

# THE YORK MINT OF CHARLES I

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THE York mint of Charles I has never been the subject of a systematic study, which is rather surprising in the light of the immense amount of work which has gone into the study and elucidation of the royalist coinages of the English Civil War. Previous work may be summarised simply: Folkes (1745) briefly listed the products of the mint and suggested that some at least were struck during Wentworth's period as president of the North, perhaps in association with the king's visit in 1633.<sup>1</sup> Snelling (1762) and Ruding (1817) followed Folkes.<sup>2</sup> Hawkins (1841) produced a factual and complete list of York types, which is still used today.<sup>3</sup> Davies (1854) in a work on the royal and archiepiscopal mints of York, placed the mint firmly in the Civil War period, quoting evidence that the mint started work in January 1643.<sup>4</sup> Helen Farquhar, who in her article on Nicholas Briot attempted to construct a history of his movements during the Civil War, expanded Davies's account with the help of unpublished letters and other evidence.<sup>5</sup> While Farquhar did not consider the mint's products in any detail, many of her comments about York are pertinent and instructive. That York was not minting during the mid-1630s is underlined by the wording of Thomas Bushell's 1637 petition to set up a mint at Aberystwyth.<sup>6</sup> The purpose of this article is to present the results of a die-study and to examine other evidence relating to this mint in its technical and historical context, notably the date of its establishment and the machinery used in it.

## *Establishment of the Mint*

York was Charles I's 'second capital', and after being forced to leave London early in 1642 he made his way there, arriving on 19 March. Until the middle of August his court was based at York or Beverley, whence he directed operations against the port of Hull. The establishment of a mint at York was being planned long before the outbreak of formal hostilities. Nicholas Briot, the king's engraver, was summoned to York by a letter from Secretary of State Edward Nicholas dated 6 May in connection with Briot's proposals concerning currency standards.<sup>7</sup> A letter of 30 May notes that Briot had fallen ill; it does not press him, but on 21 June, Secretary Nicholas ordered Briot to York forthwith 'et vous avertir qu'avez mener avec vous les Roues et toutes autres sortes d'instruments requis et necessaires pour icy battre de la Monnoye que S. ma'té aura occasion d'ordonner dez que vous serez arrivé'. Shortly after, arrangements were made for Sir William Parkhurst,

## *Acknowledgements*

I would like to thank a number of people for their help with this study, especially George Boon, who suggested it and gave much encouragement; Peter Preston-Morley and Michael Sharp, for access to material in trade and private hands; Michael Cowell of the British Museum Research Laboratory, for analyses; York City Archives (Mrs Freedman and Mrs Thallon). Michael Doe kindly photographed St William's College, and for the coin photographs I am indebted to David Webb, Donal Bateson, Frank Purvey, the Fitzwilliam Museum (Dept. of Coins and Medals) and Messrs Spink and Son. I am also grateful to Dr John Kent for reading the manuscript of this article and making several helpful suggestions, and to the curators of the collections cited in Appendix 1 for willingly supplying details of their holdings.

<sup>1</sup> M. Folkes, *A Table of English Silver Coins* (London, 1745), pp. 78-9; Plates XXI, XXVI.

<sup>2</sup> T. Snelling, *A View of the Silver Coin and Coinage of England* (London 1762), p. 38, Plate 10. R. Ruding, *Annals of the Coinage of Great Britain* 3rd edn. (London, 1840), I, 385, 398; II, 232.

<sup>3</sup> E. Hawkins, *The Silver Coins of England* (London, 1841), p. 175ff. and subsequent editions.

<sup>4</sup> R. Davies, *Historical Notices of the Royal and Archiepiscopal Mints and Coinages of York* (York, 1854), pp. 49-55.

<sup>5</sup> Helen Farquhar, 'Nicholas Briot and the Civil War,' *NC* 4th series, 14 (1914), 169-235.

<sup>6</sup> G.C. Boon, *Cardiganshire Silver and the Aberystwyth Mint* (Cardiff, 1981), p. 52 n.2.

<sup>7</sup> For the texts of this correspondence, see Farquhar, pp. 174-84.

warden of the Mint, to advance Briot the money necessary for his journey. On 15 July, these plans received a severe setback when a ship carrying Briot's equipment and personal baggage was held up off Scarborough by one Captain Stevens, who seized the equipment on the grounds that no authority had been given for its removal. Meanwhile on 7 July, David Ramage, a member of Briot's staff, was paid £85 10s. for the provision of 'several instruments for the two Mints at York and Shrewsbury'.<sup>8</sup>

All of the above information is well known. However, one further document exists from the summer of 1642 which relates to the proposed mint and is possibly the most important of the series, if the information it contains is correct, since it supplies us at last with a *terminus post quem* for the York mint. On 15 July, a warrant arrived at York for the establishment of the mint. This information comes from a letter from Beverley dated 16 July 1642 and printed in London on 20 July. Communication with London was still fairly easy, and there exist printed copies of many such newsletters. The information they conveyed often exaggerated such matters as numbers of troops, sums of money and so on, but they give a lively picture of royalist preparations for war, and there seems little reason to doubt the accuracy of this piece of news. It is worth quoting in full, because although it was printed in the *Yorkshire Archaeological Journal* in 1882, it seems hitherto to have escaped numismatic attention.<sup>9</sup> The main text of the letter deals with events at Hull, but tucked away at the end we read:

FRIDAY, a warrant under His Majestie's Broade Seale came to Yorke for the erecting of a new Mynt there, some commissioners appointed for the same came to view the place, where the old Mynt stood, which is now in Sir William Saviles possession, near the Minster, where it appears money was coyned in Hen. 8. Raigne.

