

THE GROAT COINAGE OF JAMES V, 1526–38

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Introduction

THIS is the second paper to be developed from the study of two hoards found in 1963 at Rigghead sand-quarry, Collin, beside the main road from Dumfries towards Carlisle, and in the royal burgh of Linlithgow.¹ Groats and one-third groats of James V, clearly distinguished by the arabic numeral 5, have only infrequently been found in recorded hoards. Those from Rigghead, twenty-one with six one-thirds, were the largest known group from any find, and three groats came from Linlithgow. Two hoards hidden later are recorded to have had single groats, and one a one-third, while twelve groats and one one-third from an unknown hoard acquired by Dr G. Neilson not later than 1923 have been published recently.²

Groats had been struck in considerable quantities in the reigns of James I and James II, and also of James III whose base three-quarter face groats were ascribed to James V by writers prior to Edward Burns (and also by Grueber and subsequent cataloguers depending on him). Burns thought it probable that little silver was struck by James IV, perhaps underestimating mintage in the 1490s, as the bulk of the currency in the second half of the reign and under James V was billon, in particular placks until 1539.³

There is a not infrequent tendency to force archaeological sequences to fit onto no less incomplete historical sources. In this way the relatively good historical documentation for the beginnings of James V's groats has led to numismatic confusion. It was eleven years into the reign, when he was only twelve, that Parliament in November 1524 investigated the possibility of striking a 'penny' of gold and one of silver.⁴ As a result the Lords of Council on 1 March 1525/26 ordered 'ane grote of silver to be prentit, strikin and cunyeit' by James Achesoun, master moneyer.⁵ It was to have 'passage commonlie for xvijjd the pece', struck eleven to the Scottish ounce, of silver ten deniers fine with two grains for remedy. This, Burns explains, gave a weight of 42.83 grains Troy, 'agreeing' with surviving coins (which very rarely reach it – p. 47 below). The king was to get 18 shillings for each pound (16 oz) of coined money. Later a contract dated 30 October 1526 between James

Acknowledgements I am much indebted for permission to reproduce the National Museums of Scotland's photographs, which included enlargements for study and examples from the Stewart collection, and to the photographer Mr Ian Lerner, and similarly to the other Museums which have supplied photographs both for study and reproduction. Fig. 1 was drawn by National Museums' illustrator Miss M. O'Neill and fig. 2 has been produced by Dr A.W.K. Stevenson from weight-lists by Mr N.M. McQ. Holmes. Sir Ian Stewart has fostered this paper over many years, and Mrs J.E.L. Murray has kindly commented on parts of the text.

¹ R.B.K. Stevenson, 'The bawbees of James V and Mary', *BNJ* 59 (1989), 120–56; I.D. Brown and M. Dolley, *Bibliography of Coin Hoards of Great Britain and Ireland, 1500–1967* (London, 1971), SM 6 and SN 1; Inventory-type summary of Rigghead hoard, *BNJ* 59 (1989), 142. See also Appendix 2 below.

² Brown and Dolley, SN 1, 3 and 8; Neilson, see below note 14 and Appendix 2.

³ E. Burns, *The Coinage of Scotland* (Edinburgh, 1887), II, 228–39 (cited in details as B.). I owe the comments to Dr Stewart. See also A.B. Richardson, *Catalogue of Scottish Coins in the National Museum of Antiquities* (Edinburgh, 1901), cited as Rich.; J.E.L. Murray, James IV groats, *BNJ* 40 (1971), 78–96; C.E. Challis, 'Debasement, the Scottish experience (1488–1574)', in *Coinage in Medieval Scotland, 1100–1600*, edited by D.M. Metcalf, BAR 45 (Oxford 1977), pp. 171–96.

⁴ Burns, pp. 228–39; R.W. Cochran-Patrick, *Records of the Coinage of Scotland* (Edinburgh, 1876), cited as C-P, I, 55; *Acts of the Parliament of Scotland* (Edinburgh, 1814), cited as APS, II, 286, sect. 5 and 10.

⁵ C-P I, 62–63; *Acts of the Lords of Council in Public Affairs, 1501–34* (ALC), edited by R.K. Hannay (Edinburgh, 1933), pp. 239–40.

⁶ C-P I, 55; APS II, 310 and 317 (12–27 November 1526).

Achesoun and Sir Archibald Douglas, newly Lord High Treasurer, authorised the moneyer to 'prent' further gold and silver as previously.⁶ This time the seignorage per pound was 20s except for certain fees for the mint staff 'to be paid of the king's purse as use and wont was of before'.

However the Douglas family faction, which under the earl of Angus, the king's step-father, was effectively holding the king prisoner, soon secured what appeared to be a more favourable contract with a change of moneyer. Thus a royal contract registered on 6 October 1527 gave to Joachim Hochstetter and his brother the right, on certain conditions (see p. 48 Appendix 1), to strike silver money in Scotland for ten years in return for the payment of a minimum of £3,000 Scots per annum, whether or not the mintage of silver coin at 20s per pound weight was sufficient to yield that sum. They were, moreover, bound to import the necessary silver. Besides coining groats they were authorised to mint others, if they desired, notably two-thirds and one-third denominations of 12d and 6d. No two-thirds are known, and there is no further mention of one-thirds, nor of the Hochstetters. The Douglasses lost power in July 1528, and in an account for 1530–31 James Achesoun is shown as master of the mint.⁷ He then continued until in 1538–39 the crown and groat coinage was replaced by that of ducats and bawbees, discussed in the previous paper.

General sequence defined

The design of James' new coins of gold and silver followed foreign models closely. The crown resembled the French écu, while the silver was adapted from England's very recent groat, on which the profile bust of Henry VII's last issue was modified with fuller clothing and wider crown for the second coinage of Henry VIII, James' uncle. On the Scottish groats there are two main forms of the bust. The impression given by the considerably scarcer one, which is accompanied by double annulet stops, is of a mature not to say old man, wearing a heavy fur mantle and a large 'imperial' crown, which may have a heavily jewelled hoop and either two arches, or just one like the English. The other form of bust, accompanied by three pellets in trefoil as stops, has a lighter crown with fewer jewels, hair hanging usually less heavily to the face, the mantle open with a much wider display of embroidered shirt, and the whole appearing younger though not juvenile. Burns followed previous writers, other than J.D. Robertson,⁸ in placing the older bust last (his 'third' and 'second' types, differentiated by crown and reverse legend), but he supported the arrangement by noting that all existing one-third groats had colon stops, and correspond to a rare variety of his 'first' type of groat. This, which he therefore identified as struck by the Hochstetters, has a crown with two fleurs-de-lis and five pellets (jewels), and either colon stops, or the usual three-pellet stops, also a somewhat different face. Though these rare groats are not particularly distinct to the ordinary observer, Burns argued that only this brief variety could be the 'Douglas groat' referred to by the sixteenth century chronicler Robert Lindsay of Pitcottie, who observed that the earl of Angus had 'caused to strike coin, a groat of xvij^d which afterwards was called the Douglas groat'.⁹ Before Burns it had been usual to call all James V groats Douglas groats; the 'barred' groats simultaneously mentioned were English.¹⁰ Burns also noted that there are crown pieces with correspond-

⁶ C-P I. 58 and xxii. If Angus had retained power Danish coins might have been minted in Scotland in 1528 for the exiled king Christian II: I.H. Stewart, 'A Danish request for Scottish minting', *NC* 151 (1991), 225.

⁸ e.g. J. Lindsay, *View of the Coinage of Scotland* (Cork, 1845); J.D. Robertson, *Handbook of the Coinage of Scot-*

land (London, 1878).

⁹ Robert Lindsay of Pitcottie, *The History and Chronicles of Scotland* (1436–1565), edited by A.J. Mackay (Scottish Texts Soc. 47) (Edinburgh, 1899), I. chap. xii, 307.

¹⁰ See Appendix 2, p. 49.

ing colon stops, without commenting that the Hochstetter contract was confined to silver. He did, however, refer to differences in the records regarding standards and weights (previously noted),¹¹ which he said would have produced groats at 49.29 gr troy compared with a more realistic 42.83 standard, and concluded that they were unintended.

In his arrangement of the three-pellet stop groats Burns assigned to Achesoun's first period those which came close to his 'Hochstetters' in lettering and in having five pellets or seven pellets on the crown (B.1–5). For the 'post-Hochstetter' bulk of the groats of this type he had a succession of (irregular) increases in pellets on the crown, and in the course of it a change of lettering (notably D) which linked up logically with the 'second and third' types.

However, in 1955 Ian Stewart argued that the 'third' type must come first, because on its reverse Edinburgh was designated VILLA as earlier on James V placks, on James IV groats and back to David II, while the (classical-renaissance) OPPIDVM was found on the 'second' type as well as the 'first' and on the 1539 bawbee coinage. The gold coinage with corresponding stops and lettering also needed to be reversed, allowing the inscription CRUCIS ARMA to be consecutive under Mary, and he placed last those with colon stops; but he left the colon stop 'Hochstetter groats' early as identified archivally.¹²

The changes were confirmed by the finds of 1963, for in the Linlithgow hoard, which contained many placks but no bawbees, the latest coins were three unworn groats, one each of the rarer types, I and II in Stewart's renumbering (B.23 and like B.19), and only one of the most numerous, then type IV, with eight pellets on the crown (B.10). In contrast were the groats from Rigghead, a hoard mainly accumulated c. 1542–45 by when they were capital rather than currency (see p. 49 Appendix 2). For the twenty-one recorded groats were all of 'type IV', nine of them B.2–5, and though there were none of 'type III' (the 'Hochstetters' (B.6–7)), there were six of the closely related one-third groats. In consequence Stewart in 1967 placed the 'Hochstetters' last as type IV.¹³ It was, however, not made clear that this implied retaining the essence of Burns' internal sequence of his 'first' type (now Stewart's type III) but broadly reversing its chronological order. So in the *Sylloge* from Oxford and Glasgow in 1987 Stewart's revised types I–IV were followed, but Burns' original order within III was left.¹⁴

As will be illustrated, the distinctiveness which Burns claimed for the 'Hochstetter' portrait seems to have been overstated, and to have come about gradually. It can further be argued (Appendix 1) that the Hochstetter brothers never struck any coins, so that Achesoun and his staff were at the mint throughout.

General sequence subdivided (pls. 6–9)

The present study was begun in order to select coins from the 1963 hoards to add to the National Museum's collection. It was extended in recent years to include photographs of the holdings of the Ashmolean, Hunterian, Fitzwilliam and British Museums, and Aberdeen Art Gallery and Museum, and of the collections of R.C. Lockett and Dr James Davidson, and of a few from other sources. The extended loan of the relevant portions of Sir Ian Stewart's collection has been invaluable. The total resulting sample is 245 groats and 57 one-thirds.

¹¹ Lindsay, in note 8, p. 42.

¹² I.H. Stewart, *The Scottish Coinage* (London, 1955), pp. 76–78.

¹³ Stewart, revised with supplement, 1967, p. 202. For a new concordance of crowns and groats see p. 48 below.

