; 180°.
- f) Stockholm – *ex* Sigsarve hoard 1.50 g./23.2 gr.; 270°.
- *g) Copenhagen (SCBI Copenhagen ii 313) – *ex* Store Valby hoard 1.55 g./23.9 gr.; 225° [Plate X no. 305].
- h) British Museum – transferred from the British and Mediaeval Dept. (1922) 1.56 g./24.1 gr.; 225°.
- i) Leeds University (SCBI Yorkshire 106) – *ex* anonymous collection (1957) 1.43 g./22.1 gr.; 135°.
- j) Stavanger Museum – *ex* Jøsang hoard (fragment) 0.90 g./13.7 gr.; 90°.

Reverse 2 +DVRVLF M'O EOFR

- a) Stockholm – *ex* Ekeskogs hoard.
- *b) Visby – *ex* Österby hoard 1.61 g./24.9 gr.; 180° [Plate X, no. 306].
- c) Liverpool (SCBI Merseyside 567) – *ex* Nelson; *bt.* Spink (July 1946); *ex* Lumb 1.55 g./23.8 gr.; 225°.
- d) Dresden wt. not recorded; 135°.
- e) Helsinki (SCBI Helsinki 934) – *ex* Hattula hoard 1.56 g./24.1 gr.; 180°.

Reverse 3 +DVRVLF M'O EOFR

- *a) Schleswig – *ex* List hoard (no. 613) 1.69 g./26.1 gr. [Plate XI, no. 307].

Reverse 4 +DVRVLF M'O EOF

- *a) Leeds University (SCBI Yorkshire 105) – *ex* anonymous collection (1957) 1.53 g./23.6 gr.; 225° [Plate XI, no. 308].

Reverse 5 +DVRVLF MO EO:FRP

- *a) Bergen – *ex* Sløgstad hoard 1.30 g./20.1 gr.; 0° [Plate XI, no. 309].

The remaining five coins come from three 'National' style obverses, and three reverse dies⁵⁴. Where one obverse die is found with two or more reverses of the same moneyer and mint there is a suggestion that the coins are not imitations. Where there are eighteen coins from five impeccable reverse dies the suggestion virtually becomes a presumption. Such a large run of coins from a single obverse would be unparalleled in the Hiberno-Norse series, but clinching evidence for their Englishness is to be found in

the reverse die-link between the coin from the Sløgstad hoard (Reverse 5) and SCBI Copenhagen ii 307 [Plate XI, no. 310] which is from an impeccably English obverse die. Thus four of the five York moneyers which were hitherto thought to have been copied at Dublin in this type are now considered on balance to be either English or Scandinavian⁵⁵.

Dolley also refers to a purported Stamford coin of the moneyer 'Scot' which is known from one piece in the Stockholm Systematic Collection (BEH 3539), another in the British Museum (SCBI British Museum, H-N 43) and two pieces now in the Usher Gallery, Lincoln (SCBI Lincolnshire 1124; *ex* Hill, *ex* Wells 1.33 g./20.6 gr., 45° [Plate XI, no. 311]; and SCBI Lincolnshire 1124A; Lincoln City Collection 1.16 g./17.9 gr., 315°). The obverse die is completely retrograde, as if the die-cutter had copied a coin directly on to the die without appreciating the need to reverse the image. This is a phenomenon which is almost unknown in the English series, but it does occasionally occur on imitations, and it certainly casts doubt on the authenticity of these coins. However, as W. C. Wells pointed out in 1942⁵⁶, a reverse die-link exists between these four pieces and two coins, both from different obverses (SCBI Lincolnshire 1125, [Plate XI, no. 312]; and BEH 3538 [Plate XI, no. 313]). Mrs. Smart has been sceptical of all these coins and has doubted whether 'Scot' (OE meaning Irishman) was a Stamford moneyer at all, since she thought he was only recorded from this one reverse die⁵⁷. However, this is not the case, for

53A: A coin with similar readings occurred in the 1859 Schwaan I hoard from East Germany; Kiersnowski 1964 no. 164.

54: a) BEH 955; b) SCBI Yorkshire 107 (= a); c) SCBI Copenhagen ii 307; d) SCBI Yorkshire 108; and e) Trondheim, *ex* Dronningens Gate hoard (obv. = d; rev. = a and b).

55: I have not seen the coins of the fifth moneyer, 'Eiadric' (= Eadric), and cannot comment on them.

56: Wells 1942, p. 90.

57: Smart 1968, p. 238.

SCBI Lincolnshire 1123 (*ex* Hill, *ex* Wells no. 124) [Plate XI, no. 314] is actually from a different obverse and reverse die, notwithstanding Wells' assertion to the contrary. In any event, the obverse dies of *SCBI* Lincolnshire 1125 and BEH 2538 are so impeccably English, being of a style which is common to Lincolnshire and East Anglia and frequently found on Stamford coins, that on the numismatic evidence 'Scot' ought to be accepted as a Stamford moneyer. Towards the end of the *Long Cross* issue another distinctive style appeared, on which the generally well executed bust had long fine hair, a protruding nose, and a straight back⁵⁸. The style is occasionally found on the coins of Lincoln and the East Anglian mints, and a small group of dies reached London and the South East, but by far the best representation is to be found on coins of Stamford. It is possible to see in Scot's retrograde obverse some of the features common to this 'long-haired' style, in which even the anomalous RE+ form is occasionally found (see, for example, BEH 3626 and 4351). The retrograde 'Scot' die could be an early experimental product of this new die-cutting centre, which may have been situated in Stamford itself.

Support for this view is found in another coin whose Englishness has in the past been doubted^{58A} (BEH 3533; [Plate XI, no. 315]), but which is struck from an obverse die of this 'long-haired' Stamford style. The reverse legend is retrograde and somewhat confused, appearing to read +LIOFNEA M'O STN. Mrs. Smart has sugge-

sted that this might be normalised to *Leofheah*, but it is perhaps more likely to be a crude attempt to essay the name of the known moneyer Leofinc. This reverse die has epigraphy which is comparable to that of the retrograde 'Scot' obverse, and again the die could belong to an experimental phase of a local die-cutting centre.

The reserved suggestion that the coins which read X EHEPNE MO LEIC ('Chester', 'Ælewine'), of which the present writer knows five die-duplicates (*SCBI* British Museum, Hiberno-Norse 37; *SCBI* Copenhagen ii 485, v 27; BEH 1510; Lund, *ex* Igelösa hoard [Plate XI, no. 316]; and *SCBI* Midlands Museums 211), may be Hiberno-Norse requires examination. Mr. Talvio has pertinently observed⁵⁹ that these coins are closely related in style to *SCBI* Copenhagen ii 472, 484 (and hence to obverse duplicates *SCBI* Chester i 454 – 6; BEH 1508 and 1508 bis; Stockholm, *ex* Myrände hoard CNS 1.1 19:1303; Schleswig, *ex* List hoard no. 186 and Kraków, Blackburn 1978 no. 53), and 489 (and hence to BEH 1522; *SCBI* Chester i 460 – 1; *SCBI* South West 517; Schleswig, *ex* List hoard no. 188; and two specimens in Lund, *ex* Igelösa hoard), and the similarity in style can also be seen in BEH 1480. To reattribute all of these coins – 24 in all – from the mint of Chester to that of Dublin on merely stylistic grounds, without the evidence of a die-link into the Hiberno-Norse series, is unattractive, and is fortunately shown to be untenable, at least in the case of *SCBI* Copenhagen ii 489 and its die duplicates, since one of those (*SCBI* West Country 498) occurred in the Shaftesbury hoard. Another coin, stylistically out of the same stable as this 'Chester' group, is of the Bath moneyer Ælfric of which two specimens have English find provenances⁶⁰. Finally a reverse die-link exists between the five 'Ehewne' coins and BEH 1509 [Plate XI, no. 317], and this coin has an obverse which is far from Hiberno-Norse in flavour. On balance, therefore, all the 'Chester' coins mentioned above ought to be considered genuine English products.

58: See, for example, *SCBI* Copenhagen ii 1129–30 and 1148.

58A: van der Meer 1961, p. 175, and Smart 1968, p. 238.

59: See note to *SCBI* Copenhagen v 27.

60: *SCBI* West Country Collections 498 (*ex* Shaftesbury hoard) and *SCBI* Yorkshire 1035A (found at Newchurch, Kent). The 'Bath' coin from the Knockmaon hoard (*supra* p. 53) may also belong to the same stylistic group.

Miss Pirie has attributed a coin to Dublin, with the support of the editors of the *Sylloge*, which has a reverse reading +ÆDELNOÐ MΩO LINCO (*SCBI* Yorkshire 1480), presumably in reliance on the form RE+ in the obverse legend. The coin is a die-duplicate of *SCBI* Cambridge 695, BEH 1667, and Stockholm, *ex* Kännungs hoard no. 211. Another coin from the Kännungs hoard (no. 214) is from the same obverse die, but a different reverse die of the same moneyer. The coins were all omitted from H. R. Mossop's *Lincoln Mint*⁶¹, presumably because he also considered them 'Irish'. The five coins weigh, respectively, 1.41 g., 1.45 g., 1.52 g., 1.56 g., and 1.54 g., a quite acceptable range for English coins of this mint. The bust is of unusual, although not particularly Hiberno-Norse, style and the epigraphy is far from being classically 'Irish'. Again the combination of one obverse die with two reverse dies of the same mint and moneyer argues in favour of an English origin, and any other attribution would seem unjustified on the present evidence.

In 1975 I published four coins with a Watchet mint-signature, one of which die-linked with a purported Chester coin of the moneyer Ælfstan⁶². One of these coins, that from the Stora Sojdeby hoard, is a classic Hiberno-Norse piece. The others, thought to be imitations by virtue of the 'Chester' die-link and their unusual style, were tentatively attributed to Dublin; for although untypical products I suggested that the coincidence of Watchet coins of the moneyer Hunewine being imitated in both Scandinavia and Dublin was unlikely. I now believe, however, that this attribution was wrong, and several points in that note stand in need of correction. I asserted that the *Long Cross* output of Dolley Phase I spanned more than twenty years, from c. 998 to the early 1020s, within which there was time for the style and competence of die-cutting to change radically. It is now thought that the majority, if not all, of Phase I '*Long Cross*' coins were struck contemporaneously with the English

issue, and that '*Long Cross*' imitations were not struck again in Dublin until the reduced-weight Phase II pieces were introduced in the 1020s⁶³. The result of the reattributions suggested in this paper has been to emphasise the regularity of the style, epigraphy, and weight of Hiberno-Norse '*Long Cross*' imitations in Phase I. It also emerges that the occurrence of RE+ in the obverse legend is not, of itself, sufficient to support an 'Irish' attribution. Unless a coin which has apparently English legends has the classic 'Irish' features or is die-linked into the Hiberno-Norse series it ought not to be given to Ireland. For this reason the correct attribution of the remaining three 'Watchet' coins discussed in my earlier note remains uncertain. The piece which forms the 'Chester' die-link is very crude and is probably a Scandinavian imitation. However, the other two coins (die-duplicates) are from the same reverse die as three specimens which have been subsequently noted⁶⁴, and one, BEH 3883 bis, is now illustrated [Plate XI, no. 318]. The die-cutting of these five coins is irregular, but in the absence of stronger evidence to the contrary they probably should be considered genuine Watchet coins.

Since the 1972 listing of Hiberno-Norse dies essaying an English mint-signature, a pseudo-Stamford coin (moneyer 'Ascwge') has been identified as Hiberno-Norse⁶⁵, as well as the pseudo-Watchet mentioned above. Taking account of these pieces, and of the foregoing reattributions, a revised version of the table showing how the different dies of *Long Cross* type are distributed between the mints concerned is set out below.

The figures serve only to further highlight the Dublin engraver's extraordinary "predilection for imitating coins of Winchester and the sur-

61: Mossop 1971.

62: Blackburn 1975.

63: Dolley 1978C

64: Blackburn 1974, p. 21 n. 4 (published in 1977).

65: Blackburn and Dolley 1979.

rounding area" which was the subject of Professor Dolley's comments.

'Winchester'	15	'Cricklade'	1
'Lincoln'	5	'Derby'	1
'London'	5	'Oxford'	1
'Chichester'	2	'Watchet'	1
'Stamford'	2	'Worcester'	1
'Wilton'	2	'York'	1

The composition of the List hoard shows that coins of Sihtric and of Æthelræd arrived in Scandinavia together, and there they formed part of the common medium of currency. This paper and that of Professor Dolley which follows have confirmed the parity which the Hiberno-Norse coinage appears to have enjoyed with its Anglo-Saxon parent. Very shortly after their arrival in the Baltic in significant quantities, Sihtric's coins were copied indiscriminately with their English prototypes, some rendering more or less accurately the Dublin legends, and others merely following a style of bust which was characteristic only of the 'Irish' derivative.

Postscript

Coins from the Norwegian finds were studied from a card index at Leeds University, through the kindness of Miss E. J. E. Pirie and Professor P. H. Sawyer, after this paper had been submitted to the printer. Three coins were found to belong to die-chain 1, two from die-combinations which were not otherwise represented. They are published here with the permission of Dr. K. Skaare, from photographs supplied by him (see Plate XII).

The first is an English coin of York, moneyer Arnthor, and it provides a new obverse die (N) for die-chain 1.

22A Np +ÆDEL RÆDREX ANGLŌ As 22 above

Rev. = 22

*a) Stavanger Museum; *ex* Jøsang hoard
1.61 g./24.9 gr.; 0°.

The second coin (York, moneyer Oban) is somewhat corroded on the reverse. The obverse die (K) was used to strike one of the imitative 'Chichester' coins (153), although it is suggested above that the die was in fact English, of a local York style. This coin now combines that die with an apparently good York reverse, which is probably the same reverse die as struck no. 27, but the corrosion makes firm die identification difficult. The new coin is consistent with the view that the obverse die may have been cut in England, and this coin was probably struck at York before the die was removed from that mint.

27A K'u As 153 above

As 27 above

Obv. = 153

Rev. = 27?

*a) Trondheim (Museum of the Royal Norwegian Society of Sciences and Letters); *ex* Dronningens Gate hoard
1.48 g./22.8 gr.; 0°.

The third coin is an imitation of York, moneyer Thurstan, and adds a fifth specimen of dies H'r.

139) e) Stavanger Museum; *ex* Jøsang hoard
1.63 g./25.1 gr.; 0°.

The two Norwegian hoards may be summarised as follows:

Dronningens Gate 10, Domkirkens, Trondheim, Sør-Trøndelag, Norway. 1950 (Skaare 1976 no. 147, *tpq* 1030) 27 A.

Jøsang, Tysvær, Rogaland, Norway. 1923 (Skaare 1976 no. 91, *tpq* 1014) 22A, 139e.

Appendices I–IV and References

Appendix I Catalogue of Coins in Die-chains 1 and 2

The coins are divided between those which are thought to have been struck at an English mint (nos. 1–32 and 201–202) and those which are considered products of the imitative workshop (nos. 101–65 and 203–208). In certain cases there are some doubts surrounding the attribution, which are noted in the entry and often explained in the text above.

Each die-combination has been given an arabic numeral which also refers to an illustration on plates I–X. The illustrated specimen is indicated in the catalogue by an asterisk. Each die has been assigned a letter or series of letters (upper case for obverse and lower case for reverse dies). Dies A – M, C', A°, a – aa, and a° – b° are considered to be officially produced English dies, and A' – B', D' – J', L' – N', B°, a' – l", and c° – g° are thought to have been made at the imitative workshop.

Each specimen is described by the collection it is presently in (see Appendix II) and its provenance, including find provenance (see Appendix III). In the case of coins in the Stockholm collection, a number in brackets, preceded by I represents a reference to a coin in the cabinet of imitations. The weight of each coin is given in grammes and grains (1 gramme = 15.43 grains). The die-axes are recorded according to the following convention: holding the coin between the thumb and forefinger, obverse facing, and turning it about the 12 o'clock axis, the angle which the arm of the reverse cross adjacent to the initial cross (or where there are two or no initial crosses, according to the legend as printed in the catalogue) makes with the 12 o'clock position is recorded in degrees reading clockwise. In the case of coins in the Stockholm collection, the average diameter is recorded to one decimal place of a millimetre, having been measured to two places. Additional symbols on the reverse of coins are described according to the heraldic convention of quatering:

1 2
3 4.

DIE-CHAIN 1: COINS STRUCK AT AN ENGLISH MINT

- | | | |
|------|----------------------------------------------------------------------------|------------------------------|
| 1 Aa | +EDELRE/DREXΛNGLOX | +IR ΛMΩ IOE O'FR
Rev. = 2 |
| | *a) Stockholm (BEH 742) 1.48 g./22.8 gr.; 290°; 19.5 mm. | |
| 2 Ba | +EDELRE/DREXΛNGL | As 1 above
Rev. = 1 |
| | Obv. = 3 and 4 | |
| | *a) Stockholm (BEH 741) 1.35 g./20.8 gr.; 45°; 19.5 mm. | |
| | b) Schleswig; <i>ex</i> List hoard 597, 1.50 g./23.1 gr. | |
| | c) Berlin; <i>ex</i> H. Grote 1879, 1.38 g./21.3 gr.; 0°. | |
| 3 Bb | As 2 above | +IR ΛMΩ OEO F'R'P |
| | Obv. = 2 and 4 | |
| | *a) Stockholm (BEH 743; BEH 1846 Ed. 407) 1.38 g./21.3 gr.; 225°; 19.5 mm. | |
| 4 Bc | As 2 above | +OD GRI MΩO EOF |
| | Obv. = 2 and 3 | Rev. = 5 and 6 |
| | *a) Stockholm (BEH 800) 1.49 g./23.0 gr.; 0°; 19.6 mm. | |
| 5 Cc | +EDELREDREXΛNGLO | As 4 above
Rev. = 4 and 6 |
| | *a) Stockholm (BEH 801) 1.46 g./22.6 gr.; 270°; 19.7 mm. | |

- 6 Dc +EDELREDREXAN As 4 above
Obv. = 7 Rev. = 4 and 5
*a) Stockholm (BEH 831; BEH 1846 Ed. 459) 1.43 g./22.1 gr.; 45°; 19.4 mm.
- 7 Dd As 6 above +OD GRIM M'OE OFRI
Obv. = 6 Rev. = 8
*a) York (*SCBI* Yorkshire 94); bt. Seaby 1929. 1.39 g./21.5 gr.; 45°.
- 8 Ed +EDELREDREXANGLO As 7 above
Obv. = 9–11, and 102–7 Rev. = 7
This die was transported to the imitative workshop.
*a) Stockholm (BEH 838) 1.43 g./22.1 gr.; 290°; 19.3 mm.
- 9 Ee As 8 above +STY RCER M'OE OFRP
Obv. = 8, 10, 11, and 102–7
This combination may be from the imitative workshop, from an imitative reverse die.
*a) Stockholm (BEH 878) 1.46 g./22.6 gr.; 90°; 19.4 mm.
- 10 Ef As 8 above +SVM ERLID X'M'O EOR
Obv. = 8, 9, 11, and 102–7 Pellet in left terminal cusp.
This combination may be from the imitative workshop, from an imitative reverse die.
*a) Uppsala (Holm 96) (pierced) 1.31 g./20.2 gr.; 180°.
- 11 Eg As 8 above +VLF GETL M'OE OFR
Obv. = 8–10, and 102–7 Rev. = 12. Pellet in second heraldic quarter.
*a) Stockholm (BEH 973) 1.46 g./22.6 gr.; 120°; 20.0 mm.
b) Lund; *ex* Stockholm (1879) 1.35 g./20.8 gr.; 200°.
- 12 Fg +EDELREDREXANGL As 11 above
Obv. = 13 Rev. = 11
*a) Helsinki (*SCBI* Helsinki 364); *ex* Nousiainen hoard 1.78 g./27.5 gr.; 270°.
- 13 Fh As 12 above +VLF GETL M'OE OFR
Obv. = 12 Rev. = 14. Annulet in second heraldic quarter.
*a) Stockholm (BEH 972; BEH 1846 Ed. 511 ?) 1.33 g./20.6 gr.; 180°; 19.7 mm.
b) Liverpool (*SCBI* Merseyside 568); *ex* Nelson; bt Spink 1946; *ex* Lumb 0.97 g./14.9 gr.; 315°.
- 14 Gh +EDELREDREXANGLO As 13 above
Obv. = 15 Rev. = 13
*a) British Museum (*BMC* 85); *ex* Sewening 1878, 1.63 g./25.2 gr.
- 15 Gi As 14 above +VLF GYTE LM'O EOFI
Obv. = 14
*a) Stockholm (BEH 979; BEH 1846 Ed. 514) 1.32 g./20.3 gr.; 180°; 19.8 mm.
- 16 Hj +EDELREDREXANGLO +EE TEL MOE OFR
Obv. = 17–20, 134, and 136. This die was transported Pellet in second heraldic quarter.
to the imitative workshop.
*a) Stockholm (BEH 665; BEH 1846 Ed. 367) 1.49 g./23.0 gr.; 270°; 19.6 mm.
- 17 Hk As 16 above +EAD RIM OOE FRP
Obv. = 16, 18–20, 134, and 136 Pellet in first heraldic quarter.
*a) Stockholm (BEH 692) (pierced) 1.43 g./22.1 gr.; 90°; 19.8 mm.
- 18 HI As 16 above +EAD RIM M'OE OFR
Obv. = 16, 17, 19, 19A, 20, 134, and 136 Pellet in fourth heraldic quarter.
*a) Stockholm (BEH 694) 1.47 g./22.7 gr.; 0°; 19.8 mm.

- 19 Hm As 16 above
Obv. = 16–18, 19A, 20, 134, and 136
*a) Stockholm (BEH 695; BEH 1846 Ed. 383) (chipped) 1.34 g./20.7 gr.; 90°; 19.8 mm.
b) Stockholm; *ex* Stora Sojdeby hoard 1678, 1.56 g./24.1 gr.; 270°; 19.7 mm.
- 19A Haa As 16 above
Obv. = 16–19, 20, 134, and 136
*a) Berlin; *ex* Skubarczewo hoard 1.57 g./24.3 gr.; 0°.
- 20 Hn As 16 above
Obv. = 16–19, 19A, 134, and 136
*a) Stockholm (BEH 890) 1.47 g./22.7 gr.; 90°; 19.6 mm.
b) Schleswig; *ex* List hoard 612 (cut halfpenny) 0.75 g./11.5 gr.; 180°.
- 21 Io †EDELRE/EDREXANGL
Obv. = 22, 23, 132, and 133
This die was transported to the imitative workshop.
*a) Uppsala (Holm 74) 1.42 g./21.9 gr.; 315°.
- 22 Ip As 21 above
Obv. = 21, 23, 132, and 133
*a) Stockholm (BEH 617) 1.54 g./23.7 gr.; 200°; 16.9 mm.
b) Copenhagen (*SCBI* Copenhagen ii 224); *ex* Store Frigaard hoard 1.45 g./22.4 gr.; 180°.
- 23 Ip As 21 above
Obv. = 21, 22, 132, and 133
*a) Stockholm (BEH 618) 1.35 g./20.8 gr.; 315°; 20.0 mm.
b) Taunton (*SCBI* West Country 559); *ex* Norris 1890, 1.29 g./19.9 gr.; 0°.
- 24 Jr †EDELRE/EDREXANGL
Obv. = 123, and 139. Pellet in second heraldic quarter.
The obverse is unquestionably English, but the reverse could be English or imitative. Accordingly, if the reverse die is English it was transported to the workshop after striking these coins in York; if it is imitative the obverse die must have been transported and these coins must be imitations.
*a) Stockholm; *ex* Ekeskogs hoard 1.58 g./24.4 gr.; 45°; 19.7 mm.
b) Leeds (*SCBI* Yorkshire 103); *ex* Thornton 1924, 1.50 g./23.1 gr.; 180°.
- 25 Ks †EDELRE/EDREXANGL
Obv. = 26–28
*a) Stockholm (BEH 776) 1.46 g./22.6 gr.; 180°; 19.5 mm.
b) Berlin; *ex* Rühle von Lilienstern 1842, 1.44 g./22.2 gr.; 180°.
- 26 Kt As 25 above
Obv. = 25, 27, and 28
*a) Stockholm (BEH 781) 1.48 g./22.9 gr.; 110°; 19.7 mm.
- 27 Ku As 25 above
Obv. = 25, 26, and 28
*a) Visby; *ex* Karls hoard 1.43 g./22.1 gr.; 90°.
- 28 Kv As 25 above
Obv. = 25–27
*a) Stockholm; *ex* Kännungs hoard 1.65 g./25.4 gr.; 45°; 19.9 mm.

- 29 Lw †ÆDELRE/ÆDREXΛNGLO +ΣTE OΡGE RM'IO EΟFR
Rev. = 146. This die was transported to the imitative workshop.
- *a) Stockholm (BEH 870) 1.74 g./26.8 gr.; 270°; 19.6 mm.
b) Stockholm; *ex* Ekeskogs hoard 1.64 g./25.3 gr.; 90°; 19.7 mm.
c) Helsinki (*SCBI* Helsinki 359); *ex* Nousianinen hoard 1.52 g./23.5 gr.; 180°.
- 30 Mx †ÆDELRE/ÆDREXΛNGLO +∇VL FΣIGE M'IOE OFR
Obv. = 31, and 32 Pellet in second heraldic quarter.
*a) Stockholm (BEH 1000) 1.48 g./22.8 gr.; 135°; 19.5 mm.
- 31 My As 30 above +PV LFΣI ΓEMO EOF
Obv. = 30 and 32 Pellet in second heraldic quarter.
*a) Stockholm (BEH 998) (chipped) 1.39 g./21.5 gr.; 90°; 19.5 mm.
b) Stockholm; *ex* Botvalde hoard 1.39 g./21.4 gr.; 0°; 19.5 mm.
- 32 Mz As 30 above +PVL FΣIG EM'IO EΟFR
Obv. = 30 and 31 Rev. = 151. Pellet in fourth heraldic quarter. This die was transported to the imitative workshop.
*a) Stockholm (BEH 999) 1.51 g./23.3 gr.; 90°; 19.5 mm.
b) Liverpool (*SCBI* Merseyside 570); *ex* Nelson; *bt* Baldwin 1946, 1.38 g./21.3 gr.; 225°.

DIE-CHAIN 1: COINS STRUCK AT THE IMITATIVE WORKSHOP

- 101 A'a' †E∆EIR/EDXΛO +EL EPN EMO L'EC
Rev. = 102 and 111
- *a) Stockholm (BEH 1516; BEH 1846 Ed. 791) 1.97 g./30.4 gr.; 225°; 20.3 mm.
b) Stockholm; *ex* Kännungs hoard 1.74 g./26.8 gr.; 45°; 20.0 mm,
c) Stockholm (I 218); *ex* Stora Sojdeby hoard 4092, 2.00 g./30.9 gr.; 90°; 20.8 mm.
d) Uppsala (Holm 145) 1.79 g./27.6 gr.; 135°.
e) Uppsala (Holm 146) 1.42 g./21.9 gr.; 315°.
f) Helsinki (*SCBI* Helsinki 945); old collection (pre 1850) 1.63 g./25.2 gr.; 135°.
g) Helsinki (*SCBI* Helsinki 946); *ex* Nousiainen hoard (fragment) 0.60 g./9.3 gr.; 270°.
h) Copenhagen (*SCBI* Copenhagen ii 487); *ex* Sjökrone 1883, 1.83 g./28.2 gr.; 315°.
i) Reykjavik; *ex* Gaulverjabær hoard 76.
j) British Museum; *ex* Montague 1.99 g./30.7 gr.; 90°.
k) Chester (*SCBI* Chester i 457); *ex* Gardner; *ex* Copenhagen (by exchange 1913) 1.74 g./26.8 gr.; 225°.
l) Chester (*SCBI* Chester i 458); *ex* Gardner; *ex* Carlyon-Britton (Sotheby 1916, lot 1069) 1.70 g./26.2 gr.; 225°.
- 102 Ea' As 8 above As 101 above
Obv. = 9–11, and 103–7. An English die transported to the workshop. Rev. = 101 and 111
- *a) Stockholm (BEH 1515; BEH 1846 Ed. 790) 1.64 g./25.3 gr.; 0°; 19.6 mm.
b) Stockholm (I 54); *ex* Stockholm (Karlberg) hoard 1.64 g./25.3 gr.; 45°; 19.8 mm.
c) Visby; *ex* Gandarve hoard (*CNS* 1.1 9:468) 1.62 g./25.3 gr.; 180°.
d) Chester (*SCBI* Chester i 459); *ex* Gardner; *ex* Bruun 1.50 g./23.1 gr.; 45°.
e) Glasgow (*SCBI* Glasgow 845); *ex* Coats 1921, 1.91 g./29.5 gr.; 180°.
f) Berlin; *ex* H. Dannenberg 1870, 1.81 g./28.0 gr.; 315°.
- 103 Eb' As 8 above +∆V RΣTA NM'IO EΟFR
Obv. = 8–11, 102, and 104–7 Rev. = (without cross) 124, (with cross) 125, and 126. Cross in first heraldic quarter. Possibly an English die.
- This could be an English striking.
- *a) Stockholm (BEH 953) 1.44 g./22.2 gr.; 0°; 19.8 mm.

- 104 Ec' As 8 above +DI IDO HM IEIO
Obv. = 8-11, 102, 103, and 105-7
*a) Stockholm (I 1048); *ex* Barshaga hoard 1.60 g./24.7 gr.; 315°; 19.8 mm.
b) Copenhagen (SCBI Copenhagen ii 1534); *ex* Kelstrup or Holvegaard hoard (?) although not listed for latter in Galster 1977-78. 1.46 g./22.5 gr.; 315°.
- 105 Ed' As 8 above *Γ·Ι·ΟΝ Γ·ΟΙ Ι·Κ·†
Obv. = 8-11, 102-4, 106, and 107
*a) Stockholm (I 53); 1.87 g./28.9 gr.; 45°; 20.0 mm.
b) Copenhagen (SCBI Copenhagen ii 1539); *ex* Holvegaard hoard although not listed in Galster 1977-78. (chipped) 1.02 g./15.7 gr.; 225°.
- 106 Ee' As 8 above ΗΙΙ ΕΟΜ ΙΙΙΓ ΔΙΧ
Obv. = 8-11, 102-5, and 107
*a) Stockholm (I 55); *ex* Amlings hoard 1.44 g./22.2 gr.; 0°; 19.2 mm.
- 107 Ef' As 8 above ΓΛΝΑΗΙΟΛΙΟΒΙΓΙΙΛΟΙΙ
Obv. = 8-11, and 102-6 Rev. = 108 and 112. Reverse of *Small Cross* type.
*a) Stockholm (I 57) 1.62 g./25.0 gr.; 135°; 19.4 mm.
b) Stockholm (I 56) 1.57 g./24.2 gr.; 270°; 19.2 mm.
- 108 B'f +EDELREDREXANGLOX· As 107 above
Obv. = 109-11 Rev. = 107 and 112
*a) Stockholm (I 15) 1.73 g./26.7 gr.; 135°; 19.4 mm.
- 109 B'g' As 108 above *Γ·Κ·Κ· Ι·Χ· Κ·Κ· Ι·Κ· Ι·Κ·
Obv. = 108, 110, and 111 Pellets in terminal cusps of cross.
*a) Stockholm (I 11) 2.06 g./31.8 gr.; 180°.
b) Stockholm (I 12) 1.56 g./24.1 gr.; 135°; 19.6 mm.
c) Stockholm (I 13) 1.63 g./25.2 gr.; 90°; 19.6 mm.
d) Stockholm (I 14); *ex* Stockholm (Karlberg) hoard 1.75 g./27.0 gr.; 180°; 19.6 mm,
e) Stockholm (I 52) 1.56 g./24.1 gr.; 180°; 19.8 mm.
f) Helsinki (SCBI Helsinki 953); *ex* Nousiainen hoard 1.73 g./26.6 gr.
g) Copenhagen (SCBI Copenhagen ii 1532; v 35A); *ex* Frænkel 1906, 1.60 g./24.7 gr.; 315°.
- 110 B'h' As 108 above +ΣΥΜ ΕΡΛΙΔ ΑΜΘ ΕΘΦΙ
Obv. = 108, 109, and 111 Cross in second, and pellet in fourth heraldic quarter.
*a) Stockholm (BEH 889) 1.40 g./21.6 gr.; 270°; 19.2 mm.
b) Schleswig; *ex* List hoard 609, 1.41 g./21.7 gr.; 10°.
- 111 B'a' As 108 above As 101 above
Obv. = 108-10 Rev. = 101 and 102
*a) Visby; *ex* Karls hoard 375, 1.69 g./26.1 gr.; 180°.
b) Stamford (SCBI Lincolnshire 1720); *ex* Denning 1943, 1.43 g./22.1 gr.; 90°.
- 112 C'f +EDELREDEREXANGLQ As 107 above
Obv. = 113-21, and 123-5. This die is probably Rev. = 107 and 108
English.
*a) Stockholm (I 31) 1.57 g./24.2 gr.; 0°; 20.0 mm.
b) Stockholm (I 30); *ex* Stora Enbjänne hoard 1.68 g./25.9 gr.; 45°; 20.2 mm.
- 113 C'i' As 112 above +VH ECI OIQ IIE·
Obv. = 112, 114-21, and 123-5.
*a) Stockholm (I 32); *ex* Gärestad hoard 1.88 g./29.0 gr.; 180°; 20.4 mm.
- 114 C'j' As 112 above OIICIIPOAΘIIIIH·EIH
Obv. = 112-3, 115-21, and 123-5 Reverse of *Small Cross* type.
*a) Stockholm (I 33); *ex* Hallsarve hoard 1.82 g./28.1 gr.; 315°; 20.1 mm.