The same letter tells us that on the Monday the king had left Beverley on a journey to the north Midlands, visiting Doncaster and Newark. The building referred to is St Leonard's Hospital, whither the mint had been transferred in 1546.<sup>10</sup> However, we hear nothing further of the mint until the statement published by Christopher Hildyard in 1664, and brought to light by Davies in 1854, that 'about the latter end of January [1643], the King's Mint began to coin in Sir Henry Jenkins' house in the Minster Yard', which at first sight appears to contradict the earlier statement.<sup>11</sup> This building is better known as St William's College, a college of priests built c. 1465 and dissolved in 1549, after which it passed through various hands. Today it belongs to the Church and is used by the convocation of the province of York.<sup>12</sup> It seems to have been taken over by the royalists immediately on Charles's arrival in 1642, since Hildyard also tells us that the king's printers set up their presses there on 24 March 1642.<sup>13</sup> Hildyard's statements come in a year-by-year list of lord mayors and sheriffs of York, together with notable events of each year, which on the whole seem to be fairly accurately recorded.

The case for St Leonard's Hospital as the site of the mint rests on the York mint's location there under Henry VIII and the fact that the commissioners appointed in 1642 promptly went to examine its suitability. It was also referred to as 'Mint Yard' in notices referring to sequestered assets in 1646–48,<sup>14</sup> but a place name need not reflect the continuing use of a locality for that purpose. Against this must be weighed Hildyard's single, but positive, statement that coining actually did take place at 'Sir Henry Jenkins'

<sup>8</sup> First published by H. Symonds, *NC* 4th series, 10 (1910), 396; Farquhar, p. 187; Boon, p. 93.

<sup>9</sup> British Library Thomason Tracts E107 (32); full text published by Sir Geo. Duckett, 'Civil War Proceedings in Yorkshire', *Yorkshire Archaeological and Topographical Journal* 7 (1882), 390–2.

<sup>10</sup> Royal Commission on Historical Monuments, *An Inventory of the Historical Monuments in the City of York*,

*V. The Central Area* (1981), pp. 93–5.

<sup>11</sup> Christopher Hildyard, *The Antiquities of York City* (first published 1664, republished with additions by James Torr 1719), p. 104.

<sup>12</sup> RCHM, *York V*, pp. 62–8.

<sup>13</sup> Hildyard, p. 103.

<sup>14</sup> Farquhar, pp. 221–2.

house in the Minster Yard'. His statement that coining began in January 1643 is almost certainly correct (below, p.223), so unless new evidence comes to light to the contrary, it is proposed that Hildyard's statement that the York mint of Charles I was located in St William's College in Minster Yard should be accepted (pl. 7). Farquhar, unaware of the reference to the warrant and Sir William Savile's house, suggested that minting operations were carried on at St Leonard's Hospital until January 1643 but 'being inadequate to the strain cast upon it, it was supplemented in 1643 by the presses in the King's printing house'. This probably overstates the case. The two possible locations for the mint can perhaps best be reconciled in terms of its transfer from one to the other (if indeed any operations had started) in the autumn of 1642, when the vacation of St William's College by the king's printers may have provided more suitable accommodation for the mint.

### *Products*

Hawkins's list of types of York coins, first published in 1841, has remained to the present the basis of description of York products, the only modification being the publication by Carlyon-Britton of additional shilling and sixpence varieties in 1956.<sup>15</sup> By emphasising differences, the 'variety' approach has hindered the understanding of this series, so a simpler 'synthetic' approach has been followed here, whereby coins with generally similar designs and dies engraved by the same set of punches have been grouped together, a procedure also justified by die-study and our understanding of the technique of production. Many varieties can now be seen simply as different die-pairs within a relatively simple scheme, which is given in full as Appendix I.

The half-crowns fall into three groups. The first comprising Hawkins's types 1-3, is characterised by a rather crude equestrian figure, with or without some form of groundline. There are two reverse varieties, a square shield (H1), and an oval (H2-3); legend stops are pellets. The punches used for these dies are not encountered elsewhere, and the mintmark is a standing lion (lion 1). There are six die-pairs, and each combination is unique: there is no cross-linking of dies. One example survives today which has a square flan (Plate 1, No. 7) and a second seems to have been known in the eighteenth century (Plate 1, No. 6). The designs of this group are mostly reminiscent of Tower coins of the mid-1630s (e.g. Plate 1, No. 1) and for this reason these coins are generally placed at the head of the sequence. The limited hoard evidence and the experimental nature of what seems to have been a small issue tend to confirm this view.