¹⁴ J.D. Bateson and N.J. Mayhew, *Scottish Coins in the Ashmolean Museum, Oxford, and the Hunterian Museum,*

Glasgow (SCBI 35, 1987) nos 910–43; p. xxxvi explains that from among the coins from the collection of Dr G. Neilson, Glasgow, who died in 1923, 12 groats of James V and a one-third, and 43 groats and halves of Henry VIII, are visually identifiable as from an unknown hoard. See also Appendix 2 below.

A specimen of each of the obverse dies identified (together with a representative selection of the varieties of reverse), is now illustrated, and numbered consecutively within each type. The sources are shown in the itemised listing of each subdivision proposed (pp. 50–6); all the examples in the National Museums of Scotland, the Universities' *Sylloge*, and the Society's photographs of the Lockett collection are noted there.

The Groats

First it will be convenient to explain the proposed sequence of varieties and dies within the types, followed (pp. 42–5) by a summary of some detailed features. Die-links have not provided much guidance to sequence as the writer has been able to find duplicating reverse dies mainly along with the same obverse (tables 2–4). The number of groats seen from each of the 56 known obverses varies greatly. There is one coin only, a 'singleton', from 16 (28.5%) of these dies, two appear eight times, while there is a fifteen and an eighteen (III.24 and III.33). Original numbers of obverses are therefore likely to have been somewhat larger than the following simple estimates (actual numbers in brackets): types I and II together 17 (15); type III (as will be explained) a–b 25 (22), c 18 (17); type IV 2 (2), in all 62. Even so they were few spread over twelve years.

Type I groats must belong to Achesoun's April 1526 contract and may represent the whole of it. They have been arranged on the assumption that those with nothing on the crown's corded hoop-band (1–4) were earlier than those which have pellets for jewels like types II–IV. This allows the gold *piedfort*, from the dies of which no silver impression is known, to be placed first as if a pattern; conversely the revised type-order of the crown-pieces puts their *piedfort* (B.1a fig. 737) late, parallel to groats type IIIc(iii) (see table 1 on p. 48).

Apart from the designation of the town, type IIa is a modification of I more than a separate type; the crown is lightened but given more jewels, the base of the shield becomes rounded and an annulet is used above letters to distinguish obverse dies. It is tempting to ascribe it to Achesoun's second contract, of November 1526. After the four obverses of IIa(i), help in distinguishing several transitional stages before a settled type III, is obtainable from a hitherto little-used source, the cross-ends on the reverses. So IIa(ii), II.5–6, is distinguished by cross-end 'B' with enlarged perforation, perhaps refurbished from the previous punch 'A' (fig. 1); it was quickly followed by a new form 'C'.

This was introduced with obverse II.7, type IIb(i), a coin in the Fitzwilliam Museum which Stewart recognised in 1958 as extraordinary.¹⁵ It began a period of considerable changes, though not all those seen on it were adhered to. The paired trefoil stops and truncated IACO do not reappear, but some of the new letters lasted much longer, and the less cluttered double-tressure of its shield remained, with a minor change, to the end. A new style for the king's face and hair was set. The new cross-end, 'C', provides the clearest line through IIb(ii), IIb(iii), IIIa(i) and IIIb(i).

Obverse II.6 is little less strange, because of its changing reverses, signalled here by the designations 6a–IIa(ii), 6b–IIa(ii)/b(ii), 6c–IIa(ii)/b(iii). The first is represented only by B.20 fig. 721. Of the second there are two examples from a single reverse die which has pairs of stops like IIb(i) but three-pellets not true trefoils, most letters like b(i) but instead of OPPIDVM a new standard OPPIDV. As third the 6c coins carry on the features of IIb(ii) except that their five reverse dies, IIb(iii), including B.21 fig. 722, have the stops modified to the single three-pellet group which is standard for type III. Strictly they are not as has been supposed mules with type III. For their sharp-serifed D is that of IIb(i–ii) used on only one type III obverse, III.1, and not found on any of type III's own reverses. A similar

¹⁵ *NC* 6th ser., 18 (1958), 5.

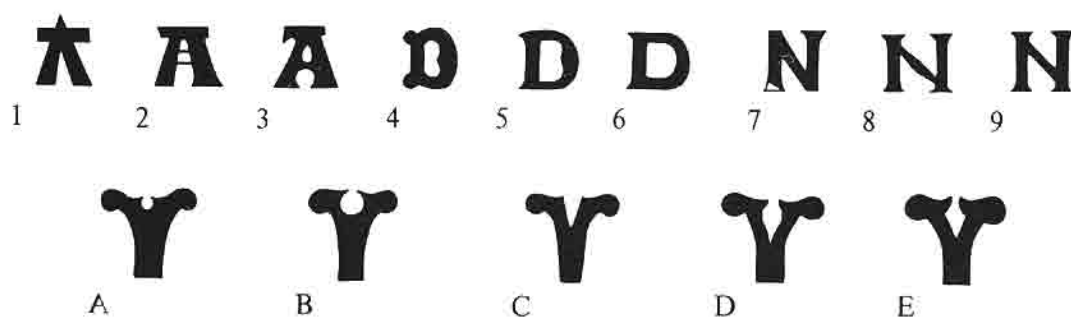


Fig. 1. 1, usual A; 2, II.7–III.1–4; 3, III.25–27; 4, usual D I, II, III to 24a; 5, 'sharp' D II.7, II.6b-c, III.1; 6, 'large' D III.24b–IV.2; 7, N I–III, 19a, may be defective in III.12–19a; 8, composite N III.19b–24a; 9, III.24b–IV.2. Cross-ends: A, I.1–II.4; B, II.5 and 6a; C, II.7, II.6b-c, III.1–4; D, III.5–9; E, III.10–IV.2.

unsystematic re-use, of a die rather than a punch, is evident when 6a's single reverse also recurs once, with the obverse III.2. A sixth IIb(iii) reverse was used with III.6(IIIa(ii)).

The major change of opening the front of the mantle wider, along with a rather younger face and hair-style, effectively ended the transition to type III. With its clear break in the king's appearance it might have been intended to reflect the political change consequent on the king's freedom from the Douglasses, though if so it failed to change the popular name of the coin (p. 49). Some of the details of the portrait noted by Burns can now be seen to form fairly systematic subdivisions within type III, notably a succession of (a) no chain, (b) corded chain and (c) smooth chain (once omitted, III.27); the corded and uncorded hoop-band of the crown and its number of pellets, falling irregularly from nine to five, fit in less closely. As the continuation of cross-end 'C' shows by linking both IIIa(i) and IIIb(i) to IIb, there were still brief indecisions over minor details of design, principally whether the new bust should have a corded chain or be chainless. The letter A from IIb(i), usually with inserted bar, was at first used for both varieties, each represented by two obverse dies, III.1–2 and III.3–4. One of these, a singleton, is the only obverse other than II.7 to have the sharp-serifed D, and it has therefore been put first, III.1. However, it has been classified as sub-type IIIb because its bust has the corded chain which normally goes with the later, and longer lasting, cross-end 'E'. III.2 which also has this chain, is die-linked both to the chainless III.3 and back to IIa(ii) B.20; with the latter both dies were rusty. After the chainless III.3–4, IIIa(i), the old form of unbarred A is normal again, and with it the regular chainless obverses III.5–9, IIIa(ii), have on their reverses a distinct cross-end, called 'D'. Obverse III.7, which possibly corresponds to B.16a, has been seen with nine reverses all different. As already mentioned, earlier reverses may be re-used; one example of III.5 has a cross-end 'C' reverse, and one of III.6 has a reverse like the IIb(iii) quasi-mules. No corded-chain obverses have been seen with cross-end 'D', but a blank IIIb(ii) has been provided in case they exist.

Only two normal chainless obverses have the cross-end 'E', III.10–11 – IIIa(iii). The singleton III.10 (B.11) is linked by its reverse to a slightly eccentric obverse in each of the next two varieties, IIIb(iii) and IIIb(iv) – III.13 and III.15. Since this reverse has a defective N (fig. 1.), replaced at III.19b, it may really belong to late in IIIb(iv) – see table 3. Were the eccentric dies held up, and then used as an interim measure while other 'irons' were being prepared? If so their output could have been below normal; two are singletons while the third occurs with one other reverse.

Both these next varieties have the corded chain: IIIb(iii) – III.12–14, still has corded lines on the crown's band, while plain lines, at first wavy, begin on IIIb(iv) – III.15–19.

They have cross-ends 'E' as do all later groats. In IIIb(iii) only obverse III.12 (B.15 fig. 717) is at all well represented, by seven examples perhaps from six different reverse dies, all but one with complete N. The singleton III.13 (B.13 fig. 715) is unique in this issue in having an annulet in the field behind the head instead of the occasional three-pellet device. The coin that shares its reverse in IIIb(iv) is one of III.15 (B.18 fig. 719), an obverse that equally unusually has, besides the error IACBVS, a single trefoil in the field and as stops, resembling the paired trefoils on II.7; one reverse of III.12 was perhaps designed for it, as it has a trefoil stop. III.16, which has a reverse with complete N and another apparently with the defective serif 'patched', is again eccentric as it has only five pellets on the band and an annulet before the initial cross. Short-lived experiments, errors and irregular re-use of dies seem often to have accompanied or led up to longer-lasting design changes in the Scottish mint.¹⁶

IIIb(v) marks the substitution of the true N by one composed of two IIs and an engraved oblique (sometimes faint, once reversed) on most examples of III.19 (19b) – B.9, and on the scarcer III.20–22. Privy marks consisting of three dots occur not infrequently (p. 43). The composite N continues on the six reverses found with III.23 (B.14) and with part of 24's output (24a – B.8), which places both these obverses at the beginning of IIIc as they have the smooth chain. A colon near the shoulder on III.24 is the last time a device appears at the edge of the field on the groats. New letters begin with the seven reverses of 24b (IIIc(ii)) – a perhaps complete N and the large sharp-serifed D which distinguished B.1–5. With the scarce 24c the large lis of the tressure are also changed, by raising the almost horizontal petals by 45° or so. In addition to these new features a barred and lob-topped A was used briefly on obverses called IIIc(iii) – III.25–26 singletons, the former die-linked to 24c and III.27 which is die-linked to IIIc(iv) – (III.28 and 29); see p. 52.

IIIc(iv) returns to the normal open A, and is the most numerous sub-type with 52 listed coins from eight obverses, III.28–35, of which two, including B.1, are singletons. The most represented obverse, III.33 (B.-), eighteen examples, has its three-pellet stops uniquely reversed ∴ instead of ∴. Its reverses show all the changes in the lion's tail-base, from closed circle to open with 'clubbed' end characteristic of IIIc(v), which are apparently successive. Others vary less, particularly III.29 (B.3); of its seven reverses all have a full circle, one perhaps opening.

The last subdivision of type III is c(v), characterised by five pellets on the crown, with its fleurs as constant in the type. The lion's tail-base is 'clubbed' as just mentioned. There are 24 listed coins from four obverses, III.36–39, including B.4–5. One obverse is represented only twice but is linked to the others (table 3).

Type IV's two obverses are, as noted by Burns, distinct from those of IIIc(v) because they have two lis on the crown, and in the case of IVb (IV.2 – B.7) because of colon stops on both sides. IVb is the commoner, perhaps being most evident to collectors. With it three reverses have been seen; the inscription on each begins with a lis.