- 115 C'k' As 112 above IIPI PIN⁻ YI⁻CI LO⁺
Obv. = 112-4, 116-21, and 123-5
*a) Stockholm (I 39); *ex* Binge hoard 1.53 g./23.6 gr.; 135°; 20.0 mm.
- 116 C'l' As 112 above +OI VLLOS ΣLL'I IO^L
Obv. = 112-5, 117-21, and 123-5
*a) Stockholm (I 36) 1.71 g./26.4 gr.; 315°; 20.7 mm.
b) Stockholm (I 34) 1.79 g./27.6 gr.; 270°; 20.7 mm.
c) Stockholm (I 35) 1.92 g./29.6 gr.; 180°; 21.0 mm.
- 117 C'm' As 112 above ΗΟΙ ΗCII -OH IO⁺
Obv. = 112-6, 118-21, and 123-5 Pellets in terminal cusps of cross.
*a) Stockholm (I 37) 2.15 g./33.2 gr.; 0°; 20.3 mm.
- 118 C'n' As 112 above IIIO λΓIΔ IIIH IIIX
Obv. = 112-7, 119-21, and 123-5
*a) Stockholm (I 38) 1.37 g./21.1 gr.; 270°; 20.4 mm.
- 119 C'o' As 112 above ΗΛ IOH IOO II⁺
Obv. = 112-8, 120-1, and 123-5
*a) Stockholm (I 40) 1.72 g./26.5 gr.; 225°; 20.2 mm.
b) Stockholm (I 41); *ex* Hallsarve hoard 1.62 g./25.0 gr.; 0°; 19.8 mm.
c) Copenhagen (*SCBI* Copenhagen ii 1537); *ex* Hølsegaard hoard 1.54 g./23.7 gr.; 270°.
- 120 C'p' As 112 above +EI ΣCT LII OFE
Obv. = 112-9, 121, and 123-5
*a) Stockholm (I 1000) 1.77 g./27.3 gr.; 315°; 20.9 mm.
- 121 C'q' As 112 above ΧΟΣ CET LM⁻ OE'F
Obv. = 112-20, and 123-5 Rev. = 122
*a) Stockholm (BEH 814; BEH 1846 Ed. 446) 1.61 g./24.8 gr.; 20°; 20.3 mm.
b) Copenhagen (*SCBI* Copenhagen ii 283); *ex* Hess (1891, lot 636) 1.82 g./28.1 gr.; 90°.
- 122 D'q' +EDELFEDE⁺IOG As 121 above
Rev. = 121
*a) Stockholm (BEH 815) 1.70 g./26.2 gr.; 20°; 20.7 mm.
b) Stockholm (BEH 815 bis) 1.32 g./20.4 gr.; 45°; 20.7 mm.
c) Stockholm; *ex* Stora Sojdeby hoard (pierced) 1.93 g./29.8 gr.; 20°; 20.6 mm.
d) Helsinki (*SCBI* Helsinki 952); Old collection (pre- 1850) 2.20 g./34.0 gr.; 45°.
e) Tallinn; *ex* Vaabina hoard 54, 1.71 g./26.4 gr.; 45°; 21 mm.
f) York (*SCBI* Yorkshire 836); *bt* Seaby 1932, 1.22 g./18.9 gr.; 225°.
- 123 C'r As 112 above As 24 above
Obv. = 112-21, and 124-5 Rev. = 24 and 139. See comment under 24.
This could be an English striking.
*a) New York (*SCBI* American Collections 464); *ex* Stryjewe Wielkie hoard, 1.56 g./24.1 gr.; 180°.
- 124 C'b' As 112 above As 103 above
Obv. = 112-21, 123, and 125 Rev. = (with cross) 103, 125, and 126. Die in prime state
before addition of cross, possibly an English die.
This could be an English striking.
*a) Liverpool (*SCBI* Merseyside 565); *ex* Nelson; *bt* Spink 1946; *ex* Lumb 1.54 g./23.8 gr.; 45°.
- 125 C'b' As 112 above As 103 above
Obv. = 112-21, and 123-4 Rev. = (without cross) 124, (with cross) 103, and 126. Cross
in first heraldic quarter.
This could be an English striking.
*a) Lund; *ex* Igelösa hoard 1.44 g./22.2 gr.; 0°.

- 126 E'b' +EDELREDRE+ΛΓΩ
Obv. = 127-8, 130-1, and 137
As 103 above
Rev. = (without cross) 124, (with cross) 103, and 125. Cross in first heraldic quarter.
*a) Stockholm (BEH 950; BEH 1846 Ed. 501) 1.36 g./21.0 gr.; 0°; 19.9 mm.
b) Liverpool (SCBI Merseyside 1057); ex Nelson; bt Spink 1946; ex Lumb 1.51 g./23.2 gr.; 90°.
c) Uppsala (Holm 101) 1.38 g./21.3 gr.; 0°.
- 127 E'r' As 126 above +DV RSTA NM'IO EOFR
Obv. = 126, 128, 130, 131, and 137
*a) Stockholm; ex Store Sojdeby hoard 1.50 g./23.2 gr.; 270°; 19.7 mm.
b) Copenhagen (SCBI Copenhagen ii 311; v 31); ex Hauberg 1935, 1.41 g./21.7 gr.; 270°.
- 128 E's' As 126 above +ZTI RCEI R'IMO EOFI
Obv. = 126, 127, 130, 131, and 137
Rev. = 129
*a) Stockholm (BEH 873) 1.38 g./21.3 gr.; 270°; 19.9 mm.
b) Stockholm; ex Oxarve hoard 1.45 g./22.4 gr.; 225°; 19.5 mm.
- 129 F'S' +EDELREDREXΛNGΩ
Obv. = 129 A
Rev. = 128
*a) Stockholm (BEH 872) 1.48 g./22.8 gr.; 340°; 19.7 mm.
- 129A F'k'' As 129 above +ΣTY RGER M'OE OFR'
Obv. = 129
Rev. = 129
Die may be English
*a) Lahti (SCBI Helsinki 360); ex Kurkijoki hoard 1.27 g./19.6 gr.; 45°.
- 130 E't' As 126 above +OD ΛM'IO EOF RFIC
Obv. = 126-8, 131, and 137
Rev. = 149
*a) Stockholm; ex Stora Sojdeby hoard 1684, 1.49 g./23.0 gr.; 45°; 19.9 mm.
- 131 E'u' As 126 above +OD ΛM' OEO FRI
Obv. = 126-8, 130, and 137
Rev. = 132 and 150. Cross in second heraldic quarter.
*a) Stockholm (BEH 792 bis) 1.53 g./23.6 gr.; 225°; 19.8 mm.
b) Stockholm (BEH Supplement 4355) 1.53 g./23.6 gr.; 225°; 19.9 mm.
- 132 Iu' As 21 above As 131 above
Obv. = 21-3, and 133
Rev. = 131 and 150
An English die transported to the workshop.
This may be an English striking.
*a) Copenhagen (SCBI Copenhagen ii 276); ex Stora Valby hoard 1.38 g./21.3 gr.; 315°.
- 133 Iv' As 21 above +PV LFΣI ΓEM OEO
Obv. = 21-3 and 132
Rev. = (without annulet) 135 and (with annulet) 134.
Annulet in second heraldic quarter.
*a) Stockholm (BEH 997, BEH 1846 Ed. 525) 1.54 g./23.7 gr.; 45°; 19.6 mm.
- 134 Hv' As 16 above As 133 above
Obv. = 16-20, and 136
Rev. = (without annulet) 135 and (with annulet) 133.
An English die transported to the workshop.
Annulet in second heraldic quarter.
*a) Visby; ex Karls hoard 533, 1.46 g./22.5 gr.; 180°.
- 135 G'v' †EDELRE/EDREXΛNGL
An English die transported to the workshop.
As 133 above
Rev. = (with annulet) 133 and 134. Die in prime state, before addition of annulet.
This could be an English striking.
*a) Visby; ex Karls hoard 532, 1.46 g./22.5 gr.; 290°.

- 136 Hw' As 16 above +OI ERH DMO COR
Obv. = 16–20, and 134
*a) Stockholm (BEH 329) 1.33 g./20.5 gr.; 180°; 20.1 mm.
- 137 E'x' As 126 above +STE ORCE RM'IO EOFFR
Obv. = 126–8, 130, and 131 Rev. = 138, 161, and 162
*a) Visby; *ex* Gannarve hoard 1.41 g./21.7 gr.; 0°.
- 138 H'x' +ÆDELDRDEREXΛNCO As 137 above
Obv. = 139–42, 144, and 145–7 Rev. = 137, 161, and 162
*a) Stockholm; *ex* Kännungs hoard 1.56 g./24.1 gr.; 0°; 20.0 mm.
b) Tallinn; *ex* Kuhlta-Kava hoard 570.
- 139 H'r As 138 above As 24 above
Obv. = 138, 140–2, and 144–7 Rev. = 24 and 123. See comment under 24.
*a) Stockholm (BEH 951) 1.65 g./25.5 gr.; 45°; 20.0 mm.
b) Stockholm; *ex* Ytlings hoard (cut halfpenny) 0.72 g./11.1 gr.; 180°; 19.8 mm.
c) Stockholm; *ex* Stora Sojdeby hoard 1685, 1.63 g./25.2 gr.; 180°; 19.8 mm.
d) Liverpool (*SCBI* Merseyside 566); *ex* Nelson; *bt* Seaby 1945; *ex* Grantley (1944, lot 1134) 1.52 g./23.5 gr.; 225°.
- 140 H'y' As 138 above +DO RSTA NM'IO EOFFR
Obv. = 138–39, 141–2, and 144–7
*a) Stockholm (BEH 937) 1.70 g./26.2 gr.; 45°; 19.9 mm.
- 141 H'z' As 138 above +ELF HEH M'IO SCRO
Obv. = 138–40, 142, and 144–7 Rev. = 143
*a) Stockholm (BEH 3362) 1.94 g./29.9 gr.; 45°; 20.2 mm.
b) Stockholm (I 1125); *ex* Bosarve hoard 1.93 g./29.7 gr.; 0°; 20.9 mm.
c) Stockholm (I 1126); *ex* Barshaga hoard 1.49 g./23.0 gr.; 45°; 19.9 mm.
d) Stockholm; *ex* Kännungs hoard 1.88 g./29.0 gr.; 315°; 20.5 mm.
e) Glasgow (*SCBI* Glasgow 861); *ex* Hunter (pre- 1783) 1.35 g./20.8 gr.; 0°.
f) Shrewsbury (*SCBI* Midlands Museums 243) 1.36 g./21.0 gr.; 45°.
g) Shrewsbury (*SCBI* Midlands Museums 244) 1.72 g./26.5 gr.; 315°.
h) Tallinn; *ex* Vaabina hoard 95, 1.52 g./23.4 gr.; 45°; 21 mm.
- 142 H'a'' As 138 above +ÆΣ CT-L MOL V.NO
Obv. = 138–41, and 144–7 Rev. = 143
*a) Stockholm (BEH 2142) 1.77 g./27.3 gr.; 180°; 20.2 mm.
- 143 I'a'' +ÆDELREÐREXCOI As 142 above
Rev. = 142
*a) Stockholm (BEH 2143) 1.64 g./25.3 gr.; 270°; 20.0 mm.
- 144 H'b'' As 138 above XOV ETEI Λ'DI ΠIII
Obv. = 138–42, and 145–7
*a) Stockholm (I 107) 1.38 g./21.3 gr.; 20°; 20.2 mm.
b) Stockholm (I 106) 1.80 g./27.8 gr.; 0°; 20.6 mm.
c) Stockholm (I 108) 2.29 g./35.3 gr.; 0°; 20.6 mm.
d) British Museum (BMC 397); *ex* 'Russian' hoard 2.34 g./36.2 gr.
- 145 H'c'' As 138 above +ÆD ELNO DM'IO LINC
Obv. = 138–42, 144, and 146–7
*a) Helsinki (*SCBI* Helsinki 219); *ex* Nousiainen hoard (Mossop 1971, x 17) 1.32 g./20.3 gr.; 180°.
- 146 H'w As 138 above As 29 above
Obv. = 138–42, 144–5, and 147 Rev. = 29. English die transported to the imitative workshop.
*a) Stockholm; *ex* Oxarve hoard 1.53 g./23.6 gr.; 45°; 19.7 mm.

- 147 H'v As 138 above
Obv. = 138–42 and 144–6
As 28 above
Rev. = 28, and (with cross added) 148. An English die transported to the workshop.
- *a) Stockholm (BEH 793, BEH 1846 Ed. 434) 1.55 g./24.0 gr.; 270°; 19.8 mm.
b) Stockholm (BEH 793 bis) 1.56 g./24.1 gr.; 135°; 20.0 mm.
- 148 J'v +EDELRAEDREXΛNGL
Obv. = 149–52 and 154–5
As 28 above
Rev. = (without cross) 28 and 147. Cross added to second heraldic quarter.
- *a) Stockholm (BEH 792) 1.44 g./22.2 gr.; 135°; 19.7 mm.
- 149 J't As 148 above
Obv. = 148, 150–2, and 154–5
As 130 above
Rev. = 130
- *a) Stockholm (BEH 794) 1.53 g./23.6 gr.; 270°; 19.8 mm.
b) Schleswig; *ex* List hoard 602 (cut halfpenny) 0.85 g./13.1 gr.; 315°.
- 150 J'u As 148 above
Obv. = 148–9, 151–2, and 154–5
As 131 above
Rev. = 131 and 132
- *a) Stockholm; *ex* Kännungs hoard 1.60 g./24.7 gr.; 270°; 19.7 mm.
- 151 J'z As 148 above
Obv. = 148–50, 151A, 152, and 154–5
As 32 above
Rev. = 32. English die transported to the imitative workshop.
- *a) Lund; *ex* Igelösa hoard 1.42 g./21.9 gr.; 315°.
- 151A J'l" As 148 above
Obv. = 148–51, 152, and 154–55
+PVL FΣIG EM'IO EØFR
Die may be English.
- *a) Riga (CVVM 96, 657) (pierced) 1.26 g./19.5 gr.; 315°.
- 152 J'd" As 148 above
Obv. = 148–51A, and 154–5
+ED EΣTA NΠQ OCIS
Rev. = 153
- *a) Stockholm (BEH 276 bis) 1.36 g./21.0 gr.; 135°; 19.6 mm.
b) Stockholm (BEH Supplement 4350) 1.37 g./21.1 gr.; 315°; 19.6 mm.
- 153 K'd" +EDELREDREXΛNGLQ
An English die transported to the workshop.
Rev. = 152
- *a) Stockholm (BEH 276) 1.52 g./23.5 gr.; 110°; 19.4 mm.
- 154 J'e" As 148 above
Obv. = 148–52, and 155
+ΣTI RCE RM'IO EØFO
- *a) Stockholm (BEH 871) 1.50 g./23.2 gr.; 90°; 19.4 mm.
- 155 J'f" As 148 above
Obv. = 148–52, and 154
+ΣT IRC ARM'IOEI
Rev. = 156
- *a) Stockholm (BEH 1896) 1.48 g./22.8 gr.; 45°; 19.9 mm.
- 156 L'f" ΧΣΙΣΙGREGXΛIGLSIO
Obv. = 157–61
As 155 above
Rev. = 155
- *a) Stockholm (BEH Sisig 2) 1.51 g./23.3 gr.; 225°; 19.8 mm.
- 157 L'g" As 156 above
Obv. = 156, and 158–61
+F/E REM NM'IO DYFLI
Rev. = 165
- *a) Stockholm (BEH Sisig 1) 1.62 g./25.0 gr.; 200°; 19.6 mm.
- 158 L'h" As 156 above
Obv. = 156–7, and 159–61
+VN NVLF M'IOE OFR
- *a) Stockholm (BEH Sisig 3) 1.66 g./25.6 gr.; 180°; 20.1 mm.

- 159 L'i" As 156 above +S'Λ GOLI OM'D ILIE
Obv. = 156–8, and 160–1
*a) Stockholm (BEH Sisig 3 bis); *ex* Igelösa hoard 1.64 g./25.3 gr.; 160°; 19.9 mm.
- 160 L'j" As 156 above +STE ORGE RM'IO EOFR
Obv. = 156–9, and 161
Rev. = 163 and 164
*a) Stockholm; *ex* Kvinnegårda I hoard 1.52 g./23.4 gr.; 225°; 19.7 mm.
- 161 L'x' As 156 above As 137 above
Obv. = 156–60
Rev. = 137, 138, and 162
*a) Helsinki (SCBI Helsinki 932); *ex* Nousiainen hoard (pierced) 1.61 g./24.8 gr.; 0°.
- 162 M'x' ΧΣΙΗΤΡCΡΕΧDΥFLMI As 137 above
Obv. = 163 and 165
Rev. = 137, 138, and 161
*a) British Museum (SCBI British Museum, H-N 27); *ex* Spink 1930, 1.60 g./24.7 gr.; 270°.
- 163 M'j" As 162 above As 160 above
Obv. = 162 and 165
Rev. = 160 and 164
a) Stockholm (BEH Sihtric 76) 1.63 g./25.1 gr.; 0°; 19.8 mm.
*b) Lund; *ex* Igelösa hoard 1.59 g./24.5 gr.; 90°.
c) Copenhagen (SCBI Copenhagen v 18); *ex* Kelstrup hoard 1.53 g./23.6 gr.; 0°.
- 164 N'j" +ÆDEL R/ÆDREXTNGL As 160 above
Rev. = 160 and 163
*a) Stockholm (BEH Supplement 4356) 1.75 g./27.0 gr.; 225°; 19.7 mm.
- 165 M'g" As 162 above As 157 above
Obv. = 162 and 163
Rev. = 157
*a) Stockholm (BEH Sihtric 44) 1.51 g./23.3 gr.; 180°; 19.4 mm.

DIE-CHAIN 2: COINS STRUCK AT AN ENGLISH MINT

- 201 A°a° +ÆDEL R/ÆDREXΛNGL O +LEO FΣTA NM'IO EOFR
Obv. = 202
*a) Stockholm (BEH 761) 1.56 g./24.1 gr.
- 202 A°b° As 201 above +LEO FΣTA NM'IO EOFR
Obv. = 201
Rev. = 203. Pellet in second heraldic quarter. This die was transported to the imitative workshop.
*a) York (SCBI Yorkshire 83); *ex* Cook 1920; *ex* Goddard Johnson c. 1850 (pierced) 1.50 g./23.1 gr.; 45°.

DIE-CHAIN 2: COINS STRUCK AT THE IMITATIVE WORKSHOP

- 203 B°b° +ÆDEREDREXΛNGL EOX As 202 above
Obv. = 204–8
Rev. = 202. Probably an English die transported to the workshop.
*a) Copenhagen (SCBI Copenhagen ii 265); *ex* Bonderup hoard (Sjælland) 1.57 g./24.2 gr.; 90°.
- 204 B°c° As 203 above XLE OFΣT ΛM'IO EOFI
Obv. = 203 and 205–8
Pellet in second heraldic quarter.
*a) ?; *ex* Mack (SCBI Mack 974); *bt* Baldwin 1963, 1.33 g./20.5 gr.; 10°.
b) Visby; *ex* Gandarve hoard (CNS 1.1 9:492) (cut halfpenny) 0.81 g./12.5 gr.; 90°.
- 205 B°d° As 203 above +LEO FITA NMΩ OEO
Obv. = 203–4, and 206–8
Pellet in second heraldic quarter.
*a) Stockholm (BEH 758) 1.53 g./23.6 gr.; 270°; 20.2 mm.
b) Stockholm (I 70); *ex* Stige hoard (fragment) 0.77 g./11.8 gr.; 180°; 20.6 mm.
c) Liverpool (SCBI Merseyside 1056); *ex* Nelson; *bt* Seaby 1948, 1.46 g./22.6 gr.; 315°.
d) Berlin; *ex* H. Dannenberg 1892, 1.76 g./27.2 gr.; 270°.

- 206 B^{°e} As 203 above +DV RSTA NMIO EOF
 Obv. = 203–5, and 207–8
 *a) Stockholm (BEH 949) 1.44 g./22.2 gr.; 225°; 20.0 mm.
- 207 B^{°f} As 203 above +DE OVH GIMIO LEN.
 Obv. = 203–6, and 208
 *a) Stockholm (BEH 136) 1.71 g./26.4 gr.; 200°; 20.9 mm.
 b) Schleswig; *ex* List hoard 91, 1.41 g./21.7 gr.; 270°.
- 208 B^{°g} As 203 above +OV. FRIC MIO FRO
 Obv. = 203–7
 *a) Stockholm (I 71) 1.86 g./28.7 gr.; 270°; 20.9 mm.
 b) Copenhagen (*SCBI* Copenhagen ii 1483); *ex* Kirchoff 1910, 1.66 g./25.6 gr.; 315°.

Appendix II The Collections

Bergen	Historisk Museum, Bergen, Norway.
Berlin	Staatliche Museen zu Berlin, Berlin, D.D.R.
British Museum	British Museum, London, U.K.
Chester	Grosvenor Museum, Chester, U.K.
Copenhagen	Den Kgl. Mønt- og Medaillesamling, National Museum, Copenhagen, Denmark.
Dresden	Staatliche Kunstsammlungen, Dresden, D.D.R.
Glasgow	Hunterian and Coats Collections, University of Glasgow, U.K.
Helsinki	National Museum of Finland, Helsinki, Finland.
Lahti	Lahti Historical Museum, Lahti, Finland.
Leeds	
University	Leeds University, U.K.
Lincoln	Usher Gallery, Lincoln, U.K.
Liverpool	Merseyside County Museums, Liverpool, U.K.
Lund	Lunds Universitets Historiska Museum, Lund, Sweden.
New York	American Numismatic Society, New York, U.S.A.
Reykjavik	National Museum of Iceland, Reykjavik, Iceland.
Riga	Latvian Central Historical Museum, Riga, Latvian S.S.R.
Schleswig	Schleswig-Holsteinisches Landesmuseum für Vor- und Frühgeschichte, Schleswig, B.R.D.
Shrewsbury	Shrewsbury Museum and Art Gallery, Shrewsbury, U.K.
Stamford	Stamford Town Council, Stamford, U.K.

Stockholm	Kungl. Myntkabinettet, Statens Museum for Mynt, Medalj, og Penninghistoria, Stockholm, Sweden.
Tallinn	Historical Institute of the Estonian Academy, Tallinn, Estonian S.S.R.
Taunton	Somerset County Museum, Taunton, Somerset, U.K.
Uppsala	Universitets Myntkabinettet, Uppsala, Sweden.
Visby	Gotlands Fornsal, Visby, Sweden.
York	Yorkshire Museum, York, U.K.

Appendix III The Hoards

All hoards referred to in this paper, other than those from the British Isles discussed on pages 52–54, are listed below. Each is described by findspot, parish, province and country, followed by its date of discovery, museum record number, the most convenient publication reference (where a fuller bibliography will often be found), and some indication of its date of deposit. References are then given to entries in the Catalogue of Coins and, where appropriate, to pages in the text.

- Amlings, Linde, Gotland, Sweden. 1911 SHM Inv. 14565 (Hatz 165, *tpq* 1025) 106a.
- Barshaga, Othem, Gotland, Sweden. 1911 SHM Inv. 14379 (Hatz 127, *tpq* 1011) 104a and 141c.
- Binge, Väte, Gotland, Sweden. 1893. SHM Inv. 9166 (Hatz 120, *tpq* 1005) 115a.
- Bonderup, Taarnborg, Sjælland, Denmark. 1854 FP 137(*SCBI* Copenhagen i no. 92, *tpq* A/S 1050) 203a.
- Bosarve, Stånga, Gotland, Sweden. 1939 SHM Inv. 22468 (Hatz 171, *tpq* 1027) 141b.

- Botvalde, Väte, Gotland, Sweden. 1943 SHM Inv. 23228 (Hatz 227, *tpq* 1039) 31b.
- Ekeskogs, Hejde, Gotland, Sweden. 1961 SHM Inv. 26697 (Hatz 136, *tpq* 1014) 24a, 29b, and p. 58.
- Gandarve, Alva, Gotland, Sweden. 1952 GF C9851 (Hatz 263, *CNS* 1.1 9, *tpq* 1047) 102c and 204b.
- Gannarve, Hall, Gotland, Sweden. 1925 GF C6130 (12 of the 15 coins under this inventory number are from Gannarve. They are not recorded by Hatz, but may be a parcel from the Gannarve I hoard-Hatz 372, *tpq* 1120) 137a.
- Gärestad, Edestad, Blekinge, Sweden. 1888 SHM Inv. 8503 (Hatz 296, *SCBI* Copenhagen i no. 93, *tpq* 1056) 113a.
- Gaulverjabær, Arnessýsla, Iceland. 1930 (Eldjárn 1948, *tpq* 1002) 101i.
- Hallsarve, När, Gotland, Sweden. 1942 SHM Inv. 23040 (Hatz 360, *tpq* 1106) 114a and 119b.
- Hattula, Ellilä, Finland. 1950 NM 12766 etc. (*SCBI* Helsinki p. xxvii, *tpq* 1024) p. 58.
- Holsegaard, Øster Larsker, Bornholm, Denmark. 1884 FP 498 (*SCBI* Copenhagen i no. 40, Galster 1977–78 no. 23, *tpq* 1004) 104b (?), 105b (?), and 119c.
- Igelösa, Igelösa, Skåne, Sweden. 1924 SHM Inv. 17532 (Hatz 124, *SCBI* Copenhagen i no. 37, *tpq* 1005, *tag A/S* 1003) 125a, 151a, 159a, 163b, and p. 59.
- Kännungs, Hellvi, Gotland, Sweden. 1934 SHM Inv. 20879 (Hatz 166, *tpq* 1025) 28a, 101b, 138a, 141d, 150a, and p. 58.
- Karls, Tingstäde, Gotland, Sweden. 1966 GF C10396 (Hatz 232, Dolley, Lundström, and van der Meer 1967, *tpq* 1039) 27a, 111a, 134a, and 135a.
- Kelstrup, Stillinge, Sjælland, Denmark. 1859 FP 207 (*SCBI* Copenhagen i no. 57, *tpq A/S* 1023) 104b (?), and 163c.
- Kolodesi, Kaluga, Russia, U.S.S.R. 1964 (Belyakov and Yanina 1977, *tpq* 1065) p. 37.
- Kuhtla-Käve, Estonia, U.S.S.R. 1957 (Söder 1965, *tpq* c.1120) 138b.
- Kurkijoki, Kuuppala, Karelia, U.S.S.R. 1886 (*SCBI* Helsinki p. xxviii, *tpq* 1050) 129Aa.
- Kvinnegårda I, Havdhem, Gotland, Sweden. 1893 SHM Inv. 9774 (Hatz 265, *tpq* 1047) 160a.
- List, Sylt, Schleswig-Holstein, B.R.D. 1937 (La Baume and Nöbbe 1958, *tpq* 1000) 2b, 20b, 110b, 149b, 207b, and p. 58.
- Maidla, Estonia, U.S.S.R. 1974 (Leimus 1979, *tpq* 1135, but main hoard 1090) p. 57.
- Myrände, Atlingbo, Gotland, Sweden. 1893 SHM Inv. 9392/3 (Hatz 209, *CNS* 1.1 19, *tpq* 1036) p. 58.
- Nousiainen, Nikkilä, Finland. 1895 NM 3132, 3579 (*SCBI* Helsinki p. xxx, *tpq* c. 1036) 12a, 29c, 101g, 109f, 145a, and 161a.
- Österby, Othem, Gotland, Sweden. 1920 GF C1383 (Hatz 160, *tpq* 1024) p. 58.

- Oxarve, Hemse, Gotland, Sweden. 1920 SHM Inv. 16504 (Hatz 374, *tpq* 1120) 128b and 146a.
- 'Russian Find'. Before 1850 (Dolley and Strudwick 1955 p. 35, *tpq* 1028) 144d.
- Schwaan I, Bützow (Rostock), Schwerin, D.D.R. 1859 (Kiersnowski 1964 no. 164, *tpq* 1024) p. 58.
- Sigsarve, Hejde, Gotland, Sweden. 1918 SHM Inv. 16077, 16200 (Hatz 285, *tpq* 1055) p. 58.
- Skubarczewo, Kinno, Mogilno, Poland. 1879 (Slaski and Tabaczynski 1959 no. 47, *tpq* 1021) 19Aa.
- Sløgstad, Stranda, Möre og Romsdal, Norway. 1947 (Skaare 1976 no. 127, *tpq* 1002) p. 58.
- Stige, Indal, Medelpad, Sweden. 1904 SHM Inv. 12079 (Hatz 152, *tpq* 1021) 205b.
- Stockholm (Karlberg), Uppland, Sweden. 1868 SHM Inv. 3861 (Hatz 133, *tpq* 1012) 102b and 109d.
- Stora Enbjänne, Hogrän, Gotland, Sweden. 1881 SHM Inv. 6821 (Hatz 125, *tpq* 1005) 112b.
- Store Frigaard, Øster Marie, Bornholm, Denmark. 1928 FP 1701 (*SCBI* Copenhagen i no. 106, Galster 1977–78 no. 48, *tpq* 1106) 22 b.
- Stora Sojdeby, Fole, Gotland, Sweden. 1910 SHM Inv. 14091/2 (Hatz 354, Schnittger 1915, *tpq* 1089) 19b, 101c, 122c, 127a, 130a, and 139c.
- Store Valby, Aagerup, Sjælland, Denmark. 1839 FP xxxvii (*SCBI* Copenhagen i no. 82, *tpq A/S* 1042) 132a and p. 58.
- Stryjowo Wielkie, Ciecchanów, Warszawa, Poland. c. 1970 (Glendining & Co., 14.iii.1973, lots 1–146, *tpq* 1044) 123a.
- Vaabina, Estonia, U.S.S.R. 1936 (Anderson 1937, *tpq A/S* 1003) 122e and 141h.
- Ytlings, Othem, Gotland, Sweden. 1894 SHM Inv. 9533 (Hatz 91, *tpq* 1003) 139b.

Appendix IV Corrections to certain Published Catalogues

Coins now considered to be Scandinavian strikings

A number of coins which had been published as English or Hiberno-Norse are considered in this paper to be products of the imitative workshop, and hence Scandinavian. Some of the reattributions, particularly of coins in the Stockholm Systematic Collection, have already been published by others, but for the sake of consistency they are set out again below. The following is a list of coins which occur in Die-chains 1 or 2 and which are now considered to be Scandinavian strikings. No corrections are necessary to *BMC*.

B. E. Hildebrand, *Anglosachsiska mynt*, 2nd Ed., Stockholm, 1881.

Æthelræd II 136, 276, 329, 758, 792–4, 814–5, 871–3, 889, 937, 949–51, 953, 997, 1515–6, 1896, 2142–3, 3362, 4350, 4355–6.

Sihtric III 44, 76.

Sisig 1–3.

S. Holm, *Uppsala Universitets Anglosaxiska Myntsamling*, Uppsala, 1917.

Nos. 101, 145–6.

Sylloge of Coins of the British Isles, London, 1958 –

Vol. 2 (Hunterian Museum, Glasgow) Nos. 845, 861.

Vol. 5 (Grosvenor Museum, Chester) Nos. 457–9.

Vol. 7 (National Museum, Copenhagen, part ii) Nos. 265, 276(?), 283, 311, 487, 1532.

Vol. 8 (British Museum, Hiberno-Norse) No. 27.

Vol. 20 (R. P. Mack Collection) No. 974.

Vol. 21 (National Museum, Copenhagen, part v) Nos. 18, 31, 35A.

Vol. 25 (National Museum, Helsinki) Nos. 219, 360.

Corpus Nummorum Sæculorum IX–XI qui in Suecia reperti sunt, Stockholm, 1975 –

Vol. 1:1 No. 9. 468.

Coins now considered to be English

The final section of this paper discusses a number of *Long Cross* coins which had been considered Hiberno-Norse. There follows a list of those coins for which, on balance, an English attribution is now preferred.

B.E. Hildebrand, *Anglosachsiska mynt* (coins which had been reattributed in van der Meer 1961 or Dolley 1972)

Æthelræd II 731, 954, 956, 1387, 3533, 3538–9.

Sylloge of Coins of the British Isles

Vol. 5 (Grosvenor Museum, Chester) Nos. 454–6.

Vol. 7 (National Museum, Copenhagen, part ii) Nos. 251, 485.

Vol. 8 (British Museum, Hiberno-Norse) No. 43.

Vol. 17 (Midland Museums) No. 211.

Vol. 20 (R. P. Mack Collection) No. 973.

Vol. 21 (Yorkshire Collections) No. 1480.

Vol. 22 (National Museum, Copenhagen, part v) Nos. 27, 30.

Vol. 25 (National Museum, Helsinki) No. 934.

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BEH 1846 Ed. *Idem*, 1st. edition, 1846.

BMC H. A. Grueber and C. F. Keary, *A Catalogue of English Coins in the British Museum: Anglo-Saxon Series*, vols. i–ii, London 1887–93.

CNS *Corpus Nummorum Sæculorum IX–XI qui in Suecia reperti sunt*, vol. 1.1 –, Stockholm, 1976 –.

Hatz G. Hatz, *Handel und Verkehr zwischen dem Deutschen Reich und Schweden in der späten Wikingerzeit*, Stockholm, 1974.

Holm S. Holm, *Studier öfver Uppsala Universitets Anglosaxiska Myntsamling*, Uppsala, 1917.

SCBI *Sylloge of Coins of the British Isles*, vol. 1 –, London, 1958 –.

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See Postscript p. 61.

Imitation and Imitation of Imitation: Some Problems Posed by the non-English *Helmet* Pennies with the Name of Æthelræd II

by *Michael Dolley*

Between pp. 37–165 and 486–90 of his classic *Anglosachsiska mynt* Bror Emil Hildebrand has listed, inclusive of mules and of minor variants, a grand total of 530 *Helmet* type pennies of the early eleventh century, 529 as English and only one as Irish (*recte* Hiberno-Norse)¹. Nearly a century later re-examination of that material prompts only very minor revisions. Of the coins purporting to be Anglo-Saxon ten should be transferred to the Hiberno-Norse trays, and seven to the Scandinavian. *Helmet* type imitations in both these series are, of course, relatively rare, but it may be thought that this was something always to be expected. Imitators almost by definition are prone to eschew issues which are light in weight, and particularly when the types to be copied are relatively complicated. *Pace* Mr John Brand², there is no doubt that *Helmet* was one of Æthelræd II's six substantive issues, and

even those serious students who still find difficulty in accepting the hypothesis of a regular sexennial cycle embracing virtually the whole of the reign seem prepared to concede that there is, after all, a strong case for the *Helmet* issue beginning in the autumn of 1003 and extending as late as the autumn of 1009. As will be argued below, there are no authentic mules with the *Long Cross* issue which immediately preceded it, but for too long neglected by English students are two transitional pieces (BEH Ethelred 59 and 3397) which must come at the very head of the issue, and which are illustrated here (Pl I, 1 & 2). They are, of course, critical for the recognition of the individual style of the English engraver who may be supposed to have supplied coinage-dies to mints in south-western England at the issue's inception³. In the same way, a unique mule into the succeeding *Last Small Cross* type (Pl I,3) should give some idea of the personal quirks of the craftsman supplying dies to mints in the West Midlands during the last months of *Helmet's* currency^{3a}.