The second group of half-crowns is the commonest. It displays a more lively horse and rider similar to, but less accomplished than the horseman in use at the Tower mint from 1640 to 1643 (Plate 1, No. 2). The horse's tail is visible between its rear legs, and all obverse dies are signed EBOR. The mintmark is a lion passant guardant (lion 2). The reverses bear a crowned oval shield garnished with the pelt of a lion, of which two varieties may be distinguished. On the first the lion has obvious fangs but no face, while the second depicts eyes and nose but no fangs: together these comprise Hawkins's seventh type. Legend stops are again pellets, and each variety is represented by six die-pairs, again with no cross-linking. The third group of half-crowns uses the same lettering-punches and some of the same design punches as the second, but with a different mint mark (lion 3). Here the horse's tail is visible to the rear. There are two reverse designs, a crowned square shield (Hawkins type 5) with one die and a crowned oval shield (Hawkins type 6) whose four dies are easily distinguished by the floral ornaments which divide the legend. Stops are lozenges. The close association of Hawkins type 5 and 6 half-crowns is underlined by the Pocklington hoard (see below) and the use of the same cutter punch for both, as shown by

<sup>15</sup> R. Carlyon-Britton, 'A note on the York sixpences of Charles I and an unpublished shilling of the same mint and reign', *BNJ* 28 (1955-7), 203-4.

comparison of flaws on their edges. There are five obverse dies, each uniquely paired with one of the reverses. The die-cutting sequence of the group 2 and 3 half-crowns is discussed below. Half-crowns seem to account for about half the surviving numerical output of the mint, but about eighty per cent of its face value. For a possible fourth group of half-crowns see below, Appendix 3.

Of the two groups of shillings, the first bears a competent portrait of Charles on five obverse dies, one of which is rather sketchily finished. There are five reverse dies, all signed EBOR and each uniquely paired with one of the obverses. One has an oval shield similar to the group 1 half-crowns, the remaining four a square shield on a cross. Stops are pellets, and the lion mint mark and lettering match the group 2 half-crowns. The second group of shillings bears a fine portrait of Charles, and its reverse designs match those of the group 2 and group 3 half-crowns, with three dies of the latter type and two of the former (the variety depicting the lion's eyes and nose). All reverses are signed EBOR, and stops are lozenges. There are again five die-pairs, but here there are nine combinations, five of which, accounting for about eighty per cent of the coins examined, may be regarded as 'normal'. The remainder are 'hybrids', which may be explained on grounds of technique (below, p. 215).

Each of the minor denominations forms a single group. The six pairs of dies for the sixpences are closely related in design to the group 3 half-crowns and group 2 shillings. There are no cross-linkings. Stops are lozenges, with in addition on three reverse dies large cross-hatched blobs, or 'bezants', made from same punch as those in the cross-ends of the shilling reverse dies 1a and 1d.<sup>16</sup> One reverse die lacks the crowned C and R either side of the shield. The threepences are closely related to the first group of shillings, in reverse design and in their portrait. There are nine pairs of dies, again with no cross-linking. Stops are pellets, and the lion mint mark has an upright posture similar to that on the group 1 half-crowns. This relationship is further underlined by the existence of examples of the threepences on unfinished flans (see Plate 7).

The relationships between the denominations are not simple, but there are two fairly strong 'families', first the group 1 half-crowns, threepences and group 1 shillings and secondly the group 3 half-crowns, group 2 shillings and the sixpences. The group 2 half-crowns fall between these two, being related to the group 1 shillings (lettering and mintmark) the group 2 shillings (design of one reverse variety) and the group 3 half-crowns (lettering and other design punches). Two relationships suggest a die-cutting sequence: threepences → group 2 half-crowns → group 3 half-crowns, to be discussed below.

### *Technique of Production*

European developments in mechanical coining methods during the sixteenth and seventeenth centuries concentrated on progressive methods of striking using a rotary motion of dies with curved faces. The striking of heavier coins during this period had brought technical problems, and these methods, by impressing only a small portion of the design at a given instant, required considerably less energy than those where the whole design was struck in one blow. There were two variants. In the first, single pairs of dies were employed, mounted in pockets on axles which were geared together. Coins were produced by feeding single blanks between the dies, which were then rotated, or 'rocked', against each other, gradually impressing the design on the blank. The machine used for this technique is generally known in English as a rocker-press. In the second method, strips of silver of appropriate thickness were passed through a machine resembling a mangle: designs were impressed by a series of dies engraved on a pair of steel cylinders, which were geared together.

<sup>16</sup> This was pointed out by Carlyon-Britton.