Detailed features

On the busts the details of the faces as finished seem to be individual intaglios on the dies, for close repetitions are few. The hair only provides broad similarities of shape and in relation to the jaw, its strands having been individually engraved. The distinctiveness which Burns saw on the two dies of type IV can be seen as part of a gradual evolution, apart from a softer jaw line. The details of clothing – the fur of the mantle in types I and II, the embroidery of the shirt, as well as the pleating most evident in type III – were engraved

¹⁶ Besides groats IIb and III.1–4 there are examples in the earlier placks, and in the bawbees of James V (Jb and Jc) and Mary (IIaii and IIb, and Va-b).

and so always vary. The styles of embroidery pattern that do repeat have not been used for classification. Other details put in by engraving include the long lines of the crown and of the chain, both of which were for much of the time nicked to produce the corded appearance. For the crown various small punches may be assumed: for the separate arms of the central and flanking crosses-fleury, reduced at the sides to two in IIa(ii) (II.6); for III the intermediate trefoils were given hollow petals and a central disc – they were lis-like in IIb(i) and again, differently, in IV. The initial cross of the inscription is so placed as to be also the cross on the central orb of the crown.

In the inscriptions there went with the changes at type II from VILLA to OPPIDVM, the dropping of vernacular EDINBRVGH for Latin EDINBVRGI, and of the final St Andrew's cross X that had been used exceptionally, though it continued at the sides of the shield on the crown pieces. OPPIDV was standard from IIb(ii) onwards. The usual contractions SCOTORV and SCOTOR continue throughout and do not seem to indicate groups, but may have helped to distinguish between dies; 'monogram' endings are probably due to spacing errors rather than deliberate. SCOTORVM was occasionally used complete, the only well represented die being that in IIIc (23). Of two in each of IIIa (9–10) and IIIb (14–15) one is a singleton, as is II.7 on which it is balanced by IACO 5. (SCOTO is confined to one-third groats.) The numeral 5 was omitted twice, I.8 (B.22) and III.2 (B.10). Another error is IACBVS (III.15, unusual in other ways too). There is an R under V on the reverse of Rich.12 (III.19b).

A circumflex was sometimes used as a contraction-mark in type I, once over the R ending and twice over the V, and an annulet in type II twice over R, once over V and once over GRA. In type III there was regularly a pellet on -ORV, often not ascertainable even when known from other specimens, but frequently omitted as from III.7, 12, 17, 18, 24, 27, 28, 36, 37 and 38.

Perhaps more likely a privy-mark is the pellet or smaller dot sometimes placed after ORV and OR but not noted in Burns, thus OR[•] III.31 (B.1), III.6 and probably III.4, also OR[•] III.32 (B.2) and a colon of dots ORV^{••}: III.34 (B.2bis). The apparent dot at the top of the right stroke of the V on reverses in IIIc(v) and IV is due to a chipped punch. Nearly as inconspicuous are short strokes or dots in a row, such as have been recorded on a few of James' and Mary's bawbees.¹⁷ On a reverse of II.3 in the tressure above the lion's tail there are two dots and a vertical row of three below them (B.19, not clearly shown in fig. 720). Misleadingly dots below the pellets on the crown-band early in III are due to the cording of the line below. However on three reverses of IIIb(iv–v) three dots project from the lower part of the E, and on another two dots from its middle. They are found with III.15, 17, 19b (repeated with 20, also has two dots and a billet above the right cross-arm), and 29. On obverse 17 three dots are upright between V and S. Again in 19b a reverse has three dots below the right cross-arm, and on 22 three dots are in front of the forehead and again close by at the peak of the crown. In IIIc two separate reverses have three dots above the shield to the left of the cross-arm, with 31 (B.1 fig. 706), and 33 on a reverse like IIIc(v) (Rich.1). Less certainly intentional are two dots visible on some examples of III.29 (B.3) below SC; on some other dies spots are probably due to rust.

The standard stops and variations are colon annulets § for type I and most of II, three pellets ∴ for type III (∴ on the prolific III.33, and widely separated ∴ after 5 on III.38), also on the one die of type IVa. Colon pellets ∴ are specific to type IVb's one obverse die with its reverses, which have a lis instead of an initial colon, and to the one-third groats, now classed as IVc–d. There is exceptionally ∴ on one reverse, IIb(iii). This seems to follow IIb(ii) (II.7) which has a similar arrangement but of trefoils formed of pointed oval pellets. Single trefoil stops reappear on III.15 (B.18) obverse only, and on a reverse of III.12. The

¹⁷ *BNJ* 59 (1989), 122–23.

three-pellet stop was often placed as an enigmatic device at the left of the obverse field – II.6 was followed in IIIa-b by 5–9, 11–12, 16, 20–23. A wider indentation behind the device seems to indicate a trefoil-shaped punch for II. 6 (B.20 fig. 721) and a triangular one for III.12 (B.15) and 20. This feature is like the frequent use of an annulet on James III's class VI groats, and on James V's bawbees. Indeed an annulet is used in this way on one groat, B.13 III.13, also once placed after ORV° (III.16). A single trefoil is likewise in the field of II.7 and III.15, complementing their stops. The last of the series is a pellet colon placed lower down on III.24 (IIIc(i)). However for whatever reason two pellets were placed at the outer corner of the hair (conceivably as part of the shaping of it) on III.31 (B.1), and one there on III.32 (B.2).

Some changes in the forms of the letters were specified by Burns – from square-fronted to spiral G and from round to 'peaked', decorated, O after type IIa (as we should call it now), and from narrow decorated D, which he printed as gothic, to a broad plain D at IIIc(ii) – Fig. 1. Attention may now be drawn to other changes, particularly to letters which are certainly or possibly composite. As he showed there is a reverse in type I on which the N has no oblique stroke (B.23, I.3). Two other reverses in type I have an inserted oblique. Such a composite N characterises IIb(v) and IIIc(i), in which the oblique may form a reversed N. The early N, unlike its contemporary composites, does not have a serif at both ends of the verticals, but the N of IIIc(ii) onwards does have (fig. 1).

The exceptional groat II.7 – b(i), has several peculiarities that recur regularly thereafter and others that do not; among the latter are M with a small inserted v and an N reversed with a thin oblique probably engraved. It also has a small D with sharp serifs (fig. 1.5), which contrast with the pellet serifs of Burns' small gothic D of type I, most of II, and IIIa-c(i). From the heading in Burns for B.19–20 (II.a) it appears that he distinguished this sharp form, but if so it got allocated incorrectly; after II.7 it is restricted to the reverses of the transitional IIa(ii)/IIb(ii-iii) of which he knew B.21, for which the wrong D is described in the text. This early 'sharp' D would seem to be composed of an I with sharp serifs and a bow from a pelleted D. The P on II.7 has a projection added to the serif at the foot on the right, and it is possible that the bow of this and other Ps was added on. The R is quite probably generally composite, with the right and left halves punched separately – III.10 (B.11). The curved portion of the gothic h on the type I reverses may also have been separate – it apparently had a thin line at right angles to the top which can be seen projecting at the far side on several dies, and once running across the vertical (Rich. Add. 232, I.8); on Rich. 21 bis (I.3 ill.) this line appears to have been punched upright in error.

The normal A is unbarred and symmetrical (fig. 1) with a peak projecting above the horizontal line across the apex (as on the bawbees of James and the earliest of Mary). A quite different character on II.7 has asymmetrical legs and no peak on the horizontal; it served both as A with an inserted bar, and inverted as an unorthodox V. This character was repeated at the beginning of type III as barred A and is distinctive of our IIIa(i)–III.3–4, and IIb(i)–III.1, and also 2 on which the bar is omitted (B.10). A further form of barred A, with a lob-top, has been found in IIIc(iii)–III.26–27, which were not known to Burns. It is, however, the same as on the gold crowns B.1 and 1a (the *piedfort* 'pattern'), which encouraged Burns in his view of the groat and crown chronology, because it seemed the same as the A of the previous unicorns (see also pp. 47–8 below). The spiral G of types IIb, III and IV starts at II.7 by additions to an undeveloped crescent, then in IIb(ii) has a neat outer bifurcation. These are followed by many additions to its upper tip which are often more prominent in IIIc(ii) and later – bifurcations, hooks and spikes with or without further extensions, individually shaped rather than systematically punched.

A feature not referred to by Burns, the form of the foliate cross-ends on the reverse (fig. 1), has been found to be valuable for grouping, but only for the first half of the series, after which it does not change appreciably. The original single punch, with a small central

drill-hole (A), was followed briefly by a version with a larger hole (B). Next what was possibly a refurbishing of the same tool has a triangular slit with small projections at the top (C). This links type IIb not only with part of IIIa but with the two obverses of IIIb(i), on which the king's chain may therefore have been a temporary experiment. This cross-end was replaced by a similar design in which the sides of the slit are not straight and the upper projections are larger (D), which defines subdivision IIIa(ii); no obverse with a corded-chain has a cross-end D reverse, but IIIb(ii) is left blank for one should it appear. This cross-end and the modified form with rather larger projections (E), which was usual through the rest of type III, and IV, seem to have been composed by a separate punch for each side. The space between the two projecting tips is in E very slight or closed, differences that seem to be fortuitous.

A further aid to classification, particularly useful when the cross-ends ceased to vary, has been the circular or U-shaped root of the tail of the lion rampant. The number of punches used for the beast is not evident, perhaps one each for the far legs, the front leg with the breast, the head and possibly the lower jaw separate (the tongue engraved), the near paw and the rear leg separate, the tail in at least three parts, one of which is the annulet at the top. At the root an occasional tendency to turn the loop into an open (gapped) circle became dominant in type IIb(iii). By IIIa(ii) the circle was a complete annulet though sometimes faint within the loop, and a pellet was normally placed on the outer curve. During IIIc(iv) the annulet seems to have gone through successive phases, from complete, through opening, to widely open. The best evidence is that eighteen specimens of the obverse III.33 are spread over the three phases while the ten examples of III.29 all have the closed annulet, and the six from III.34 have a widely opened circle with a large pellet. From III.36 with obverses which have a five-pellet crown, IIIc(v) and IV, the open tail finally reverts to its original U-shape, but with a thickened 'clubbed' end as a reminiscence of the pellet. A comparable reverse with III.33 (Rich.1) and another with III.35 may be regarded as mules.

The fleurs-de-lis 'fleury and counter-fleury' round the double tressure of the royal arms should consist of a large lis with its head turned alternately inwards. On the groats the three large petals and the small trifid foot are not joined between the lines of the tressure, so for descriptive purposes they are here called a large and a small lis. The innumerable minor variations, often confusingly alike but essential guides in finding reverse die identities, suggest that for all the large and some of the small lis the three petals were punched separately. Small lis might be omitted occasionally – all on the reverse of I.5 (q), upper left outer on a die with III.6, left inner corner one die I.7–8, again later with III.29 and 33. Three distinct phases have been noted: the original close setting of lis all round the tressure was reduced at IIb(i), leaving for example the top row with three instead of type I–IIa's five (and, very briefly, only strokes in the inner corners). Thirdly beginning with the transitional reverses of III.24c, c(i)/c(iii), and so not quite coinciding with the change of letters at IIIc(ii), 24b, the outer petals of the large lis change from horizontal to semi-upright.