An unpublished analysis of the dozen surviving coins from the countermanded *Agnus Dei* type associated with the late summer of 1009 suggests that the pattern of regional die-cutting so clearly discernible in the *Last Small Cross* type was no innovation, while recent work on distinctive series in the *Long Cross* type argues that decentralization of die-production already was in process as early as the opening years of the eleventh century⁴. Not the least of the difficul-

1: B. E. Hildebrand, *Anglosachsiska mynt*, 2nd edn, Stockholm, 1881. It should be noted that reckoned as English were the pennies with the Dublin mint-signature in Æthelræd's name.

2: *SNC* 1967, pp. 63-5 – curiously, if one could be confident of the arithmetic, the paper in fact vindicates the substantive status of *Second Hand*, for the argument is very much that the two types fall (and so stand) together.

3: BEH Ethelred 59 (Bath) and 3397 (Salisbury). The last is, of course, the earliest coin of the mint, *cf.* *NNUM* 1954, pp. 152-6.

3a: BEH Ethelred 3981 (Worcester).

4: Work since *Antikvariskt Arkiv* 9 is most conveniently summarized on p. 346 of *SCMB* 1977 STET 29–88.

ties facing the student of *Helmet* type coins struck outside England is the absence of a monograph establishing with decent precision the regional pattern of die-production existing in respect of the prototypes. That the dies for the English coins were not cut all at one centre should be immediately obvious – one has only to cite the ‘peakless helmet’ style that is particularly associated with York (Pl I, 4) but the odd specimen of which seems to occur as far afield as Bath⁵ – but a fortunate homogeneity of style among the best of the imitations, Hiberno-Norse and Scandinavian, means that the recognition of non-English work often proves easier than the erection of valid criteria for the distribution of the dies of the English prototypes between different regional schools.

Where difficulty does exist when working with the imitations is in drawing the distinction between ‘insular’, *i.e.* Hiberno-Norse, and ‘continental’, *i.e.* Scandinavian, and it is only with the resolution of this dichotomy that one is in a position finally to determine which pieces considered by Hildebrand to be English (or ‘Irish’) belong in fact to Scandinavia. With great generosity Professor Brita Malmer has made this task infinitely easier by putting at the author’s disposition a total of 56 *Helmet* type pieces of early eleventh-century fabric picked out from the systematic collections of the Royal Coin Cabinet and National Museum of Monetary History at Stockholm (hereinafter cited KMK), and from various unpublished hoards, and to these pieces, all certainly Scandinavian, there have been added another 14, some of them die-duplicates, which were admitted by Hildebrand (or in some cases perhaps by a successor in KMK, Mrs Rosa Christina Norström⁶) to a place in the English cabinets, or which until quite recently have passed for ‘Irish’.

Since Hildebrand’s time there have emerged certain criteria the presence of one or more of which can be taken as indicative of a coin’s production at a centre beyond the effective control of the English king. Most immediately

obvious of these is striking on rectangular flans⁷. One recalls ruefully that at one time – at the beginning of the eighteenth century – the practice was thought to be Irish⁸, but today it is universally accepted that only coins on round flans left English mints (and, for that matter, the mint of Dublin). It follows that a die employed to strike a coin on a rectangular flan may be presumed to be Scandinavian – unless, of course, it should prove possible to demonstrate abstraction of the die from an English mint, something that seems not to have happened in the case of any English die of *Helmet* type, though the odd instance is known to have occurred earlier and perhaps later⁹. This rectangular-flan criterion alone, we may note, is sufficient of itself to cast doubt on the English origin of half of the obverse dies in the sharply defined grouping of Scandinavian dies stylistically good enough to have deceived a past generation of English numismatists. Mules between *Helmet* and the preceding *Long Cross* and succeeding *Last Small Cross* types are not quite so final – there is, as we have seen, an authentic English *Helmet/Last Small Cross* mule from Worcester – but in combination such mules can be very effective, and in the present instance their very multiplicity suffices to cast doubt on the English work of five of the dozen Scandinavian dies which have passed muster for insular.

5: BEH Ethelred 53.

Cf. infra, p. 116.

7: On the blanks for these *cf.* Lillemor Lundström, *Bitsilver och betalningsringar*, Stockholm, 1973 (= *Theses and Papers in North-European Archaeology* 2).

8: N. Keder, *Nummorum in Hibernia etc.*, Leipzig, 1708.

9: A full list will be published in *SCBI* Stockholm H/N (forthcoming) of those where an English die is used at Dublin (*Crux*, Watchet: *Long Cross*, Worcester: *Last Small Cross*, Chester – note the geographical pattern). At least one group of English dies seems to have been removed to Scandinavia from York *c.* 997 (*cf. BNJ* XXX, ii(1961), pp. 217–220), but most of the dies used in Scandinavia and thought to be English by our Scandinavian colleagues are in fact imitative STET 29–88.

Equally suggestive, even if not always in itself conclusive, is the pattern of weights. One ought to be alerted, if not positively disturbed, when one finds a *Helmet* coin superficially English but weighing more than 1.6 g. or less than 1.2 g., and this is indeed the case with at least one striking from two-thirds and more of the more plausible of the dies which this paper will be distinguishing as Scandinavian. Finally there is the question of unintelligibility ('blundering') of legend. Among the dozen imitative dies of the better type there are only three which are not found at Stockholm combined with a reverse which a student of the Anglo-Saxon series would not reject instinctively as non-English.

Cumulatively these criteria are even more impressive, and later in this paper tables will be used (pp. 98 and 99 *infra*) to demonstrate the formidable interlocking of the totality of the evidence. First it will be necessary, however, to give some account of the 91 coins in KMK at Stockholm, many of them unpublished, which, in the opinion of the present writer at least, are the products of dies engraved in Ireland or in Scandinavia no later than the first half of the second decade of the eleventh century. Excluded from the scope of this paper are those imitations which are demonstrably later in date, for example a well-known series associated with Lund and the heyday of Harthacnut (Pl VII, 7), and some late and crude pieces struck on exiguous flans (Pl VII, 8). Neither would take in for one minute any serious student of the English series, and both lie in the province of the purely Scandinavian investigator. Our ninety-odd coins fall naturally into four major groupings, two 'Irish' (Hiberno-Norse) and two Scandinavian. What must surprise is that the principal nexus where style is concerned lies between the larger of the 'Irish' and the larger of the Scandinavian groupings, and the implications of this will have to be described later. To take first the Hiberno-Norse coins of the Dublin mint, they number no more than 21. Since they are all shortly to be published – and illustrated – in a fascicle of the

British Academy's *Sylloge of Coins of the British Isles*, it is sufficient perhaps to remark that they appear to be from 10 obverse and 13 reverse dies. There are no rectangular-flan pieces, no mules, and no pieces of suspiciously high weight – though it should be noted in passing that the series generally appears to have been struck to a weight-standard appreciably lighter than that found in the case of even the lighter of the English prototypes. There is only one obverse legend which substitutes the name of Sihtric for that of the English king, but five of the reverse legends include an acceptable form of the Dublin mints signature, while four include a version of the personal name Færemin (ON Farmann?) which is peculiarly associated with the Dublin mint in the first decade or so of the eleventh century. When we come to scrutinize the obverse legends wherein is reproduced the name of Æthelræd, we find that seven of the eight legible dies *a*) exhibit the well-attested Dublin engraver's quirk of substituting '+' for the 'X' of the royal title, and *b*) substitute 'Ð' for the final unlenited consonant of the king's name. That all were engraved by one and the same man cannot well be doubted, nor his identity with the engraver of the unique die where Æthelræd's name is replaced by that of Sihtric. Chosen for illustration here is one of these last coins (Pl I, 5) together with a pseudo-Æthelræd coin of the moneyer 'Siulf' which has the exceptionally full and unequivocal Dublin mint-signature DYFLI-NAM (Pl I, 6). The portrait in both cases is that which one might term normal for Dublin coins of the issue, and the most obvious criterion is the inclusion at the peak of the helmet of a third annulet, a feature which the writer has failed to find exhibited by an English die. For obvious reasons it must also be said that there exists one quite exceptional Dublin die from which this feature is absent – as also are the special forms of 'X' and 'D' – and certainly at this stage the possibility should not be altogether precluded of the obverse die being English, even though a die-link with a coin incontrovertibly English has

still to be discovered. Finally, and for reasons that will appear later in this note, mention should be made of the existence at Stockholm of a third coin (? unique) with the normal Dublin bust and legend (third annulet, 'Ð' and '+' etc.), but with a curious detail at the base of the helmet which culminates in a spike-like object impaling a trefoil.

That the 21 coins summarily cited above are Hiberno-Norse imitations directly copied from English pennies seems incontrovertible. Geography alone must make it unlikely if not impossible that the Dublin engraver had access to Scandinavian imitations to serve as his models, and still there is no record of a tenth- or eleventh-century Scandinavian coin struck earlier than the 1040s reaching the Anglo-Celtic Isles. The point is one by no means as academic as at first sight it might appear. What this paper will be suggesting in due course is that the most skilful of the Scandinavian engravers of coins of *Helmet* type had on the bench before him at least one of the Dublin imitations to serve as one of his models.

Turning now to the seventy coins which it is opined are Scandinavian and not 'Irish', a similar stylistic dichotomy emerges. On the one hand there are a dozen obverse dies of very sophisticated work – the principal subject of this paper – and when these are found combined with one or other of four reverse dies (two of *Helmet* and two of *Long Cross*) exhibiting comparable proficiency, the products – when struck on round flans – have for far too long bedevilled the whole problem of imitation of the type in question. As recently as 1968 one was published if not as English at least as Hiberno-Norse. On the other, there are very few obverse dies of a style and execution which would not take in for one moment an English specialist, and it may be as well to dispose of the nine coins struck from them before getting down to the very real problems presented by the pieces where the obverse dies are of very superior execution.

Significantly there seem to be no links between the two groupings, and no less suggestive is the fact that all the more 'barbarous' coins are mules. It is possible, of course, that Dr Malmer's definitive researches may establish an ultimate nexus between the two groupings – as will be seen there is just a possibility that one or two of the cruder dies go back for their inspiration to coins of more sophisticated style – but for the present it is better to assume that they are the products of at least two distinct *ateliers* – the term 'mint' it will be suggested in due course is one best avoided in the case of purely imitative coinages where the legends are purely derivative, where not deliberately unintelligible, and seem never to essay the name of a local authority.

The 'mini-corpus' that follows is drawn up on the following principles. Within each of the two main groupings each obverse and reverse die is given a letter, this being enclosed in a bracket where the die is not of *Helmet* type. Each die-combination is given a running number, and usually the best preserved specimen is selected for illustration. Where established the hoard-provenance is supplied – the abbreviation 'whp' (without hoard provenance) or the Hildebrand number (BEH) both mean that it is not known from which particular Swedish hoard the coin derives. Details also are given of weight and die-axis. A word may also be said about the transcriptions of the legends. These are purely conventional even arbitrary, and are meant to convey no more than what one particular student opined that the engraver may have been essaying. In due season, of course, they will have utterly to be superseded by Dr Malmer's meticulous renderings of what actually appears on the coins, but for the present they may serve conveniently to distinguish dies in a series almost tedious in the monotonous limitations of its pseudo-epigraphy. A dot below a letter indicates that it is reversed, and one above that it is inverted.

A) *Coins of inferior execution*a) *LONG CROSS/HELMET MULES*

Dies

- (Φ) φ 1) *Obv.* +DI—O—PNO *Rev.* +DI / OPI / CNI / ON (*retrograde*)
 a) RECTANGULAR FLAN whp 2.19 g., 60° (PI I, 7)
- (X) x 2) *Obv.* +NDCDOHIOIC+NO (*retrograde*) *Rev.* *From the same reverse die*
 Right-facing bust
 a) whp 1.24 g., 330° (PI I, 8)
- (Ψ) ψ 3) *Obv.* *Meaningless sequence of strokes and opposed wedges* *Rev.* *Apparently anepigraphic*
 Right-facing bust
 a) 0.94 g., ? (PI II, 1)
 NB This coin could well be substantially later than others of the grouping but is included in the interests of totality
- (Ω) ω 4) *Obv.* II+II...IIIIIIIL IMII *Rev.* ++HM / IVCN / IIVE / HPN
 a) ? Fd Gärestad, Edestad parish, Blekinge, 1888 1.30 g., 0° (PI II, 2)

b) *HELMET/LAST SMALL CROSS MULES*

- T (σ) 5) *Obv.* +EDELREDREXANG *Rev.* +LEIDIIIIIC?LIHOICII
 a) whp 1.31 g., 150° (PI II, 3)
- T (τ) 6) *Obv.* *From the same obverse die* *Rev.* xCIIIO?IIIIIIICOI
 Pellets in angles of cross of reverse type
 a) Fd Gärestad, Edestad parish, Blekinge, 1888 1.12 g., 180° (PI II, 4)
- T (υ) 7) *Obv.* *From the same obverse die* *Rev.* xCIVLO—IIË-II-IC-DOÇ
 a) Fd Gärestad, Edestad parish, Blekinge, 1888 1.60 g., 0°
 b) whp 1.49 g., 0°
 c) whp 1.18 g., 270° (PI II, 5)
 d) Fd Hallsarve, När parish, Gotland, 1942 1.16 g., 180°
 NB The reverse die omits the inner circle proper to the type.

The four *Long Cross/Helmet* mules need scarcely detain us. It may be noted, however, that the first is faulted by its rectangular flan and weight as well as by stylistic considerations, and takes with it the second coin with which it is die-linked. In the same way the third coin falls to the ground by reason of its weight as well as crudity of execution, while the fourth is excluded from the English series by the unintelligibility of both legends even were one to accept the style of the portrait. The Blekinge provenance (Hatz¹⁰ 296)

is chronologically meaningless even in respect of the actual coin, and we can only hope that Dr Malmer may in due course pick up the obverse dies in other combinations – to be stressed is the fact that the present writer in the time at his disposal has not been able to check for die-links those obverses and reverses among the Scandinavian imitations which are not of *Helmet* type.

Little needs to be said, too, concerning the *Helmet/Last Small Cross* coins beyond the fact that three reverses with the one obverse is in itself more than enough to arouse suspicion even if the argument is far from being conclusive. The single Gotland provenance (Hatz 360) is, of course, chronologically irrelevant, while the fact

10: G. Hatz, *Handel und Verkehr zwischen dem Deutschen Reich und Schweden in der späten Wikingerzeit*, Stockholm, 1974.

that two of the coins derive from a hoard from Blekinge can scarcely sustain any attribution to Skåne. What should be pointed out, however, is that the large cross *pattée* of the reverse type found in the case of coin 5) indicates the engraver's awareness of English pence of the *Last* and not the *Intermediate Small Cross* type, and, inasmuch as the argument could be thought to be decisive for placing this grouping of Scandinavian coins no earlier than the second decade of the eleventh century, one of the English prototypes is illustrated to make the point (Pl II, 6).

We may now turn to the larger grouping which takes in a dozen obverse and two reverse dies of *Helmet* type, together with two reverses of *Long Cross* type, where the standard of die-cutting is so sophisticated that a number of the coins from them have been considered English as recently as within the last decade. Again it is best to begin with a mini-corpus of the KMK specimens, but such is the complexity of the die-linking that it has been thought best to summarize it diagrammatically on a separate plate (Pl VIII). The listing runs:

B) Coins generally of superior execution (certain of the mules excepted)

a) TRUE COINS OF THE TYPE

Dies

Aa	1) <i>Obv.</i> +EDELREDR+ANGLO a) whp 1.38 g., 180° (Pl II, 7)	<i>Rev.</i> +IN / MIOI / LDN / IPOI
Ab	2) <i>From the same obverse die</i> a) Fd Stige, Indal parish, Medelpad, 1904 1.355 g., 0° (Pl II, 8)	<i>Rev.</i> +LID / MOV: / HLM / IPOM
Bc	3) <i>Obv.</i> +EDELREDREXANGLo a) BEH Ethelred 2497 1.48 g., 90° (Pl III, 1) b) RECTANGULAR FLAN Fd Myrände, Atlingbo parish, Gotland, 1893 (= CNS 1.1, p. 190, 1767) 1.74 g., 0°	<i>Rev.</i> +ED: / PINE / MΩOL / VND
Cd	4) <i>Obv.</i> EDELREDRE+ANGL a) whp 1.82 g., 0° (Pl III, 2)	<i>Rev.</i> +LN / IOND / NOP / AMO
Ce	5) <i>From the same obverse die</i> a) Fd Sandtorp, Viby parish, Närke, 1913 1.36 g., 180° (Pl III, 3)	<i>Rev.</i> +INL / ?DI / HPN / DNIO
Cf	6) <i>From the same obverse die</i> a) BEH Ethelred 526 1.55 g., 0° (Pl III, 4) b) Fd Burge, Lummelunda parish, Gotland, 1967 1.365 g., 180° NB For a fourth die-pairing from the same obverse cf. SCBI BM H/N 47, while yet a fifth will be found in the University Coin Cabinet at Uppsala.	<i>Rev.</i> +ED / PINE / MOE / AXE
Dc	7) <i>Obv.</i> +ÆDELREDREXANGI a) RECTANGULAR FLAN Fd Stige, Indal parish, Medelpad, 1904 1.65 g. (incomplete), 90° (Pl III, 5) b) RECTANGULAR FLAN Fd Stige, Indal parish, Medelpad, 1904 1.28 g. (incomplete), 90° c) RECTANGULAR FLAN Fd Sandtorp, Viby parish, Närke, 1913 1.10 g., 90°	<i>From the same reverse die as no. 3 supra</i>
Ec	8) <i>Obv.</i> +EDELREDREXANG. a) BEH Ethelred 2494 1.76 g., 270° (Pl III, 6) b) RECTANGULAR FLAN BEH Ethelred 2495 2.30 g., 270° c) RECTANGULAR FLAN BEH 2635 2.52 g., 90° (misread as GODPINE, cf. BNJ, XXX, i (1960), p. 58)	<i>From the same reverse die as nos 3 and 7 supra</i>
Fg	9) <i>Obv.</i> +EDELREDREXANG a) RECTANGULAR FLAN whp 2.41 g., 75° (Pl III, 7)	<i>Rev.</i> +IN / LIPO / DI / PLND

- Gh 10) *Obv.* +EDELREDREXANG *Rev.* + NP / INDO MPL / IDO
a) Fd Myrände, Atlingbo parish, Gotland, 1893 (= *CNS* 1.1, p. 190, 1766) 1.36 g., 180° (PI III, 8)
- Hi 11) *Obv.* +EDELREDREXAN *Rev.* +ED / NLO / IND / NDO
a) whp 2.15 g., 270° (PI IV, 1)
- Id 12) *Obv.* EDELREDREXAN *From the same reverse die as no. 4 supra*
a) whp 1.25 g., 270° (PI IV, 2)
- Jj 13) *Obv.* +EDELREDFR+AN *Rev.* +NDI / NLO / NAI / N'O
a) whp 1.49 g., 270° (PI IV, 3)
b) RECTANGULAR FLAN Fd Stige, Indal parish, Medelpad, 1904 1.11 g. (incomplete), 180°
c) RECTANGULAR FLAN whp 2.59 g., 270°
d) RECTANGULAR FLAN whp 2.24 g., 270°
NB For another pairing from the same obverse see a pair of die-duplicates in the University Coin Cabinet at Uppsala.
- Jk 14) *From the same obverse die* *Rev.* +NDI / NLO / NAI / IPO:
Perhaps the same reverse die as the foregoing before recutting?
a) whp 1.85 g., 270° (PI IV, 4)
- Kc 15) *Obv.* +ÆDELREDREXAN *From the same reverse die as nos 3, 7 and 8 supra*
a) BEH Ethelred 2492A 1.86 g., 180° (PI IV, 5)
b) BEH Ethelred 2492 1.44 g., 0°
- Ll 16) *Obv.* +ÆDELREDREXA *Rev.* +IN / NDIO / PHI / MDO
a) whp 1.24 g., 0° (PI IV, 6)
NB For another specimen *cf.* SCBI Copenhagen 1682
- Lm 17) *From the same obverse die* *Rev.* +DN / MIL / IND! / LMO
a) Fd Gärestad, Edestad parish, Blekinge, 1888 1.41 g., 180° (PI IV, 7)
b) whp 1.35 g. (incomplete and doublestruck), 180°
NB For two further die-pairings apparently still from the same obverse die *cf.* SCBI Copenhagen 1680 & 1681.
- ?n 18) *From an obverse die too weakly struck to allow identification* *Rev.* +LVI / NIND / PNO / PIVF
a) whp 1.66 g., 90° (PI IV, 8)
- c 19) *Uniface semi-bracteate* *From the same reverse die as nos 3, 7, 8 and 14 supra*
a) Fd Boberg, Fornåsa parish, Östergötland, 1865 1.45 g., ? die-axis (PI V, 1)

b) *HELMET/LONG CROSS MULES*

NB: Such mules 'the-wrong-way-round' should not exist where the official English series is concerned.

- B(o) 20) *From the same obverse die as no. 3 supra* *Rev.* +AL / POL / DMOP / ELIG
a) BEH Ethelred 3914A 1.25 g., 180° (PI V, 2)
b) BEH Ethelred 3914 1.60 g., 90°
c) whp 1.72 g., 0°
- C(p) 21) *From the same obverse die as nos 4–6 supra* *Rev.* +DI / NIO / DIN / M'O
a) Fd Stale, Rone parish, Gotland, 1954 1.31 g., 180° (PI V, 3)
- C(q) 22) *From the same obverse die* *Rev.* +CA / NDM / OIG / D?H (*retrograde*)
a) Fd Karlberg, Stockholm, 1868 1.44 g., 270° (PI V, 4)
- C(r) 23) *From the same obverse die* *Rev.* +E: / LPO / DII / ON
a) whp 1.27 g., 180° (PI V, 5)
- C(s) 24) *From the same obverse die* *Rev.* I+I / OOI / LN / LN
a) Fd Stora Sojdebby, Fole parish, Gotland, 1910 1.77 g., 270° (PI V, 6)

- C(t) 25) *From the same obverse die* *Rev.* +OI / LPL / OPF / PN:
 a) RECTANGULAR FLAN whp 1.74 g., 345° (PI V, 7)
- C(u) 26) *From the same obverse die* *Rev.* +IO / FDI / IPI / LLI
 a) Fd Hallsarve, När parish, Gotland, 1942 1.85 g. (pierced), 270° (PI V, 8)
 b) whp 1.48 g., 180°
 c) whp 1.42 g., 270°
- C(v) 27) *From the same obverse die* *Rev.* IOI / OC / PI / IOI
 a) Fd Hallsarve, När parish, Gotland, 1942 1.68 g., 90° (PI VI, 1)
 b) Fd Gärestad, Edestad parish, Blekinge, 1888 1.37 g., 90°
 c) Fd Stige, Indal parish, Medelpad, 1904 1.36 g., 90°
 NB For what seems to be a seventh die-pairing of the mule from the same obverse *cf.* SCBI Copenhagen 1686.
- L(w) 28) *From the same obverse die as no. 15 supra* *Rev.* +PVL / MÆR / MΩO / LINC
 a) BEH Ethelred 2018 1.71 g., 180° (PI VI, 2)

c) LONG CROSS/HELMET MULES

- (N)n 29) *Obv.* oELDLOCPI + CIL?I *From the same reverse die as no. 18 supra*
 a) Fd Grausne, Stenkyrka parish, Gotland, 1887 1.87 g., 270° (PI VI, 3)
 b) Fd Barshaga, Othem parish, Gotland, 1911 1.33 g. (incomplete), 0°
- (O)x 30) *Obv.* +ELPERDLx ANGLo *Rev.* +BR / EHT / NOD / MOE
 a) BEH Ethelred 644A 1.05 g., 210° (PI VI, 4)
 b) BEH Ethelred 644 1.08 g., 330° – it may be noted that this battered piece was wrongly classified by Hildebrand himself as a true *Helmet* coin, an error that goes back to the 1st edn (Stockholm, 1846) of *Anglosachsiska mynt* (p. 48, no. 359 – but rightly described as of *barbariskt arbete*).

NB: Not to be forgotten in connection with these mules is an apparently unique coin in the National Museum of Ireland (*cf.* SCBI BM H/N, PI E) which, while it does not die-link into this grouping and is indeed of discrepant style, provides some of the best evidence that there is at this period Scandinavian imitation of Irish imitation of English prototypes. Just discernible in the retrograde legend of the reverse is the +GIO / DPIN / EM'O / DEO of the contemporary Irish imitation of the Anglo-Saxon penny (*cf. ibid.*, PI I, nos. 23 & 24 and remarks thereon).

d) HELMET/SMALL CROSS MULES

- A(y) 31) *From the same obverse die as no. 1* *Rev.* +IIOIID??IN???I? (*retrograde*)
 a) Fd Gärestad, Edestad parish, Blekinge, 1888 1.43 g., 0° (PI VI, 5)
- A(z) 32) *From the same obverse die* *Rev.* *Illegible* (small, neat pseudo-epigraphy)
 a) Fd Sandtorp, Viby parish, Närke, 1913 1.12 g. (incomplete), die-axis? (PI VI, 6)
- A(α) 33) *From the same obverse die* *Rev.* +CHILI O????III-CO??
 a) Fd Blommenhov, Flen parish, Södermanland, 1905 1.42 g., 180° (PI VI, 7)
- C(β) 34) *From the same obverse die as no. 4 supra* *Rev.* +D:COPCOLOPL-OCN
 a) Bt † G. Möllenberg, 1851 1.60 g., 210° (PI VI, 8)
 b) whp 1.38 g., 135°
- F(γ) 35) *From the same obverse die as no. 9 supra* *Rev.* *Sequence of 'L's, 'O's and 'D's*
 a) whp 1.54 g. (pierced), 90° (PI VII, 1)
- L(δ) 36) *From the same obverse die as no. 15 supra* *Rev.* *Illegible* (but comparable to the foregoing)
 a) Fd Bölske, Grötlingbo parish, Gotland, 1856 1.11 g., die-axis? (PI VII, 2)

L(ε) 37) *From the same obverse die* Rev. +INḂHIOILCIILOHIIoIDI
 a) Fd Kännungs, Hellvi parish, Gotland, 1934 1.34 g., 180° (Pl VII, 3)
 b) whp 1.66 g., 180°

L(ζ) 38) *From the same obverse die* Rev. +HIDII-IIC?HIOC??II
 a) Fd Grönby, Grönby parish, Skåne, 1855 1.72 g., 270° (Pl VII, 4)
 NB For a die-duplicate cf. *SCBI* Copenhagen 1683.

L(θ) 39) *From the same obverse die* Rev. xICPIHOOICICIHIOICIII
 a) whp 1.36 g., 180° (Pl VII, 5)

NB: The place of *SCBI* Copenhagen 1684 in this series has still to be determined. Superficially it would appear to be from 'new' dies but ones cut by the same hand or hands as the foregoing. *SCBI* Copenhagen 1685, on the other hand, is excluded from consideration by reason of its crudity (imitation of imitation of imitation?).

That all the *Helmet* obverse dies in the above grouping were cut by one and the same engraver must seem from the plates to be self-evident, and it may be pointed out now, even if discussion is reserved for later, that in each and every case the tail of the helmet terminates in what may be styled a spike impaling a trefoil:-



Fig. 1.

It has been noted that something of the same sort occurs on one die in the Hiberno-Norse series, and ambiguity could be thought to be complete when it is observed that in each and every case the Scandinavian pieces exhibit a third annulet set at the peak of the helmet. On a proportion of these coins, moreover, there is something very nearly approximating to the 'Irish' replacement of 'X' by '+'. It is in fact with the resolution of these ambiguities that this paper is very largely concerned. The first point to be made is that the epigraphy of these obverses is resolutely 'English', and generally inconsistent if not incompatible with that found in the case of the reverses where there does occur the odd 'Irish' quirk – most notably a pellet-centred 'O'. The explanation of the difficulties would seem to be that all the obverses, and probably many of the reverses as well, were

cut by an artist who, when he wished, was capable of executing the most brilliant pastiches of his prototypes, and here is one reason why one should perhaps eschew use of the conventional term 'blundered' in respect of the reverses with unintelligible legends. If one thing is certain, it is that these reverses were never meant to be read, and yet even to the literate not to say experienced eye they give at first glance a vivid impression of a true legend. The sheer economy of his alphabet is astonishing for its controlled impudence, and the following table may serve also to bring out the close relationship that subsists between the *Long Cross* mules and the true coins:-

Incidence of letters on reverse dies expressed as percentages rounded to the nearest 5%

	<i>Helmet/Long Cross</i>	
	Mules (7 dies)	True coins (12 dies)
DINO	65+	70+
LMP	20+	20–
all other letters*	15–	5+

* <i>Long Cross</i>	A	C	E	F	G	H	
<i>Helmet</i>	A		E	F		H	V

The convention 'P' in the above table also takes in the normal numismatic writing of OE *wen* or *wyn*, and it is just possible that underlying the widely varying versions of the pseudo-epigraphy are memories of the +AL / POL / DMOP / ELIG

copied so faithfully in the case of coin 20) in the above list. It is the artistry that should be stressed, however, and against such a background it is a little less surprising perhaps that the two *Long Cross* and three *Helmet* reverses which are frankly imitative (*supra* nos. 3, 6, 20, 28 & 30 *etc*) should have waited so long for coins from them finally to be excluded from the English series.

Earlier in this paper it was suggested that we should accept four principal criteria as indicative of a probable Scandinavian origin for dies superficially English, *a*) the occurrence of strikings on rectangular flans (RF in the tables that follow), *b*) muling with other types and in particular mules 'the-wrong-way-round' (M), *c*) discrepant weight and especially when the coins are unduly heavy (DW), and *d*) unintelligibility of legend which may occur either in the case of the die itself or in one with which it is used in combination (U)¹¹. The next table is designed to show how the obverse dies of the more sophisticated grouping match up to the criteria in question:-

Obverse	RF	M	DW	U
A		+		+
B	+	+	+	
C	+	+	+	+
D	+		+	
E	+		+	
F	+	+	+	+
G				+
H			+	+
I				+
J	+		+	+
K			+	
L		+	+	+
?			+	+
(N)		+	+	+
(O)		+	+	

and it appears at once that dies G, I and K are the only ones to be condemned on no more than a single count. Left in the field as even possibly English is the *Helmet* coin of London faulted

only by metrology (*supra* no. 15), but a second table setting out the response of the reverse dies to the same set of criteria soon cuts the ground from under its feet:-

Reverse	RF	M	DW	U
a				+
b				+
c	+		+	
d			+	+
e				+
f				
g	+		+	+
h				+
i			+	+
j	+		+	+
k			+	+
l				+
m				+
(n)			+	+
(o)		+		
(p)		+		+
(q)		+		+
(r)		+		+
(s)		+	+	+
(t)	+	+	+	+
(u)		+		+
(v)		+	+	+
(w)		+		
x		+	+	
(y)		+		+
(z)		+		+
(α)		+		+
(β)		+		+
(γ)		+		+
(δ)		+	+	+
(ε)		+		+
(ζ)		+	+	+
(η)		+		+
(θ)		+		+

No longer is it just a matter of an odd discrepant weight but of a striking on an irregular flan, and in fact the coin in question was formally expelled from the English series in the course of a paper published close on twenty years ago¹². It only remains to combine both the above tables into one:-

11: For a fuller list of criteria see now *SCMB* 1977, pp. 346-7, but to gild this particular lily seems unnecessary.

12: *BNJ* XXX, i(1960), pp. 57-60.

Combination	RF	M	DW	U
Aa		+		+
Ab		+		+
Bc	+	+	+	
Cd	+	+	+	+
Ce	+	+	+	+
Cf	+	+	+	+
Dc	+		+	
Ec	+		+	
Fg	+	+	+	+
Gh				+
Hi			+	+
Id			+	+
Jj	+		+	+
Jk			+	+
Kc	+		+	
Ll		+		+
Lm		+		+
?n			+	+
B(o)	+	+	+	
C(p)	+	+	+	+
C(q)	+	+	+	+
C(r)	+	+	+	+
C(s)	+	+	+	+
C(t)	+	+	+	+
C(u)	+	+	+	+
C(v)	+	+	+	+
L(w)		+		+
(N)n		+	+	+
(O)x		+	+	+
A(y)		+		+
A(z)		+		+
A(α)		+		+
C(β)	+	+	+	+
F(γ)	+	+	+	+
L(δ)		+	+	+
L(ε)		+		+
L(ζ)		+	+	+
L(θ)		+		+

and it is, of course, on this basis that it has been possible to construct a diagrammatic representation of the die-linking (Pl VIII) which should convince even the most sceptical that the coins are the products of a single *atelier* – or at least of an individual, perhaps peripatetic, who had obtained his obverse dies and most if not all of his reverses from a single source.

Where was this *atelier* – or circuit – and when did it operate? Basically these are problems for

our Scandinavian colleagues, and, pending the completion of Dr Malmer's definitive study of the series as a whole, it is certainly not for *merus insulanus* to do more than relate the two problems to the insular prototypes. The use of the plural is quite deliberate, for the writer is satisfied that much of the confusion hereinbefore existing in respect of the better-style *Helmet* imitations stems from a failure to pose let alone accept the possibility, or even probability, that the Scandinavian plagiarist had on his bench both English and 'Irish' pieces and drew on both for his inspiration. At a pinch one might have been able to accept as coincidental the impalement of the trefoil at the base of the helmet which is found on one of the Dublin dies and on all those identified here as Scandinavian of the better class, but what are we to make of the additional annulet which is so prominent a feature on all but one of the Dublin dies and on each and every one of their Scandinavian analogues? It would be tempting indeed to seek to invert the order of imitation, and have Scandinavian pieces copied at Dublin – and especially when not one of the Scandinavian dies appears to exhibit what seems a sure criterion of 'Irish' work in this particular issue, the replacement of 'D' by 'Ð' – but the flow of silver was all in the other direction, and no Scandinavian coin of the tenth and eleventh centuries figures as an insular find before the 1040s. This is a whole generation after the pieces in question can be shown to have left the Dublin mint.