The processes associated with these two methods were similar, with only the order of the late stages varying. A suitable alloy was prepared, and cast into thin strips, which were then reduced to the correct thickness, for instance by passing them between steel rollers. For the rocker-press, blanks were then cut out, tested for weight, flattened, annealed to soften them, blanching in a solution of salt and cream of tartar, and coined. Many of these processes are illustrated on a stained-glass window painted by Hieronymus Spendler for the Rathaus at Konstanz in 1624, which depicts operations at the Konstanz mint.<sup>17</sup> For the cylinder-press, the strips themselves were annealed and blanching, and then passed through the coining machine. Finished coins were obtained by punching out from the printed strip. They were then rolled in sand to remove sharp edges.<sup>18</sup> The two most important mints which used the cylinder-press method were those of the Austrian archdukes at Hall im Innthal (Tirol) and the Spanish royal mint at Segovia, both of which used water power to produce large quantities of crown-sized and larger silver coins.<sup>19</sup>

The York coinage, in appearance the finest of the royalist issues, was produced by cylinder-presses. This is the only instance of this method being used in Britain for the production of a precious metal coinage, although it was well known in Britain during the early seventeenth century, for the production both of copper farthings by private enterprise under James I and Charles I (Plate 1, No. 4),<sup>20</sup> and of the Scottish 'Stirling' turners by Briot during the 1630s (plate 1, No. 5).<sup>21</sup> As well as the evidence of the number of dies and their combinations, two recurrent features of the York coinage serve to illustrate the use of the cylinder-press. All denominations show signs that the coins were cut from the strip after coining: many coins bear traces of a rough raised edge on the reverse where bluntness of the cutter-punch has caused tearing. Final tidying-up of the coins was evidently for the most part omitted, although the occasional group 2 half-crown bears file-marks at its edge where a particularly rough edge has been dealt with. Secondly, the strip fed to the machine was not always correctly aligned and its edge frequently appears on the finished product. These features are well illustrated by a single coin (Plate 4, No. 2J) which in addition gives a unique formal proof of the technique: obverse and reverse dies are a little out of register and this, coupled with extreme misalignment of the cutter punch has produced an off-centre coin on which the very edge of the next obverse die on the cylinder can be seen (Plate 2, No. 4). The York dies and their combinations may thus be explained in terms of one or perhaps two cylinder-presses, and the following sets of cylinder-dies:

Half-crowns: three sets each with six die-pairs (groups 1, 2A–F, 2G–L); one set with five die-pairs (group 3)

Shillings: two sets, each with five die-pairs

Sixpences: one set, with six die-pairs

Threepences: one set, with nine die-pairs

An approximate calculation of cylinder-sizes is given in Table 1. Distortion of the strip as

<sup>17</sup> D. Mittmann, 'Das Glasfenster der Konstanzer Münze, 1624', *Numismatische Zeitschrift* 56 (1928), 69–87. Good quality colour reproductions of the Konstanz window are published by H. Moser and H. Tursky, *Die Münzstätte Hall im Tirol 1477–1665* (Innsbruck, 1977), pp. 123, 129, 137.

<sup>18</sup> A clear account of the cylinder-press process is given by Moser-Tursky, pp. 122–30. This includes a translation into modern German of a contemporary account of a visit to the Hall mint (Stephan Pighius, *Hercules Prodicus*, nova editio (Cologne, 1609), 156–7) at pp. 128–30.

<sup>19</sup> Segovia: R. Duran, 'La acunación en el molino de la ceca de Segovia', *Numisma Año V – Num 14* (1955), 119–58;

Hall: Moser and Tursky, *passim*.

<sup>20</sup> C.W. Peck, *English Copper, Tin and Bronze Coins in the British Museum 1558–1958*, 2nd edn. (London, 1970), pp. 19–87, especially pp. 61–4. The technique appears to have been used experimentally under Elizabeth I: Peck's type 7 (*BMC* \*11–\*25) stands apart from the other Elizabethan 'patterns' on account of its large number of dies. On two specimens (*BMC* \*17 and \*24) traces of the neighbouring die can be seen, where the coin has been cut off-centre, *after* striking.

<sup>21</sup> R.B.K. Stevenson, 'The 'Stirling' Turners of Charles I', *BNJ* 29 (1958–9), 128–51.

it passed through the machine necessitated the cutting of the dies as broad ovals on the cylinder, so an attempt has been made to correct for this on the basis of the measurements of published ink-impressions of Spanish cylinder-dies.<sup>22</sup> Both cylinder-sizes and the number of impressions per set are compatible with surviving examples from Austria and Spain.<sup>23</sup> Depending on the degree of adjustment possible, a single machine may have sufficed, but it is possible that a separate machine was used for the half-crowns.

TABLE 1.  
*York Cylinder – dies*

Group		Die-diameters		Spacing	No. of dies	Cylinder	
		From coins	Corrected			Circumference	Diameter
		mm	mm	mm		mm	mm
2s. 6d.	1	32	29.4	2?	6	188.4	60.0
	2	34	31.3	2	6	199.8	63.6
	3	34	31.3	2?	5	166.5	53.0
1s.	1	30	27.6	2?	5	148.0	47.1
	2	30	27.6	2?	5	148.0	47.1
6d.	1	23	21.2	2?	6	139.2	44.3
3d.	1	18	16.6	2	9	167.4	53.3