The one-third groats (pl. 9)

These all have type IVb's colon stops and crown with lis. Although ten out of the eleven listed by Burns and Richardson come from differing obverse dies, and from Rigghead's six coins there were five more dies, the further forty coins studied have yielded only three additional dies, making eighteen obverse dies in all. So given that four of these are represented by only one coin, there may not have been many more than twenty obverses originally. This is, however, nearly one-third of a possible total of groat obverses, and twenty times the known single type IVb obverse with colon stops from which their design

evolves. It may be deduced that at the end of the groat coinage only one-third pieces were minted for a time. If the output of silver had been evenly spread over the eleven or twelve years of the coinage this might have been between two and three years, yet it might well have been no more than the five or six months allowed for the emergency issue of bawbees at Stirling which is estimated to have come from perhaps twenty-one obverses.¹⁸

Plate 9 illustrates all the one-third obverse dies, numbered consecutively. Two forms of the king's face provide the main subdivisions. In IVc, the 'sharp' face, the eye is twice as far from the crown as in IVd, the 'long' face. The order is based on the details of dress. So IVc(i) retains the large panel of the shirt on the groats, one die with it embroidered as theirs and one with it plain. At c(ii) the front of the dress is lowered and the large panel is hatched, again two dies. Then the clothing is redrawn, c(iii), into rather narrow horizontal zones, still with the thin chain, IV.5–8. The rest of the obverses have more or less similar zones but the 'long' face. At IVd(ii), 12–18, the chain is left out and a few irregular dots decorate the arch of the crown, as in c(ii). The arch may be a single or a double line in both c and d.

The inscriptions, like those of type III and IV groats, contract SCOTORVM to -ORV or -OR, sometimes with 'monogram' endings, but also have SCOTO three times in IVc, once in IVd. The C has been omitted twice in d(ii), 16–17, to give SOTORV (one being B.4 but not noted by Burns). The bar of the A has been inserted, and has been left out a number of times – apparently not from more than one of the two on each obverse, so possibly as a deliberate privy-mark. The A of GRA was omitted on obverse 5. The R seems to take several forms, as does the N, the latter at least sometimes composite and reversed. Letters are, however, often not clear and usually have not been detailed here. There are several errors in IVd(ii) besides SOT: GRA omitted and corrected on 12; N lacks its oblique stroke on a reverse of 17; and NB (N reversed) underlies V:E on a reverse of 18.

The only mark placed in the obverse field is on 15, a single pellet ·, such as is not found on the groats, and unpublished.

Conclusion

The issue remains limited although the number of groat obverse dies has rather more than doubled compared to that known to Burns, to fifty-six including five additions represented in the Rigghead hoard. Single specimens are listed from sixteen dies, three of them in the Coats collection which Burns catalogued, and the original number of obverse dies might be as low as sixty-two. Either output per die or a higher survival rate is noticeable in the case of the dies of the prolific penultimate sub-type IIIc as a whole (table 3), though it has singletons, including two of the least well preserved coins – such as collectors tend to reject. The relative emphasis on IIIc does not correspond to any increase in annual output to judge by the receipts in the Treasurer's accounts,¹⁹ but immediately precedes the change to type IV, which consists overwhelmingly of one-third groats, not previously struck. The royal profit per die would have been less for the one-thirds. The number of obverse dies of one-thirds now recognised, eighteen, is less than twice those published by Burns and Richardson.

It seems possible that types I and II with the 'older' portrait were not struck after the Douglasses lost power in 1528, but the name Douglas groat was that used commonly for the whole issue. There is an increased payment to the Treasurer in his account after a gap in 1527–29, which could therefore cover the missing period, subsequent transition and an

¹⁸ *BNJ* 59 (1989), 137.

¹⁹ Challis, in note 3, table 3, abstracted from *Accounts of the Lord High Treasurer of Scotland*, edited by J. Balfour-Paul, V 1513–31, VI 1531–38 (Edinburgh, 1903–05); C-P I.

57–59, error for 1536 read £491.10.0 instead of £391.10.0. The profit per stone of groats in the Hopetoun MS, £19.4.0 (for 2816 coins), C-P I.95, is higher than the second 1526 contract, which was under £16 per stone.

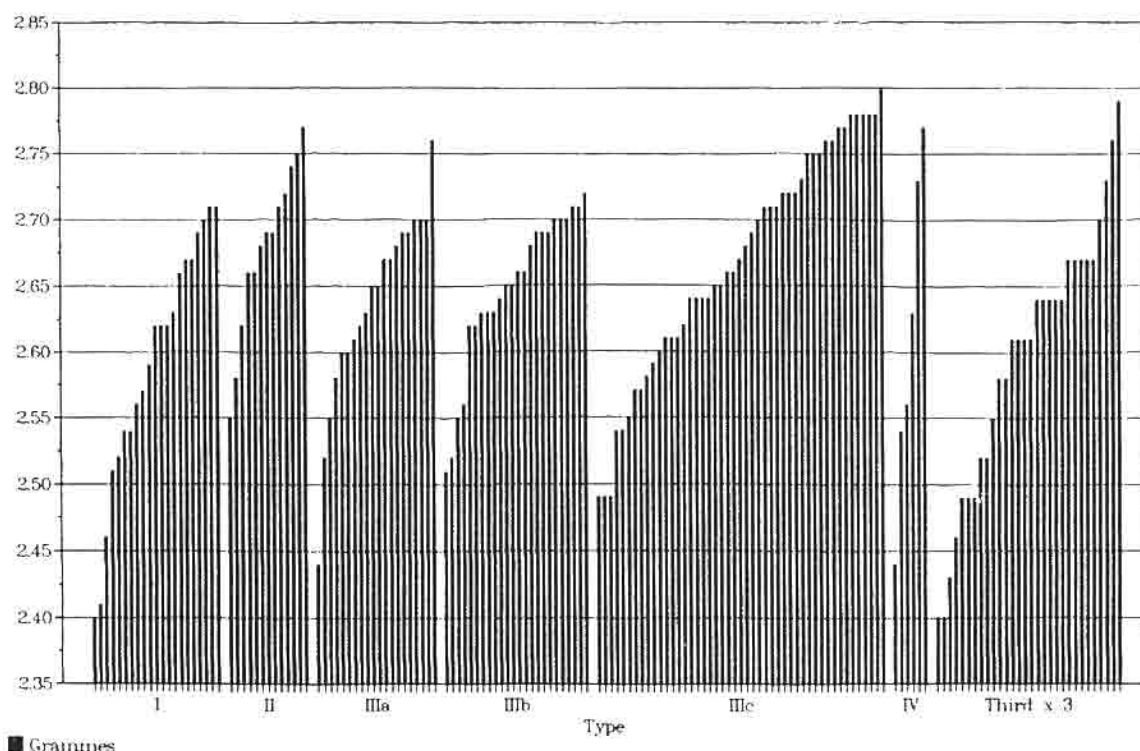


Fig. 2. Weight distribution of 131 groats and 30 one-third groats in the sample not damaged or seriously worn. *Note.* An effective standard weight of 2.65 g (40.89 gr) may be suggested rather than 2.775 g (42.83 gr) which appears as virtually a maximum. This might have been due to a general skimming of above-standard coins or to the mint working to a lower standard for greater profit authorised early without full recorded formalities (see note 19). The hoarders, who may be expected to have chosen the highest weights available in currency, have provided evidence for the second alternative: the three groats from Linlithgow are I 2.71 g, II 2.75 g, IIIb (III.2) 2.72 g the latest coin, and from Rigghead the lightest groat is its earliest IIIa (III.6) 2.62 g, with ten in IIIc from 2.72 to 2.78 g probably put aside no later than 1544 though finally hidden in 1554–5 (see p. 49).

undocumented new minting start. Another apparent gap in the receipts was followed in 1535–36 by substantially higher receipts, in two instalments, which might represent arrears as readily as more energetic minting of groats, before final activity in 1536–37 which might have covered most or even all of the one-third groats. Errors at the end suggest a rush.

Unfortunately the Treasurer's accounts are an unsatisfactory guide, as they combine the king's profits from the silver with those from the gold crowns. Since the gold has not been studied beyond Burns' examples, the relative proportion from each denomination remains unknown. Burns did show that gold was minted in parallel to the end of the silver issue; table 1 is a suggested concordance of his illustrations and our varieties – a crown is now known also from the time of James' bawbees, 1539–42.

A probable date for type IIIc(iii), and for the corresponding 'ceremonial' *piedfort* (which was part of Burns' evidence for his starting point of the groats) has been recognised by J.E.L. Murray. Their new minor peculiarities of lettering and tressure, including a briefly used barred A, are shared by the unique revived plack (Stewart fig. 301). This she connects with the authorisation on 2 March 1532/33 for 120 stone of placks.²⁰ Together these suggest the beginning of a new phase of internal significance to the mint. The Treasurer's accounts, however, appear to show reduced rather than increased mint activity in 1532–34.

²⁰ *Register of the Privy Seal of Scotland*, II, 1539–42, edited by D. Hay Fleming 1921, entry 1514.

TABLE 1

Revised varieties	Groats	B. figs.	B. figs.	Crowns
	B. figs.			Approx. equivalents further variants
I	725, 4, 3	748–49		
IIa	720–21	746		IIa/I Hird 66
IIaII/bIII	722	? 747		IIb (S/L) 'Dundee' 101
IIIaII-bIV	713–19	743–44		
IIIcIII	(HN 921)	†737 (565.13 gr), 738		
IIIcIV-v	706–7	739–40		
IVb	709	742		IIIc/IVb AS 898 Bawbees AS 900 (St. fig. 302)

† barred A on obvs. only, not identical to unicorn's letter; Burns' weight for the crown piedfort, 878 gr, is a misreading.

APPENDIX 1 THE HOCHSTETTER CONTRACT

The long and detailed contract in Latin signed by the king, the earl of Angus and five members of the Council, was copied with the date 6 October 1527 into the Acts of the Lords of Council in Public Affairs.²¹ It has also been published in full by John Lindsay and by R.W. Cochran-Patrick, with a *précis* of extracts in English by the former.²² From that *précis* the emphasis in the following summary is rather different.

The contract is in favour of both or one of Joachim Hochstetter and his brother (not brothers as Burns thought) and their heirs and successors, all represented by Anthonius de Niketo and Quinterius de Litz. It explains that the king had taken cognizance of the labours and expenses that the Hochstetters and their associates (*confratres*) had had in working gold and silver mines in the kingdom, and how much detriment and harm they had suffered over wages (*merces*) imported for the workers. In order that this notable work, which the brothers were trying to sustain with all their strength, should not be interrupted by lack of funds, the king grants them the charge of coining on the following conditions.

The first of these conditions is combined with the statement that, in return for the licence to mint it into royal money, they had promised to import and supply from Germany and foreign kingdoms, a great and copious amount of silver. Details follow of the required standards of this money, in particular of the groats, about which Burns concluded (p. 233) that the term *puri argenti* was misused. The conclusion of previous writers had been that there should be Hochstetter groats of a higher weight than those of Achesoun, but Burns believed that such had never been intended, or minted.

Besides the 12d and 6d two-thirds and one-third groats which the Hochstetters were authorised to strike if they wished, they were similarly authorised to strike to the same standard coins of 3, 5, 10 shillings or smaller, or larger up to 20 shillings, such as were not issued in silver till nearly forty years later.