It may be helpful at this juncture to summarize what has already been established in respect of the distinction between the two series, the 'Irish' on the one hand, and the more sophisticated Scandinavian on the other. To be noted first is that all coins with the additional annulet at the peak of the helmet are either Hiberno-Norse or Scandinavian. There seem no exceptions. Secondly, all coins with the additional annulet which read Æ-DELRE-Ð and RE+ must be from Dublin. Thirdly, any coins where the spike at the

base of the helmet impales a trefoil of pellets are almost certain to be Scandinavian – there seems only one exception, the Dublin penny which the writer believes to be the prototype. Similarly, rectangular flans, high weights and muling with other types in themselves should be sufficient to indicate a Scandinavian origin. In other words, the student need no longer have undue difficulty in distinguishing the two series, and even the common feature of the added annulet on the peak of the helmet in fact is amenable to stylistic differentiation. On the ‘Irish’ pieces the additional annulet is linked to its fellow above the king’s forehead by a bar which essentially runs underneath and to the right of them (Fig. 2, a), while on the Scandinavian pieces the *nexus* is essentially a squiggle which is often markedly proud of the line of the visor (Fig. 2, b). Details such as these are, of course, the final rebuttal of any suggestion that the Dublin and Scandinavian dies could have been engraved by one and the same hand.

Fig. 2.a



Fig. 2.b



If one looks again at the ‘Irish’ pieces now finally distinguished, one finds that it is the rule rather than the exception for the tail of the helmet to end in some sort of spike, whereas on the English prototypes a spike of this kind is far from being the norm. It is found, however, in the case of the obverse die of the unique *Helmet/Last Small Cross* mule (Pl I, 3), a coin which is presumptively late, and which was struck at a mint in that part of England (W. Mercia) which lies closest to Ireland. As already explained, a proper stylistic break-down of the

English prototypes is an urgent *desideratum*, but it can be said that at Chester those coins which exhibit the spike are generally lighter than those which lack it, so that one is left with the impression that coins with this feature belong later rather than earlier in the issue of the type in question. In other words, the probability is that the Dublin coins belong nearer to 1009 than to 1003, and certainly *c.* 1005 must seem a plausible *terminus post quem*. One does not imagine, too, that there was any great rush on the part of the wily Dubliners to imitate an English type that was notoriously light until it had become obvious to all that the *Long Cross* penny was a thing of the past^{12a}.

A feature of the sophisticated Scandinavian imitations, as we have seen, is that they exhibit heavy muling alike into the *Long Cross* and the *Last Small Cross* issues. Taking into account the vulnerability of iron and steel to corrosion, it must seem very unlikely that our dozen tightly die-linked *Helmet* obverses were in existence both at the beginning and the end of the period of approximately six years which may be supposed to have elapsed between the arrival in Scandinavia of the first English coins of *Helmet* type and the advent of similar pieces of the *Last Small Cross* issue. Imitative *Long Cross* dies were probably being cut before the millennium, but equally are known to have been engraved at least as late as the third decade of the eleventh century, whereas by definition *Last Small Cross* coins were not available as models at least until the autumn of 1009. The imitative reverses of these last are used with the imitative *Helmet* obverses which exhibit little or no evidence of deterioration, so that the most natural interpretation of the mules is that they were executed *c.*

12a: It was only in the last days of January 1980 that there came to light in Dublin the first English coin of *Helmet* type known to the writer to have been found in Ireland – information kindly supplied by Mr P. F. Wallace of the National Museum of Ireland.

1010 with *Helmet* dies of relatively recent manufacture. In other words, ample time is allowed for the Dublin imitations of *c.* 1005 onwards to have found their way across the North Sea and so to be available as prototypes for a Scandinavian copyist.

Support for this dating to the early part of the second decade of the eleventh century may be thought to be afforded by the hoard-provenances which are preserved in respect of 26 of the coins. The earliest finds on record as including examples are those from Karlberg in Stockholm (Hatz 133) and Barshaga in Othem parish on Gotland (Hatz 127). Neither hoard can be supposed to have been concealed as early as 1010, but neither is likely to belong much after 1015. This *terminus ante quem* in the region of 1015 seems further supported by the presence of further pieces in hoards concealed in the 1020s, most notably the Stige treasure from Medelpad (Hatz 152) though mention should also be made of the Blommenhov find from Södermanland (Hatz 149) and of its Scanian counterpart from Grönby (Hatz 156). Nor should there be left out of account such only marginally later Gotland finds as those from Kännungs (Hatz 166) and Bölske (Hatz 170) in Grötlingbo and Hellvi parishes respectively. A relatively early date, too, seems hinted at by the 1851 purchase from the estate of the Stockholm goldsmith Gustav Möllenberg whose fourteen 'Anglo-Saxon' coins included twelve attributed to Æthelræd II but only two with the name of Cnut.

This provisional horizon somewhere around the beginning of the second decade of the eleventh century appears to be not at all inconsistent with what has already been established by others, and most notably by Dr Malmer, in respect of the chronology of the Scandinavian

imitative series as a whole. What should be stressed is that the *Helmet* imitations are what we may term politically discreet. There is no attempt in the obverse legends to substitute for the name of the English king that of some local dynast, and in the same way the reverse legends, where not exactly copying those of English prototypes, never essay intelligibility let alone the name of a mint. At this point of the argument, however, it must be made perfectly clear that no conscious attempt has been made by the present writer to follow through the pattern of the die-linking in respect of the non-*Helmet* elements in the mules, a task truly herculean and lying outside alike the brief and the competence of *merus insulanus*. However, even the most cursory of glances at Dr Malmer's material suggests that the already highly convoluted pattern of die-linking set out above (Pl VIII) is no more than the proverbial 'tip of the iceberg'. To take only one example already published, the group which takes in the obverse die (L) where the ethnic does not extend beyond 'A' has been shown to die-link through just one of the reverses into a whole run of *Long Cross* imitations¹³. These last include for good measure the ÆDEL / DÆPI grouping (*cf.* Pl VII, 6) which occurred in the 1807 Myrungs hoard from Linde parish on Gotland (Hatz 159) in such perplexing quantity – a total of 45 coins all, it would seem, without 'pecks' and fresh from the dies¹⁴. Even if the same extended series should be found not to occur in respect of other obverses and reverses found muled with the sophisticated *Helmet* grouping, it is clear that the *atelier* – perhaps peregrinary? – responsible for our sixty coins, and which has one day to be pin-pointed on the map, was striking on a scale which invites comparison with the output of quite a number of the minor English mints of the period.

Where lay this centre of coin-production in the early part of the second decade of the eleventh century? Again it is not for *merus*

13: *BNJ* XXX, i (1960) Pl. V, A1–A8.

14: *Cf. Fornvännen* 69 (1974), pp. 30–33.

insulanus to express more than an opinion. We can be sure that it was not anywhere in the Anglo-Celtic Isles. Norway and even Denmark seem likewise precluded. The great Årstad hoard from Egersund in Rogaland¹⁵ may have the odd example, but also included are coins certainly Swedish so that it is known to be tainted with imports from the east. It is the same with the no less atypical Enner find from Jutland¹⁶. 'Two swallows do not make a summer', and to be emphasised is the paucity of *Helmet* imitations where the Copenhagen collection is concerned. Inclusive of the two Enner specimens the tally is four true coins and three of the mules, and we look in vain for any other Danish provenance. Reverting to the Stockholm material, the odd Scanian and Blekinge provenance are certainly not enough to sustain any attribution of the series to a mint in Skåne, so by a process of elimination the coinage in question seems certainly Swedish. Can one say more? Beyond doubt there was a coinage in Svealand a whole indication earlier¹⁷, but so far it has not proved possible to establish any link between the sophisticated *Helmet* imitations and Sigtuna, and as long ago as 1965 Dr Malmer was observing with her wonted percipience that *Helmet* imitations generally are out of step with the rest of the early groupings by reason of the relative regularity of so many of their legends¹⁸. More recently something rather more substantial than mere insular patriotism has led to speculation that there may have been coining on Gotland where there was certainly an abundance of bullion in the shape of enormous quantities of *hacksilver*, but it must be admitted that suggestions of a mint on the island have been at best premature, and certainly they seem vulnerable to criticism¹⁹. On the other hand, confidence in that criticism is scarcely fostered by persistence in the at best intuitive belief that Æthelræd's coins were the subject of first-hand imitation – except, of course, at Dublin – at any centre or centres in the Anglo-Celtic Isles. It really is time that English

and Irish students began to be credited with knowing what coins are in fact found in their own islands, but as the great *Sylloge of Coins of the British Isles* slowly unfolds, each new fascicle should bring home to international scholarship the simple but inescapable fact that the *ethelredimitationer* are never found in the lands to the west of the North Sea. Even forgery was minimal, and the products so different in fabric that there is no possibility of confusion²⁰. Wherever were struck the five die-duplicates on rectangular flans which occur 'unpecked' in the 1972 find from Burge in Lummelunda parish (Hatz, p. 232 – *Nachtrag*), it was never even possibly at a mint in the Anglo-Celtic Isles. It seems likely, too, that the *coup de grace* will be thought given to the whole hypothesis of British participation in the *ethelredimitationer* by Mr Mark Blackburn's masterly demonstration (pp. 29–88) that virtually all the better class of *Long Cross* imitations emanate from an *atelier* lying to the east of the

15: Cf. K. Skaare, *Coins and Coinage in Viking-Age Norway*, Oslo-Bergen-Tromsø, 1976, p. 152, no. 95 for a full bibliography.

16: *SCBI* Copenhagen I, p. 34, no. 65: *ibid.* V, p. xviii, 5.

17: Cf. B. Malmer, *Olof Skötkonungs mynt och andra ethelredimitationer*, Stockholm, 1965.

18: *Ibid.*, p. 10.

19: Cf. *NM XXXI* (1973), pp. 34–35.

20: Cf. *SCMB* 1977, pp 346-7 – 'The lack of any recorded English find or provenance for a type or group, where the coins are fairly numerous, raises a presumption that they neither were struck nor circulated in this country. Thus of the more barbarous Æthelræd imitations with blundered legends, which are generally considered Scandinavian in origin, there are some 1300 in the Stockholm cabinet from Swedish hoards, 250 in the Copenhagen cabinet, and a considerable number occur in the Polish hoards, yet the writer does not know of a single specimen recorded from the United Kingdom or Ireland.' It should not be forgotten that Anglo-Saxon coins have been collected with avidity since Stuart times, and that *ethelredimitationer* without Scandinavian provenance are conspicuous absentees from eighteenth-century cabinets in the Anglo-Celtic Isles.

North Sea and to the north of Germany. Gratifyingly, he also has found imitations of imitations – most obviously perhaps in the case of the ‘Sisig’ series where there is no room for doubt that we are dealing with Scandinavian copies of Hiberno-Norse versions of contemporary English pence.

In conclusion *merus insulanus* would just like to suggest that discussion of this whole class of pseudo-specie might benefit from the eschewal of such potentially emotive terms as ‘mint’ in the context of the place or places of production of coins which the nineteenth century dismissed as ‘barbarous’. It is indeed disturbing when archæologists pontificate to the effect that one cannot have a mint without a town. In Denmark Dr Olaf Olsen has shown the way forward and avoids neatly falling into this particular trap when he employs the discreet – and scholarly – qualification: ‘Minting is a typical town occupation –

though exceptions are known.’²¹ Exceptions indeed are known, and especially at this early period. What the numismatist must not do is project backwards alike the language and the concepts of another age. In the context of early eleventh-century Svealand – and of Gotland for that matter – even such traditional terms as ‘mint’ and ‘mint-master’ must seem anachronistic and hence pre-emptive and inappropriate. Even the word ‘moneyer’ is one best avoided. The writer for once would like to argue the case for imprecision, and even to suggest that there is a distinct possibility that the whole class of pseudo-specie will be found not to be amenable to the normal language of the numismatist. The impression he has received from this his first experience in depth of the *ethelredimitationer* is of a coinage very different from the contemporary coins of Dublin. For him the production of these rudimentary pieces by an individual clearly endowed with a very considerable amount of ‘know-how’ appears to have been a very informal business, almost but not quite a ‘kitchen-table’ affair, so that not to be precluded, at least at this stage of the investigation, is the possibility that one or more specialist craftsmen may have gone where the bullion was, and converted it into pseudo-specie at the behest of individual owners on whom there was beginning belatedly to dawn the great truth that when once there is organized commerce coin can almost always command a substantial premium on precious metal in the raw²².

21: *Mediæval Scandinavia* 7 (1974), p. 233.

22: It would be unpardonable for the writer to conclude without an expression of his gratitude to Gunnar Ekströms Stiftelse for the research grant that made possible the writing of this paper and the next, to Professor Brita Malmer, the then Director of the Royal Coin Cabinet and National Museum of Monetary History, for the facilities put at his disposal, and to all the staff of KMK for their friendly assistance. A special word of thanks is due to Miss Erna Penschow for the line-drawings and table of die-linkage (Pl VIII).



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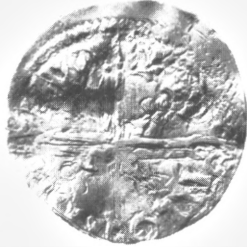


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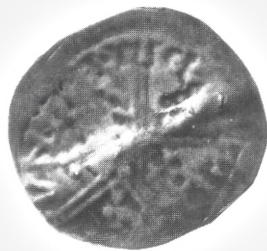


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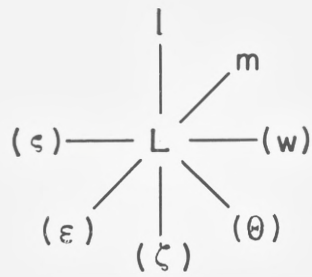
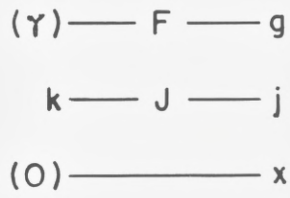
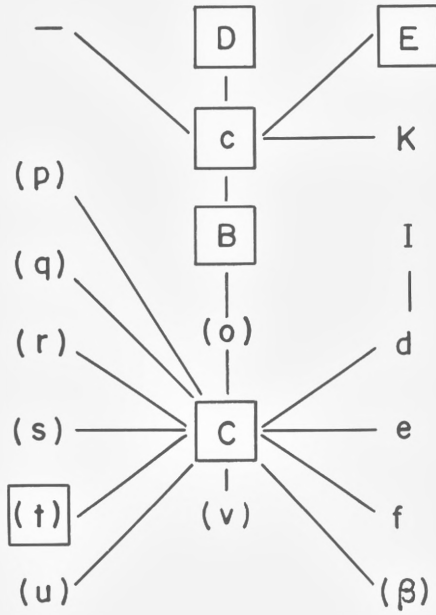
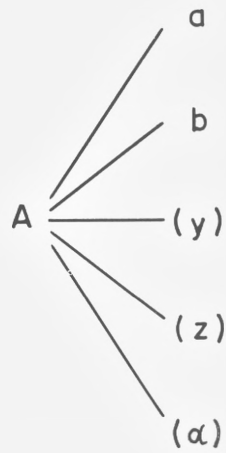


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Imitative Anticipation: Yet Another Dimension to the Problem of Scandinavian Imitation of Anglo-Saxon Coins

By Michael Dolley & Kenneth Jonsson

By definition the imitation cannot antedate its prototype. The intention of this note is to warn that there always remains the possibility of what might be termed coincidental anticipation. The question actually arose in the late summer of 1977 when there came to light the probably unique *Byzantine/Anglo-Saxon* mule (Fig. 1) which now has recovered after more than a century its hoard-provenance, the 1856 find from Enge in the Gotland parish of Bunge (G. Hatz, *Handel und Verkehr zwischen dem Deutschen Reich und Schweden in der späten Wikingerzeit* (Stockholm, 1974), p. 224, no. 226). The circumstances of the rediscovery of this piece are not without interest for the light thrown on the history of the Stockholm collections and more particularly on earlier attitudes to imitative pieces generally.

On pp. 165–8 of the 2nd ed. (Stockholm, 1881) of his *Anglosachsiska mynt*, Bror Emil Hildebrand (1806–1884) discusses briefly what he styled *Falskmynt och Fantasimynt* with special reference to the English coinage of Æthelræd II, and illustrates (p. 166) five specimens by line engravings. The first (no. 1) is an imitation of a tenth-century Cologne denier with its obverse legend suppressed and replaced by the transliteration of one taken from a *Last Small Cross* penny of Æthelræd II – we can be sure of this inasmuch as the ANGLORVM form of the ethnic does not occur before this issue. By definition, then, the particular imitation belongs after c. 1010. The actual coin (still to this day unique?) is listed as

no. 120 on p. 40 of W. Hävernicks *Die Münzen von Köln bis 1304* (Cologne, 1935) where it is illustrated (pl. 39) beside a broadly comparable piece (no. 121) in the Berlin collection which is from the late eleventh- or early twelfth-century hoard from Lodejnoje Pole in Russia discovered in 1878. On the Berlin coin, however, it is the type that is Anglo-Saxon, superficially at least being copied from the reverse of the last substantive issue of Cnut, while the legend is meaningless. Thus the *terminus post quem* for the imitation, which formally need not be Scandinavian, would seem to fall no earlier than 1030 – for the modified date for the introduction of the *Short Cross* type of Cnut see the 1968 *Fornvännen*, p. 117, n. 5.

The second of the Hildebrand engravings (no. 2) is an imitation of a well-known Byzantine type from the tenth century, but on the obverse there is substituted a contracted version of an English obverse legend, while on the reverse the multiline inscription of the original is replaced by a crude and retrograde transliteration of an English reverse legend which was correctly interpreted-

Fig. 1.



Fig. 2.



ed by Hildebrand as assaying the +ÆLFSTAN M^o LEGC found on a number of Æthelræd's *Long Cross* pennies of the Chester (not Leicester) mint struck about the millennium (e.g. BEH Ethelred 1497/8). The final letter-combination RINEI, on the other hand, if not just a fortuitous space-filler, could just make one wonder whether the engraver did not also have on his bench one of the Dublin pennies with the spurious mint-signature RINI (cf. BEH Ethelred 3267/8 and Sihtric 91–5 discussed most recently in *NNÅ* 1972, pp. 27–48). The dating is not affected, the *terminus post quem* for the imitation remaining c. 1000.

The third coin to be discussed and illustrated by Hildebrand (no. 3) is similar, but the prototype is rather more closely copied with the cross of the obverse type now being flanked by two objects ('hands'?) which make do for the twin imperial busts. For the obverse legend, however, there are substituted the first fourteen characters from the version of the Chester reverse legend already found in the case of the previous coin, while on the reverse there appears an initially boustrophedon blundering of the reverse of that same piece which finally degenerates into the totally meaningless.

What was noted by Hildebrand (p. 168) but overlooked by Hävernäck who seems to have known the first piece only from photographs of the actual coin and from the pages of H. Dannenberg (*Die Deutschen Münzen*, III (Berlin, 1898), p. 862, no. 1958) who gives neither page nor edition reference to Hildebrand, is that all three of the coins described above derive from the 1855 hoard from Grönby in Skåne (Hatz 156). This obviously major hoard may be supposed to have been concealed in the later 1020s,

so that the year 1030 would seem a convincing enough *terminus ante quem* for the production of all the imitative pieces concerned. Fortunately, however, Dr. Malmer's definitive study of the whole of the unrivalled series of Scandinavian imitative *miliaresia* preserved in the Stockholm collections obviates all need for us to pursue more closely this particular line of investigation.

Illustrated by Hildebrand as no. 4 on p. 166 is a much smaller diameter coin with the same obverse type as no. 3 but of superior work and with the obverse legend reading +ÐOR // CETL. The reverse type is a fairly close copy of the obverse of one of the so-called *Agnus Dei* pennies of Æthelræd II. The prototype is a great rarity, and the twelfth and thirteenth specimen known today, the Tallinn pieces by the Leicester moneyers Ælfric and Æthelwi have been the subject of (re)publication by M. Dolley and Mr. Tuukka Talvio of Helsinki in the 1978 and 1979 numbers of the *British Numismatic Journal*. In itself, of course, this prototype provides a *terminus post quem* for the imitation no earlier than 1010, but in point of fact the copies belong very much later. Thorcetel is an exceptionally well-attested Lund moneyer in the 1030s and 1040s – and indeed even later – and there is a particularly neat die-link (Fig. 2) which takes in the two coins with reverses from different dies discussed by Hildebrand and a coin of Harthacnut's of which an example occurred in the 1860 hoard from Öja in Källna parish in Skåne (Hatz 400, cf. P. Hauberg, *Myntförhold og Udmyntninger i Danmark indtil 1146* (Copenhagen 1900), pp. 93–102, and more particularly pl. IV. no. 6). There is some reason to think that the Öja hoard was concealed early in the 1040s – the English element ends with a solitary penny of Edward the Confessor's

first type (*cf.* *SCBI* Copenhagen I, p. 37, no. 84) – and a date for the Thorcetel coins in the later 1030s must seem very reasonable.

Difficulties begin to arise with the fifth of the Hildebrand engravings (no. 5) which superficially seems so neatly to bridge the two issues. The obverse and reverse types, and also the fabric, essentially are those of no. 3, but the obverse legend was supposed by Hildebrand (p. 168) to be a degenerate form of that of no. 4 to the obverse type of which it must be admitted that the obverse more closely approximates. Hildebrand goes on to inform us that nos. 4 and 5 alike derive from the great 1880 discovery at Espinge in Hurva parish in Skåne (Hatz 247). This is not strictly correct, no. 4 being conflated with a second specimen, but certainly coins of both types were present in the Espinge hoard which we may suppose to have been concealed just about the year 1047 (*cf.* *Seaby's Coin and Medal Bulletin*, December, 1976, pp. 461–4). However, it was always our view, that no. 5 is not in fact copied from no. 4, but belongs very much to the earlier grouping associated by the Grönby provenance with the second or third decade of the century. The legend seems to us a blundering not of the name Thorcetl but of that of Æthelræd at more than one remove, which would, of course, bring it back into much closer association with no. 2. As Dr. Malmer's researches demonstrate, nos. 3 and 5 on Hildebrand's block all are different versions of a single prototype, the *miliaresion* in question being one of those of Basil II and Constantine XI (*cf.* W. Wroth, *Catalogue of the Imperial Byzantine Coins in the British Museum*, II (London, 1908), Pl. LVI, 9–11) which are as relatively common in Scandinavian finds as they are infrequently met with elsewhere. On no. 2 the engraver did not even attempt the twin busts – the ring on the cross-shaft makes it quite clear, however, that he was not working from one of the aniconic issues of Constantine VII and Romanus II – while on no. 3 he contented himself with essaying stylized 'hands' in their place, perhaps but very doubtful-

ly being influenced in this by the well-known Anglo-Saxon coin-type from 980s. Only on no. 5 did he venture to reproduce the imperial portraits as such.

As we have seen, the imitations discussed by Hildebrand cannot be earlier than the first decade of the eleventh century, by which time the prototypes already were obsolete where currency within the Byzantine Empire was concerned (*cf.* P. Grierson, *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemore Collection*, III, ii (Washington, 1973), pp. 611–12). The Thorcetel coins are good evidence, too, that imitation continued into the 1030s, so that we may postulate, at least in Skåne, a lingering currency for pieces as splendid as anomalous, and there is in fact hoard-evidence from the whole period that the odd specimen was current throughout the Baltic area. When precisely the earlier imitations published in 1881 were executed is discussed by Dr. Malmer, but we will be suggesting on the basis of the Enge coin that there was still imitation in the later 1020s, and a hare perhaps worth raising is whether there was any further injection of the prototypes into the Scandinavian economy as a consequence of Harald Hardråda's return from Constantinople in 1045. Granted that silver no longer figured in the Empire's currency, it might have seemed a good opportunity for there to be unloaded even the odd sack of obsolete specie on mercenaries internationally known to make and receive payments in silver. There would be, after all, a sixteenth-century parallel for the fobbing off in this way of quantities of stockpiled coin of obsolete type. In 1588 demonetized low-denomination Spanish silver struck under Charles V in the names of his dead parents was taken aboard the galleons of the Armada in considerable quantity (*cf.* *BNJ*. XXXVIII (1969), p. 112). However, not the least benefit conferred by rediscovery of the mule from the Enge hoard is the indication it affords that imitation was a continuing process and conducted at more than one centre. No less valuable is the suggestion

that Lund was attracted to Byzantine types already by the 1030s – though we have no desire to become involved here in the great controversy as to whether Harthacnut might not have struck in his own name while Cnut was still alive. We merely observe that the aniconic obverse of the mule finds an echo in the obverse type of pieces such as Hauberg, Pl. IV, 2 & 3 with the REX IN DAN formula which are generally accepted as being among the earliest coins struck in Harthacnut's name.

It was probably about the beginning of this century that the Anglo-Saxon coins published by Hildebrand in 1846 and 1881 began to be brought together into the cabinets where they still are housed, and, if initially the work may have been under the direction of Hans Hildebrand (1842–1913), Bror Emil's only less distinguished son, there is no doubt that the brunt of the rearrangement was borne by Mrs. Rosa Christina Norström (1860–1944), daughter of the great collector W. Th. Strokirk (1823–1895) and widow of an army officer. From 1899 until her retirement in 1929 she was employed by the Academy in more than one capacity, but it was she who gave continuity to the Royal Coin Cabinet after Hans Hildebrand's retirement in 1907, even if from 1915 until his premature death the official head was Bror Schnittger (1882–1924). Incidentally the account of her career on pp. 161–2 of Th. Högberg's *Svenska Numismatiker under Fyra Sekler* (Göteborg, 1961) still may be supplemented by Dr. Bengt Thordeman's percipient obituary on pp. 132–3 of the 1944 *NNUM*. It is Mrs. Norström's hand apparently that figures on each and every one of the tickets that lie under the 10,000 coins and more recorded by B. E. Hildebrand in the pages of the second edition of *Anglosachsiska Mynt* and transferred by her to their present trays.

Faced with the problem of the six coins discussed by Hildebrand under the heading *Falskmynt och Fantasimynt*, Mrs. Norström took the decision to include them in the English cabinets under a special category labelled *Curiosa* positioned be-

tween the coins of Æthelræd II and Cnut. Added to them either at that time or in the years immediately following were another four coins as follows, *a*) a second specimen of Hildebrand's no. 3, broken across unfortunately, *b*) an *Agnus Dei* imitation (pierced) of the same general class as SCBI Copenhagen 1687–9 but from different dies, *c*) the Enge mule that forms the subject of this note, and *d*), what is probably a Scandinavian imitation of a Bohemian (?) penny (recently identified as belonging to the 1868 Lingsarve hoard, Eskelhem par., Gotland, SHM 3855, CNS 1.3,25:843), but so different in fabric and style from the remaining nine coins that it need not detain us here. Noted on the tickets of the three coins from Grönby is their (Statens Historiska Museum) *inventorium* number (2185), but the Espinge provenance for the two pieces with identical suspension loops has to be worked out from the text of Hildebrand's discussion, though it is confirmed by the distinctive, pale-green patination that is so characteristic of coins from that particular hoard. As for the remaining five coins, the unmounted Thorcetel piece and the four added since Hildebrand's time, the record is as blank as the tickets, and here it may be remarked that the parallel failure to record provenance found in the case of the Espinge coins is perhaps to be explained by the sheer volume of the Scanian hoard together with the circumstances that it came to light when Hildebrand already was preoccupied with the second edition of *Anglosachsiska Mynt*. In England a similar flagging in enthusiasm for meticulous registration can be seen in the case of the more exotic pieces in the great Cuerdale treasure of 1840 (*cf.* *NC* 1974, pp. 190–92). It is only the sheer distinctiveness of the types of the Enge mule and its utter conformity to the description in the 1856 archive that make it possible for us to be so confident that the unprovenanced coin in the *Curiosa* tray is the missing coin from the particular Gotland hoard – *unica (?) non sunt multiplicanda praeter necessitatem!*

Almost a decade ago (*Mynt och människor*

(Uddevalla, 1968), plate opposite p. 33), Dr. Malmer gave wider currency to her 1965 discovery (*Olof Skötkonungs mynt och andra Ethelred-imitationer* (Stockholm, 1965), pl. 5, 5–8) that one of the Byzantine imitations die-linked into Olof Skötkonung's coinage of Sigtuna, and so belongs very little after the millennium. The importance of the Enge mule is that its date likewise can be established with fair precision by a consideration of its English prototype – which in this case is not the obvious one – but falls as much as a couple of decades later, and hence this note's claim that imitation was a continuing if intermittent process.

We may begin our discussion of the English face of the Enge mule with the observation that as long as the piece was known only from the 1856 description there was about it an air of unreality. Improbable though not impossible was the very muling of Anglo-Saxon and Byzantine types, but this was as nothing beside the discrepancy between the putative English prototype and the date when the Enge hoard may be supposed to have been concealed. On the basis of the German element this was not before 1039 (Hatz, *op. et pag. cit.*), but the English element terminates with coins of Cnut, the latest of *Short Cross* type and present in minimal quantity, so that a date for the hoard's concealment much later than 1040 must seem very unlikely. The type of the mule is a voided short cross with a pair of crescents at the junction of each arm and the inner circle, so there is a general correspondence as was claimed in 1856 to the reverse type of the *Pointed Helmet* type of Edward the Confessor (Fig. 3. A). However, when the reverse is examined in detail it will be found that on the English coins the number of crescents at each junction is three and not two (Fig. 3. B). In other words there is no direct copying, a conclusion that we arrive at with something approaching relief inasmuch as the *Pointed Helmet* type of Edward the Confessor probably was not struck until more than a decade after the Enge hoard's concealment. It is the sixth of Edward's ten

substantive issues, and the first of those which failed to reach Sweden in any quantity. Probably it was in issue in England between the autumn of 1053 and the autumn of 1056 (*cf.* [R.H.] M. Dolley *ed.*, *Anglo-Saxon Coins* (London, 1961), pp. 186 & 275).

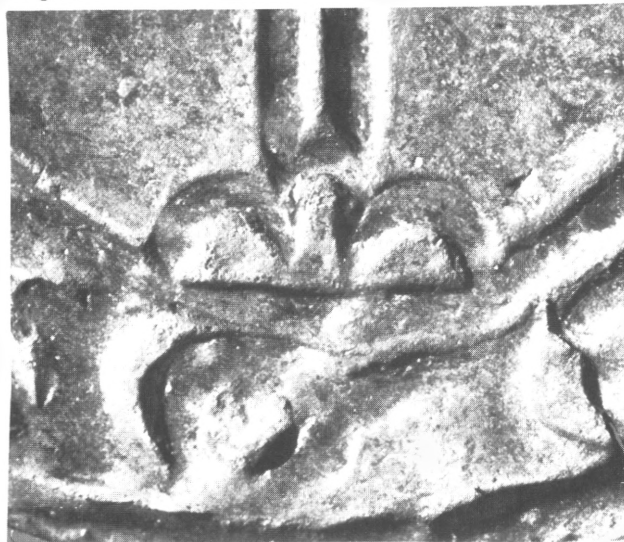
What then was the prototype? The legend, as we shall see, suggests an English coin, even though it is not unknown as we have seen earlier in this note for imitators to combine a legend from one series and the type from another. On English coins before *c.* 1040 we find a voided short cross under Æthelræd II only in the so-called *Crux* type where the letters C – R – V – X are disposed in the angles, and under Cnut in the so-called *Pointed Helmet* and *Short Cross* types where we find respectively a boss in each angle or the field completely blank. Significantly the legend also points to a coin of Cnut. It reads:

Fig. 3.A



+ FRIÐCOLMˆOEOFRPIR

Fig. 3.B



the 'L' and 'M' being inverted (quasi-runic?), and the *wen* omitting the horizontal bar at the top. Frithcol (ON * *Frithkollr*) is a name of apparently Anglo-Scandinavian formation, and as it happens is only attested by York coins of Cnut (*cf.* V. J. Smart in F. Sandgren *ed.*, *Otium et Negotium* (Stockholm, 1973), p. 226). The distribution of his coins between the three principal types of the reign is chronologically suggestive: –

	BEH	Copenhagen	BMC
<i>Quatrefoil</i>	4	4	–
<i>Pointed Helmet</i>	12	12	3
<i>Short Cross</i>	1	2	2

It would appear that Frithcol's association with the mint began in the early 1020s and was virtually over by the early 1030s. In other words there is some sort of chronological concordance between both the legend and the type of the English face of the Enge mule.

At first sight it is perhaps the *Short Cross* type of Cnut that seems closer than the *Pointed Helmet* where a likely prototype is concerned. Such is the exiguity of the crescents at the ends of the cross-arms! On reflection, however, it must appear that there is a decisive argument in favour of *Pointed Helmet*. Unremarked surprisingly on pp. lii–liii of the Yorkshire Museum's fascicle of the *SCBI* is the fact that there is *c.* 1030 an abrupt change in the spelling of the York mint-signature. In *Pointed Helmet* nearly one hundred dies recorded in BEH with a reading extending beyond EOF have 'R' for the next letter – we may ignore the odd die EOFI where the last upright is ambiguous. In *Short Cross*, on the other hand, some eighty dies with a fuller version of the mint-signature have 'E' as the fourth letter. Any exceptions are minimal (*e.g.* BEH 490 by the *hapax* moneyer Brand and *SCBI* Copenhagen

657 which is perhaps misread). In other words the replacement of EOFR- by EOFER- as the conventional spelling of the prototheme of the York mint-signature, something which appears to have happened just about the year 1030, is a fairly convincing argument that the prototype of the Enge mule was an English penny struck somewhere around the year 1025 – the exceptionally full form of the mint-signature suggests a piece from early in the *Pointed Helmet* issue. We have only to look at coins such as Hildebrand's Typ. G. var. b. to know that the *Pointed Helmet* reverse invited the attentions of Scandinavian imitators, but it is at this point that we would wish to bow out of the discussion. It is not for us to remark in more than general terms epigraphical resemblances between the Enge mule's English face and pieces that are certainly Scandinavian, but what the coin has brought home to us is the essential wisdom of Dr. Malmer's decision to preface her projected catalogue of all the Scandinavian imitations in the Royal Coin Cabinet with a special study in great depth of those which derive their inspirations from the Byzantine *miliarisia* of the later part of the tenth century. Our task has been essentially one of resolution of apparent anachronism, the reconciliation of the statement of no less an authority than Bror Emil Hildebrand:

I. mynt, med inskr. över fältet på ena sidan, på den andra +FRIDEOLF W-EOFRVIR . . . Med Typ som Rev. av Edward Confessors Typ F.

with the fact that the latest Anglo-Saxon coins in the hoard were two *Short Cross* pennies of Cnut. We believe we have done this by identifying the actual coin in Mrs Norström's *Curiosa* tray, and suggesting that the coincidence of type with the Edward the Confessor coins is both fortuitous and far from exact.