Two features associated with this technique fly in the face of traditional numismatic classification: the variable die-axes of group 1 half-crowns (along or at right angles to the cylinder-axis) and the grouping of dies with different designs on a single cylinder (group 1 and 3 half-crowns, group 1 and 2 shillings). Both are, however, adequately paralleled on the Hall issues. The dies of double talers of Archduke Ferdinand II (1564–95) show different alignments as well as different designs on the same cylinder, which survives.<sup>24</sup> A more extreme example of design-difference is to be found on a group of talers struck in 1646, where a single obverse die of Archduke Ferdinand Charles dated 1646 shares the same cylinder as four dies in the name of Archduke Leopold V dated 1632, the year of the latter's death.<sup>25</sup>

The gearing together of the cylinder-dies will have limited the number of possible combinations. Mostly it seems that only one configuration was possible, but in the group 2 shillings a small group exists with systematically 'hybrid' combinations (2Ae, Cb, Dc, Ed) which corresponds to a different alignment of the engraved cylinders. With five impressions per cylinder, it follows that this would only be possible if the gears bore a multiple of five teeth.<sup>26</sup> One 'hybrid' combination (2Ba) has not yet been found. This may simply reflect the general rarity of the species, and an example may yet appear. It is possible, however, that die damage (for instance a bad disfigurement of the obverse portrait) caused this combination not to be issued. The risk of damage to a cylinder was one disadvantage of the technique, since its breakage would render a whole set of dies inoperative, and it was less easily replaced than a single die. Flaws are present on several York dies (notably the reverses of half-crowns 1F, 2H, 3C) and usually appear on all known specimens struck

<sup>22</sup> Duran, pp. 134–58. The 'corrected' die-diameters in Table 1 assume that the diameter along the cylinder-circumference = 0.92 x the lateral diameter.

<sup>23</sup> *Katalog der Münzen- und Medaillen-Stempel-Sammlung des K.K. Hauptmünzamt in Wien*, I (Vienna, 1901).

<sup>24</sup> *Hauptmünzamt Catalogue* (note 23), 77 no. 261; Moser-

Tursky, pp. 189, 196–7.

<sup>25</sup> Moser-Tursky, pp. 287–9.

<sup>26</sup> Duran, p. 128, fig. 6, illustrates (from Diderot?) a coining machine with geared cylinders. The gears are depicted with ten teeth.



from them. Only rarely is a new flaw observed to develop, so it seems that flakes of metal became detached from weak spots on the cylinder surface early in its operation, leaving flawed but fairly stable dies. Small flaws on the dies were to some extent tolerated at Hall and Segovia (e.g. Plate 1, No. 3, a 4-Reales of Philip IV, 1621, which also shows a raised burred edge (obv.) and traces of its neighbouring die (rev.)). Under favourable conditions, a set of cylinder-dies was capable of high output. At Hall, the best results obtained late in the sixteenth century were in the range 50,000–100,000 marks of silver coined per set.<sup>27</sup> The lower figure represents about 400,000 crown-sized coins or 80,000 per die-pair from cylinders with five die-pairs.

The cylinder-technique was, however, very inefficient in its use of metal: of every strip of silver coined, scissel (waste) accounted for a minimum of 25 per cent and more probably over 30 per cent of the metal.<sup>28</sup> This may be compared with a figure of the order of 12 per cent at Aberystwyth, where blanks were prepared in the traditional manner.<sup>29</sup> The need to recycle a third or more of each batch of silver can only have been tolerated under normal circumstances at a mint where production was continuous and substantial, conditions which applied at Hall and Segovia.

York lacked the immense resources of water power possessed at Hall and Segovia, so motive-power for its machines must have been provided by animals or humans. The former cannot be proved, while the latter, although at first sight the less likely, is by no means improbable. Brute strength was required for three mechanised processes:

- i. Rolling the ingots to the correct thickness. This will have required most power, but M. Poullain's account of Briot's early experiments in Paris suggests that human power was sufficient: 'premierement, après avoir recuit au feu les neuf marcs d'argent réduits en lames, afin d'en adoucir le metal, il les passa par l'instrument du laminoir, conduit et tourne par deux fortes personnes, quatre ou cinq fois l'une après l'autre, pour les degrossir seulement . . .'.<sup>30</sup> Briot's 'laminoir' consisted of an iron box with two steel rollers, with a large crank on each side. The operation was repeated until a trial blank cut from the strip was slightly overweight. The strip ingots themselves were about 15 x 1½ inches and the thickness of a silver franc (a coin a little lighter than an English half-crown).
- ii. The coining operation used a similar technique, but will have required less effort. Experiments with a modern recreation of a cylinder-press show that no great strength is required to operate it.<sup>31</sup> A press from Czesky Kremlov illustrated by Cooper has large crank handles, but it is not clear what denominations it produced.<sup>32</sup>
- iii. The cutter for removing finished coins from the printed strip was certainly operated by hand.<sup>33</sup>

All of these processes could thus be undertaken by hand in a fairly confined space, and whilst we cannot prove that human muscle powered the York machines, it is likely that this was the case. It is also perhaps significant that York, alone of the early royalist mints, produced nothing larger than half-crowns.

<sup>27</sup> Moser-Tursky, p. 128.