The ten years of the licence would start from the day they had formally taken over the mint, after the silver, artificers and implements had been imported and the striking of money begun. Each year they would strike enough money to pay the king at least £3,000 Scots (at the rate of 20 shillings per pound of silver), and would provide surety for that sum whether the requisite amount of silver was coined or not. Later the surety is given the form of a payment at the end of each month of one-twelfth of the £3,000.

Their mint would be supplied with premises comparable to those in other countries, or enjoyed by prelates and princes in the town (*oppido*) of Edinburgh itself; and they and their workers and domestics would be subject only to the jurisdiction of the king, an immunity that should not be abused.

The king would appoint two Scots as examiners of the money's weight, fineness etc. There would be an *incisor ferrarum et sculptor Scotus*, bound on oath and pain of death not to pass any similar worked 'irons' to anyone. Other Scots who had previously worked in the mint, and whom the Hochstetters approved, might be employed too.

The king would after the fulfilment of the undertaking, which was to be within six to eight months, and the ratification of the present contract, prohibit other minting of silver by proclamation throughout Scotland and his other territories.

The contractors might freely import all that they needed, and export anything except striking irons, even silver if it had been minted.

²¹ *ALC*, note 5, pp. 266–69.

²² Lindsay, note 8, pp. 232–36 with pp. 40–42; C-P I, 64–66.

A charter under the Great Seal, 498, which states that it is confirmation (*ratificatio*) of the contract with the Hochstetters has been taken to be evidence that the contract was effective,²³ but it is dated 24 September 1527, which is earlier than the Acts of Council entry, of which it is only a version. Another entry in the Register of the Great Seal is no. 492, dated 24 August 1527, which refers to an extension of the time within which a monopoly of royal gold and silver mines for forty-three years was granted in 1526 to Joachim Hochstetter and to Antonius and Quinterius as principals was to be ratified, and states that the ratification was now exhibited, which satisfied the contract.²⁴

It seems evident that the Hochstetters and their associates were primarily mining entrepreneurs in financial difficulties, who hoped by the charters for mining and minting to raise abroad the credit for their proposals, including the improbable quantity of silver they promised to import. We may conclude that they never minted any coins in Scotland.

APPENDIX 2 ENGLISH SILVER AND FRENCH GOLD COINS, THE BULLION ELEMENT IN THE RIGGHEAD HOARD AND THE NEILSON HOARD

The Rigghead hoard was unusual in containing along with over 350 current billon coins (minted mainly between 1539 and 1545) a substantial bullion element. This was all English and French except for the relatively small amount of James V's silver. Dr J.P.C. Kent kindly reported on almost all of the 115 silver coins of Henry VII and Henry VIII listed below; the latest are London pheon groats of 1538–42 with none of the rare pheons of 1543–44. He commented that in England they would have been melted down long before 1554–55, the date of their concealment as shown by the hoard's bawbees. They were probably laid aside when the English currency collapsed.

English coins are conspicuously scarce in recorded Scottish hoards of James V, and strangely almost absent after the Hawick hoard of c. 1556 (SN 2) (apart from an essentially Irish hoard in Islay, SN 12), until after 1603 when post-1547 English silver appears in quantity as tabulated in 1972.²⁵

There is, however, vernacular and record evidence of their common currency. Thus in April 1551 the Lords of Council heard a 'complaint . . . aganis Edward Berrik Inglisman . . . gevand for ilk Inglis grott callit barrit grottis xixd.'²⁶ Mrs J.E.L. Murray, drawing attention to this (*in litt.*), considered the groats to be the Henry VII and early Henry VIII groats. Some relative values were given in 1554:²⁷ 200 barrit groats worth £18 (each 21.6d, i.e. a bulk price), 80 Douglas groats worth £6 (each 18d), 17 Edward groats worth 22s 8d (each 16d). The very debased coins of 1544–47, known as 'bagcheek' groats, also had of course like the earlier silver the bar-like quarterings on the shield unlike the Scottish lion shield. The *Dictionary of the Older Scottish Tongue* gives references to Douglas groats in 1554 and 1587, to Douglas and barred groats in 1560 and 1572, and to barred groats alone in 1557 to 1590.²⁸ In the second half of the century the barred groats must generally have been Elizabethan.

Rigghead being only 29 miles from Carlisle may account for its original silver accumulation. However the Neilson hoard, possibly from the Glasgow area,²⁹ has a somewhat similar proportion of English to James V silver, 48 to 13. Dr Bateson (*in litt.*) has amplified his *Sylloge* note: the only other Scottish coins are a poor groat and half-groat not in the *Sylloge*, which may be of James II and Robert III, while the latest Henry VIII groat is lis 3 (1538–41) (see below).

The nine French gold coins from Rigghead, none later than 1530, were less unexpected, perhaps because nearly half the 180 gold pieces found at Dunblane in 1869 (SM3) were French, with a similar number Scottish ending with James V crowns, and the balance English.³⁰ Twenty-one out of twenty-five gold pieces were French in a money-box found in Perth (SM 2). But after the c. 1556 Glasgow gold hoard (SN 3) quantifiable gold is absent from Scottish hoards found and recorded since 1800.

Rigghead hoard, non-Scottish coins

(Details of inscriptions and full disposal available in NMS. See also *BNJ* 59 (1989), 142.)

ENGLAND AR 115. Henry VII profile coinage 1501–09: Half-groats *Canterbury* rose 1*; *York* martlet 1. rose/martlet 1, ?/martlet 1. Henry VIII second (lighter) coinage 1526–44 (C.A. Whitton, *BNJ* 26 (1949–51), 190–212). Groats: *London* W i 3, rose 9; W i 5, 4; W iii lis/rose 6; W iv l.lis, 14 (incl. HENRIC VIII 1*; W iv 2, lis, sunburst lettering 9; W viii 1, barbed arrow over lis/ b. a. 1*; W viii 2 arrow, 39; W xi pheon/lis, 2; W xii 1

²³ Lindsay, p. 42.

²⁴ *Register of the Great Seal of Scotland*, 1513–46, edited by J. Balfour-Paul and J. Thomson (Edinburgh, 1883). *ALC* nos 247–49, 15 July 1526.

²⁵ *BNJ* 41 (1972), 138.

²⁶ *ALC* p. 608; C-P I.88.

²⁷ *ALC* p. 634.

²⁸ Edited by W.A. Craigie *et al.* (Chicago, later Aberdeen, 1937–).

²⁹ See note 14.

³⁰ *Proc. Soc. Antiq. Scot.* 8 (1868–70), 286.

pheon, 3; *York* W i, cross voided, 4; W iv acorn, 2. Half-groats: *Canterbury* W i-ii Wharham's mark, 2; W ii 2, DI G-FR, 1*; W ii 4, FR im obv. only, 1*; W iii cross fleury FR, 1*; W iv cross fleury/T FR, 1*; W v T, 2; W vi wheel, 1. *York* W i cross voided, 3 (incl. pellet in 1st qr. mm, 1*); W ii key, 1; W iii, 1; W iv, 4.

* to BM.

FRANCE AV 9. (J. Lafaurie, *Monnaies des Rois de France* (1951)). Charles VIII (1470–98). Ecu: Laf. 554f, Paris 1494–98, 1. Half-écu: Laf. 556a?, ??Dijon 'croisette', c. 1494, 1°. Francis I (1515–47). Ecus: Laf. 636, Lyon 1515–19, 1 RSM; Laf. 639, Bordeaux 1519–40, 1; Laf. 639, Lyon 1529–33?, 1°; Laf. 639, Toulouse 1523–29, 1; Laf. 652, Nantes 1515–34, 1; Laf. 645, Crémieu 1526–29, 1 and 1°, (* to Dumfries Museum, later stolen.)

'Neilson hoard', non-Scottish coins

ENGLAND AR 43. Henry VIII first coinage. Half-groat: *York* 1. Second coinage. Groats: *London* 36; *York* 2. Half-groats: *London* 1; *Canterbury* 2; *York* 1.

CATALOGUE

Notes. (a) The distinctive features are listed of each recognised obverse die, numbered in suggested sequence within each of the four types and shown in pls. 6–9. Exx. gives the number of examples in the sample, with in brackets the number of reverse dies recognised (a maximum, uncertainties being counted as separate), followed by the source of specimens, particularly those that are published or available for comparison; the symbol = denotes reverse die-duplicates, shown in tables 2–4. The obverse illustrated is in bold, while **R** denotes illustration as a representative reverse. On the plates obverse and reverse of the same coin are joined by —, of different coins by ---.

(b) Contractions used are B. for Burns and Rich. for Richardson (note 3); Rigg. for Rigghead, Lin. for Linlithgow (note 1), in NMS (p. 00) unless specified; BM British Museum (E pre-1832), AS Ashmolean *Sylloge*, HR, HH, HN Hunterian *Sylloge* from Rigghead, Hunter and Neilson (note 14); Lock. Lockett collection photographs, St. coll. I.H. Stewart's collection; d.s., double-struck.

James V (1513–42)

Groats (1526–37?) and one-third groats (?1537–38)

Type I. *Obv.* profile portrait with two-arch crown, wide fur mantle; letters include square-fronted G, round O, 'gothic' D, open A, +IACOBVS DE GRÆ REX SCOTOR or ORV, *rev.* lion rampant shield with close-set fleurs-de-lis on double tressure, over a cross with foliate ends as fig. 1 'A', ♯VILL ASED INBR VGhX. The obverses in the sample are very unevenly distributed – table 2.

Ia corded crown-band empty

1. *obv.* -OR, gold, weight 234.88 gr. Struck monogram is mark of Gilbert Kirkwood, silversmith Edinburgh c. 1615 (C.H. Dakers, *Proc. Soc. Antiq. Scot.* 72 (1937–38), 128). Ex. 1, *rev.* (1): **Rich. 22** (Sutherland coll.) fig. 98, also B. fig. 725 (not B.24, but should be 24a).
2. *obv.* -OR, some letters blurred as I.I. Ex. 1, *rev.* (1): **AS 910**.
3. *obv.* -OR, circumflex in edge, wide-splayed crown. Exx. 11, *revs.* (8): B.23 fig. 724 = BM E2544 no oblique on N (j); Lock. 26 = another (k); St. coll. no small lis on tressure, composite N = I.5 (m); 'Dundee' sale 105 = another and I.6 (n); **Lin. 376** = I.7, I.8 (o); Rich. 21bis **R** strange letter h (p. 44); Murray sale 171; HH 911.
4. *obv.* -OR, no circumflex visible. Ex. 1, *rev.* (1): **St. coll.**

Ib corded crown-band 'jewelled'.

5. *obv.* -OR, wavy line on band dividing 6 and 10 pellets. Exx. 3, *revs.* (1): HN 912 = **St. coll.** = BM E2546 **R** no small lis = I.3 (m).
6. *obv.* -OR, 10 line hatching, sometimes not visible – added? Exx. 8, *revs.* (7): **B.24** fig. -; Rich. 21 fig. 97: private coll. = I.3 (n); Lockett 27 = another (p); St. coll. = I.8 (q – no lis inner left corner, r – composite N).
7. *obv.* -ORV, circumflex, 10 pellets on a line. Ex. (1), *rev.* (1): **St. coll.** = I.3, I.8 (o).
8. *obv.* -ORV, circumflex, 9 large pellets, no numeral 5. Exx. 6, *revs.* (6): B.22 fig. 723 composite N = I.6 (r); St. coll. = I.3, I.7 (o); BM E2545 = I.6 (q); B.22 bis; **Rich. Add. 232**; BM E2547.