The Coinages of Harthacnut and Magnus the Good at Lund c. 1040 – c. 1046

By C. J. Becker

I. Introductory remarks

Since the pioneering work of P. Hauberg on coinages of Denmark during the Viking period and the Early Middle Ages¹, only a few of the groups of coins – the anonymous series of the 9th and 10th centuries – have been thoroughly dealt with in a book written by Brita Malmer on Nordic coins dating from before the year 1000². In closely related fields, such as Swedish and Norwegian numismatic history during the 11th century, and especially the contemporary and older Anglo-Saxon coinages, much progress has been made during the last decades. Because Denmark was strongly influenced in the first half of the 11th century by the well-organized Anglo-Saxon minting system, increased know-

ledge of that subject (and of the research methods applied) must be of significance for circumstances in the contemporary Viking kingdom east of the North Sea, too. The following studies of Danish coinages issued at Lund during the period c. 1040 – c. 1046 should be considered against this background.

The first time that the name of Lund is encountered as the place of a mint is during the reign of Knut the Great. It is still an open question whether coins were minted at Lund, or elsewhere in Scania, at an earlier date than this. A group of semi-bracteates dating from the end of the 10th century – the so-called Cross Type (Hauberg types 2–6, Malmer groups KG 10–12) – can have been produced somewhere in eastern Denmark (Zealand or Scania)³. Reference should also be made to the discussion concerning the isolated attempt made by Svend Forkbeard to produce Danish coins in c. 995/997⁴. Finally, some Nordic imitations of the English types of Æthelræd from about the year 1000 could be of east Danish origin⁵ (cf. Mark Blackburn's treatise above).

Definite evidence that coins were minted at Lund is first found from the time of Knut the Great. The conclusions drawn by Hauberg have been supplemented on important points by two more recent works⁶, but it is not yet possible to clarify the circumstances surrounding Knut's attempt to organize the Danish system of coinage on the lines of the English system. At present, it seems possible to identify some relatively

1: P. Hauberg, *Myntforhold og Udmyntninger i Danmark indtil 1146*. København 1900.

2: Brita Malmer, *Nordiska Mynt före År 1000*. Acta Arch. Lundensia, Ser. 8, 4. Lund 1966.

3: Malmer, *Nordiska Mynt*, p. 237.

4: Hbg. Svend (pl. I). – M. Blackburn, M. Dolley and K. Jonsson, *NNUM* 1979, 61 (with references).

5: Brita Malmer, *Numismatiska Meddelanden* 31, Stockholm 1973, p. 40 and *NNUM* 1981, p. 62 – As early as 1962 (R. H.) M. Dolley and V. Butler suggested that such imitations could have been made at Lund: Some "Northern" variants etc. of the "Crux" issue of Æthelræd II, *BNJ* XXX 1961 (1962), p. 219.

6: C. S. S. Lyon, G. v.d. Meer and (R. H.) M. Dolley, *Some Scandinavian coins in the names of Æthelræd, Cnut and Harthacnut attributed by Hildebrand to English mints*. *BNJ* XXX 1961 (1962), p. 235–251. – Brita Malmer, *King Cnut's coinage in the Northern countries*. The Dorothea Coke Memorial Lecture in Northern Studies, University College, London 1972.

Fig. 1. The "Serpent"-type of Lund.
 a Hbg. Knud 20 (+ CNVT REX
 ANGLO / + FARDEIN ON
 LVND).
 b Hbg. Hard. 1
 (+ HARÐACNVT REX
 / + AS: LAC ON LVND).
 (Priv. coll.). 2:1.



heavy pennies as the result of his first Danish coining, not just at Lund but also at Roskilde, Ringsted, Viborg and Ribe⁷. The models were to some extent older coins, i.e. English types withdrawn from circulation, and the coins were presumably struck about the year 1020 by Anglo-Saxon moneyers called to this country. In some cases the dies are linked with true English dies⁸. However, it is still for consideration whether this group really marks the start of a Danish coinage system proper which was to continue throughout the century.

There seems to be a distinction between this early group of Knut and the series both from Lund and other Danish towns which followed. From Lund there is a fairly common type showing on the obverse a serpent or dragon and on the reverse a cross-like figure. (Fig. 1). This coin type carries the names of both Knut and Harthacnut, but the inscriptions on many dies are blundered. From the same period there are

coins of other Danish mints which can be distinguished geographically by their special types. Nevertheless, the coins of this period have one feature in common: they were minted according to new weight systems, one an East Danish (with a penny-weight of c. 1.0g) and the other West Danish (where the weight was c. 0.75g). All these series must represent a new Danish coinage system,⁹ fairly well organized and presumably under central control, probably by the king.

However, this group will not be reconsidered in the present work, but it is necessary to mention these Lund coins briefly to fill in the background for the coins struck still later in this town.

The "Serpent" type, mentioned above, (Hbg.

7: Hauberg, Knud types 1-4, 7, 24-25, 36, 46-48, 55-56.

8: Brita Malmer, (note 6), p. 13.

9: Cf. K. Erslev, (note 58) and Brita Malmer, (note 6), p. 20.

Knud 20 and Hardeknud 1) presumably comprises one group whose introduction should be dated, regardless of who was in control of the mint, no later than to 1030, i.e. when Knut was the actual king of both Denmark and England, but when Harthacnut c. 1026/1028 seems to have had a special status as “vice-king” in Denmark in spite of his youth – being only 10 or 12 years old.

At any rate four large hoards of treasure show that both the Lund types discussed (and the contemporary “provincial” coins) were in circulation between the years c. 1030 and c. 1035: Enner near Århus¹⁰, Dronningensgate at Trondheim¹¹, and Enges in Burs parish on Gotland¹² seem to have been desposited in c. 1030, while the important find from St. Jørgensbjerg church at Roskilde¹³ could be a little later, but probably also before 1035. An analysis of these finds based on the English coins that they contained confirms – as already suggested by Hauberg and later, independently, stated by Michael Dolley¹⁴ – that Danish coins showing the name of Harthacnut must date from before the year 1035, i.e. the year that he became sole king of Denmark. On this background it is also easier to understand why Hauberg, and later Georg Galster¹⁵, expressed themselves so cautiously concerning these coins and emphasized the difficulty of distinguishing between coinages from the time of Knut and that of Harthacnut. In reality they should be considered as one

group, and no weight should be laid on the fact that some carry the name of Knut and some that of Harthacnut: both had a right to use the title King of Denmark at that time.

There seems, as previously mentioned, that behind the coins dating from c. 1030 there lay a real organisation of the Danish coinage system with new national coin types and new weight systems after the first attempt of Knut the Great in c. 1020 had obviously failed to succeed. The next occasion when an important change can be observed is in the reign of Harthacnut (1035–1042). This time it concerns types, and particularly those from the Lund mint having one important feature in common, namely an evident similarity with English models. The obverse is again struck with a portrait and with a king's name, while the reverse is of either a contemporary or older Anglo-Saxon type. This is the group of coins that is the subject of the present study of the production of the Lund mint in the time of Harthacnut and Magnus the Good.

II. Method

Hauberg based his chronological arrangement and identifications of Danish coins primarily on the inscriptions given on the obverse (see note 17) and on the evidence provided by the hoards. In addition, this author naturally drew upon the results achieved by international numismatic research in related fields. Hauberg's publication shows his impressive knowledge of the entire Nordic find material. In many cases he identified individual coin dies and ascertained die-links, but apparently he did not draw further conclusions from these. In this connection it should be mentioned that the authors of a more recent, extremely important treatise¹⁶ concerning the relationship between the English and the Nordic coinages of Knut the Great have published links between certain groups of dies and were even able to set up a long die-chain:

10: Hauberg, 167, no. 66. – G. Galster, SCBI Copenhagen I, 1964, p. 34, no. 65.

11: L. Lagerqvist, *Commentationes* II, 1968, p. 385–388. – K. Skaare, *Coins and Coinage in Viking-age Norway*, Oslo 1976, p. 166, no. 147 (date too late).

12: CNS, vol. I, 2, 1979, p. 148.

13: G. Galster, *NNÅ* 1954, p. 137–142.

14: M. Dolley, *The Numismatic Circular* 1972, p. 358.

15: G. Galster, L. E. Bruuns *Mønt- og Medallesamling*, København 1928, p. 49, ad no. 1322. – The same, *Kongsø*, p. 57.

16: C. S. S. Lyon *et al.*, (note 6).

they loyally mention the fact that their results are largely based on Hauberg's observations, found as scattered remarks here and there in his book. Today it seems peculiar that Hauberg did not consider the die-links to be of greater significance, but this is fully understandable considering the research methods of his time. Nevertheless, there might be another reason for his apparent neglect. A large number of the papers left by Hauberg are found in the Royal Collection of Coins and Medals in Copenhagen. Here the present author noticed an important note among the preparatory studies for Hauberg's great work: he wrote that a chronological arrangement of all the Danish material would be difficult if a higher priority was not given to the inscriptions on the obverse and their names than to the reverses¹⁷. Consequently, this was the principle that Hauberg followed for all legible coins. When he noted die-links that did not, apparently, harmonize with his chronology, he explained the circumstance as the re-use of old dies, or the issue of special "memorial coins" for deceased kings^{17a}.

An attempt has been made to use a different method in the following work. This builds primarily on a study of the dies and of their links. A die-link must imply that the two dies were in use simultaneously. If dies occur which because of their legends seem either too old or to originate from a foreign mint, then primarily these must be reckoned to be new dies which, for some reason or other, copy older or foreign models. The concept "re-usage" of old dies is, in this period, a less probable explanation¹⁸. If it is to be used at all, then evidence must be provided that the very same die had, in addition, been used either for older issues or in a different mint. Obviously this does not affect the circumstance that, on a change of regent or the introduction of new types, the immediately preceding dies were used during a transitional period, such as proved long ago, e.g. in the well organised Anglo-Saxon coinage. In such cases the obverse

die is normally that of the older and the reverse die that of the newer model¹⁹.

Even though the Danish coinage system seems at times to have attempted to imitate the English one, its structure is still too poorly elucidated. At all events, it should not be assumed that the same organisation existed in this country as in England just because certain Danish issues lie close to the English models in style and technique. For this reason the question of imitations of old or foreign dies is an important one. It has already been established that unexpected die copying could occur at Lund in the period in question, and that these copies seem to have been included in regular issues²⁰. Consequently one must be prepared to find similar types hidden among the material. This aspect is of importance for the whole study; at this stage it should be mentioned that for a short period some of the Lund moneyers permitted the cutting of numerous dies that copied either old coins (but ones which were still in circulation in this country) or foreign contemporary types. From a technical point of view, copies of this nature can be of such good quality that previously there was no possibility of distinguishing them from their models.

17: Hauberg's manuscript: "En ny Udmyntning har været betegnet ved Adversen, og Reversstempelen har været overladt til Myntmesterens Skjøn; derved forekommer ofte de ældre Reversstempler på senere Mynter. Paa anden Maade kan ikke Regenternes Aarsrække og Typernes Antal bringes i Overensstemmelse".

17a: Hauberg, p. 115.

18: Hauberg also suggested that English dies had been transported to Denmark and used here. This has now been documented for the period just before and after 1000 AD, but so far no example could be cited for the period about 1040. See also the recent discussion: Mark Blackburn, Thoughts on imitations of the Anglo-Saxon coinage. Seaby Coin & Medal Bulletin 1977, p. 344 ff.

19: M. Dolley, The relevance of obverse die-links to some problems of the later Anglo-Saxon coinage. Commentationes I, 1961, p. 156.

20: C. J. Becker, NNUM 1979, p. 70, and NNUM 1980, p. 47. – The same, Seaby Coin & Medal Bulletin 1980, p. 335.

III. Copies and imitations

A distinction is made in the present investigation between *copies* of old or foreign dies (as discussed immediately above) and *imitations*. An imitation is understood as a direct imitation of a foreign (as a rule Anglo-Saxon) coin, where both the obverse and the reverse are illiterate, but where a more or less successful attempt has been made to reproduce the foreign model. Large numbers of imitations of the coins of Æthelræd occur in Nordic finds, rather fewer of the English types of Knut the Great, and more rarely of the issues of the following kings, i.e., the series of Harold I (Harefoot), Harthacnut, and Edward the Confessor – although only up to and including the “Expanding Cross” type (1050–1053) of the last-mentioned king (fig. 5)²¹. All these imitations can be just about contemporary with their models (proved by a number of hoards) but they can also be later, indeed even several decades later. They still comprise groups which are puzzling within Nordic numismatics, and their minting place or places cannot yet be definitely identified in the Nordic region. Some of the earliest imitations are the subject of studies by my colleagues published above. With a few exceptions, the rather later imitations will not be dealt with in the following. It has however, proved necessary to distinguish a series of Lund coins dating from the time of Magnus the Good, where only the obverse is illiterate (the MX group below), from a series of contemporary, related imitations (the MZ group below) whose minting place is unknown at present but may be Roskilde. Nevertheless, it must be admitted that, for the time being, it can be difficult to explain where the borderline between copies and imitations should be drawn.

21: E.g. Hauberg Magnus 14.

IV. The material and its arrangement

Material found in the most important Scandinavian collections was the object of primary study – by and large the same material that was available to Hauberg. Since 1900 it is true that several hoards have appeared in South Scandinavia²², but these have yielded only little supplementary information and even less fresh knowledge. The most important finds from the present area of Denmark were all published by Georg Galster (see Haagerup and Kongsø). The same author, moreover, made a number of important remarks in the large catalogue of the L. E. Bruun collection (1928) and in the final edition of the equally important catalogue of the Hauberg auction (1929)²³.

The present author has perused the material in the L. E. Bruun collection (cited LEB in the following), the Royal Collection of Coins and Medals, Copenhagen (KMMS), and the Royal Coin Cabinet (National Museum for History of Coins, Medals and Money) Stockholm (KMK), and in a number of larger museums elsewhere (Historical Museum of Lund University, Coin Cabinet of Uppsala University, Coin Cabinet of Oslo University, the Museum of Odense, and the British Museum, London), as well as that in a few private collections. The material was gathered in the years 1978–1980. Use was only made of pieces that could be studied in the original, or where clear illustrations were available in publications or in the form of a photograph. No coins were used that were only known through descriptions or other records. There is one exception: the interesting coin H.43/197, which is known only from descriptions by Dannenberg and Hauberg^{23a}.

22: See G. Galster, SCBI Copenhagen I, 1964, p. 24.

23: Museumsinspektør P. Hauberg's Samling af danske og norske Mønter. København 1929. (The manuscript was nearly finished by Hauberg before his death, and was finally revised by G. Galster).

23a: The unique coin is from the hoard at Płonsk, Poland (Hauberg, p. 180, no. 195). In his publication Dannenberg

The dies and their recording

An attempt was made to record all obverse dies showing a portrait that originates from the period under discussion. The small number of coinages showing other motifs are excluded. On the other hand, all contemporary reverse dies are recorded if, directly or through links, they can be associated with Lund. This means that the present investigation deals with dies and their mutual links, but it cannot be considered to be an exhaustive numismatic study of the large amount of find material. Hence no complete catalogue is set up of all combinations giving the occurrence of the coins in closed finds and the number of known specimens – no more than the weight and die-axis of the individual coins were specially studied.

The individual obverse and reverse dies are grouped in the following plates I–V with lists, but more according to convenience than to any uniform system: the lists can be used for further conclusions as well as for the identification or classification of individual coins.

The *obverse inscriptions* are grouped according to inscription. Each group is numbered consecutively.

H = showing the name of Harthacnut (whether literate or only partly literate). The 45 different dies are arranged primarily according to whether the reading starts on the left of the coin or in the middle of it (in such cases the break at the portrait is marked by //). Thereafter, the inscriptions are collected in a first group having H as initial letter and in another group where this is reproduced as N. (The alternating usage of the letters H and N is a common

(Berliner Blätter für Münzkunde VI, 1871–1873, p. 150 ff and p. 241 ff.) registers the coin as English (p. 261) but adds that it may be Scandinavian. Hauberg mentions the coin in his book (p. 201, ad. Hard. no. 20) giving new details about the type of the obverse, which means that he must have seen the coin. It now seems to have disappeared; according to information from Mr. B. Kluge, Berlin, it is not in the Berlin-collection to-day.

phenomenon on the coins of this period: but it must be admitted that there are cases where it is difficult to determine which letter it is). Within each subgroup the inscriptions are arranged with the complete ones first and in alphabetical order, whereafter follow the more incomplete inscriptions. Thus, in the H group, no account is taken of the details of the portrait itself.

HX = blundered inscription which, according to the die combinations documented later, must be contemporary with the H group. Only two dies are (subjectively) referred to this group.

K = showing the name of Knut. Only those dies are included which, according to die-links or similar criteria, must be contemporary with the other dies here treated. Hauberg attributed all dies of this type to the time of Knut the Great, even though he made reservations concerning a few of them²⁴. A discussion follows below as to whether the late Knut dies recorded here are anachronistic, or whether they should be explained as parallels to the circumstance that Harthacnut's English series can show the name of Knut, too. There are 16 dies of this group, (perhaps more).

M = showing the name of Magnus. Naturally, only the issues of Magnus the Good are included here and not the considerably later coins from the time when Svend Estridsen was king and used the name "Magnus". There are 26 dies in this list. For convenience they are arranged according to a system different from that of the H group of Harthacnut. Attention is primarily paid to whether the portrait design includes a sceptre or not. Within each group the dies are arranged alphabetically and with the correct reproductions of the king's name before those that are more or less confused, although still recognisable versions of the name Magnus.

MX = entirely blundered obverse inscriptions which, according to the reverse dies, must originate from the time of Magnus the Good and

24: Hauberg, e.g. p. 114 and 193 (ad no. 23).

must be connected with Lund. The group corresponds to Hauberg's variant of the type Magnus no. 1. The 33 obverse dies here recorded are arranged alphabetically and on the following principle: if there is a + sign, then the inscription begins there whether this initial cross is placed to the left or in the middle of the obverse (the latter position is most frequent). If an inscription includes the + sign twice, then the reading always starts at the second + (i.e., that farthest to the right).

MZ = entirely blundered obverse inscriptions of the same type as that of the previous group. The MZ group is purely subjectively distinguished from the MX on the basis of the reverse dies that cannot be directly referred to Lund. The MZ group is only included because it has been described with the MX by Hauberg and all later authors. As shown below, the group includes some of the earlier mentioned imitations for which the place of minting has not yet been identified. There are 26 obverse dies in the MZ group in the lists, but strictly speaking several more could have been included without altering the definition at all. The inscriptions of the MZ group are arranged according to the principles used in the case of the MX group.

It should be mentioned that in earlier times – chiefly before the work of Hauberg – both the MX and the MZ groups were often attributed to Harthacnut and were considered to be poor versions of the coins of this monarch.

Finally, there are three small groups that can similarly be attributed to Lund through reverse dies or links, and to the period under discussion, even though the names on the obverses are English, namely:

25: C. Ramus and O. Devegge's *Ufuldendte Møntværk*, København 1867, pl. VI, no. XXXIV. – H. A. Grueber and C. F. Keary, *A Catalogue of English Coins in the British Museum: Anglo-Saxon series*, vol. II, London 1893, p. 313, no. 64 (with illustration). The two illustrations may be of one and the same coin; it was once in a Danish private collection (H. H. Frost) but later sold to England.

Æ = the name of Æthelræd, three dies.

HL = the name of Harold, i.e., Harold I (Harefoot). Two dies but only one is entirely certain: the other ²⁵ could show a corruption of the name of Harthacnut.

E = the name of Edward the Confessor. Two dies are known from Lund.

Reverse dies are arranged in alphabetic order according to the name of the moneyer (irrespective of whether he really did work at Lund in the period in question, or whether the name is "spurious", i.e., either copies the inscription on a foreign coin, and thus of a moneyer otherwise unknown at Lund, or is, apparently, an entirely fictitious name).

The lists are consecutively numbered and the dies are referred to below just by this number or – where this could lead to a misunderstanding – with an R(= reverse) preceding the number. It should be noted that the lists often omit one or several numbers between the individual names: the reason being that any new dies, or any overlooked in the present investigation, can be incorporated more easily in the series as a whole with a new main number.

The reverse dies are divided into two groups, one containing the numbers 1 to 250 (list I), the other those from 301 onwards (list II). The first consists of dies that either state the name of Lund themselves or originate from a moneyer who stated the name of this town on a closely related die. To date, 160 dies have been recorded in this group. As well as dies having a direct connection with the portrait obverses, Lund dies from the same period are included, even though these are combined with the (more rare) obverses showing other motifs (pictures of animals etc.).

The other group, from no. 301 onwards, comprises only 40 dies. These are entirely or partially illiterate; at any rate, the name of "Lund" is not clear. The group was included in the present investigation because, on the basis of

die-links, some of the dies seem to have been used at Lund, while others are directly associated with the obverse dies in the still mysterious MZ group. A single Roskilde die is included (no. 401).

The type or design is also stated for all reverse dies (see pl. VI). The types are indicated by the letters A–T in an apparently arbitrary sequence; however, the letters are selected in this way because in the majority of cases the same definition can be used as that with which many scholars since the time of B. E. Hildebrand are acquainted. Incidentally, Hildebrand's main types of the English reverses from the times of Æthelræd, Knut and Harthacnut, can be directly reused here, with a few exceptions.

Finally, all lists note the die-links so far recorded for both obverse and reverse dies. In this way, the lists constitute the starting-point for conclusions that may be drawn from the material – some of which are discussed below.

Re-engraving of dies. In the lists of both obverse and reverse dies, "a"-numbers (accompanied by the designation "R–E") are given in a few cases, where there is evidence that the die has been altered during its use, often by adding subsidiary symbols to the design (see fig. 8). In some cases the reason for this alteration seems to have been an attempt to cover up damage sustained by the die during usage.

The inscriptions on the dies are reproduced in a normalized fashion in the published lists, i.e., without the individual details of the letters. The same applies to the subsidiary symbols found particularly on the reverse dies (pellets, circles, crescent, etc.). For some groups of obverse dies which would show one and the same normalized inscription an exception has been made and here certain characteristic details of the individual letters have been reproduced more naturalistically to facilitate the identification of the dies. It should be mentioned, however, that as a rule such dies exhibit differences in the portrait, and in practice, therefore, it is easy to distinguish between individual dies. As many as possible of

the obverse dies are also reproduced photographically (pls. I–V) to facilitate rapid identification.

In the case of the reverse dies, a brief survey of the lists will show that there is such great variety in the inscriptions that it is easy to distinguish individual dies with legible inscriptions. It is remarkable that even the most frequently occurring names never appear with exactly the same spelling or secondary decoration (supplementary symbols). This is hardly fortuitous as the technical production of the dies is so good in the majority of cases that the craftsmen could easily have produced more uniform dies, as was the case in England, for example. As regards the Danish dies from Lund (but only from this town), it is not necessary to investigate to the same degree the shapes and sizes of the different letters to be able to distinguish between dies: as a rule, the differences readily appear on reading.

The reading of the inscriptions can prove difficult in some cases, particularly if knowledge of the die is only obtainable from one poorly struck or badly preserved coin. Some of the readings given in the present work may be open to discussion: in a few instances a slightly different reading is proposed from that found, for example, for the same die in Hauberg or in Galster. Such deviations are, however, the exception and the present author is full of admiration for the readings of earlier scholars, relating even to barely legible coins. Only in one case did it prove necessary to correct significantly a reading made by Hauberg. Relying on poorly preserved specimens, he read the obverse legends of Hbg. Knud 15 and Hardeknud 8 differently, although these are actually from the same die (K.2 below). The other deviations relate only to insignificant details, particularly concerning the letters H and N, where the die-cutters clearly showed some uncertainty, too. In the MX and MZ groups there can also be some doubt about the representation of the letters D and P.

Scope of the material

Even though the present work does not seek to present a complete catalogue of the coinages of the period, it is necessary to know the scope of the material and to estimate its reliability if the results are to be evaluated.

Here the key question is whether the material studied can be considered to be representative. It appeared that almost all the recorded die-types and combinations were to be found in three large cabinets, i.e. KMMS and LEB in Denmark and KMK in Sweden. The other collections only supplemented the material, adding very few new dies and die-links. It is also of importance that it was a common habit to bury silver treasure during the first half of the 11th century in the Nordic region and in parts of the Slav countries south and east of the Baltic. In this way a far larger number of coins of the period have been preserved in the northern areas than is the case, for example, in the centuries immediately following. Of course, this is well known, but it has been emphasized by a study of the more recently found hoards in which, for example, very few new types of Lund coins from the first half of the 11th century occur.

To give an impression of the scope of the material, a summary is given below of the number of obverse dies in each of the groups already mentioned, as well as of the number of coins so far recorded by the author in these groups.

Obverse group:	Number of dies:	Number of coins:
H	45	646
HX	2	18
K	16	63
M	26	305
MX	33	760
MZ	26	45
Æ	3	51
HL	2	10
E	2	52
Total:	155	1950

While the number of known dies, for the reasons stated, is unlikely to increase significantly in coming years, the number of coins recorded is more arbitrary. The last figure should only be used with extreme caution in any study of the volume of coins produced at that time or similar investigations. Here fortuity plays a part both with regard to the composition of the hoards and to the way that these have been handled by museums throughout the years. This can be illustrated by two examples. In the Æ group (Æthelræd) there are recorded three dies and 51 specimens, the first correspond to Æ.1, Æ.2 and Æ.3 of the find lists. Only one example of Æ.2 is known, in combination with a similarly unique reverse (R.160)²⁶, even though the moneyer (Othinkar) is one of the more productive of the Lund moneyers. Seven specimens of Æ.3 are known and these originate from at least four different hoards in Scania and on the island of Gotland²⁷. In contrast, 43 examples of Æ.1 are recorded from at least six different finds: but from five of these it is known that there was only one specimen in each, while the sixth, Öja in Scania²⁸, originally contained 45 die-identical coins. However, only 18 of the Öja coins can be identified today.

The last-mentioned figure gives an idea of the way in which museums treated the earlier finds – a factor that is of much significance when evaluating the source material. As we know, it was common practice for both large and small museums to exchange or sell coins which were die duplicates, irrespective of whether or not

26: KMMS no. GP 1583. Recently the provenance has been discovered; the large hoard from Naginščina near Novgorod (V. M. Potin, *Trudy Gosudarstvennogo Ermitaža IX*, 1967, no. 147). See NNUM 1979, p. 71, note 7.

27: Espinge, Skåne (KMK 6620, Hatz no. 247), Lilla Klintegårda II, Gotland (KMK 5804, Hatz no. 243), Halsarve, Gotland (KMK 23040, Hatz nr. 360), Findarve, Gotland (KMK 1076, Hatz no. 353).

28: KMK (= SHM) 2795. Hauberg, p. 168, no. 83. – Hatz, no. 400.

they constituted part of a closed find. The Coin Cabinet in Kristiania (Oslo) even went as far as issuing a printed price-list for the numerous “duplicates” from the great Gresli (Græslid) hoard subsequent to its painstaking publication by L. B. Stenersen in 1881. Only during the present century had it become the practice in Nordic countries for closed finds to be included in public collections in their entirety and for all items to remain there.

For the period in the 11th century under present discussion, the hoard from Espinge in Scania (in the literature also referred to as Åspinge or Hurva)²⁹ is of importance for any criticism of the source material. Not only was this hoard of unusual size (originally it contained more than 8.000 coins), but it has an exact dating, too³⁰. Moreover, it seems as if there was a close association between the original owner of the treasure and the mint itself in Lund. When the hoard was found (in 1880), the State Historical Museum in Stockholm received it according to the legislation in force at that time, but later the Museum disposed of large parts of it, for example many of the Danish coins were sold to Hauberg, who was at that time a private collector without connection with the museum in Copenhagen³¹. However, a considerable number of the redeemed coins, and numerous die-identical specimens at that, were later discovered in the museum. These have now been included in the Stockholm collection and are thus preserved for posterity because new museum principles relating to the preservation of all coins from closed finds have since been adopted. As a result a number of the issues found at Espinge are, today, relatively better represented than is the case for those of other finds that appeared during the course of the 19th century. This applies, in particular, to some of the groups studied here: for this reason some of the figures in the diagram p. 127 are misleading. This is best seen in the large number of coins in the MX group (760 coins). For example, issues are recor-

ded that show 82, 64, 57, 56, 55 and 51 coins, respectively, from identical pairs of dies, virtually all of them originating from the Espinge hoard.

V. Obverse dies and their grouping

Among the coins of Harthacnut and Magnus the Good struck in Lund there is a group which, on the obverse, shows a portrait with inscription, while the reverse definitely, or with great probability, refers the coin to Lund. The material is shown in the lists of obverse and reverse dies already discussed. A total of 155 different obverse dies and 195 associated reverse dies have been recorded. In addition, the lists include nine reverse dies that should be contemporary with the others, but which hitherto have only been combined with obverses of different type (e.g. animal pictures). Conversely, earlier and later reverse inscriptions are not included (e.g. from the abovementioned “Serpent” group dating from c. 1030, or from the earlier series of Svend Estridsen) even though these could be associated with the same moneymakers that appear in the text to the lists.

The lists include all recorded die-links, and thus they also provide the basis for the following studies of the relative dating of the coinages and for all further conclusions of a numismatic or cultural-historical nature. The material contains an unusually large number of die-links and die-chains that make a number of observations and conclusions possible.

29: KMK (= SHM) 6620. Hauberg, p. 171, no. 102. R. Skovmand, *Aarbøger for nordisk oldkyndighed og historie* 1942, p. 169. G. Galster, *SCBI Copenhagen I*, 1964, p. 37, no. 87. Hatz no. 247. Unfortunately, the records of the Danish coins are not complete, as the registration seems to have been interrupted and never completed (cf. Hauberg, *loc. cit.*).

30: M. Dolley, A note on the Edward the Confessor element in the 1880 Espinge hoard. *Seaby Coin & Medal Bulletin* 1976, p. 461.

31: According to information in Hauberg's catalogue of his collection (1929), the preface.

	H	HX	K	M	MX	MZ	Æ	HL	E
H	44								
HX	2	16							
K	12	5	1						
M	23	6	1	2					
MX	27	11	3	4	5				
MZ	23	1			3	17			
Æ	2						2		
HL	3	1							
E	1			1	1				
		1	1		1				2

The diagram in fig. 2 illustrates how the 195 reverse dies are combined with the obverse dies. Of the 195, 136 are combined with only one obverse die: the distribution of these in the individual groups is given in the first vertical column. Fifty-five reverse dies are combined with two obverses, either from the same or from different obverse groups. These combinations are shown in the other part of the diagram. Five reverse dies (R. 13, 98, 103, 108 and 201) are combined with obverse dies from three different groups, and these in different ways combine the groups H, HX, K, M and E.

Two important results appear directly from the diagram, fig. 2. The MZ group is not combined via reverse dies with any of the other groups, even though in design, style and inscription the obverses are apparently of the same kind as found in the MX group. All the MZ reverses have illiterate inscriptions, (nos. 301 ff); but this group also contains dies which (by die-linking) should be ascribed to Lund. In fact, these observations have been used in arriving at the arrangement of different groups of obverses, so that the table just constitutes the documentation for this arrangement. We may now justifiably conclude that the MZ group cannot have been produced at the same mint as the other obverse groups. In the following studies of the Lund coins, therefore, the number of dies

Fig. 2. Obverse/reverse combinations, based on the reverse dies. The first column shows the number of combinations with only one obverse die. The second part of the diagram indicates the number of combinations between reverse dies with more than one die-link. As an example, die R. 98 is counted both as H/H, H/M, H/HX and HX/M (see list of reverse dies). So the number of combinations in fig. 2 is higher than the total number of reverse dies.

treated is reduced by, respectively, 26 obverses and 24 reverses (i.e. all dies only given the designation MZ).

Figure 2 gives some information of importance to the chronology of the obverse groups. Two of the large groups show a relatively large number of reverse dies that are only combined with one and the same obverse group, whether they are single dies or links. The H and the MX groups must, therefore, each have been dominant for a certain span of time, i.e. coins were mainly or exclusively struck with this type of obverse during a certain period. The two other large obverse groups, K and M, are linked via the reverses with a greater number of "foreign" groups. The four last groups are each too small to give any definite information of this nature.

The die-links so far observed are shown in fig. 3-4 (fig. 4 is inserted at the end of the book). Because, as mentioned above, the dies of the MZ group must be considered to belong to another category (i.e. they are not Lund dies proper, perhaps Roskilde), the numbers used in the lists are now reduced to 129 obverse and 171 reverse dies, a total of 300 different dies. Of these, 210 are included in longer or shorter die-chains. In 16 cases it has been possible to combine groups of between 3 and 8 different dies, but it is more significant that it proved possible to associate no less than 136 dies in one long chain (fig. 4). Thus

there is a true possibility of not only evaluating the ages of the individual groups in relation to one another, but also of being able to provide new information on the actual coining that took place at Lund.

As stated above, the die-chains have been evaluated on the basis that all the dies must be contemporary, and furthermore locally produced, because it was impossible to demonstrate that any of them had also been used earlier for a different coin. In the illustration of the die-links from Lund, all obverse dies are shown with round symbols and all reverses with rectangular. At the same time, to facilitate an overall view, an attempt is made to mark the different groups of obverse dies by symbols. The numbers refer to the lists of dies. Based on these chains, the relative ages of the obverse groups can be determined, and thereafter the absolute dating can be dealt with. A dating based on hoards is, however, used, for the more unusual groups.

The *MX-group* gives the clearest impression. The large chain includes 30 dies in direct linking, and in the small chains there are a further 45 with a total of 28 obverse dies. In three cases there is a direct connection with M (Magnus) dies (via R. 78, 116 and 121) and in one case with H. 15 (via R. 248). Moreover, links were ascertained with some of the types of Svend Estridsen, indicated in the linkage diagrams by an S. Reverses 31, 32 and 58 are linked with coins of the type Hbg. Svend 6, R. 73 with Hbg. 6 as well as Hbg. 16. Finally, R. 129 is linked with Hbg. 23. As the coins of Svend Estridsen have not been studied to the same extent as the other material, there might even be further combinations; but the cases already mentioned should provide us with sufficient evidence. Svend's types Hbg. 6, 16 and 23 are among his earliest because they all occur in the previously mentioned Espinge hoard that was deposited in 1047/48 at the latest³².

32: See note 30.



Fig. 5. Obverses similar to the MX and MZ groups may be rather late. The coin illustrated has a reverse which imitates the Expanding Cross series of Edward the Confessor (1050–1053), but such imitations are rare. The coin was previously referred to Magnus (Hauberg, Magnus 14) (KMMS, Thomsen 9887). 2:1.

Already the table in fig. 2 showed that the MX group was fairly homogeneous. On one side of the chain the relatively few links with other groups connect up with the M group, while on the other side they connect with some of the earliest Lund coins of Svend Estridsen. From a purely chronological viewpoint, the MX group must thus be placed between the M group and the first coins of Svend Estridsen, and it must represent an independent group.