<sup>28</sup> An example of this may be seen in the production of Scottish turners in Oct. 1641: 'of this 14lb 10½oz of lignotts there heads and others being clipped there rested only 11 lb 5 oz quhilk was delyvered to the milne quhairof returned 6 lb 3 oz 4d of made turners . . .' (R.W. Cochran-Patrick, *Records of the Coinage of Scotland* (Edinburgh, 1876), I, p. lxiii). Total scissel 58%, that from the coining-press 45% of the metal delivered to it.

<sup>29</sup> Boon, Appendix VIb, p. 196.

<sup>30</sup> 'Relation de M. Henry Poullain . . .' (23 Jan – 20 Feb

1617), in F. Mazerolle, *Les Médailleurs Français du XV<sup>e</sup> siècle au milieu du XVII<sup>e</sup>*, I (Paris, 1902), pp. 319–27 at p. 322.

<sup>31</sup> I am indebted to David Sellwood for the opportunity to experiment with the machine displayed by him at the AGM of the Royal Numismatic Society, June 1984.

<sup>32</sup> D.R. Cooper, *Coins and Mining* (Princes Riseborough, 1983), p. 13.

<sup>33</sup> The operation is shown on the Konstanz window: Moser-Tursky, p. 123; Duran, p. 131, fig. 9 shows two cutter-presses which are clearly worked by hand.

It is apparent that the cylinder-die method was best employed where continuous production was possible from plentiful silver supplies, whether native (in the Tirol) or imported (Spanish-American silver). There is no evidence that output at York came anywhere near the capacity even of the limited number of die-sets used there. Why was this technique used at York? Mechanical coining in Britain at this time is inextricably linked with the name of Briot, and attention has hitherto concentrated on his rocker-press experiments. However, in view of the similarity in principle of rocker-press and cylinder-press techniques, it is not surprising that Briot and his assistants in London and Edinburgh should be capable of constructing machines for the latter technique. In the early 1630s Briot was producing copper turners in Edinburgh using cylinder-dies, so the transition to larger silver coins was simply a matter of scale. Secondly, the conditions under which the York coinage was to be produced will have given the operator a chance to give the technique an extended field trial for the production of silver coinage free from the tight accountability of Tower mint procedures. Lastly, with the importance early in the Civil War of the northeastern ports a mint at York combining simplicity of operation with potentially high output will have made sense, and the royalists may have been over-optimistic about the likely scale of the coinage to be produced there.

### *Die-cutting*

It is evident that with the ready interchangeability of the die-cylinders, there is no possibility of establishing a firm sequence of issue for the various denominations and types. The limited hoard evidence, discussed below, suggests one sequence for the half-crowns, while the evidence of weight is ambiguous but hints at a different sequence.

However, the use of common sets of punches for making different sets of dies can at least provide a possibility for establishing the sequence of die-production. The same alphabet was used for the dies of group 1 shillings, and groups 2 and 3 half-crowns. The letters appear sharpest on the shillings, and the progressive appearance of damage on the half-crown dies suggests strongly that the group 2 dies (Hawkins 7) were cut before the group 3 (Hawkins 5–6), notably in the case of the letter N (Plate 2, No. 2). Another feature corroborates this. The hand and sword hilt of the equestrian figure appear to be fashioned from a single punch, and half of the guard of the hilt disappears rapidly on the group 2 half-crowns (Plate 2, No. 3), suggesting a sequence 2A–B, 2C–D, followed by the rest of group 2. The group 3 examples show further deterioration, as well as deterioration of the punches used for the horse's legs. In addition the group 2 half-crown dies show more errors than those of group 3, for instance FRA ETHIBA (2A) and BRT (2C), or features suggesting experiment, such as the method of frosting the crown and garniture on the reverse dies, which consisted of stippled pellets on four dies (2a, d, e, f), but on all other dies and the garniture of 2f makes use of a specially-made cross-hatched punch.

The EBOR signature of the obverse dies of group 2 half-crowns was formed by using letters from the alphabet used on dies for the threepences, and the state of the letters suggest that the threepence dies were produced first. The EBOR of half-crown die 2D is of particular importance here. In the O of this signature may be seen a small letter which was once thought to be a B and interpreted as Briot's signature, but which may be seen to be an R (Plate 2, No. 7).<sup>14</sup> However, other traces may also be seen which with the R form an obliterated EBOR signature, formed from the minuscule letters used for this signature on the threepence dies. This was evidently deemed insufficiently visible on the half-crown dies, and over stamped by a larger set of letters. The implication is that this was the first half-crown die to receive an EBOR signature. It was not, however, the first die engraved

<sup>14</sup> First demonstrated by A.H. Baldwin, *NC* 5th series, 12 (1932), 'Proceedings', pp. 14–15.



with the equestrian design, since it bears the part-damaged form of the sword-hilt. The technique of engraving sets of cylinder-dies was to mark out the outlines of all dies on a cylinder, and then to engrave each feature on all dies in turn, not necessarily starting with the same die each time.