Type II. *Obv.* like type I but single-arch crown with more 'jewels'. *Rev.* IIa, ♯OPPI DVMÆ DINB VRGI, base of shield becomes rounded. Fewer coins in sample, and nearly half from *obv.* 6 – table 2.

IIa(i) *rev.* cross-ends continue as fig. 1 'A'

1. *obv.* -OR ligatured, 14 pellets. Exx. 3, *revs.* (2): BM E2548 = another (s); NM 1961 (Lock. 24) = II.2 (t).
2. *obv.* -OR, annulet, 12 pellets (ill. d.s.). Exx. 2, *revs.* (2); NM 1954.421; AS 913 (t).
3. *obv.* -OR, 12 pellets. Exx. 4, *revs.* (2): B.19 fig. 720 R, two dots in tressure above tail and vertical row of three below them = HH 914 = BM 1906.11.3.4471 (u); Murray sale 172.

TABLE 2

TABLE I

Type I					Type II				
	<i>obv. die</i>	<i>exx.</i>	<i>rev. dies duplicating</i>	<i>non-dupl.</i>		<i>obv. die</i>	<i>exx.</i>	<i>rev. dies duplicating</i>	<i>non-dupl.</i>
Ia	1	(1 gold)		(1)	IIa(i)	1	3	ss t	—
	2	1		1		2	2	t	1
	3	11	jj kk m n oo	3		3	4	uuu	1
	4	1		1		4	2	vv	—
Ib	5	3	m m m	—	IIa(ii)	5	2	ww	—
	6	8	n pp q r	3		6a	1	(with III.2)	
	7	1	o	—	IIb(i)	7	1		1
	8	6	o q r	3	a(ii)/b(ii)	6b	2	xx	—
					a(ii)/b(iii)	6c	8	yyy zz	3
		32	(20) 8	12			25	(19) 9	6

4. *obv.* -OR, GRA, 12 pellets. Exx. 2, *revs.* (1): Rich. 19 = Lin. 377 (v).

IIa(ii) *obv.* letters as II.1–4, ∴ in field begins, *rev.* cross-ends as fig. 1 'B'.

5. *obv.* -ORV annulet, 12 pellets, double-line arch, nothing in field. Exx. 2, *rev.* (1): St. coll. R = Lock. 21 (w).
- 6a. *obv.* -OR ligature and annulet, 12 pellets, ∴ in field. Ex. 1, *rev.* (1): B.20 fig. 721 (re-used with III.2)

IIb(i) *obv.* portrait like IIa but neater hair, and lis-like fleurs on crown; paired trefoil stops ∴ and ∴; new letters (fig. 1) include D with sharp serifs, P with long serif, serifed-apex A with added central bar which inverted with no bar is V, composite M, with as in type III spiral G and peaked O; *rev.* fewer lis on tressure and only strokes in inner corners, cross-ends as fig. 1 'C'. (Stewart, see notes 15 and 13).

7. *obv.* -ORVM, 12 pellets on crown, trefoil in field, +IACO ∴ 5 ∴. Ex. 1, *rev.* (1): ∴ OPPIDVM ∴, Fitzwilliam Museum R.

IIb(ii) *obv.* not known, *rev.* paired three-pellet stops ∴ OPPIDV ∴, letters N and D as II.1–6, D and P also G and O as II.7, tressure and cross-ends as II.7.

- 6b. IIa(ii)/IIb(ii), *obv.* II.6. Exx. 2, *revs.* (1): NM 1961 (Lock. 22) = St. coll. R (x).

IIb(iii) *obv.* not known, *rev.* single three-pellet stops ∴ OPPIDV ∴, sharp D as II.7, tressure as II.7 but small lis soon begins in upper corners (as henceforward), cross-ends as fig. 1 'C'.

- 6c. IIa(ii)/IIb(iii), *obv.* II.6. Exx. 8, *revs.* (5): Rich. 20 R. P long serif; B.21 fig. 733 = Murray sale 173 (y) P serif shortening, corner lis begins; 'Dundee' sale 106 (z); Lock. 20, P short serif.

Type III. *Obv.* head and crown like type II, dress redrawn – shirt wide-fronted with embroidered panel; new fleurs on crown and 9 pellets or fewer, normally 7 from b(v) but 5 on c(v)-IVb; ∴ in field frequent a(ii)-c(i); stops *obv.* and *rev.* ∴ (except ∴ on III.33); letters mostly like late IIb(iii) but gothic D as I–IIa returns until large D and other new letters begin at c(ii); exceptions to unbarred A at a(i), b(i) and c(iii); *rev.* DV and DV intermittently, cross-end 'C' until 'D' in a(ii), then 'E' a(iii) to end.

The 178 coins in the sample comprise 35 with no pendant chain – IIIa, 40 with corded chain – IIb, 103 with smooth chain IIIc allowing for III.27's omission. See table 3.

IIIb(i) *obv.* corded chain temporarily (see p. 41), letters normally barred \bar{A} as II.7, usually gothic D as II.1-6, *rev.* shield like later II.6c, cross-ends as fig. 1 'C'.

1. *obv.* -OR, 8 (?) pellets, barred \bar{A} , 'sharp' D (only one on an *obv.* other than II.7). Ex. 1, *rev.* (1): gothic D, **St. coll.**
2. *obv.* -ORV, 8 pellets, numeral 5 omitted (cf. 1.8), \bar{A} as III.1 but bar omitted, several states of lines engraved round eye. Exx. 6, *revs.* (4): B.10 fig. 713; Lin. 378 = HN 931 (e); **NM 1957 355** (Lock. 12) **R** = Rich. 13 III.3 (f); IIIb(i)/IIa(ii) NM1957 354 (Lock. 25) = B.20 cross-end 'B', both dies rusty and cracking.

IIIa(i) *obv.* no chain, letters as b(i) incl. \bar{A} ; *rev.* cross-end 'C'.

3. *obv.* -OR, 8 pellets, barred \bar{A} not noted by Burns, Exx. 5, *revs.* (5): B.12 fig. 714; Rich. 13 = NM 1957.355 III.2 (f); **NM RSM 1933. 161 R**: AS 932; Murray sale 175.
4. *obv.* -OR[?], 7 pellets. Ex. 1, *rev.* (1): **St. coll.**

IIIa(ii) *obv.* no chain, \therefore in field regularly, unbarred \bar{A} as IIa, *rev.* cross-ends as fig. 1 'D'.

5. *obv.* -OR, 8 pellets, double-line arch, \therefore in field. Exx. 2, *revs.* (2): III.a(ii)/a(i) **Rich. 18** cross-end 'C'; B.17 cross-end 'D' **R**.
6. *obv.* -OR[?], 9 pellets, double-line arch, \therefore in field. Exx. 8, *revs.* (5): IIIa(ii)/IIb(iii) Lock.19 'sharp' D and cross-end 'C'; **Rigg. 143a R**, no outer top left small lis = 2 exx. (g); HN 936 = another (h); Lock. 23.

TABLE 3

Type III

	<i>obv.</i> no.	<i>exx.</i> <i>rev.</i> <i>dies</i> <i>duplicating</i>	<i>non-</i> <i>dupl.</i>		<i>obv.</i> no.	<i>exx.</i> <i>rev.</i> <i>dies</i> <i>duplicating</i>	<i>non-</i> <i>dupl.</i>
b(i)	1.	1	1	c(i)	23	7 qq r	4
	2.	6 eee f II6a	1		24a	5 rr ss	1
a(i)	3.	5 f	4	c(ii)	24b	7	7
	4.	1	1	? c(i/iii)	24c	3 t	2
a(ii)	5.	2 (IIIa(i)?)	2	c(iii)	25	1 t	—
	6.	8 ggg hh (IIb(iii) ?)	3		26	1	1
	7.	9	9		27	3 u v	1
	8.	3 i	2	c(iv)	28	3 uu	1
	9.	3 i jj	—		29	10 v ww xx yy zz	1
a(iii)	10.	1 *l	—		30	1	1?
	11.	3	3		31	1	1
b(ii)	—	—	—		32	7 AAA	4
b(iii)	12.	7 *m *m	5		33	18 BB CC DD EE	10
	13.	1 *l	—		34	6 DDD	3
	14.	1	1		35	6 FF GG	2
b(iv)	15.	4 *l kkk	—	c(v)	36	4 H I	2
	16.	2	2		37	10 H JJ KKKKK	2
	17.	2	2		38	2 I K	—
	18.	1	1		39	8 II LL MM	2
	19a.	4	4				
b(v)	19b.	5 nn o	2		[17]	103 (58) 24	45
	20.	3 o pp	—				
	21.	1	1				
	22.	2	2				
	75	(29) 13	46				

* denotes defective letter N; non-defective 'spread-out' duplication may have been missed.

7. *obv.* -ORV, 9 pellets (two with clear lines through them), single-line arch, ∴ in field. Exx. 9, *revs.* (9): (? B.16a); **Rigg. 143**; HH 935; AS 937; Lock.18; St. coll.
8. *obv.* -ORV, 7 pellets, double-line arch, ∴ in field. Exx. 3, *revs.* (3); **Rich. 17 R** = Rich. 16 III.9 (i); Fitzwilliam M.; St. coll.
9. *obv.* -ORVM, 7 pellets (plus two lines), arch with hair-line, ∴ in field. Exx. 3, *revs.* (2). **Rich. 16** = Rich. 17 III. 8 (i); B.16 fig. 718 = another (j).

IIIa(iii) *obv.* no chain, corded crown continues and gothic D, *rev.* cross-ends as fig. 1 'E'

10. *obv.* -ORVM, 7 pellets, double-line arch, nothing in field. Ex. 1, *rev.* (1): **B.11**, N lower serif broken (p. 41) = B.13 III.13 **R** = B.18 III.15 (*1).
11. *obv.* -ORV, 7 pellets, double-line arch, ∴ in field. Exx. 3, *revs.* (3); **Rigg. 144**; Rigg. 145 (Dumfries M.); Lock. 17.

IIIb(iii) *obv.* like a(iii) but corded chain, cross-end henceforward as fig. 1 'E'. N.B. no IIIb known with cross-end 'D', which would be b(ii)

12. *obv.* -ORV, 9 pellets, ∴ in field. Exx. 7, *revs.* (6): B.15 fig. 717; **B.15bis R** (not in B.); Rich. 15; Lock. 16; Rigg. 146 **R** trefoil stops cf. III.15; BM E2550 = another, N serif broken (*m).
13. *obv.* -ORV, 7 pellets, o in field (only die). Ex. 1, *rev.* (1): **B.13** fig. 715 **R** = B.11 III.10 = B.18 III.15 (*1).
14. *obv.* -ORVM, 7 pellets, nothing in field, double-line arch. Ex. 1, *rev.* (1): **St. coll.** (Lock. 11).