The H group. According to the table given in fig. 2, this group too showed a relatively large number of links via reverse dies to obverses of its own group. In the large chain I there cannot, apparently, be distinguished as clear and as discrete a group with H dies as was the case for MX. The number of links to other groups is too great for this. The explanation for these apparently contrasting circumstances may be that while some of the H dies originate from a time when this was the only type in use, others must be a little later in time and contemporary with several of the other obverse groups. At the moment it is impossible to distinguish two such sub-groups within the total H group.

Does the H group represent one (or more) independent Danish types, or does it merely – as hitherto supposed – copy English coin designs? A survey of the individual types shows that

three of them are of an independent character (H. 15, 16 and 40) but, as will be discussed below, these are presumably struck posthumously and are therefore of no interest to the question of models for the whole H group. Among the other 42 dies, 32 of them copy Anglo-Saxon dies more or less accurately, but the models originate from among eight different types:

Æthelræd's type C (Crux). 1 die (H. 1)
 Æthelræd's type D (Long Cross). 6 dies (H. 3, 11, 12, 19, 24, 47)
 Æthelræd's type E (Helmet). 11 dies (H. 2, 4, 5, 22, 23, 25 (right facing), 28, 30, 31, 39, 41)
 Knut's type G (Pointed Helmet). 2 dies (H. 43, 44)
 Knut's type H (Short Cross). 6 dies (H. 9, 13 (?), 14, 21 (?), 48, 49)
 Harold's (also Harthacnut's) type A (Jewel Cross). 3 dies (H. 27, 34, 46)
 Harold's type B (Fleur-de-Lis). 3 dies (H. 32, 33, 36)
 Harthacnut's type B (Arm/Sceptre). 1 die (H. 45).

The remaining dies show elements from at least two of the groups mentioned above, but in very different combinations, i.e. some with elements from two of the types of Æthelræd, some with features of the coinages of Æthelræd and, for instance, of Harold (H. 6, 10, 20, 26, 29, 35, 37, 38, 42).

In other words there is no independent Danish type in the entire H group. The dies are either copies of different English types, or free compositions with elements taken from several of such types.

The M group. According to the inscription (Magnus) they should also comprise an independent chronological group. However, this does not seem to be the case as nearly all the dies have combinations with both H and K. It is, nevertheless, hardly fortuitous that, with a single excep-

tion, only the M group has any direct connection with MX.

The types of portrait of the M group are largely the same as in the preceding group. Twentyfive of the 26 dies recorded can be examined, giving the result that 20 of them must be quite accurate copies of English types, namely:

Æthelræd's type A. 1 die (M. 20)
 Æthelræd's type D. 2 dies (M. 16, 17)
 Æthelræd's type E. 10 dies (M. 1, 3, 4, 7, 8 (?), 9, 10, 11, 12, 15)
 Knut's type H. 3 dies (M. 21, 25, 26)
 Harold/Harthacnut's type A. 1 die (M. 18)
 Harthacnut's type B. 1 die (M. 22)
 Edward's type D (PACX). 2 dies (one of them may possibly be a Knut H) (M. 23, 24).

Five dies show features taken from two different types, or have one significantly deviating feature in relation to the model (M. 2, 5, 6, 13, 19). The last of the dies (M. 14) is difficult to place.

A comparison of the pictures of the H and M groups shows that there is a surprising similarity. These pictures are more or less free copies of a selection of Anglo-Saxon types, primarily the D and E types of Æthelræd, the H type of Knut, and some of the forms of Harold and Harthacnut. Other English types are used only exceptionally, or not at all, although we know from the many hoards hidden at that time that they, too, circulated in large numbers in the Nordic area through the decades in question.

The K group seems similarly placed to H and M. This is remarkable because the dies in question have hitherto been considered to belong to the time of Knut the Great. The 16 K dies recorded here are not known in combination with either English or Danish types that are definitely known to originate from the time of Knut. Nine of the dies are directly included in chains with not only the H but also the M group, and on stylistic grounds (particularly applying to the reverse type) the others must be reckoned

contemporary. These late K dies might perhaps be considered as a parallel to some of Harthacnut's Anglo-Saxon issues where he struck coins using the name "Cnut" especially during the period 1040–1042, perhaps also earlier³³. But according to the die-chains, the coins showing the name of Knut could well be even later, i.e., from the time of Magnus the Good.

The K group is of special significance for understanding the problems associated with the Lund coinages of the period under discussion, and therefore it will be dealt with in somewhat greater detail. A majority of the coins recorded here as belonging to the K group were attributed by Hildebrand to the English issues of Knut (London). Hauberg transferred many of them to Lund in Denmark, but dated them to Knut's own time. In an article from 1961, which is just as brief as it is important, C. S. S. Lyon, G.v.d. Meer and M. Dolley³⁴ confirm Hauberg's proposed placing of the coins, but clearly state – albeit just in a single sentence – that some of the coins must originate from late in the reign of Harthacnut (based on the Anglo-Saxon elements included in the series). It now seems possible to go a step further.

For this one group, a survey will be given of all possible types and combinations with reference to the types of Hildebrand and Hauberg, as well as to the models for the obverse types as far as this can be determined on the basis of the English series.

- K.1/101. Hild. 2508, type Kn. (Knut) Gc., Hbg. type Kn.11. 2 ex.
 K.1/102. Hild. ÷ Hbg. ÷. 1 ex.
 K.1/198. Hild. 2743, type Kn. Ab., Hbg. Kn. 9. 1 ex.

33: J. J. North, *English hammered coinage vol. I*, London 1963, p. 122. (Second edition, 1980, p. 132). – The observation was published by P. J. Seaby, *The sequence of Anglo-Saxon coin types 1030–1050*. BNJ XXVIII, 1 1955, p. 111 ff. (See (R. H.) M. Dolley, *Commentationes I*, 1961, p. 157–158).

34: See note 6.

- K.2/7. Hild. Hc. 88, type Hc. Gb. (incorrect reading). Hbg. Hc. 8 (incorrect reading). 1 ex.
 K.2/112. Hild. ÷, type Kn. G., Hbg. Kn. 10. Galster, *Kongsø* 5. 2 ex.
 K.2/218. Hild. 2745, type Kn. G., Hbg. Kn. 10. 2 ex.
 K.2/238. Hild. 2749, type Kn. Ic., Hbg. Kn. 15. 3 ex.
 K.3/198. Hild. 2744, type Kn. Ac., Hbg. Kn. 7a. 1 ex.
 K.4/178. Hild. ÷, Hbg. cf. Kn. 16. Galster, *Haagerup* 5. 1 ex.
 K.5/108. Hild. ÷, Hbg. ÷, type Hild. Kn. K. 2 ex. (Öja (?). Hatz, no. 400).
 K.6/206. Hild. 2735–36, type Kn. D and Da (same dies, as D has been re-engraved). Hbg. Kn. 23. The portrait is a mixture of Æthelræd D and E. 13 ex., but only 2 in finds: *Kongsø* (Galster, *Kongsø*, nr. 2) and *Halsarve, Gotland* (Hatz, no. 360).
 K.7/99. Hild. ÷, Hbg. Kn. 23 (this specimen). NNUM 1979, p. 67, 4a. Portrait type Æthelræd D. 12 ex. Finds: *Haagerup* (Galster, *Haagerup* 3), *Espinge* (Hatz, no. 247) (originally 16 ex. here), *Sigsarve, Gotland* (Hatz, no. 295), *Vanneberga, Scania* (Hatz, no. 303).
 K.8/168. Hild. 2193, type Kn. H., Hbg. Kn. 16 var. 1 ex.
 K.9/2. Hild. ÷, Hbg. ÷. Type Æ. D/Kn. H (?). 1 ex. Find *Mannegårda II, Gotland* (Hatz, no. 359).
 K.10/47. Hild. 2013, type Kn. H., Hbg. Kn. 16. 4 ex. (Finds: *Haagerup, Funen* (Galster, *Haagerup* 230), *Stora Bjers II, Gotland* (Hatz, no. 286).
 K. 10/64. Hild. 2123, type Kn. Ia., Hbg. Kn. 14 var. 2 ex.
 K.11/228. Hild. ÷, Hbg. cf. Kn. 23. Portrait type, Kn. H. 1 ex. *Espinge, Scania*.
 K.12/103. Hild. ÷, Hbg. Kn. 16 var. SCBI Cop. III 2679. NNUM 1980, 43, no. II d.

Fig. 6. Die-chain
no. IV, linking Æ. 1
with H.6.

a Æ.1/161 (LEB
1442).

b H.6/161 (LEB
1437).

c H.6/25 (LEB
1431). 2:1.



- Portrait type Kn. H. 1 ex.
K.12/115. Hild. 2511, type Kn. Ia., Hbg. Kn 14
var. NNUM 1980, 43, no. IIc. 1 ex.
K.13/1. Hild. ÷, Hbg. ÷, Portrait type HC. A.
1 ex. Galster, Haagerup 4.
K.14/138. Hild. ÷, Hbg. Kn 14 var. R & D,
suppl. pl. I, 80 c. Portrait type Kn. H.
1 ex.
K.15/238. Hild. 2748, type Kn. I (HC), Hbg.
Kn. 14. 1 ex.
K.16/97. Hild. ÷, Hbg. Kn. 8. Portrait type Kn.
H. 1 ex. Find Bonderup, Zealand
(SCBI Cop. I, no. 92).

The models for the obverse designs are thus taken from several different types. Only seven of them copy, more or less accurately, the English types of Knut, namely type G (Pointed Helmet (K. 2)) and type H (Short Cross), (K. 8, 10, 11, 12, 14, 16). Two types seem to copy the older series of Harthacnut (K. 5, 13), while two show his last English type (Arm/Sceptre) (K. 3, 15). Three of the portrait designs seem to

include features taken from types of Æthelræd: these are K. 1 (composition like ÆA, but a crowned portrait closest to Knut E), K. 6, which seems to show a mixture of the D and E types of Æthelræd, and K. 7, which has a remote resemblance to Æthelræd D. It is difficult to find direct models for the last two types.

The hoards provide little information about the K group: coins of the K group are included in ten different finds, of which the earliest is Kongsø (*tpq.* 1040–) and the latest Halsarve (*tpq.* 1106–), while the others have a *tpq.* between 1042 and 1055.

In other words, the whole of the K group have in common only the name reproduced as “Cnut” on the obverse. Therefore greater weight should be laid on information derived from the die-links and the reverse types.

The HX group is peculiar as it shows a portrait design in keeping with the H, K and M groups, but with a blundered inscription. Of the two dies attributed to this group, one (HX. 1), can, however, be compared with the H group be-

cause the inscription appears to contain elements from "CNVT NAR", but with the letters in part laterally reversed and in part upside down. Each of the two dies is linked with different reverses, with both literate Lund dies and dies with entirely illiterate inscriptions. However, fig. 4 shows that both the obverse dies are linked with five different reverses and, via these, to other Lund coinages in the groups H, K, M and E. The time and place of minting of the HX group can be determined through these die-links. Only a few specimens are known of each of the die-combinations: they have occurred in only one find, that at Espinge.

The *Æ* group has already been discussed elsewhere³⁵. The three dies known not only clearly show the name of Æthelræd but the portrait designs copy Æthelræd's Helmet (*Æ*. 1) and Long Cross (*Æ*. 2, 3) types. The technical quality of these coins is rather high, particularly in the case of *Æ*. 1. The reverse inscriptions clearly refer to Lund and to two of the moneyers active there: Othinkar and Alfwin. *Æ*. 1 and 3 have been found in seven and four hoards, respectively, each having a *tpq.* dating of 1042-. One of these hoards is, however, of value for dating the type: namely that found at Öja in Scania³⁶, which contains 125 Anglo-Saxon coins, of which the latest is one single coin of Edward's PACX type (1042-1044). This hoard contained 45 examples of *Æ*. 1, which were die-identical; the majority of the pieces still preserved are unused, having not been in circulation. Thus the coins were probably struck shortly before the hoard was hidden. Through die-links, *Æ*. 1 is included in one of the small series (no. IV, fig. 3), here via R. 161 to an H die.

35: C. J. Becker, (note 20).

36: See note 28. As mentioned, 18 coins can still be identified as belonging to this find, one of them being cut (half-penny). All coins are quite fresh (uncirculated) but seven pieces show one peck-mark each; the rest are without such marks.

37: See note 25.

38: SCBI Copenhagen IV, 1972, note to no. 352 and 427.



Fig. 7. Obverse die HL. 1 with reverses R. 245 (KMMS, Bolbygård, SCBI Cop. IV, 426), and R. 240 (LEB 1139, SCBI Cop. IV, 427). 2:1.

The *HL* group only consists of two obverse dies, one showing such a distorted inscription that it could also be the entirely blundered name of Harthacnut³⁷. On the other hand, the HL. 1 die is legible and of good quality. It copies one of the obverses of Harold I from the Jewel Cross issue (1036-1037). Even though the portrait, and the whole appearance, corresponds entirely to that of the prototype, this cannot be an English die. This has been surmised³⁸, but now it can be proved. We know of this one die only but it is, on the other hand, combined with four Lund reverses from three definite Lund moneyers: one of them (R. 74) is again linked with a (probable) Magnus coin (M. 19) and from here further incorporated in the large chain I, while the reverse R. 115 connects up with other dies in the same chain.

The *E* group. In contrast to the two foregoing groups, this one was placed by Hauberg in his so-called "battle period" (1044-1047) (Hbg. type 2). Two different but related dies are known

Fig. 8. The E group.
 a E.1/R. 200 (LEB 1585).
 b E.1a/202 (LEB 1583).
 c E.2/201 (KMK 6620, Espinge). 2:1.



(fig. 8), one of which was re-engraved during its period of use; a mask has been added in front of the face (E. 1a). While the inscription reproduces “Edward Rex”, the portrait is not of contemporary English type: the closest model is the Long Cross portrait of Æthelræd. On the other hand, E. 2 may copy an English Edward die of the PACX type, even though the style resembles certain older types (Knut H). Three different reverses (200–202) are associated with E. 1–2: all three show the name of Thorketil and Lund is given as the place of minting. Several of the types were found in the Espinge hoard, some of them being unused specimens. In addition some were found in a few different finds (E. 1a/200 at Haagerup (*tpq.* 1048), and at Skälö, Dalsland (SCN 16, 1, find 4, 371. Hatz, no. 292. *tpq.* 1054–), E. 2/201 at Stora Sojdeby, Gotland (Hatz, no. 354 *tpq.* 1089). The die-links are more decisive for the placing of the group. As fig. 4 shows, both E. 1 and E. 2 are included in the

large chain and, via R. 202, associated with HX. 2, as well as with two important Lund dies, namely H. 38 and M. 3 via R. 201. Thus there is no doubt about the placing of the E group.

Yet another group of dies showing the name of Edward are known from the Danish area. These were attributed by Hauberg to Lund and Odense and to the same period. The Lund coin Hbg. type 1 has, however, a reverse of later type because it seems to copy the English Pointed Helmet type of Edward (c. 1053–1056). The obverse of this coin is identical to that of a provincial coinage from “Toftum” (Hauberg proposed that this was a place on the island of Funen), but here with a reverse that either copies an even later type of Edward (namely the Hammer Cross from c. 1059–1062), or is of non-English origin. For this reason these Edward copies are not included in the present investigation. Other contacts between Lund and Odense are discussed below (p. 157).

Posthumous Harthacnut types

It has been shown that the material contains a number of anachronistic or posthumous obverse dies, i.e. where the names of deceased kings have been used. Therefore we must investigate whether this applies to some of the dies of Harthacnut. The die-links with the coins of Magnus are of less value in this connection because it is only natural that on a change of regent some intermingling may occur if the mint continues production without a break.

A couple of H dies show – through the coins – such late features that they must have been cut after the death of Harthacnut. H. 15 is associated via die-links with an MX type (chain VII) so this must be an anachronistic H type. The portrait is, incidentally, of a different style from the normal. The related die H. 16, included in the large chain I, may therefore be presumed to be just as late: via three different reverses this is linked with just as many M obverses, as well as with a single K.

By different means the H. 40 die can be considered contemporary with the MX group because the type of portrait corresponds to the style of this group and, moreover, it is of a very different stamp compared with the other H types. The die is not included in any chain.

Thus anachronistic H dies do occur, and consequently there is no certainty that all the other dies showing the name of Harthacnut were cut in his own time. But at the present moment it is impossible definitely to distinguish others of this nature.

The absolute dating of the obverse groups

Using the combination diagram, fig. 2, and the different die-chains as evidence, individual groups of obverse dies can be identified and dated in relation to one another. To sum up: the MZ group seems not to have any connection

with the other groups, and for this reason it must be eliminated from the coins definitely associated with the official mint at Lund. Of the other material, the MX group comprises a chronological unit: as it is the only group to show die-linking with the earliest of Svend Estridsen's Lund coins, it must represent an independent group lying in the time immediately prior to those Svend coins. Others of the MX group have contact with M dies and one of them with a (presumably posthumous) H die. On the other hand, neither the M nor the H group shows any distinct boundaries towards the other material. Many links occur between M and H, and also with the K dies included in the material, as well as with some admittedly small but important groups of a foreign or anachronistic nature, namely the Æ, HL and E groups. Therefore they must all be largely contemporary. However, among the H dies (according to fig. 2) so many cases of links within the same group have been ascertained that some of these dies may be supposed to comprise a special older section within the entire large group H, M, K etc.

In other words, the following chronological groups appear and can be defined in this way: 1) Certain H dies as well as, presumably, some K dies seem to be the oldest. 2) The M dies, certain H and K dies, the foreign or anachronistic groups Æ, HL and E, as well as HX, together make up the next group. 3) The MX group follows the preceding one. 4) Svend Estridsen's earliest types of Byzantine style (Hbg. Svend 6, 9, 16, 23 etc.) continue the series and link up with the later coinages struck by Svend.

It seems possible to associate absolute dates with several of the groups. Svend Estridsen became sole Danish monarch on the death of Magnus in the year 1047. Already Hauberg stated that the earliest of Svend's Lund coins could have been struck some years earlier than this, because Svend was in control of parts of the kingdom before 1047³⁹. Independently, M. Dolley has recently reached the same conclusion⁴⁰

39: Hauberg, p. 215.

40: See note 30.

based on studies of the Anglo-Saxon coins in the great Espinge hoard. This appears to have been deposited in c. 1047/48, but it contains several of Svend's types which, therefore, must have been struck some time before the hoard was buried, i.e. c. 1046 at the latest. At the same time this must give a date for the transition between groups III and IV.

Further grounds on which to base the chronology can be found in group II as the name of Magnus (and using the title king) cannot belong before 1042, i.e. the death of Harthacnut. For this reason both groups II and III should be placed between 1042 and 1046; because they clearly comprise two chronological phases they can be estimated at two years each. With regard to Group I, i.e. certain of the coins of Harthacnut, it is reasonable to place them before the year 1042 but, based on the great stylistic similarity with Group II and particularly because of the many die-links with this group, only a short period can be involved, hardly longer than the others, i.e. at the most a couple of years. The result is then: Group I c. 1040–1042. Group II 1042–c. 1044. Group III c. 1044–c. 1046. Group IV after c. 1046. Thus, all the portrait coins of Harthacnut and Magnus should be placed within as short a period as c. 1040 to c. 1046. Such a result may seem surprising but there is no possibility of extending this span of time in either direction. It is hardly fortuitous that no links have been observed hitherto with the above-mentioned, older Harthacnut group dating from c. 1030 (the "Serpent Group"). There is a definite break between the two groups – but it is of unknown duration.

The die H. 46

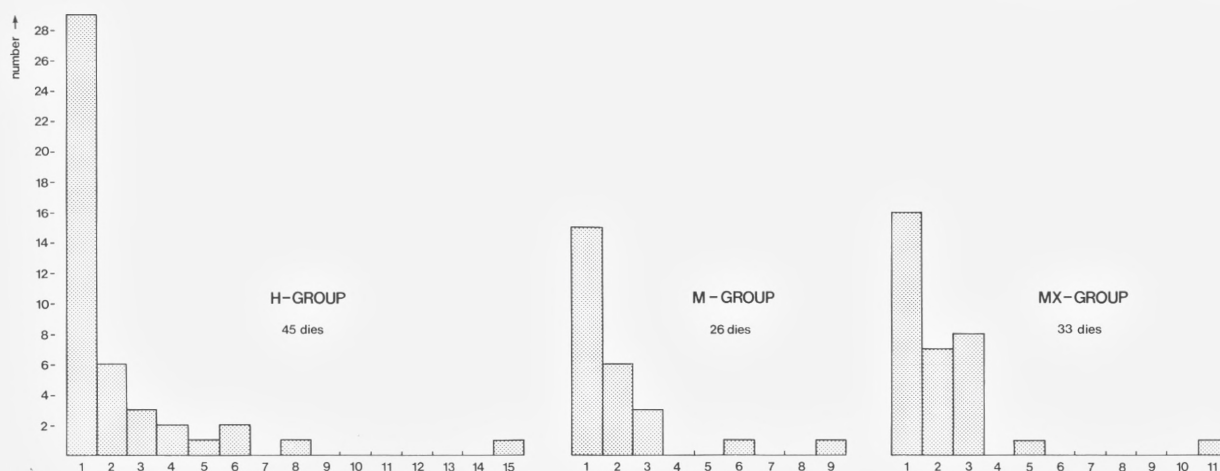
In die-chain I there are several obverse dies that have unusually large numbers of reverse combinations. H. 46, however, seems exceptional, linked as it is with 15 different reverses. This is a die which had already been noted by Hauberg because he had observed a number of the links. Later, his observations were utilized in the

treatise already cited⁴¹, where the die was included in the so-called Y chain with as much as seven different reverses for the same obverse. It now proves possible to increase this number to 15 reverses. In addition, these show 15 different names, of which 14 are definitely associated with Lund – namely: Alfnoth, Alfwarth, Alfwin, Grim, Othinkar, Othinkarl, Sumarlith, Thorkil, Thorketil, Thorsten, Toki, Tovi, Ulfketil and Ulfkil. The last name is that of Alfrik, and this is discussed below when the foreign dies are dealt with.

In the material under discussion, although there are several obverse dies linked with a conspicuously high number of reverses, there are none to parallel H. 46. It must have had a very special significance and it is tempting to guess at the reason for this: it may have been a form of test-die which was used by all the moneymen active at Lund when Harthacnut reorganised the mint in this town. It seems, as discussed below, that there were 19 people entitled to put their names on the coins of Harthacnut. Two more names occur later. Fourteen of them are linked with H. 46, but most of the combinations are today known from only a very few specimens so that chance may be responsible for the number of names represented. It could be that future finds will increase this number.

A further feature of the reverses which combine with H. 46 should be noted. The 15 different dies represent a total of eight different types of die, which all copy English models from the times of Æthelræd, Knut, Harold and Harthacnut. This might indicate some sort of an attempt to establish a new standard type at Lund. One of the models is Harthacnut's own Arm-/Sceptre type, which was introduced into England during 1040. The Lund copy cannot be older: this is a weighty argument in favour of the dating (1040–1042) already proposed for the Danish group.

41: C. S. S. Lyon *et al.*, see note 6.



Other obverse dies with many reverses

Figure 9 shows how often the individual obverse dies have been found linked with different dies. Only the three largest groups – H, M and MX are included. The diagram shows how many examples have been identified of obverses with one reverse, obverses with two reverses, etc. In each of three groups a majority of obverse dies occur with a single reverse and the number which occur with 2, 3 and 4 reverses, respectively, decreases rapidly. Thereafter there is a small series with 5–8 reverses to the same obverse and – still within each of the three groups – one single obverse die that is linked with a large number of reverses: 15 in H, 9 in M and 11 in MX. The H die has been discussed above (H. 46). The M die (M. 4) is linked with only five moneyers as several different dies occur with the same name. The MX die (MX. 25) is linked, correspondingly, with nine different “names”. Thus, the three dies should not be thought of having been used in parallel. As mentioned earlier, H. 46 was associated with 15 different names, while there are recurrences within the other groups. Moreover, several of the combinations with both M. 4 and MX. 25 are relatively common, i.e. many specimens are preserved, while the H. 46 combinations are rare; indeed, in many cases they are unique.

Fig. 9. Obverse/reverse combinations, based on the obverse dies. For each group the first column shows the number of obverses combined with only one reverse die each, the second obverses with two reverses each etc.

The three diagrams, fig. 9, show, on the other hand, such a uniform picture that an impression is given of stable conditions prevailing at Lund during the period in question.

VI. Reverse dies

The types of the dies and the models

The preparation of the list of reverse dies has been described above on p. 125. Beside each number the type of die is indicated by a letter (A–T) and reference is made to a table (pl. VI) of the individual types. It was mentioned that the dies were arranged in an apparently arbitrary sequency, but that there were purely practical reasons for this arrangement. Almost all the commonly occurring (and therefore particularly important) dies can be described by the letters used by Hildebrand, and now so well known, because the main types from the English series of Æthelræd, Knut, Harold I and Harthacnut which occur in Danish coinage have by pure

coincidence almost all been given different letters. As a matter of form, the letters used here are given in sequence stating the place of origin of the model and giving the designations of Hildebrand (in certain cases references is also made to the types of Hauberg).

- A. English. Like Æthelræd Small Cross (Hild. A).
- B. English. Like Harold Fleur-de-Lis (Hild. B, Bb, Bc) (Hbg. Hard. 16, 25).
- C. English. Like Æthelræd CRUX (Hild. C).
- D. English. Like Æthelræd Long Cross (Hild. D).
- E. English. Like Æthelræd Helmet (Hild. E). Perhaps a Scandinavian variant.
- F. English. Like Knut Quatrefoil (Hild. E).
- G. English. Like Knut Helmet (Hild. G).
- H. English. Like Knut Short Cross (Hild. H).
- I. English. Like Harthacnut Arm/Sceptre (Hild. Knud I).
- K. English. Like Harold/Harthacnut Jewel Cross (Hild. Knud K).
- L. Scandinavian. (Hbg. Magnus 9).
- M. Scandinavian. (Hbg. Hard. 5).
- N. English or Scandinavian. Like Edward Trefoil/Quadrilateral. (Hild. C) or *local* mingling of E and I.
- O. Scandinavian. (Hbg. Hard. 42, Ørbæk).
- P. English. Like Edward PACX (Hild. D).
- R. Hiberno-Norse. Like Dublin Phase III (Hbg. Hard. 24).
- S. Scandinavian. Like Knud/Harthacnut "Serpent" type. (Hbg. Knud 20-22 and Hard. 1). (Fig. 1).
- T. Scandinavian. Diverse with different, often unknown models (e.g., Hard. 10, 18).

The table given fig. 10 shows the number of types first for the Lund dies in the series R. 1-250 and then the numbers associated with these from the series R. 301 ff. In each series a distinction is made between, on one side, dies from the obverse groups H, M and K (as well as

T Y P E	R1-250		R301 ff. →		
	H/M/K	MX	H/M/K	MX	MZ
A	4	-	-	-	-
B	7	-	2	-	-
C	1	-	-	-	-
D	50	34	3	2	4
E	10	2	-	-	3
F	4	-	-	-	-
G	4	-	-	-	1
H	14	1	-	1	-
J	10	-	-	1	1
K	8	-	1	-	2
L	1	-	-	-	-
M	3	-	-	-	-
N	3	-	-	-	-
O	1	-	-	-	-
P	6	-	-	4	13
R	-	-	1	-	-
S	-	-	-	-	-
T	4	-	-	-	-
	130	37	7	8	25

Fig. 10. Number of reverse dies by type (cf. pl. VI). The certain Lund-dies (nos. 1-250) are shown separately from the more uncertain group (nos. 301 ff). In each group the MX-dies are analyzed separately, and the MZ-dies are indicated to the right. (The total number of reverse dies in the text is 195. In fig. 10 the number is higher, because nine Lund-reverses which are only combined with non-portrait obverses are included, and because two D-dies and one E-die have been counted twice, as they occur both in the M- and the MX-columns).

the small group of HX, Æ, HL and E) and, on the other, the MX group. For the series R. 301 ff. there is, in addition, a special column for the MZ dies – which hardly originate from the Lund mint, as mentioned above. One of the specially interesting results that can be deduced is that there is a clear difference among the relatively certain Lund dies (1–250) between the choice of reverse types appearing in the MX group compared with those of the other groups. In the definite Lund series (nos. 1–250) the colourful multiplicity of types in the H-M-K group is replaced by a single type: the D type practically controls the scene here. At the same time, it should be emphasized that only three cases were observed where one and the same die was used in both the M and the MX groups (R. 116 and 121 of type D, and R. 78 of type E).

Even though the first column shows a very large number of reverse types, it should be noted that here too type D accounts for more than a third of all numbers. This copies the 40-year old Long Cross reverse of Æthelræd. English models are generally used for the other types and, remarkably enough, particularly those associated with the most frequently copied obverse types. This applies both to the older prototypes as well as the more contemporary ones, principally Æthelræd's type E, Knut's type H, and Harold/Harthacnut's types B, I and K. In other words, no original drawing was selected as characteristic of Lund during these years. The

most one can talk of as a certain local character present in a few (rare) types (L and N); independent, non-English reverse types are real exceptions.

The PACX type (group P) presents special problems. In table fig. 10, six dies are attributed to Lund, but actually the majority of them are doubtful, or only included because of links with genuine Lund dies. Only two show names known from other Lund coins of the time, namely: Thorkil (R. 196) and Ulfketil (R. 240). Of legible names we find, additionally, Godnod (R. 94), and Godman (R. 95) otherwise unknown at Lund. At all events, "Godman" certainly copies the London moneyer of that name and that time. The P dies are, on the other hand, remarkably frequent in the MZ group. Here one of the dies may contain the name Brun (305), which can be that of the London moneyer Brenman, or a Danish name known from other coinages of Roskilde. Incidentally, one of the very few literate inscriptions with a PACX reverse is indeed associated with Roskilde (Hbg. Hard. 30, list II no. 401). The problems presented by this group are still unsolved and will not be further discussed here, but it should be mentioned that more P reverses than those referred to above copy English coins, for instance R. 316 (Godric, Lincoln) and R. 353 (Osmund, Norwich).

Names on reverse dies

"Authentic" names of people

The reverses of the Lund coins display a relatively large number of literate inscriptions. The material was treated in detail by Hauberg, so it will suffice to comment on a few questions connected with personal and place names in the present investigation⁴².

Because the entire group treated here copies in so many ways the contemporary, well organised English mint system, it has usually been assumed that the structure behind the system

42: In the present paper the personal names are given, as far as possible, in modern spelling, as did Hauberg in his book. But such a translation is difficult because many names on the coins show Old English as well as Old Danish elements. My colleague, Professor John Kousgård Sørensen, Københavns Universitet, has kindly helped me in discussing this problem. The present author is responsible for "translations" used in the text (and specially for the less precise distinction between the names Othinkar (list I, nos. R. 160–170) and Outhinkar (R. 174–179)). This is because we are probably dealing with two different moneyers (as Hauberg suggested), and not with different versions of one name (see e.g. K. Skaare, *Coins and coinage in Viking-age Norway*, p. 67).

was also transferred to the main Danish mint. But this idea – which would represent a significant feature of Danish society at that time – should be investigated critically and not just taken for granted.

Among the many personal names appearing in the list I (p. 171), three categories are obvious: names belonging to people actually employed in the production of coins at Lund; names just as clearly indicating fortuitous copies of inscriptions on foreign or older coins, and thus *not* denoting a man associated with Lund; and finally a third group for which the present author does not dare determine the question of whether they are “authentic” or “spurious” Lund moneyers.

“Authentic” names are those of frequent appearance and of special Nordic character within the H and M groups. There are 21 of these (Alfnoth, Alfwarth, Alwin, A(r)nketil, Aslak, Garfin, Grim, Karl, Lefwin, Osgod, Othinkar, Othinkarl, Outhketil, Sumarlith, Thorkil, Thorketil, Thorstein, Toki, Tovi, Ulfketil and Ulfkil). The term “special Nordic” only means that the names are associated with Lund. As shown several years ago by Kristian Hald (in a brief, but important, article)⁴³, these names are either of pure Anglo-Saxon type, or of Nordic origin, but in that case typical to the Danelaw in England. This can be interpreted as meaning that all the moneyers were specialists called in from England.

Associated with this question is the long acknowledged problem of distinguishing between London and Lund on inscriptions. Even though this difficulty has been cleared up little by little – with thanks in particular to research on the English coins – there is still a problem, *inter alia* because in the group of Danish coins in question there occur apparently arbitrary copies of older coins that were still in circulation in Denmark. However, such copies are rare in relation to the normal Danish coinages. The more frequent occurrence of the 21 names listed above probably

implies that these names did in fact belong to people directly connected with Lund.

Other factors point in this direction. When discussing the groups of obverses, some dies were mentioned that so directly copy English coins that the name of an English king replaces a corresponding Danish name. In the case of the Æthelræd imitations (Æ. 1–3), however, only two Danish moneyers are “responsible”, Alfwin and Othinkar – although several different dies are known. Correspondingly, only the name of Thorketil is found on the Edward dies produced in Denmark. This points in the direction of individual (although mysterious) initiative being taken by staff of the Lund mint.

The choice of the reverse types, too, seems to have a certain individuality. Thorketil, just mentioned above, seems on the whole to have had a lively imagination because his 13 reverse dies known so far represent four different types (among them the peculiar Byzantine imitation, dealt with by M. Dolley and K. Jonsson above (p. 113)). Similarly, Grim is associated with eight dies of five different types. In contrast, for example, Garfin, keeps to one type (D) for his seven dies.

Finally, there is a difference in the span of time during which the different names occur. Some occur only in the earlier groups, others only in the later ones. The distinction is borne out by the preceding and succeeding coin series, thus names associated only with the earlier groups occur in the previous, but not the later, series and names associated only with the later coins occur in the still later, but not the earlier, series. A similar pattern can also be observed in the Anglo-Saxon coinage.

New names appear that are on the whole contemporary with the MX group, such as Lefsi, Leisti, Bain, as well as some enigmatic designa-

43: Kr. Hald, Om Personnavnene i de danske Møntindskrifter. Studier tilegnede Verner Dahlerup. Sprog og Kultur, Tillæg til 3. Aargang, Aarhus 1934, p. 182–187.

tions, e.g., “Ardln”, “Alnri”, etc. Several of these are found, too, on the earlier coins of Svend.