### *Machine Trials*

The above evidence places the threepences early in the die-cutting sequence. The similarity in form of their initial-mark lion and that of the group 1 half-crowns has already been noted. Further, the existence of examples of both these groups on square or octagonal flans serves to underline their relationship. One half-crown on a square flan (1B) exists today (Plate 1, No. 7) and a further example (1A) was known in the eighteenth century (Plate 1, No. 6).<sup>36</sup> There are at least three threepences on unfinished flans: in the British Museum (Plate 7, No. 1F) and the Ashmolean Museum (square flans) and an octagonal example in the British Museum (Plate 7, No. 1I). These are all well overweight, so there is no question of them being intended for circulation or of interpreting them as siege-pieces. Rather, they would seem to be machine-trials. Other examples exist of group 1 half-crowns which are polygonal in shape (eg. Plate 3, No. 1C) having been trimmed to the correct weight using shears. Teething trouble with the cutter-punch may explain this phenomenon.

### *Weight and Fineness*

There is no evidence that the York coins, or indeed any royalist issues, were submitted to any trial analogous to the Trial of the Pyx.<sup>36</sup> The masters of other royalist mints were empowered to strike coins of Tower pattern and standard, without account, but the position at York is not known.<sup>37</sup> York coins were all struck during the first half of the Civil War, before chronic shortage of money really made itself felt on the royalist side. To judge from seven analyses of half-crowns in the British Museum collection (Table 2), the silver standard of 11oz 2dwt (92.5 per cent) was fairly faithfully maintained, of these coins only the first has a fineness which places it 'out of remedy' if the remedy (allowed variation) is set at 2dwt per pound of alloy. Every coin contains detectable traces of gold, suggestive of gilt plate as an element of the source metal.<sup>38</sup>

The weights of York coins are summarised as block diagrams below (Fig. 1).<sup>39</sup> Considerable caution is necessary when interpreting weight-distribution, since at this time coins were struck to an average standard, and a newly-issued batch of coins would show a spread of weights above and below this. This distribution could become distorted in two ways: culling of overweight coins for melting-down, a profitable activity that seems to have taken place soon after issue, and clipping. The York coins being machine-made, it is relatively easy to exclude clipped examples, but the possibility that a population has been culled must always be borne in mind. The weights of the first two groups of half-crowns show wide variations, with most well out of remedy (the contemporary remedy in weight being 2dwt per pound, or 0.8 per cent). This was a failing that had bedevilled Briot's earlier enterprises – in one of his Paris trials reported by Poullain only nineteen out of a batch of 123 blanks were above the standard, the rest being rejected as scissel.<sup>40</sup> A batch of Briot's Scots turners had been confiscated in December 1632 as being 'above and beneath the

<sup>36</sup> Folkes, pl. XXVI, 4.

<sup>37</sup> For the procedure of the Pyx trial, see Boon, Appendix XVIII.

<sup>38</sup> H. Symonds, *NC* 4th series, 13 (1913), 370–1; Boon, p. 86.

<sup>39</sup> Virtually all of an extensive group of royalist half-crowns recently analysed at the BM contain detectable

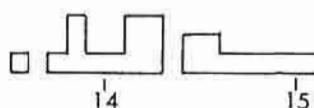
traces of gold ( $\geq 0.1\%$ ). Of six Tower coins of James I and Charles I pre-1643, only one contained a detectable amount of gold.

<sup>40</sup> Weights of the coins listed in Appendix 1, omitting significantly worn examples.

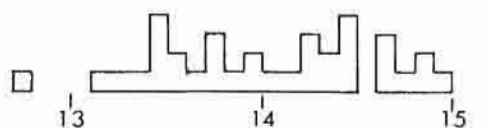
<sup>41</sup> Poullain in Mazerolle (n.30 above), p. 326.

## HALFCROWNS

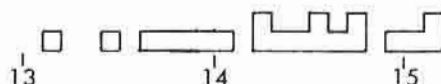
1



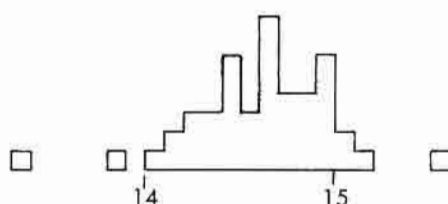
2 A-F



2 G-L

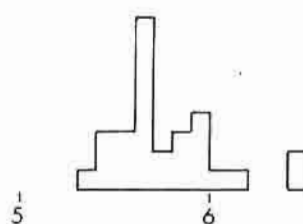


3

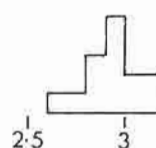


## SHILLINGS

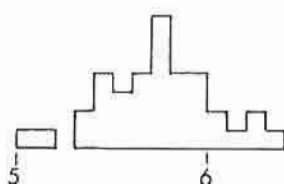
1



6d



2



3d

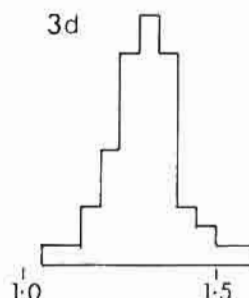


FIG. 1. Weight distributions of York coins (in grams).