IIIb(iv) corded chain but plain crown-band lines, some wavy, ∴ device in field may be omitted, privy-dots increase

15. *obv.* -ORVM, 7 pellets, IACBVS, trefoil exceptionally as stops and in field, cf. III.12. Exx. 4, *revs.* (2): NM 1961 (Lock. 13) **R** unbroken N, three dots beside E = BM E2551 and another (k); **B.18** fig. 719, NN broken lower serif = B.11 III.10 = B.13 III.13 **R** (*1).
16. *obv.* -ORV^o, annulet and crescent, 5 pellets exceptionally, crown-band wavy lines, ∴ in field, (TT d.s.). Exx. 2, *revs.* (2): **St. coll.** N 'patched'; another unbroken N.
17. *obv.* -ORV ligature, 8 pellets, nothing in field, three dots between V and S. Exx. 2, *revs.* (2): NM **RSM 1911-506.1125** (two pieces) dots below E from d.s. inner circle **R**; St. coll. two pairs of dots in front of E (also various dots from d.s. inner circle).
18. *obv.* -ORV, 9 pellets, double-line arch, nothing in field, one side of chain only, flaw at ∴ D, long crack below chin. Ex. 1, *rev.* (1): **St. coll.**
19. *obv.* -ORV, 7 pellets, left side of chain thick, flaw below GRA, nothing in field.
19a. Exx. 4, *revs.* (4) with same N as before: **B.9 R**; Rigg. 147 (Dumfries M.); Fitzwilliam M.; private coll.

IIIb(v) corded chain, smooth crown-band, composite N (may be inverted)

19b. Exx. 5, *revs.* (4): Rich. 12, R under V, three dots to right of shield = St. coll. (n); Rigg. 148 (HR 929); Rigg. 149 **R** reversed N oblique faint, three dots beside E and two dots with a billet above right cross-arm = St. coll. III.20 oblique of reversed N strong (o).

20. *obv.* -ORV, 7 pellets. ∴ in field on triangular punch. Exx. 3, *revs.* (2): St. coll. = Rigg. 149 III.19b (o); **Rigg. 150 R** two dots at E, pellet in lowest cross-end, no small lis at base of tail = Murray sale 176 (p).
21. *obv.* -ORV, 7 pellets, double-line arch, ∴ in field. Ex. 1, *rev.* (1): **St. coll.**
22. *obv.* -ORV, 7 pellets, ∴ in field, three dots in front of forehead and three in front of crown's peak. Exx. 2, *revs.* (2): **Lock. 15**; Aberdeen M. N as IIIb(iv) defective.

IIIc(i) smooth chain, smooth crown-band, composite N continues

23. *obv.* -ORVM, 7 pellets, double-line arch, ∴ in field, three dots in front of crown not always visible, dimple at lower back of hair. Exx. 7, *revs.* (6): **B.14** = St. coll. (q); AS 933; AS 934; Lock. 14; Rich. 14 **R** = B.8 and Lock. 10, III.24a (r).
24. *obv.* -ORV, 7 pellets, exceptionally colon in field above right shoulder, not always visible – perhaps added early.
24a. Exx. 5, *revs.* (3): B.8 fig. 712 = Lock. 10 = Rich. 14 III.23 (r); **Rigg. 151** = St. coll. (s); Rigg. 152 (Dumfries M.)

IIIc(ii) new letters begin, large plain D (as B.1-7), modified G, complete (?) N and P

24b. Exx. 7, *revs.* (7): Rich. 12bis **R**; Rigg. 153 (HR 928); As 927; Lock. 8; Dundee M.

24c. IIIc(ii)/IIIc(iii)? Exx. 3, *revs.* lis as c(iii-v) (3): Aberdeen M.; St. coll.; Aberdeen M. **R** = St. coll. III.25 (t).

IIIc(iii) *obv.* A barred and lob-topped, lower half drilled, no more \therefore in field, *rev.* new large lis in tressure, its petals no longer horizontal but oblique

25. *obv.* -ORV, 7 pellets, Exx. 1, *rev.* (1): **St. coll.** = Aberdeen M. III.24c (t).

26. *obv.* ??, 7 pellets, Ex. 1, *rev.* (1): **HN 921** much missing.

27. *obv.* -ORV, 7 pellets, chain omitted, late flaw and die-crack at V+. Exx. 3, *revs.* (3): **St. coll.**; private coll. = Rigg. 156a III.28 (u); St. coll. (cracked *obv.* die) = St. coll. III.29 (v).

IIIc(iv) as c(iii) but normal unbarred A returns; for lion's tail see p. 45

28. *obv.* -ORV, 7 pellets, crack across neck and in front, later a line behind head. Exx. 3, *revs.* (2): St. coll. (*obv.* no line); **Rigg. 156a** = HN 919 = private coll. III.27 (u).

29. *obv.* -ORV, ligature, 7 pellets, hair droops out at base, two (rusty?) dots below SC and flaw/rust there later. Exx. 10, *revs.* (6): tail-base normally closed; St. coll. (no dots etc) = St. coll. III.27; Rich. 3 (*obv.* dots) two dots after DV **R** = HN 918 (rusty) (w); **B.3** (*obv.* dots and small flaw) = another (x); Rigg. 156 (HR 930) = another (y); St. coll. top left corner lis omitted = another (z); 'Dundee' sale 107 tail circle opening?

30. *obv.* ?? Ex. 1, *rev.* (1): **HN 920** fragment.

31. *obv.* -OR (pellet not noted in B.), 7 pellets, also two pellets at outside corner of hair. Ex. 1, *rev.* (1): **B.1** fig. 706 **R**, three dots left above shield, cf. Rich. 1 III.33 **R**.

32. *obv.* -OR plus stroke for V, dot not in B., 7 pellets, single pellet at corner of hair. Exx. 7, *revs.* (5), tail-base circle almost complete: **B.2**; Rich. 2 fig. 95 **R**, cracked coin = two others (A); Lock. 4; BM E2549; Aberdeen M.

33. *obv.* -OR, 7 pellets, stops \therefore instead of \therefore (only die), flaw develops above OB. Exx. 18, *revs.* (14), stops normal, tail-base ranges from complete circle to open 'clubbed' (see p. 45); Lock. 1 oval tail-base; complete circle, one, private coll.; also unflawed, two pairs of duplicates, circle opening (B, C one Aberdeen M.); Fitzwilliam M. and another (D) = B.3bis etc III.34 **R** open tail; small flaw, pair tail opening, Fitzwilliam M. = St. coll. (E); St. coll. left inner corner lis omitted; flaw not ascertainable: Rigg. 158 (Dumfries M.); Rigg. 159 (HR 915); HN 916; Lock. 2; anomalies: growing flaw but tail-base circle St. coll. and Rigg. 157; **Rich.1 R** no flaw but open 'clubbed' tail-base as IIIc(v), three dots above shield, cf. III.34 **R**.

34. *obv.* -ORV: colon dots not noted in B., 7 pellets. Exx. 6, *revs.* (4) tail-base trace of circle or open, with large dot tending towards 'clubbed': **B.3bis R** = Lock. 6 and St. coll. = III.33 (D).

35. *obv.* -ORV run together, 7 pellets. Exx. 6, *revs.* (4): **Rigg. 154** circle with dot **R**; Rigg. 155 (Dumfries M.) open with large dot = HN 917 (F); BM 1934.10.24.14; IIIc(iv)/c(v) Lock. 3 = St. coll. 'clubbed' tail-base (G).

IIIc(v) *obv.* 5 pellets on crown-band, *rev.* tail-base open and 'clubbed', I with minimal serifs, dot after RV due to chipped punch

36. *obv.* -ORV, Exx. 4, *revs.* (4): **NM RSM 1911-506-1124 R**; B.4 fig. 707; (shirt rusty?) = AS 922 III.37 (H); Rigg. 160 = St. coll. III.38 = Rich. 5 and Lock. 7 III.39 (I); St. coll.

37. *obv.* -ORV, Exx. 10, *revs.* (5): AS 922 = B.4 III.36 (H); **Rich. 4**; St. coll. = BM Grueber 987E (J); HN 923 = Lock. 5 = Fitzwilliam M. = two others = HN 926 III.38 (K); private coll.

38. *obv.* -OR, Exx. 2, *revs.* (2): **St. coll.** = Rigg. 160 III.36 = Rich. 5 and St. coll. III.39 (I); HN 926 = III.37 (K).

39. *obv.* -OR, Exx. (8), *revs.* (5): Rich. 5 = St. coll. (Lock. 7) = Rigg. 160 III.36 = St. coll. III.38 (I); Rigg. 161 = HN 925 (L); **B.5** (*obv.* rusty?) = HH 924 (M); Aberdeen M.; Fitzwilliam M.

Type IV. *Obv.* and *rev.* like IIIc(v) but lis instead of leaves on either side of central cross on crown

IVa *obv.* and *rev.* three-pellet stops

1. *obv.* -ORV, hair like III.34 but dots at outer corner. Exx. 3, *revs.* (2): **B.6** fig. 708 = St. coll. ex Murray 177 (N); BM 1946.10.41.692 **R**.

IVb *obv.* and *rev.* colon stops, *rev.* lis i.m.

2. *obv.* -ORV, pellet on V not visible on B.7. Exx. 7, *revs.* (3): B.7 fig. 709; **Rich. 6 R** = AS 938 = Lock. 4 (O); BM 1903. 6.7.14 **R** = St. coll. = Murray 178 (P).

One-third groats

Type IV c-d. *Obv.* crown all of fleurs-de-lis, no pellets on band, wide shirt-front at first with chain, +IACOBVS:DEI:GRA:R:SCOTO or -OR or - ORV, *Rev.* lion shield, lis on tressure vary, :OPPI DV:E DINB VRGI, letter R varies, often resembling B, N complete or composite, A occasionally without bar.

IVc(i) *obv.* face 'sharp' – eye far from crown, clothing as groat type IV a-b, including large panel of shirt

1. *obv.* -OR, crown single-line arch, no pellets, shirt panel embroidered. Exx. 3, *revs.* (2): **Rich. 10** fig. 96 **R** = Lock. 7 (Q); 'Dundee' sale 108.

TABLE 4
Groats and one-third groats

	<i>obv. no.</i>	<i>exx.</i>	<i>rev dies duplicating</i>	<i>non-dupl. (max.)</i>
IVa	1.	3	NN	1
IVb	2.	7	OOO PPP	1
		10	(8) 3	2
IVc(i)	1.	3	QQ	1
	2.	2	RR	–
c(ii)	3.	2	SS	–
	4.	4	TT	2
c(iii)	5.	3		3
	6.	6	UU VVV	1
	7.	1	V	–
	8.	1		1
d(i)	9.	4	WW	2
	10.	4		4
	11.	5		5
d(ii)	12.	3	XX	1
	13.	1		1
	14.	1		1
	15.	3	YY	1
	16.	4	ZZ	2
	17.	7	@ @	5
	18.	3	& &	1
		57	(26) 12	31

2. *obv.* -OTO, crown double-line arch, no pellets, shirt panel empty. Exx. 2, *revs.* (1): **St. coll. ex Cochran-Patrick** = AS 939 (R).

IVc(ii) *obv.* clothing lowered, large panel hatched, arch usually double and decorated

3. *obv.* -OR. Exx. 2, *revs.* (1): **Rich. 8** lis OP (only one-third die with lis i.m., cf. IVb) = **NM 1961** *obv.* die cracked (Lock. 9) **R** (S).
4. *obv.* -OTO; **St. coll.**; another, composite N.