It is not the author’s intention to analyze the name material in the present study – the foregoing remarks are only made to emphasize the fact that there were people (and quite a number of them) who actually worked at Lund, and whose names are therefore found on the coins. Some names are early, others appear during the course of time and can be found on still later coins from Lund. It is significant that among the so-called older names in the H and M groups there are several that are known from the preceding series of Lund coins, the so-called “Serpent” group. In that series 11 different names (with the obverse of either Knut or Harthacnut) have so far been noted. No less than eight of these recur in the H and M groups, although, as stated earlier, there are no die-links between the two groups. The eight names are: Alfnoth, Alfwarth, Alfwin, A(r)nketil, Aslak, Osgod, Sumarlith and Thorketil.

Even though in several cases there is continuity from names in the H and M groups via MX and even further, a survey of the list of reverse dies shows a clear tendency to poorer spelling or degeneration down through time, so that some of the latest inscriptions can only be read with knowledge of the earlier forms (compare, e.g. R. 85 with 90 or R. 183 with 189). This appears to be a general development at the Lund mint, such that in the earlier series of Svend Estridsen the same feature is encountered and little by little an even larger number of almost illiterate, or entirely illiterate inscriptions occur. This gradual deterioration in the literacy of the inscriptions cannot be ascribed to a poorer ability of the die-cutters employed at Lund.

The earliest obverse designs of Svend are technically just as good as those of the earlier series – and in some cases even better. Perhaps this phenomenon indicates that the names gradually lost their significance, i.e. the concept behind the names was in a process of disintegra-

tion. In other words, during the first quite lengthy minting period of Svend Estridsen, we cannot assume that there existed a system where certain people were responsible for the purity and weight of the coins. If correct, then we do not know when this development was initiated. In other words, the partially disintegrated and often incomprehensible names of the MX group may indicate that the structure introduced by Harthacnut in c. 1040 has been given up already at this time. This was the structure where the English coin types were not only copied, but, presumably, where the English organisation of coin production had been copied, too.

“Spurious” or doubtful personal names

In the list of reverse dies there are several examples of dies showing names unusual for Lund. Previously, these were all accepted as authentic, i.e. as proof that the person in question had actually struck coins at Lund, albeit only occasionally. In reality, these unique dies should be considered as comparable with the obverse dies showing the names of Æthelræd, Harold and Edward, i.e. as copies of foreign coins. As examples of this type of hapax die we may mention Arkil (R. 35, name known from York under Harold I), Mana (R. 147, known from several places in England), Osbern (R. 154 with minting place stated as Sigtuna) and Gamel (R. 83, apparently unknown in England until much later).

When, in all probability, there was occasional copying of foreign names on the reverse of coins, doubt arises about where the line should be drawn between “authentic” and “spurious” names. Perhaps a thorough philological and numismatic study would make it possible to distinguish between these two groups. The present author is unable to do so and, as a result, we must deal with this common group of personal names. This means that we do not dare to take decision, whether a name really represents a moneyer active at the Lund mint or not. Only

one more example will be mentioned: namely Asferth (R. 47), who may be identical with Asforth (R. 49). Each of the two forms of the name are only known on a single die from Lund originating from the earlier and the later group, respectively. But both forms are found on a number of English coins that range in time from Æthelræd to Harold I and which were issued at London, Lincoln and York.

Place names on reverse dies

As there is a proof that foreign personal names can occur on the Lund coins of the period in question, both as issuer of the coin (on the obverse) and as moneyer (on the reverse), there is every reason to review the place names just as critically. This does not mean so much the problem already mentioned of distinguishing between London and Lund. In the material under investigation Lund is sometimes denoted (with implied "ON") LUNDI, sometimes LUDI, often using different abbreviations. The problem at hand is of a different nature: did the Lund moneyers occasionally use the names of other towns on their coins? The question must be answered in the affirmative because there are examples of the use of foreign place names just as incomprehensible as the use of foreign personal names.

English names

There are a few Lund dies that show the correct names of English towns. So far they have been considered either as authentic English dies that had been carried to Lund, such as proved both for the early Nordic copy groups from the time of Æthelræd (see the 1962 paper (note 6) and Mark Blackburn above) and for the first Danish series of Knut from c. 1020⁴⁴; conversely, as Hauberg thought, they have been considered Nordic, i.e., for some reason or other the moneyer used the name of his original home town instead of that of Lund.

In the material under study we deal primarily with dies showing the names of Lincoln and London, whereas more obvious imitations from other places are easier to explain as such.

Lincoln. The list includes four dies that use the name of this town in one of the usual English forms. Comments on each die are necessary and these are based on the recent monograph on Lincoln dies⁴⁵.

R. 7, ALFRIC is of type H and combined both with the important H. 46 and with K. 2. According to the reverse type, one would expect this name to appear on the coins of Knut from Lincoln, but it is not found on these. The name is otherwise unknown among the Lund dies, and here it must be termed as "spurious" personal name (above p. 143). Mossop illustrates the two pieces (pl. LXIII, 20 and 21) but adds: "May be Scandinavian". The die must be considered a Lund imitation in the H group.

R. 134, LEFPINE (Leofwin) is of type I and combined with the obverses H. 16 and M. 8. The name is also known with this spelling on a genuine Lincoln die, but this die is not identical with 134. The same name is found among Lund dies, but in the form LEOFPINE, and with the town name Lund or LUDN (R. 137–138, combined with H. 15 and K. 14, respectively). Both are rare dies and the personal name belongs to the group described above as "doubtful". R. 134 is probably a Lund imitation belonging to the H or to the M group.

R. 135, the same name as 134. The die is of type A, i.e. of the long defunct Æthelræd type (or possibly type A of Edward). A Leofwin is known at Lincoln in both these types, but none of the dies corresponds to R. 135, which is probably a copy from the time of Magnus.

In connection with the name Lefwin, it should be mentioned that there are further Scandinavi-

44: Brita Malmer, note 6.

45: H. R. Mossop *et al.*, *The Lincoln Mint c. 890 – 1279*, Newcastle-upon-Tyne 1970.



an imitations where the H type of Knut (Short Cross) is used. These specimens are not included in the present material because their association with Lund is doubtful.

R. 152, "OINDI". The reverse is of type F (Knut's English type E). It is combined with H. 16 and M. 14, presumably both from the time of Magnus. The name and the die are unknown from the Lincoln mint. No other dies are found with this name in the Lund material. R. 152 must therefore be a Lund imitation of more imaginative type than the preceding ones.

We must conclude that the four "Lincoln" dies cannot be considered authentic English dies, and neither can they be considered as associated with English moneymen who worked first at Lincoln and then moved to Lund. The dies are free or fortuitous imitations of the same kind, so difficult to explain, as the obverses of Æthelræd or Edward originating from Lund.

London. Because of the similarity between the words London and Lund, it is more difficult to point out imitations corresponding to the "Lincoln" dies just discussed. There is, however, one obvious example, namely R. 74 EDWINE ON LUNDI of the H type. The style is English and an Edwin is known from London in this type among others. R. 74 is, however, combined with M. 19 (a local obverse die with elements taken from several English types, e.g. Harold's type B, and with partially illiterate inscriptions) and with HL. 1 (a Lund imitation of a Harold die proper). The reverse die is not identical with any English

Fig. 11. Lund-dies with the name of "Lincoln". a R. 7 (KMK, Hild. Hard. 87). b R. 134 (KMMS). c R. 135 (KMK 6620). d R. 152 (LEB 1588). 2:1.

die from the time of Knut and, in the absence of evidence to the contrary it should rather be considered as a later copy that was produced at Lund.

The good copies of English dies just mentioned cannot be compared with more or less barbaric copies that lead directly to the large group with blundered inscriptions. This group is briefly mentioned above, but it is not included in the treatise as a whole because it is still doubtful where (and when) it was produced. Some of the dies may have been associated with Lund, e.g. the PACX imitations discussed above (p. 141). The two known examples of H. 47/314, may belong to the same groups; on these the reverse dies seem to imitate, both in type and inscription, certain elements of the Dublin series ("LIFL" could be "DIFL"). The legend appears, however, to be earlier than Phase III, in which the design with two hatched quarters frequently occurs.

For obvious reasons, copies of *Nordic place names* (apart from Lund) are difficult to identify because pieces carrying such names normally would be attributed to a different mint. Nevertheless, there are some exceptions.

R. 154 displays the frequently discussed inscription OSBRN ON SITUN, and the die



Fig. 12. The “Gori”-die R. 108 (KMK 2795 (?)). 2:1.

previously has been attributed to the Swedish Sigtuna, although in type, weight and the name given, the coin stands quite alone in that series⁴⁶. The coin H. 13/154 had been considered unique, but recently Tuukka Talvio published a piece from identical dies in the museum at Tallinn, and at the same time drew attention to Hauberg’s observation that the obverse die was linked with a Lund reverse (R. 47)⁴⁷. More recently, several links have been discussed⁴⁸, from which it can be deduced with greater certainty that the “Situn” coin must have been struck at Lund. In the present work, R. 154 is included in a small die chain (no. V, fig. 3) with the other reverse dies (47, 63, 64) all showing the name of Lund. R. 47 – just as R. 154 – carries a “spurious” moneyer’s name while the other two are attributed to Karl, who is probably an “authentic” moneyer. Thus, there can no longer by any doubt that die 154 was cut and used at Lund in c. 1042.

R. 108 has an inscription that is just as interesting: HVELN ON GORI. Since the time of Hauberg Gori has been considered to be a place where coins were struck, just as the first part of the legend has been read as a personal name. Hauberg did, however, emphasize the close connection with Lund (because of die-links), and therefore he proposed that the site of this mint should be sought in Scania. R. 108 is included in the large chain I in direct linkage



Fig. 13. The coin H. 1/52, carefully copying the CRUX issue (Private collection). 2:1.

with three such diverse obverses as H. 16, K. 5 and M. 22, which again are connected with numerous reverse dies. Even though a remarkably large number of dies in this part of the chain are associated with the “spurious” moneyers, there can be no doubt that all the pieces were issued by the Lund mint. It is therefore more probable that the entire inscription is one of the “meaningless” ones that – quite accidentally – appears to have some meaning. “Hveln” is not known in England or in Denmark and “Gori” has hardly ever existed as a place name. This part of die chain I can be dated after 1042 (because of the Magnus obverse, M. 22).

With regard both to the personal and to the place names, the present material contains a relatively large number of dies that copy earlier or contemporary coins from other places – but often so well copied that they have previously been considered examples of old or foreign dies that had been taken to Lund and re-used in this mint. This point of view cannot be confirmed. Everything seems to indicate that all these dies

46: Lars Lagerqvist, *Commentationes* II, 1968, pl. 46, 22. Idem, *Svenska mynt under vikingatid och medeltid*, Stockholm 1970, p. 39, fig. 19.

47: Tuukka Talvio, *Till frågan om Knuts och Hardeknuts Sigtunamynt*. NNUM 1979, p. 106.

48: C. J. Becker, *Hardeknuds “Sigtuna”-mønt og andre imitationer fra Lund*. NNUM 1980, p. 42.



Fig. 14. "Pomeranian" coins, imitating the Danish MX-obverse. (After Hauberg, Magnus 17–18). 1:1.



Fig. 15. The unique "Hedeby" coin, most likely a Lund copy of the K group. (After Hauberg, Knud 13). 1:1.

are copies which the technically skilled die-cutters of Lund executed during the period c. 1040–1044 – just as was the case with the "foreign" obverse dies discussed above.

There are several unusual dies of related character. As a characteristic and quite genuine example mention may be made of the coin H. 1/52: Hildebrand attributed this to England (Hard. D. 109) but Hauberg transferred it to Lund (Hbg. H. 7). Only one pair of dies is known, but both the obverse and the reverse are accurate copies of the Crux type of Æthelræd, even with regard to the portrait. There is only one small inaccuracy: the sceptre is of more recent type. The dies are technically excellent, and the inscriptions quite clearly show Harthacnut's name and ASLAC ON LUND. Both names are "authentic" as no Aslak is known from the coins of Æthelræd or from London in the later period. On the other hand, the name is found at Lund both in the "Serpent" group and in the material presently under discussion (H. 16 and M. 14). H. 1/52 is certainly from Lund but both dies are accurate copies of the c. 50 year old English type.

Hauberg drew attention to the fact that several of the Lund coins of Harthacnut exhibit features directly copied from different German or Byzantine coins which are known, from the hoards, to have been in circulation in the Nordic area at that time. Through the names of the moneyers some of them have, with a high

degree of probability, been associated with Lund: for example the "Byzantine" copies specially dealt with by Michael Dolley and Kenneth Jonsson elsewhere (p. 113 above). Thorketil is likewise the moneyer in the case of the probable German copy Hbg. 13, and here he has at any rate given the name of "Lund". Strictly speaking, the Hiberno-Norse inspired coin, H. 47/314, discussed above (p. 145), belongs to the same group.

In cases where such copies of older or contemporary coins from widely different places can be dated with any accuracy, they are found to belong to the same period as the H and the M groups, i.e. c. 1040 to c. 1044. In other words, this is a special tendency associated with quite a short period and not a generally occurring feature of the Lund mint. There is, apparently, one exception: two cases of MX-like obverses with quite clear German reverse copies, but these do not give the name of Lund. Both pieces are illustrated by Hauberg (Hbg. Magnus 17 and 18). They have recently been mentioned by Georg Galster⁴⁹, who considers them to belong to the so-called "Pomeranian" imitations, i.e. they are not associated with Denmark. Therefore they are excluded from the lists given above.

Finally, it is tempting to deal with one of the truly odd coins from the first half of the 11th century, namely Hauberg's Knud no. 13. The obverse has the appearance of being struck from an English die of Knut's Pointed Helmet type, while the reverse is an accurate reproduction of one of the animal designs found on the earliest Hedeby coins, a deer-like figure, with different

49: Georg Galster, *Vikingetids møntfund fra Bornholm*. NNÅ 1977/78 (1979), p. 110, cfr. p. 119.

subsidiary symbols (fig. 15). Most recently, Brita Malmer's grouping of the material has made it clear that the reverse does copy one of these animal designs. From a stylistic point of view, it is a brilliant copy: the die-cutter must have had one of the very coins – by that time 200 years old – in front of him when cutting the die. In similar fashion the obverse is just as good a copy of one of the English coins of Knut, if it is not an original (according to the inscription both proposals might be possible). Such an extraordinary combination of widely differing coin-dies seems logical only during this period (c. 1040–1044) when all possible models are being copied and with the relevant degree of technical competence. The “deer” coin, Hbg. Knud 13, should be placed in the series of Lund coins from c. 1040–1044, even though there is no real evidence to support this placing yet. At all events, this coin has nothing to do with Hedeby, as has been proposed occasionally^{49a}.

A last group consists of reverses with entirely illiterate inscriptions. Following the remarks made above on the Nordic imitations of English coins in general (p. 123), and more specifically on the MZ-group based on its obverses (p. 129), it is sufficient to point out that within the H and M groups there exists a small number of reverses with blundered inscriptions side by side with fully literate Lund reverses (e.g., R. 313, 329, 336, 360, 362). In the MX group it is possible to demonstrate similar die-links, i.e. cases where literate Lund reverses and blundered inscriptions are linked by a common obverse (examples of illiterate inscriptions of this category are: R. 302, 348, 358, 364, 381). It should be repeated, however that the majority of blundered reverse inscriptions belong to the groups of Nordic imitations whose place of origin cannot be ascertained for the time being.

VII. Conclusions

The mint at Lund during the reigns of Harthacnut and Magnus

The present study concentrates primarily on the coins of Harthacnut and Magnus which have a portrait on the obverse. In earlier publications the main groups have been distinguished and the coins grouped according to their inscriptions, but a study of the individual dies and, in particular, of the numerous die-links has made it possible to supplement, or revise, our knowledge of these groups of coins in several ways. No longer can we reckon that the coins bearing the name of Harthacnut were all struck during his reign or that the coins of Magnus follow thereafter to be replaced some years later by the types of Svend Estridsen that have obverse designs of a Byzantine character. However, the inscriptions on the obverse still retain some significance. Thus while a number of coins bearing the name of Harthacnut must be considered the earliest in this series (some of the H group), others are doubtless contemporary with coins struck in the name of Magnus (the M group), and it is not at present possible to distinguish between them. On the other hand, die-links show that there is a distinct difference between the coins of these groups and those of the following group (MX) where the inscription on the obverse is always illiterate – and certainly meant to be so. In the same way there is evidence to show that there was a direct connection between the MX group and Svend's earliest coinage, so that it is possible to follow an unbroken line of production from the so-called H group until the time of Svend Estridsen – and from then onwards.

49a: Hauberg originally suggested that it was a Lund coin (p. 192) in spite of the light weight of the only specimen known (0,64 g). In a later paper, (*Nordens ældste Møntsted, Aarbøger for nordisk Oldkyndighed og Historie* 1914, p. 81) Hauberg considered it more likely that it was struck at Hedeby.

It is also possible to set out an absolute chronology for these activities of the Lund mint. Even the earliest types of the H group were scarcely struck before 1040, i.e. towards the end of the reign of Harthacnut: the dating is based upon an assessment of the English types which were copied at Lund and which at the earliest have been struck during the summer of 1040. A further foundation for the chronology lies in the transition between the MX group and the first of Svend's coins: Hauberg's supposition is confirmed – Svend's first coinages at Lund must have been struck a short time, estimated at one or two years, before he became sole monarch of Denmark on the death of Magnus in 1047. Consequently, a period of only a few years is available for all the groups of coins studied here, and the following absolute chronology may be proposed:

- I. The earliest H coins, c. 1040–1042.
- II. Certain H coins and the M group, 1042 – c. 1044.
- III. The MX group, c. 1044 – c. 1046.
- IV. The first of Svend's coinages: from c. 1046 onwards.

Several numerically smaller coin groups were minted at Lund during the same period as the series mentioned here, and this evidently complicates the chronology. By means of die-links, however, it has proved possible to demonstrate that coins bearing the name of Knut were being struck at the same time as coins of phases I and II. Whether or not the name Knut was synonymous with Harthacnut during the period 1040–1042, as was the case in England, or whether it was used posthumously at Lund, earlier ideas stand in need of revision. No less than 16 obverse dies, perhaps even more, with the name "Knut" (the K group) must be dated to period I or II, i.e. as late as c. 1040 – c. 1044. Some of the other small groups (Æ, HL and E) use the names of English kings. These also belong to periods I–II, but being so few they are

of no great significance for the chronology. On the other hand, they do make a decisive contribution to our understanding of the ordinary activities of the Lund mint.

With the large number of dies and moneyers, coin-production must have been carried out at Lund on quite a large scale throughout the periods mentioned above. Production must have continued unbroken even during the troubled times prevailing during the change of kings first to Magnus and then to Svend. On the other hand, it is doubtful if there was a similar continuity with the earlier Lund coins which are termed the "Serpent" group, after the dominating type. As mentioned above (p. 121), this seems to have been put into production at the latest around the year 1030, i.e. while Knut was still alive and Harthacnut was only a kind of vassal king in Denmark. But it cannot be decided at present for how long the "Serpent" group was produced at Lund. New studies must be made before it will be possible to tell whether the three subsidiary types with respectively, the name of Knut, that of Harthacnut, and an entirely blundered inscription are contemporary, or whether they represent chronological phases (and if so, perhaps those showing the name of Harthacnut are the earliest in time).

It is highly significant for the relationship between the "Serpent" group and the H group that, so far, no die-links have been discovered between them. Thus there may have been a break here, i.e. the Lund mint could have been inactive for one or more years. On the other hand, the names of the moneyers support the idea of some connection, because eight of the eleven known names from the "Serpent" group are also found in the H group – although, accompanied by a larger number of new names. It is also significant that the weight of the penny is about the same in the two groups. According to the provisional results (see below), there even seems to be a slight increase in weight from an average of 0.98 to 1.02 g.

These factors are very important, but nevertheless they do not explain clearly the relationship between the two groups of Lund coins. Other aspects of the coinage must be taken into account. For example, entirely new types were introduced with the H group. These all copied English coins, contemporary or obsolete, in a varied mixture. Both at Lund and in the other Danish mints the types within the “Serpent” group represent a more national or at any rate a distinctly non-English style. With these new types there were also introduced better striking techniques and more skillfully executed dies. The inscriptions, which (at Lund) are as a rule well legible, and the many moneyer names could indicate the introduction (or re-introduction) of an administration supervising all activities, such as was the case in contemporary English production. A superior authority, presumably the king, controlled all minting and the many craftsmen (we only know the names of the moneyers) must have worked under common management and – to judge from the large number of die-links – presumably in the same building⁵⁰.

However, both the H and the M groups differ from the English system in one significant aspect: no reverse type was produced specially here. Not only do the obverses copy a whole series of types of Æthelræd, Knut, Harold and Harthacnut, but this also applies to the reverses. As noted earlier, the die-impressions are of high technical quality and the die-cutters employed at Lund must have been professionals, perhaps Anglo-Saxon emigrants. They could easily have produced a special “Lund type”, just as was done in England at regular intervals. Only a few, rather rarely used reverse Lund dies show independent composition (e.g. types L, M and T). All the other dies copy English types, or they are “new” ones made by putting together elements from different English models. The closest that one comes to the concept of a special mint type for Lund during this period is the

tendency to make frequent use of an obverse portrait based on the Helmet type of Æthelræd and a reverse modelled on the Long Cross type of the same king.

Even though a very short span of time is covered by coin periods I–III, a certain development can be noted in several aspects of the coinage. On the transition from II to III, i.e. in the MX group, the portraits begin to resemble either the contemporary English ones (the PACX group) or they become more primitive, developing a style of their own. At the same time the reverse type D was used almost exclusively, although frequent use was now made of small symbols in two or more of the quarters of the reverse. On the transition to group IV – the first types of Svend – the reverse type was retained from III, but the obverse designs were changed completely.

Another, perhaps more important development can be seen in the inscriptions. During periods I and II the great majority of the inscriptions are literate. In period III all the obverse inscriptions are entirely illiterate, and this was certainly done deliberately because the reverse inscriptions can still be read and in many cases show association with the foregoing ones. The reverses of period III are, however, clearly of poorer quality and without knowledge of the earlier specimens some of them could be difficult to read. This development continues into group IV, so that a large majority of the inscriptions are now entirely blundered. Such a gradual alteration cannot be ascribed to technical difficulties, or to a lack of skill on the part of the die-cutters, because the obverse designs on Svend’s coins are particularly carefully executed; indeed some of them almost have the

50: Cfr. Peter Berghaus, *Die frühmittelalterliche Numismatik als Quelle der Wirtschaftsgeschichte*. In *Geschichtswissenschaft und Archäologie, Vorträge und Forschungen d. XXII Konstanzer Arbeitskreis für mittelalterliche Geschichte*. Ed. H. Jankuhn u. R. Wenskus. Sigmaringen 1979, p. 415.

character of a work of art. The changes seem rather to indicate that the organisation in which the individual moneyer was a person of importance was beginning to alter, i.e. it was losing its original meaning. This may have occurred at an early stage of the development described here.

Yet another peculiarity of the Lund mint deserves mention. In periods I and II there occur quite a number of puzzling copies that obviously belong to Lund. These relate to “spurious” names of kings, “spurious” moneyer names and “spurious” place names. All three categories would be extremely unlikely in the Anglo-Saxon mint system. With respect to the kings’ names, the use of “Knut” has already been discussed: here in some cases this could be an “authentic” name, synonymous with Harthacnut. More peculiar are the few, but quite clear, dies showing the names “Æthelræd”, “Harold” and “Edward”. Similarly, certain moneyer names are “spurious”, e.g. copies of names from English mints, and, in consequence, it can be difficult to distinguish the moneyers who were, in fact, employed at Lund during the period. Finally, “spurious” place names occur of both Nordic origin (Sigtuna) and English origin (Lincoln and London). Even in the latter case, the dies concerned must be interpreted as Danish copies; they are not, as previously assumed, authentic English dies taken to Lund and re-used in this town.

It is not easy to give an exact dating for all three types of copying within the periods distin-

guished in the present work. While the Knut dies can be ascribed to both periods I and II, there are several factors that seem to indicate that the other categories first occurred in the time after 1042, i.e. only in period II. It would have been obvious to relate these copies to the illiterate obverses of period III, but the names, and their spelling, used on the associated reverse dies clearly show that this tendency to “wild” or apparently arbitrary copying is connected with period II. This is confirmed by the many die-links.

The weights of the coins have not been of primary interest in the present study, but so much information was gathered that it is possible to supplement the impressions of the quality of the coins described above. The weight was noted for half of the material, and this should give a reliable average value.

A total of 326 pieces of the H group show an average weight of 1.012 g; 129 coins of the M group show, correspondingly, 1.017 g; and a total of 95 coins from the K, Æ, HL and E groups show an average weight of 1.027 g. The average value of these three coin groups is 1.016 g. Finally, 382 coins of the MX group show an average of 0.975 g. It should be mentioned that the weight of the individual coins within each group naturally varies somewhat, but the deviation is no larger than that found in the slightly earlier and the contemporary English issues^{50a}. The Lund coins were thus struck according to a fixed weight-standard that was constant during periods I and II, and slightly reduced in period III. This standard did not, however, correspond to that of the contemporary English coinages (with an average value from the Short Cross type of Knut to the PACX of Edward of between 1.06 and 1.09 g^{50b}). The figures given for Lund show that all earlier information on the coin weights from this mint should be revised⁵¹.

No recent study has been made of the purity of the coins.

A further factor relating to the high technical

50a: V. J. Butler, *The Metrology of the Late Anglo-Saxon Penny: The Reigns of Æthelræd II and Cnut*. Anglo-Saxon Coins, Studies presented to F. M. Stenton, London 1961, p. 195 ff. – H. Bertil A. Petersson, *Anglo-Saxon Currency. King Edgar’s Reform to the Norman Conquest*. Bibliotheca Historica Lundensis XXII, Lund 1969.

50b: The standard weight ought to be 1.16 g (with a slight reduction – to 1.13 g – during Harold and Harthacnut. See V. J. Butler, note 50a and J. J. North, *English Hammered Coinage*, Vol. I, 2nd ed. London 1980, p. 210.

51: Primarily the figures given by Hauberg.

quality of the Lund mint deserves mention. The number of known reverse dies is, as can be expected, rather larger than the corresponding number of obverses. In the die-chains it can very often be seen that two reverses have a common obverse. This might indicate that the practice – only proved for much later period – was already in use of producing initially two reverse dies for each obverse (because of their different lengths of life in use). The same practice has been suggested in the case of the Anglo-Saxon coinages, but is has not been proved as yet⁵².

Lund and the other Danish mints in the years 1040–1046

The foregoing pages deal only with the Lund coinages, but it would be right to comment upon the relationship between these and the contemporary coinages struck elsewhere in the Danish area. Hauberg has already drawn attention to the remarkable difference which exists between the coins from Lund and other Danish issues, so that Lund may be characterized not only as the most important Danish mint during this period, but also as the only town where well-organized minting of high technical quality was taking place. Throughout the next 40 years Lund retained this special position among Danish mints, notwithstanding that it was one of the later Danish town-settlements of the Viking era (probably founded in about 1020), that near-by Dalby was the ecclesiastical headquarters of Scania, or that Roskilde was the town preferred by the Danish monarchs (to use a later concept, it was their capital).

Oddly enough the re-organisation of the Danish coinage in c. 1040, carried out by Harthacnut based on a wholly Anglo-Saxon model, seems only to have affected Lund. As is well known, several Danish mints were active both before and after this period, but the “new” system dating from c. 1040, is only reflected at a few of them. At Viborg, Århus and Ørbæk, too,

new portrait coins were introduced bearing the name of Harthacnut (or Knut) and with literate reverses⁵³, but only one local moneyer was employed at each place. There were very few dies in these cases, and they were replaced remarkably rapidly by dies of far poorer quality and showing illiterate inscriptions. Only one obverse linking of these “new” provincial coins with those of Lund has been observed, namely via the die H. 27 also used at Viborg (moneyer Braem, Hbg. 40). This is a true case of a die being transported from its place of origin – which must be Lund – to another mint.

In two other cases die-links have been observed between Lund and the provinces during the period concerned. One is the Magnus die M. 17 used both at Lund (R. 186 and 187) and at Odense (fig. 16), but at the latter mint it was provided with a local reverse die (Hbg. M. 29): SVMRFVL OÐNS. The other example concerns one of the anachronistic Knut dies from Lund (K. 14) which was also used at Odense, but again with a local reverse die: ALFNOÐ ON OÐSVI. Admittedly, Hauberg dates this last coin to Knut’s own time (Hbg. 45), but its whole style suggests that it is of far later origin.

The two Odense coins are particularly interesting and are not to be explained in the same way as the Viborg coin discussed above. In the latter case the coin was struck by a moneyer previously known from Viborg and unknown at Lund, while, in the case of the Odense coins, one bears the name of a moneyer, Alfnoth, known to have been active at Lund; there are other contemporary Odense coins (Hbg. pl. VIII, 4) which bear the name of another Lund moneyer: Outhinkarl. Furthermore, there occur a few Odense coins, some with the name of Magnus and some with the name of Harold, which

52: Michael Dolley, *The Coins*. In *The Archaeology of Anglo-Saxon England* (ed. David Wilson), London 1976, p. 362.

53: Viborg: Hbg. Kn. 53, Hard. 40–41. – Århus: Hbg. Hard. 44. – Ørbæk: Hbg. Kn. 54, Hard. 42.



technically are almost as good as the contemporary Lund coins, and thus very much better than other Danish provincial dies. (The question of whether “Harold” copies an English name – in keeping with the HL group from Lund – or represents the Norwegian Harald Hårderåde, will not be discussed here⁵⁴. The attitude of the present author may be judged by a reference to the fact that the name Edward was also copied at Odense (Hbg. pl. VII, 3) at this time. At all events, Magnus must have struck coins at Odense with the participation of two of the Lund moneyers. Magnus coins from other Danish “provincial” mints are both rare and always of primitive technique.

There are some points on which to base a comparison between the ages of the Odense coins just mentioned and the groups of Lund coins, even though the Odense material is not

Fig. 16. Lund – Odense. a M. 17/187 (KMK 6620, Espinge), Lund (?) – b M. 17/186 (KMMS BP 1038, Espinge), Lund. – c M. 17/ + SVMRFVL OÐ NS (KMK), Odense. – d = Hbg. Svend 55. + SPEN REX / = c. (KMK). Odense. 2:1.

large. There are no known Odense groups which correspond in style to the MX group of Lund: furthermore, in one case, die-linking occurs directly between a Magnus coin from Odense (Hbg. 29) and a corresponding coin carrying the name of Svend (Hbg. 55) (fig. 16). This indicates that the Odense coins with the name of Magnus are contemporary with the MX group from Lund, or in other words that Magnus struck coins at Odense later than the period when his name appeared clearly on Lund coins. Consequently it is not just chance that the two Lund moneyers, Alfnøth and Outhinkarl, disappear from the Lund coinage before the introduction of the MX group – presumably they moved to Odense together with Magnus.

54: K. Skaare, Heimkehr eines Warägers. Die Münzprägung Harald Hardrådes in Dänemark. *Dona Numismatica* (Festschrift Haevernick) Hamburg 1965, p. 99.

Historical aspects

A purely numismatic study can – and should – have wider perspectives. The eleventh century in Denmark was a time of upheaval between a “prehistoric” and an “historic” era. The written sources are more than sparse and often doubtful, so the historians must supplement their material with results derived from a number of other fields of study. Nevertheless, the information provided by these fields must be evaluated on its own merits before it can be used for a historical synthesis.

As a consequence, the results of numismatics and archaeology play a special part in knowledge of the political and economic history of Denmark in the century in question. While the results of archaeological research in recent years have already been utilized to give a fuller picture⁵⁵, or to alter the picture of social aspects and settlements of the time, the same cannot be said to apply to numismatics. Danish historians seem either to have treated the material resulting from this subject in a rather free and easy manner (as, for example, Erik Arup in his epoch-making historical work from 1925⁵⁶), or, as the majority of Arup’s later colleagues did, they have built their interpretations on Hauberg’s great work from 1900 that deals with the earliest history of our coins.

Even though the present investigation rests on very limited material only – the different coinages issued by the Lund mint during a part of the time of Harthacnut and Magnus – some of the results can also be used in a wider perspective. As reported in the introduction, the investigation was primarily of a purely numismatic nature, i.e. only comprising a study of the individual coin types and die-links. The relative and absolute chronology of the groups of coins builds in part on these studies, in part on well known methods of dating numismatic material – taken in the main from recent research relating to Anglo-Saxon coinages, from studies of the great hoards, and finally from the few, but quite

definite historical facts (e.g. the year of death of the Danish kings). The results of the study should, thus, be of use to historians and to other colleagues as independent primary material.

The author does not intend to carry his work into the field of professional historians. It is, though, tempting to mention a few special results which might in different ways be of significance for the overall economic and political history of the years in question.

1. It is still difficult to ascertain any points of contact between the oldest Danish coinages of the 9th and 10th centuries (the earlier Hedeby series, the later but related coin groups, as well as the few coins of Svend Forkbeard from c. 995/997) and the first attempt of Knut the Great to establish a Danish mint system on the lines of that existing in England, in c. 1020). The “heavy” pennies of Knut cannot represent the introduction of a Danish mint system proper, – the way in which they are usually interpreted. Nor does there seem any direct connection between this and to the following Danish coinages.

2. A mint system which was both comprehensive and permanent was then organised in Denmark during the last years of Knut’s life (c. 1030 at the latest) by the setting up of mints in a number of Danish towns or sites (Lund, Roskilde, Slagelse, Ålborg, Viborg, Ørbæk, Århus, Ribe, Hedeby). Here pennies were struck according to an East Danish and a West Danish weight system, and using coin types peculiar to each mint. The great majority of the coins are non-

55: Else Roesdahl, *Danmarks vikingetid*, København 1980 (with references) (English edition in preparation). – See also Klavs Randsborg, *The Viking Age in Denmark, The formation of a state*. London 1980.

56: Erik Arup, *Danmarks Historie I. Til 1282*. København 1925, p. 138. Here the Danish coins of the first half of the 11th century are the result of private initiative with help of English moneyers; it may have been merchants, local chieftains or other wealthy persons.