IVc(iii) clothing in narrow horizontal zones

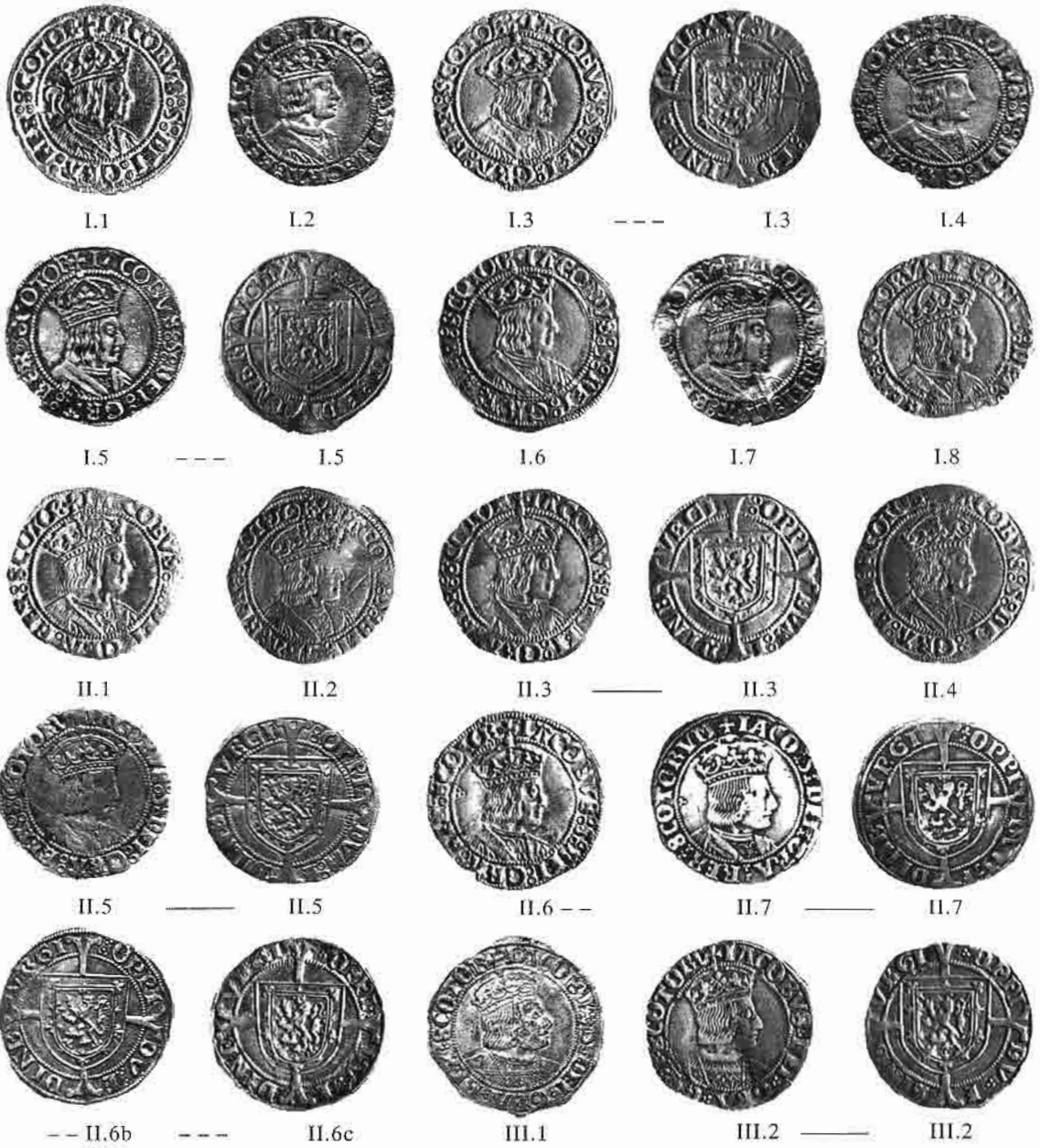
5. *obv.* -ORV̇, GR:R, flaw after V̇. Exx. 3, *revs.* (3): **Rich. 11**; Fitzwilliam M (Lock. 5) composite N; BM E2552.
6. *obv.* -OR, GRĀ, chain omitted. Exx. 6, *revs.* (3): **Rigg. 165** = another (U); Lock. 3 complete N; BM Grueber 589 E and St. coll. complete N = Rich. 7 IV.7 (V).
7. *obv.* -OTO(R?). Ex. 1, *rev.* (1): **Rich. 7 R** = BM etc IV.6 (V).
8. *obv.* -OR ligatured. Ex. 1, *rev.* (1): **Rich. 9** composite N.

IVd(i) *obv.* and *rev.* like IVc(iii) but face 'long', eye nearer crown, chain continues, N normally composite

9. *obv.* -OR ligatured, R with no vertical?, GRĀ, no pellets on arch, Exx. 4, *revs.* (3): Fitzwilliam M. (Lock. 8) = St. coll. complete N (W); **Rigg. 162a**.
10. *obv.* -OR, no vertical rib on high crown, GRĀ, Exx. 4, *revs.* (4): B.3: **BM E2553** (pierced, crown from B.3); St. coll.; 'Dundee' sale?
11. *obv.* -OR, double-punched beading below bust. Exx. 5, *revs.* (5): AS 941; Lock. 6; **St. coll.**; BM E2554; Aberdeen M.

IVd(ii) *obv.* no chain, crown arch well decorated, *rev.* complete (?) N reversed frequent, Ns composite

12. *obv.* -OR ligatured, IACORVS, GRĀ omitted and corrected, so SCOTO under A:R:S. Exx. 3, *revs.* (2): **B.2** fig. 711 N reversed = St. coll. (X); Rich. Add. 233 N reversed.
13. *obv.* -OR plus stroke for V R over part of O and V. Ex. 1, *rev.* (1): **Rich. Add. 234**.
14. *obv.* -ORV. Ex. 1, *rev.* (1): **St. coll.**
15. *obv.* -OR, IĀ GRĀ, pellet in field (only die). Exx. 3, *revs.* (2): **Rigg. 166 R** OP dot above pellet, N reversed; St. coll. (Lock. 2) = another OP and dot similar (Y).
16. *obv.* SOTORV̇ (B. SCO-), IĀ GRĀ. Exx. 4, *revs.* (3): B.4 = **St. coll.** (Z); HN 943 N reversed; St. coll. N reversed.
17. *obv.* SOTORV̇, compound V, -I:A. Exx. 7, *revs.* (6): **Rigg. 162**; **Rigg. 163**; NM 1970.316 **R**, II without oblique; AS 942; Lock. 4 = St. coll. (@).
18. *obv.* -OTO, Exx. 3, *revs.* (2): **St. coll.** = Lock. 1 N reversed, composite R (&); **Rigg. 164 R**, NB (N reversed) under V:E.



STEVENSON: GROATS OF JAMES V (1)



III.3



III.3



III.4



III.5



III.5



III.6



III.6



III.7



III.8



III.8



III.9



III.10



III.11



III.12



III.12



III.12



III.13



III.13



III.14



III.15



III.15



III.16



III.17



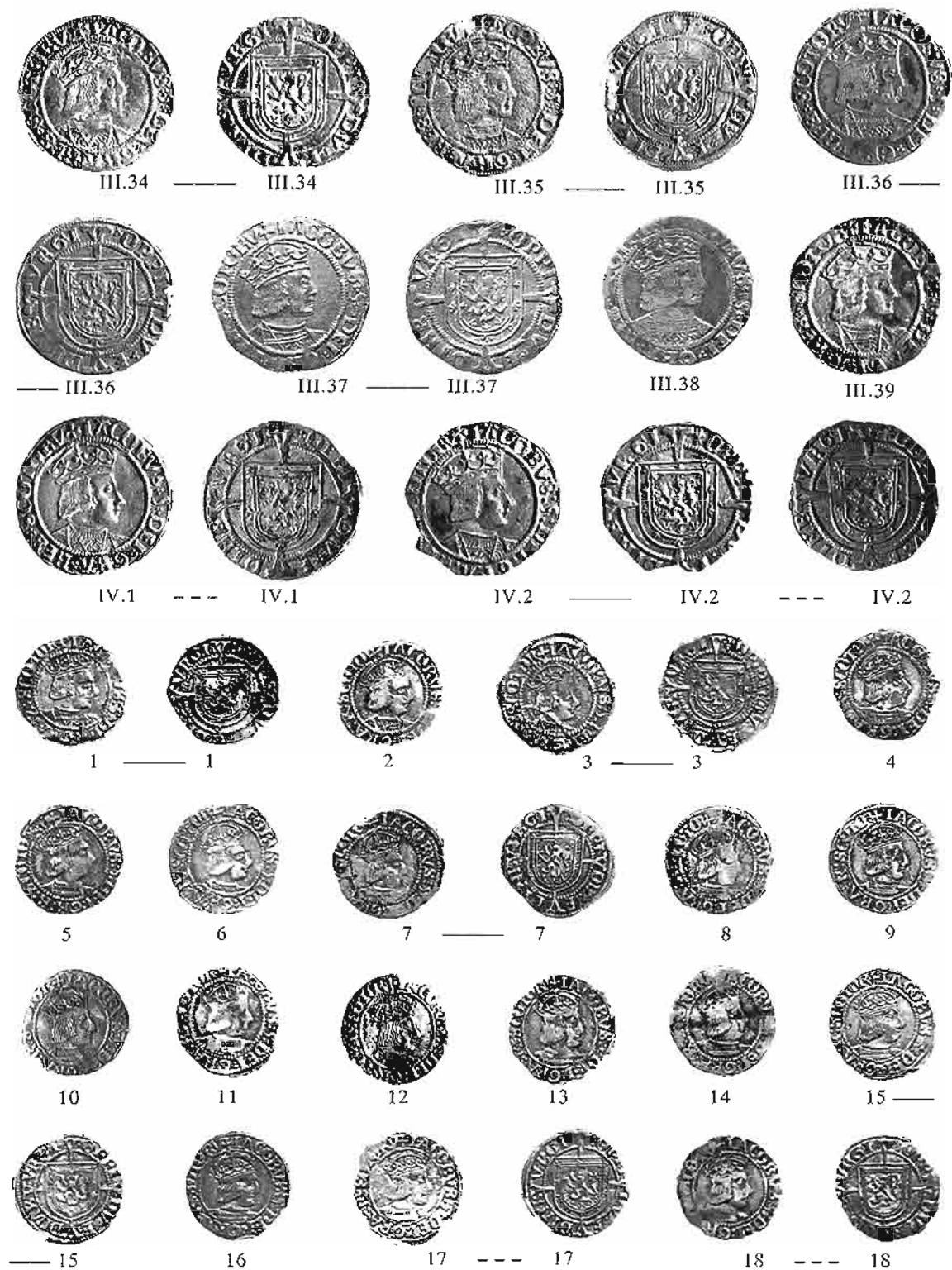
III.17



III.18



STEVENSON: GROATS OF JAMES V (3)



STEVENSON: GROATS OF JAMES V (4)