English in style, i.e. they have either a purely national character (such as the “Serpent” type of Lund) or they copy different continental models. Regardless of whether the (relatively few) literate inscriptions name Knut or Harthacnut as in control of the mint, all the coinages seem to have started at about the same time and to be an expression of a well-organised, overall Danish mint system. Whereas Hauberg was inclined to date most of these types to a later part of the reign of Harthacnut⁵⁷, i.e. he considered them to be later than the group mentioned below under point 3, it should be mentioned that Kr. Erslev, in a discerning and important paper from 1875⁵⁸, clearly placed the whole of this group in the same way as they are placed in the present work. Erslev interpreted the group, moreover, in a wider historical perspective⁵⁹, as he proposed that it was established in the years when (Harthacnut and) Danish earls attempted to bring about a national Danish uprising against the English-dominated rule of Knut, under which Denmark had become just a peripheral province in the North Sea empire. Erslev dates these events to c. 1026, and ascribes to this factor

57: Hauberg, p. 117. Hauberg also mentions the other possibility (p. 48) referring to Erslev’s paper (see the following note).

58: Kr. Erslev, *Roskildes ældste Mønter. Studier til dansk Mønthistorie. Aarbøger for nordisk Oldkyndighed og Historie* 1875, p. 117–187. A summary of the paper was published later: *Les plus anciennes monnaies du Danemark, Mémoires de la Société Royale des Antiquaires du Nord*, København 1885, p. 120–142.

59: Erslev 1875, p. 127 and 173 ff.

60: Even if this year (or c. 1040) in other papers is considered to mark a change in the economic systems of Viking-age Denmark (specially in Scania), the present author does not attempt to participate in the discussion. During recent years archaeologists have submitted these problems to debate i.a. by using different models, which primarily are based on anthropological and social theories about primitive and advanced trade or exchange of goods. See Birgitta Hårdh, *Trade and Money in Scandinavia in the Viking Age*, *Meddelanden från Lunds universitets historiska museum* 1977–1978, p. 157–171, with further references.

the anti-English character of the entire mint system. Modern historical research should take up these, apparently overlooked, ideas for renewed considerations: Erslev’s numismatic placing of this group of coins seems to be more probable than that of Hauberg and thus of the datings later followed by others.

3. About the year 1040 (or even later), i.e. in the last year of the reign of Harthacnut, new types were introduced at the Lund mint – namely the series studied here with a portrait and king’s name on the obverse and a fully literate reverse, both in a truly English style. The re-organisation which occurred at the Lund mint had, oddly enough, virtually no effect at the other Danish mints where it must be supposed that coins were still being struck. At Roskilde, the town lying geographically closest to Lund, no new style can be traced at all, even though there must have been more or less continuous production of coins there throughout the reign of Harthacnut and during the following years. At Lund, the introduction of the new types also represented a technical advance, because the dies then became of better quality and almost all are entirely legible. On the other hand, there must have been some connection with the earlier, local issues (“Serpent” type) because many names of moneymen are common to both groups and the penny weight seems virtually unaltered. From 1040 onwards – but not before this date – Lund enjoyed a special position among Danish mints that remained unaltered until c. 1080, on the coin reform of Harald Hen.

4. The obvious difference between the coinages of Lund and those of the other Danish mints where coins were still struck must lead to considerations of the political and economic significance of the controller of the mint. Was there here, too, any alteration round about the year 1040?⁶⁰

5. The change in ruler in 1042 made no difference at Lund: the mint continued to function, the coin types and the quality were at first unchanged and the weight remained the same. The name of Magnus appeared as controller of the mint, but at the same time the names of both Knut and Harthacnut seem to have been used, as well as – in more rare cases – the names of deceased or living English kings (Æthelræd, Harold and Edward). Correspondingly, among the generally legible names on the reverse, there appear both Lund moneyers and copies of foreign moneyer and place names. Can this be explained by the different administrative abilities and experience of the two kings? Harthacnut became sole king of England in 1040 and must have had knowledge of the whole administrative apparatus of that country, which included one of the best organised mint systems in Europa. Therefore a reform of the Danish mint system, on similar lines, appears natural and does, in fact, now seem to be discernable at Lund. On the death of Harthacnut in 1042, the Norwegian Viking chieftain Magnus was given the title of king of Denmark. What were his qualifications for heading an administration of European style and scale? And he did not strike coins in Norway. Today, all we can ascertain is that the Lund mint functioned without perceptible alterations also after the year 1042. The frequent “wild” copyings dating from these years could, however, indicate that the local administrators were primarily interested in keeping production up to the same level as prior to 1042, but that they were less interested in which names appeared on the coins.

6. After 1042 the difference between Lund and the other Danish mints appears still more clearly than before. Apart from at the Odense mint, which will be mentioned below, the coins carrying the name of Magnus are not only very rare, but always of a remarkably poor quality. It is difficult to prove how many of the Danish

“provincial” mints continued in function but, following Hauberg, we may assume continuity at most because they also produced coins during the following reign of Svend Estridsen. This whole question has not been re-investigated, but the problems involved are of great significance for the factors mentioned above in point 4.

7. At Lund – but only here – a relative chronology can be set up for the coinages issued during the reign of Magnus. Thanks to studies of the dies, it can now be ascertained that the earliest series (corresponding to the “reform” coins of Harthacnut) were replaced by the so-called MX group. This meant a more uniform production where the coins (with a few exceptions) were struck according to a more restricted pattern: obverse with portrait and blundered name, reverse of type D with partially literate inscriptions which to a degree reflect the names of earlier known moneyers – and a few new ones – and the place-name “Lund”. The relative and absolute chronology of this groups is now clear: some dies are connected with the above-mentioned group showing the name of Magnus, while others are linked with the first “Byzantine” obverse types, i.e. the series traditionally, and correctly, ascribed to Svend Estridsen. The anonymous obverses are not the result of a lack of technical skill but must have been produced deliberately. Perhaps the explanation can be sought in the political conditions prevailing at that time, where one of the few certain facts is that for several years there was a struggle for power between Magnus and Svend. The mint at Lund continued production throughout this period; for a short time there was obviously some uncertainty as to who was in political control of the mint (and who the owner of the silver here), and therefore deliberate use was made of blundered obverse names.

8. The Lund coins of Svend Estridsen were not part of the primary material connected with

the present study, but a couple of earlier results should be mentioned because they are of importance for the circumstances discussed here. Svend introduced entirely new obverse designs with his "Byzantine" types and he made use of them for a long period, probably more than ten years. The reverse dies were, on the other hand, of the same kind as used for the MX group, and several die-links have been observed between these two groups. According to Hauberg's studies, there seems no break in the production of coins: the quality and weight of the coins seems unchanged on this transition. Considering the other Danish minting places, it can similarly be seen that Svend's new style made its mark in several of them on the island of Funen and in Jutland (Odense, Viborg, Ribe and Hedeby (?)), but in all cases the results were of poorer technical quality than at Lund. Coin production still seems to have been based on a special East Danish and West Danish weight system. In other words, there seems a remarkable similarity between the Danish coin system on the reform of Harthacnut in c. 1040 and during the reign of Svend.

The date of the change in coin type is of special importance for the history of the Lund mint. At Lund – and provisionally only there – it is possible to show that the first "Byzantine" types (consisting of several different subsidiary types: Hbg. Svend 6, 9, 16, 23), were already in production when the great Espinge hoard was buried in c. 1047/48, as previously mentioned. The production of new types must thus have been in full swing a couple of years before Svend (on the death of Magnus) became king of the whole of Denmark.

9. It seems that a series of coinages from Odense should be considered in connection with the events surrounding the production of the Lund mint. Some of these Odense coins have often been the subject of discussion by historians and numismatists. Only a few observations:

A. Odense is the only mint which we know of besides Lund, that produced Magnus coins of a quality comparable with those of Lund.

B. Two obverse dies from Lund (K. 14 and M. 17) were taken to Odense, where they were used in combination with local reverses.

C. Two moneyers' names appear both at Lund and at Odense – i.e. Alfnoth and Outhinkarl. Dies are known that show their names and place of minting as Lund and Odense, respectively. No similar circumstances – the same name occurring at two different mints – are otherwise known from this period.

D. On the advent of the MX group the same two moneyer-names disappear from Lund.

E. While the MX group at Lund clearly represents an independent chronological phase, no corresponding group with anonymous obverse names is known at Odense.

F. At Lund, there are several die-links between the MX group and Svend's first "Byzantine" types, but not between the M group and the latter. On the other hand, at Odense, linking has been ascertained between a coin showing the name of Magnus and one of the "Byzantine" specimens, and even one showing the name of Svend on the obverse (fig. 16). This may imply that the Odense coin is so late that it corresponds to the anonymous MX obverses of Lund.

All these observations could have a common explanation: the name of Magnus disappeared from Lund during the short period of time in which the MX group flourished, and which is dated above to the years immediately preceding the production of the first of Svend's characteristic types (i.e. 1046 at the latest).

At the same time the first coins of Magnus appeared in Odense, a few of them struck by moneyers from Lund, and using at least two original Lund dies. These Odense coins were replaced directly by the first types of Svend.

In other words, these numismatic observations could lead to the interpretation that, round about the time 1044/45, Magnus was forced to

leave Lund (and thus Scania), and thereafter he settled at Odense where coins were struck in his name at a newly established mint. This mint continued its production also after Svend gained control of Funen.

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Abbreviations

- BEH = Bror Emil Hildebrand, *Anglosachsiska mynt i Svenska Kongl. Myntkabinettet*. 2nd edition. Stockholm 1881.
- BNJ = The British Numismatic Journal, London.
- CNS = *Corpus Nummorum Saeculorum IX – XI qui in Suecia reperti sunt*, Stockholm 1976 ff.
- Commentationes = *Commentationes de Nummis Saeculorum IX – XI in Suecia repertis I–II*. Kungl. Vitterhets Historie och Antikvitets Akademiens handlingar, Antikvariska serien, no. 9 and 19, Stockholm 1961 and 1968.
- Galster, Haagerup = Georg Galster, *Møntfundet fra Haagerup*, *Nordisk Numismatisk Årsskrift* 1944, p. 93–157.
- Galster, Kongsø = Georg Galster, *Møntfundet fra Kongsø Plantage*. *Aarbøger for nordisk oldkyndighed og historie* 1962. København 1963, p. 54–78.
- Hatz = Gert Hatz, *Handel und Verkehr zwischen dem Deutschen Reich und Schweden in der späten Wikingerzeit*. Kung. Vitterhets Historie och Antikvitetsakademien. Stockholm 1974.
- Hbg. (Hauberg = P. Hauberg, *Myntforhold og Udmyntninger i Danmark indtil 1146*. Kgl. Danske Vidensk. Selsk. Skr. 6. række, hist. afd. V, 1. København 1900.
- Hild. = Hildebrand 1881 (See above, BEH).
- LEB = L. E. Bruuns *Mønt- og Medaillesamling*. Catalogue by Georg Galster *et al.* København 1928.
- KMK = Kungl. Myntkabinettet, Statens Museum för Mynt-, Medalj- och Penninghistoria, Stockholm.
- KMMS = Den kgl. Mønt- og Medaillesamling, Nationalmuseet, København.
- NNÅ = *Nordisk Numismatisk Årsskrift* (Scandinavian Numismatic Journal).
- NNUM = *Nordisk Numismatisk Unions Medlemsblad*.
- SCBI = *Sylloge of Coins of the British Isles*. London 1948 ff.
- SHM = Statens Historiska Museum, Stockholm (Catalogues use the same numbers as KMK).

Plates I–VI. Lists I–II. Figure 4



1



2



3



4



5



6



9



10



11



12



13



14



15



16



19



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21



22



23



24



25



26



27



28



29



30



31



32



33

H

H34	+NARDECNY	11
H35	+NARDECN	175, 226, 227
H36	:NARECNVT RE+	23
H37	+NARECNVT +-	102
H38	XNAR*ECNV	14, 15, 18, 196, 199, 201, 203, 362
H39	+NAR+DECNVTD	76
H40	+NARDEC II/II	140
H41	+ARDECNVTA	163
H42	XARDECNV:	15
H43	+ARDECNV REX	197

II Name starting above bust

H44	+HAR//ECNVTR'	179
H45	+NAR+//CNVT:	174
H46	+NAR//+CNVT#	3, 7, 13, 22, 98, 162, 174, 184, 198, 210, 217, 226, 231, 238, 244
H47	+NA//CNVTR	314
H48	+NAR:R//ACVNT	10
H49	XCNVTNAR//RECX	167
K1	+CNVT RE+ ANGL@:	101, 102, 198
K2	+CNVT ++ ANLO	7, 112, 218, 238
K3	+CNVT//REX AN	198
K4	+CNVT////////GLO	178
K5	+CNVT//REX A	108
K6	XCNVT REX* XA	206
K7	+CNVT REX IND*	99
K8	+CNVT//REC	168
K9	+CNVT RCXX	2
K10	+CNVT REXX:	47, 64
K11	+CNVT RE++	228
K12	+CNVT RE+X*	103, 115
K13	+CNVT RE++''	1
K14	+CNVTN//REC	138
K15	+CNVT REX AN*	238
K16	+CNVT REX AX	97



H



K

I Without sceptre

M1	+MΛGNVS	RE	56
M2	+MAHNVΣ	REXD	70,150
M3	+MΛHNVΣ	REX:	78,113,116,117,201,221
M4	+MΛHNVΣ	RE+	53,113,114,184,219– 222,244
M5	+MΛHNVΣ	RE+	228
M6	+MΛHNVΣ	RE+	17
M7	+MΛHNVΣ	RE+	88
M8	+MΛhNVΣ	REX	134,166,175
M9	+MΛhNVΣ	RE:	166
M10	+MΛrNVΣ	RE+:	98,99
M11	+MΛHHVΣ	R+	100,121
M12	+MΛHNVΣ	RX	185
M13	+MΛHHVΣ	N	229
M14	+MΛHNVΣ	++:	103,152
M15	+MΛHNS	REXX	13,65,114
M16	+MΛHNVΣ	+LI	35
M17	xMΛHVΣ	RE+x	186,187
M18	////HNVΣID////		303
M19	+NΛHVΣ†+CN		3,74
M20	+MΛHNVΣ	REXCVNIGI	135

II Sceptre in front

M21	::xMAHNV///REXX::		95
M22	+MΛHNVΣ	REX	104,108,147
M23	+MΛHNVΣ	REX	150
M24	+MΛHN'VΣ'	RX	94
M25	+MΛHNVΣ	R	211
M26	+MΛHNVΣ	P	43

HX1	+FVBCI//VCHP	13,14,98,103,360
HX2	+VFHREIITH:II	13,202,313,329,362

Æ1	+EDELRED RE	161
Æ2	+EDEL'RCD RE	160
Æ3	+EDELRED RE+ΛLR:~	24

HL1	+NAR//OLD RE	74,115,240,245
HL2	+NAREII//+RE	176

E1	+EDPA:~//~:~:PRE:~	200,201
E1 _{R-E} ^α	+EDPA:~//~:~:PRE:~	200,201,202
E2	+EDPΛ*~×DRE:~	201,202

MX1	+CDDDD//ΛΛT	129
MX2	+CDDDD//NDT	129
MX3	+CIIVPP//:DPPDVCI	89,91
MX4	+CRDD//IIΛTII	31
MX5	+CPPD//IIHTN	207
MX6	+DD//D:CCV+N	121,123
MX7	+DDD//PP\IATII	142
MX8	+DDNDID//XIDIIVI	208
MX9	+HDD//ICICIIATII	195,319,380
MX9A	+HDD//I'IVDAN	248
MX10	+IJDID//:IPIITII	128
MX11	+ICMEI://+HOEIÐRI	49
MX12	+ICNΛ+//cccCCODNI	78,89,91
MX13	+IJRQ//IIATII	194
MX14	+IIATD//DΘVQII	234



HX 1



HX 2



Æ 1



Æ 2



Æ 3



HL 1



E 1



E 1a



E 2



1



2



3



4



5



6



7



8



9



9A



10



11



12



13



14

MX

MX15	+IICVI//IPPDC	190, 190a	MZ1	+CCDDI//IDP+II	353
MX16	+IIDD//IDDIIATV	31	MZ2	+CTIIV//OTHAE	366
MX17	+IIDVI//ODVIP	127, 131	MZ3	+CPPD//IIIRD	301, 325
MX18	+IIVII//DDI7ATI	32, 78	MZ4	+HVDD//IIDGNCC	363
MX19	+IIPϣϣϣϣ //IITϣIION	90, 128, 129	MZ5	+IDID//ECCCHD	344
MX20	+IIPD//IIDICIA	38, 77	MZ6	+IHTONIVPPD	327
MX21	+IIPDTI9I//IIVTA	122, 126, 127	MZ7	+IIE NECNCDENNOh	311
MX22	+IPIDD//IIRIITII	130, 142, 358	MZ8	+IIDD//ϣOIINN	340
MX23	+NDD//N+DDNV	71	MZ10	+IIPD//NNNI	321
MX24	+NDDI//ATI+C	121, 364, 381	MZ11	+NDD//DDDIIT	335
MX25	+NF DVIIO//ID7	32, 37, 38, 71, 77, 78, 116, 129, 208, 232, 302	MZ12	+N:DDD//NCN:CI	350
			MZ13	+NDD//:PPNI+7	363
MX26	+NRD: //INHONAT	348	MZ14	+ND\://IIDND	307, 309
MX27	+NTANO//NRIDT	189, 348	MZ15	XNDNTACIPIPM	342
MX28	+OϣϣHϣ:: //IIDVITA	37, 38, 77, 78, 208	MZ16	+NID//IPRC+	331
MX29	+OIIDDϣ//+IIVIDTA	207, 208	MZ17	+NPD//IIATNC	346
MX30	+RDD//NNIVIII	60	MZ18	+MPEDR//·RCPDN	316
MX31	+TATDD//:NOϣN	58, 59, 73	MZ19	+TIP//+N\NP+I	354
MX32	ϣNVTHATIIRϣ+	142, 233, 323	MZ20	+VIPTO//+III\II	356
			MZ21	+PD//DDIPII	333
			MZ22	+CPD//DDIPII	333
			MZ23	+PD//ICCNV+I	333
			MZ24	+PPD//·PRI7IEI	363
			MZ25	DDDIIVϣI/VID	305
			MZ26	DEXLϣCDXIϣR'L	352
			MZ27	NNDWDID	317, 334, 401



15



16



17



18



19



20



21



22



23



24



25



26



27



28



29



30



31



32

MX



6



11



12



14



16



17



19



21



25



27

MZ



A



B



C



D



E



F



G



H



J



K



L



M



N



O



P



R



T1



T2



T3

List I

Reverse dies of the Lund mint

1	+ΛLFNΘDONLVDEN	K	K ₁₃	37	+Λ: RDL HOL VDI	D	MX ₂₈
2	+ΛL FNΘ: ΘON LVDI	M	K ₉	37 ^a	.	D	MX _{25,28}
3	+ΛL FN ΘΘ ONL	D	H _{26,46} , M ₁₉	38 ^{R-E}	+Λ: RDL NOL VDI	D	MX _{20,25,28}
7	+ΛLFRICONLINEΘL	H	H ₄₆ , K ₂	41	+ΛN CET LON LVD	B	H ₁₅
10	+ΛLFVARΘONLV	H	H _{14,48}	42	+ΛR NCE TLO: LV I	B	H ₁₅
11	+ΛLFPAR DONLVDI	K	H ₃₄	43	+Λ' RN CE TLV	F	M ₂₆
12	+ΛL P AR: DON LVDI	B	H ₃₃	44	+ΛR NCE: TELO H LV I	P	H ₁₅
13	+ΛL FPA RDO LVD	F	H ₄₆ , HX _{1,2} , M ₁₅	47	+ΛS FERΘONLVDI:	H	H ₁₃ , K ₁₀
14	+ΛL FPA RD: OLV	D	H _{5,32,38} , HX ₁	49	+Λ' SFO RΘ: NLV	D	MX ₁₁
15	XAL: FPAR DOL VDI:	D	H _{38,42}	51	+ΛSLACONLVNDEIO:	T	H ₁₆
16	+ΛL FPA RD: ONL	D	H ₁₀	52	+ΛSLACONLVND:	C	H _{1,19}
16 ^a	~ ~	D	H ₁₀	53	+ΛS LAC ON: LVD	E	M ₄
17 ^{R-E}	+AL FPA RDO NLV	D	M ₆	56	+ΛS ORO NL: VD:	E	M ₁
18	+Λ LFP RD: ONL	D	H ₁₀	58	+BA IN' I NOI. ILVI	D	MX ₃₁
18 ^a	o o	D	H ₃₈	59	+BA IILI NOI ILVI	D	MX ₃₁
22 ^{R-E}	+ΛLFPINEONLVDI:	I	H ₄₆	60	+BA INO NL' VN	D	MX ₃₀
23	+ΛL FPIN EON' VDI:	B	H ₃₆	63	+CARLEONLVNDI	H	H ₁₃
24	+ΛL FPI: NEO LVD:	D	Æ ₃	64	+CARELONLVDI:	I	K ₁₀
25	+ΛL FPI NEO NLV	D	H ₆	65	+CA RLO NLV DI:	D	M ₁₅
26	+ΛL FPI N'E ONL	D	H ₃	70	+COL' SVE INO NLV	D	M ₂
27	+ΛL PIN EON LVD	D	H ₃₁	71	+CO LSV CIN OHV	D	MX _{23,25}
31	+ΛL NR II ONL' VDI	D	MX _{4,16}	73	+E: AN AOH LVD	D	MX ₃₁
32	+ΛL NR: NCI ITNI	D	MX _{18,25}	74	+EDPINEONLVNDI:	H	M ₁₉ , HL ₁
35	XARCILONLVND	O	M ₁₆	76	+EN CRO NLV DOΘ	E	H ₃₉
				77	EM: CRO IIL' VI+	E	MX _{20,25,28}

78	+EM CROI ILV. DOÐ:	E	M ₃ , MX _{12,18,25,28}	130	+GE ISTI' ON:: LVD	D	MX 22
83	+GAMELONLVNDI:	T	H ₁₁	131	+L: EIS TIOI HVI	D	MX 17
85	+G:λ RFI: NEO NLVD	D	H _{23,28}	134	+LEFPINEONLINCΘ:	I	H ₁₆ , M ₈
86	+Gλ RFI: NEC λEIOΤ	D	H ₂₃	135	+LEFPINEONLNCOL'·	A	M ₂₀
87	+Gλ RFIN EON LVD	D	÷ (Hbg. H ₂₇)	136	+LEFPINEONL' NCOL':	A	÷ (Hbg. M ₁₂)
88	+Gλ RFI NΘ NLV	D	M ₇	137	+LEOFKINEONLVND	A	H ₁₅
89	+Gλ' λFI: NEO IILVD	D	MX _{3,12}	138	+LEOFPIHELVDH:	I	K ₁₄
90	+GA AFI: NLV OIHD	D	MX ₁₉	139	+LE FPIN EON LV	D	H ₃₀
91	+GT λFI NEO IILV	D	MX _{3,12}	140	+LE RIN EON LVI:	D	H ₄₀
94	+GOD NOÐ ONL VND	P	M ₂₄	142	+LE NÐ: VON LVD	D	MX _{7,22,32}
95	×GOD ΠλH OLV D ENEO	P	M ₂₁	143	+LE NÐ: VOH LVD	D	÷ (Hbg. Sv. 19=M)
97	+GR IM: ON LVD	F	K ₁₆	144	+LE NÐ: NO: LND	D	÷ (Hbg. Sv. 19=M)
98	+G RIM ON LV.	D	H _{28,46} , HX ₁ , M ₁₀	147	+MλNλM'ONLVN:D'	I	M ₂₂
99	+GR IM: ONL VND	D	K ₇ , M ₁₀	149	+NI TλS' COD ONL	B	H ₁₅
100	+GR IM ON LV	D	M ₁₁	150	+NI TIS' GOD ONL	B	M _{2,23}
101	+GRIMONLVNDI	G	K ₁	152	·OI NDI: ONL' INC	F	H ₁₆ , M ₁₄
102	+GRIMONLVNDIN	H	H ₃₇ , K ₁	154	+OSBRNONΣITVN	H	H ₁₃
103	+GRIMONLVNDIHΘII	H	HX ₁ , K ₁₂ , M ₁₄	156	+OS GOD ONL VND	D	H ₄
104	+GRIIMONLVDI ++·	K	M ₂₂	160	+OÐ ÐEN CλR OLV D	D	Æ ₂
108	+H.VELNONGORI	H	H ₁₆ , K ₅ , M ₂₂	161	+OÐ ÐEN CλR OLV D	D	H ₆ , Æ ₁
110	+IL' ONT λTN LVD	D	÷ (Hbg. M ₁₆)	162	OÐÐ ENC RON LVD	E	H _{22,26,46}
112	+ILVEONLVDI:RIST:	G	K ₂	163	+OÐ ÐEN CλR OLV:	E	H ₄₁
113	+IL VH EO: NL	D	M _{3,4}	164	+OÐ ÐEN CλR OLV D	E	H ₂₂
114	+ILV HON LVD: INI	D	M _{4,15}	165	+OÐ ÐEN CλR OI V	E	H ₂₂
115	+ILVHLONLVNDI	I	K ₁₂ , HL ₁	166	+·OÐENCλR'ONL'VD	L	M _{8,9}
116	+M' VN EON LVD	D	M ₃ , MX ₂₅	167	+OÐÐENCλRONLVDI'·	H	H ₄₉
117	+M' VH EON LVD	D	M ₃	168	+OÐÐENCλROLV D	H	K ₈
119	+IN OMI NE DOMI	D	H ₂₄	169	+OÐÐENCλRONLV	K	H _{21,32}
121	×LE FSI: ONL' VD:	D	M ₁₁ , MX _{6,24}	170	+OÐÐENCROLV DENNE	K	H ₂₇
122	+LE FSI ONL VD	D	MX ₂₁	174	+OV:ÐENCARLONLV	I	H _{45,46}
123	×LE ΣI: ONL' VD:	D	MX ₆	175	+OV ÐEN CλR ONL	N	H _{20,22,28,29,35} , M ₈
126	+LE ISTI OHL VD:	D	MX ₂₁	176	+OVÐNCλR'ONLV	H	HL ₂
127	+LC ISTI ONL VD:	D	MX _{17,21}	178	+OVÐCETL ///NDI	H	K ₄
128	+LE ISTL ONL VDI	D	MX _{10,19}	179	+OVÐCELONLVND·I·	G	H ₄₄
129	+LE ISTI: OHI VDI	D	MX _{1,2,19,25}	182	+SV MER LED ON'	M	÷ (Hbg. H ₅)
				183	+SV MER· LED ONL	M	÷ (Hbg. H ₅)

184	+SV ME RLE DØN	D	H2,25,46, M4	210	+ÐORCE (TE) LØNLVDI:	K	H46
185	+SM ERL EDO I LW	D	H28, M12	211	+ÐORCETLØNLVND	I	M25
186	+SV ME: RD ØNL	D	M17	212	+ÐORCETL	T	÷ (Hbg. H6)
187	×SV ME RD: ON	D	M17	213	+ÐORCTLØNLVND	T	÷ (Hbg. H13)
188	+SV MER LED OLV	D	H2	217	+ÐORSTENØNLVDI·	K	H46
189	+SV: ERL' CDO ILVI	D	MX27	218	+ÐVRSTNØNLVD	G	K2
190	+SV ERL CDO ILVH	D	MX15	219	×ÐV RST· NØN LVD	E	M4
190 ^a	· · · ·	D	MX15	220	+ÐV RST· ENØ NLV	E	M4
194 ^{R-E}	+SV EIN ØN' LVD	D	MX13	221	ÐVR STH ØNL VDI	N	M3,4
195	+SPENØNLVDENE:·SS·	H	MX9	222	+Ð: VR STN ØNL	N	M4
196	×ÐØ RCI LØN LVD	P	H38	226	+TØ ØCI: ØNL VDI	D	H2,28,35,46
197	+ÐVRCILØNLVDI·	I	H43	227	+TØ CIO NLV DI:	D	H2,28,35
198	+ÐVRCILØNLVDI·	A	H46, K1,3	228	+TØ CIO NLV ND	D	M5, K11
199	+ÐØ RCIL ØNL VDI	D	H38	229	+TØ CIO NLV ND	D	M13
200	+ÐØ REC TLOL VND	D	E1,1a	231	+TØ /// /// NL VDI FELXI	B	H46
201	+ÐØ: REC TLO LVD	D	H38, M3, E1,1a,2	232	+TØ I·IL· VIII ØLV	D	MX25
202	+ÐØ RC: CTL' NVI	D	HX2, E1a,2	233	+TØ EIOII LVH DN	D	MX32
203	+ÐØ RCE TLO N.LD	D	H38	234	+TØ IILV IIIØ LIID	D	MX14
204	+ÐØ RCE TLO NLV'	D	H12	238	+VLEFCETLØNLVDI·	I	H46, K2,15
205	+ÐØ REE LØN LVN	D	H12	239	+VFLFTLØNLVND	H	H9
206	×ÐØ: RCET LØL' VDI	D	K6	240	+VL' FTL' ØNL VND	P	HL1
206 ^a	· · · ·	D	K6	244	+VL FCIL ØN LVD	D	H25,46, M4
207	+Ð: ØRI CTC IILV	D	MX5,29	245	+VLFCILØNLVDINE	K	HL1
208	+Ð ØR+ CTL NVD	D	MX8,25,28,29	248	+PV LNI DVI: ØNI	P	H15, MX9A

List II

Reverse dies not indicating Lund

301	+Λ' IIC: IID: VIO + _P IIC: IID: VIO + _A IIC: IID: VIO + _C IIC: IID: VIO	P	MZ 3	336	+MΛ NΛI ΓENI ΓIN	B	H 16
302	+Λ' IIC: HD: V.O + _P IIC: HD: V.O + _A IIC: HD: V.O + _C IIC: HD: V.O	P	MX 25	340	+NI OIIC IIDL IIRI + _C NI OIIC IIDL IIRI + _P NI OIIC IIDL IIRI + _A NI OIIC IIDL IIRI	P	MZ 8
303	+ΛLDOL // // // N.D	K	M 18	342	+NL IIIOI IIIII IITAI	E	MZ 15
305	+B: RVI IIIΛ' VIII + _C B: RVI IIIΛ' VIII + _P B: RVI IIIΛ' VIII + _A B: RVI IIIΛ' VIII + _I B: RVI IIIΛ' VIII	P	MZ 25	344	: NN' CIOI NN' CIO: + _C NN' CIOI NN' CIO: + _P NN' CIOI NN' CIO: + _A NN' CIOI NN' CIO: + _I NN' CIOI NN' CIO:	P	MZ 5
307	+CO PIN STOI IVL + _P CO PIN STOI IVL + _A CO PIN STOI IVL + _C CO PIN STOI IVL + _I CO PIN STOI IVL	P	MZ 14	346	+N VC OI D CID:	D	MZ 17
309	+DΛ' NDN OI D: NTO + _A DΛ' NDN OI D: NTO + _P DΛ' NDN OI D: NTO + _C DΛ' NDN OI D: NTO + _I DΛ' NDN OI D: NTO	P	MZ 14	348	+OI CNI IEI: IH: + _C OI CNI IEI: IH: + _P OI CNI IEI: IH: + _A OI CNI IEI: IH: + _I OI CNI IEI: IH:	D	MX 26, 27
311	DEE CNE DEC NNΛ:	E	MZ 7	350	+OII IOII IOII IOH	D	MZ 12
313	+DH: FVUDI NEI TYΓ	D	HX 2	352	: OHI IOIIX OI OI OI OI OI + _A OHI IOIIX OI OI OI OI OI + _P OHI IOIIX OI OI OI OI OI + _C OHI IOIIX OI OI OI OI OI + _I OHI IOIIX OI OI OI OI OI	P	MZ 26
314	+FI SIO KILI :FL	R	H 47	353	+OS: TVI DON NOR + _C OS: TVI DON NOR + _P OS: TVI DON NOR + _A OS: TVI DON NOR + _I OS: TVI DON NOR	P	MZ 1
316	+CO DRII CON LIN + _P CO DRII CON LIN + _A CO DRII CON LIN + _C CO DRII CON LIN + _I CO DRII CON LIN	P	MZ 18	354	+R: NC NOI INI	E	MZ 19
317	+H: ICTI IHI IVII'	D	MZ 27	356	+TLI IIC // IIIO: IIIII	D	MZ 20
319	+H: GND OGII NIEI + _P H: GND OGII NIEI + _A H: GND OGII NIEI + _C H: GND OGII NIEI + _I H: GND OGII NIEI	P	MX 9	358	+DI RNI NT: OH:	D	MX 22
321	+ICOTAF: IIIDNISC'	K	MZ 10	360	Γ+II HVΛ EVEI IFTI + _C Γ+II HVΛ EVEI IFTI + _P Γ+II HVΛ EVEI IFTI + _A Γ+II HVΛ EVEI IFTI + _I Γ+II HVΛ EVEI IFTI	D	H 32, HX 1
323	+ID IITO IIVI PAI + _P ID IITO IIVI PAI + _A ID IITO IIVI PAI + _C ID IITO IIVI PAI + _I ID IITO IIVI PAI	P	MX 32	362	: +D ΓCII H+I HVI	D	H 38 HX 2
325	+IIPTAIIDPAIDOC:	I	MZ 3	363	+PV LENI VOD IIIIΓ + _C PV LENI VOD IIIIΓ + _P PV LENI VOD IIIIΓ + _A PV LENI VOD IIIIΓ + _I PV LENI VOD IIIIΓ	P	MZ 4, 13, 24
327	+IIL'VPNΘICOIIL'II:	G	MZ 6	364	+PV NOL IDV LNI + _A PV NOL IDV LNI + _P PV NOL IDV LNI + _C PV NOL IDV LNI + _I PV NOL IDV LNI	P	MX 24
329	+IIV LVT ΛVO ODC	B	HX 2	368	+PVVOGTLVGNINDOI	K	MZ 2
331	+IL CIN OCN EIN + _A IL CIN OCN EIN + _P IL CIN OCN EIN + _C IL CIN OCN EIN + _I IL CIN OCN EIN	P	MZ 16	380	+IIVPAΘHAMDOINC	H	MX 9
333	+ILV DTO: IND NYE + _P ILV DTO: IND NYE + _A ILV DTO: IND NYE + _C ILV DTO: IND NYE + _I ILV DTO: IND NYE	P	MZ 21, 22	381	+LONVCLVCNOGDTAN	I	MX 24
334	+INCOINITIHISIII:	T	MZ 27				
335	+LE NTI OGII VIN + _P LE NTI OGII VIN + _A LE NTI OGII VIN + _C LE NTI OGII VIN + _I LE NTI OGII VIN	P	MZ 11				
					ROSKILDE		
				401	XFΛ: DRO: NR OS CI + _P XFΛ: DRO: NR OS CI + _A XFΛ: DRO: NR OS CI + _C XFΛ: DRO: NR OS CI + _I XFΛ: DRO: NR OS CI	P	MZ 27

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