remedy of weight allowed by the act of consell. . .<sup>41</sup> Perhaps under wartime conditions this was felt to be less of a problem. The third group of half-crowns shows a tighter distribution and the best average weight, which may indicate improved expertise and support its proposed place in the sequence, but it should be remembered that much of our information here comes from a single mint-fresh batch from the Pocklington hoard, which may *per se* possess more consistent weights. All of the denominations have average weights

<sup>41</sup> Cochran-Patrick, II, 34, no. LII.

below the standard and by rather more than surviving examples of Tower coinage of the period, which (if we believe Pyx trials) were struck to the standard. Average weights may be summarised as follows:

Half-crowns: 1, 14.27g (94.8% of standard); 2, A-F: 14.01g (93.1%); G-L: 14.24g (94.6%); 3, 14.60g (97%)  
 Shillings: 1, 5.74g (95.3%); 2, 5.73g (95.2%)  
 Sixpences: 2.93% (97.3%); Threepences: 1.31g (87%)  
 Comparable Tower coinage: Ashdon, Essex hoard (1644-5): 2s. 6d. (P), 14.93g (99.2%), 22 coins; 1s. (P), 5.94g (98.7%), 51 coins.  
 Taunton, Somerset hoard (1643-4):<sup>42</sup> 1s. p.m. triangle-in-circle 6.04g (100.3%), 45 coins; 1s. p.m. (P), 6.02g (100%), 11 coins

While it is hard to describe the group 1 and 2 half-crowns as having any meaningful weight-distribution, those issues where weights were under tighter control (e.g. group 3 half-crowns, threepences) have approximately symmetrical distributions, with average and peak coinciding, as is the case for the latest Tower shillings in the Taunton hoard, which are of full weight. These do not appear to be culled populations, neither are they clipped, so it may be that the royalists at York eked out their bullion supplies by deliberately striking their coins a few per cent light (in the case of group 2 half-crowns this corresponds to a short weight of 1½-2 pence per coin).

TABLE 2

*Analyses of York Half-Crowns*

Type	Ag %	Cu %	Au %	Pb %	Zn %	Sn %	Reference
1A	91.1	7.2	0.1	0.8	<0.2	0.7	E 1080
1D	93.2	6.0	0.2	0.6	<0.2	<0.3	1935-4-1, 7488
1E	92.1	6.7	0.3	0.9	<0.2	<0.3	SSB 65-65
2D	92.4	6.7	0.2	0.6	<0.2	<0.3	1935-4-1, 7482
2G	93.0	6.1	0.2	0.6	<0.2	<0.3	E 1086
3A	92.7	6.3	0.2	0.6	<0.2	<0.3	1935-4-1, 7485
3E	92.3	6.6	0.3	0.6	0.3	<0.3	1920-9-7, 1000

Analyses carried out at the British Museum Research Laboratory using X-ray fluorescence spectrography.

*Personnel*

There is no written evidence for the names of any of the officials of the York mint. The mint was established by royal warrant and 'some commissioners appointed'. Thomas Bushell, warden of the mint at Aberystwyth, visited York in the Spring-Summer of 1642 but we do not know whether this related to the proposed mint.<sup>43</sup> On the technical side we are on surer ground. Nicholas Briot's correspondence of 1642, his widow's petition to Charles II<sup>44</sup> and some of the products themselves testify an active involvement. Quite apart from the use of machinery, discussed above, comparison of the group 2 shillings with his Tower mint issue of 1638-9 (Plate 1, No. 9) the group 3 half-crown reverses with that of the same Tower issue (Plate 1, No. 8) the use of lozenge stops and the lopsided form of the

<sup>42</sup> Ashdon: see Appendix 2, no. 6; Taunton, Somerset, 1980: 275 AR, face value £14 8s. 0d. Latest coins: Tower 2s. 6d. (P) (3), 1s. (P) (11)/Truro crown.

<sup>43</sup> Boon, p. 95, speculates that the king's intention may

have been to make Bushell warden of the new branch mints at Shrewsbury and York, while Sir William Parkhurst was still at the Tower.

<sup>44</sup> Farquhar, pp. 210-12.

letter A on some dies (sixpences and threepences) all suggest that at the very least Briot supplied punches for the production of dies. The workmanship of the dies for the group 3 half-crowns, group 2 shillings and the sixpences suggests that Briot may have made them. The group 1 half-crowns bear the crudest designs, but the dies are fairly competently made, and the other groups likewise lack the perfection normally associated with Briot's work, though the die-cutting is of good quality.

York lay roughly halfway between the two British centres where mechanical coining was practised, so experienced staff may have been recruited from either. Briot's assistant in London, David Ramage, supplied 'instruments' for the York and Shrewsbury mints, but whether all of those intended for York were sent by ship and thus seized off Scarborough on 15 July 1642 cannot be determined. It seems possible that the experimental (group 1) half-crowns may be Ramage's work. The portraits on the group 1 shillings and threepences do not seem to be by Briot, but their authorship cannot be attributed with certainty. Ramage reappeared after the war, and his 1651 patterns for the Commonwealth coinage show him to have been a competent engraver (Plate 1, No. 11). As Briot's assistant, he will have been thoroughly familiar with the techniques involved in mechanical coining.

Influence from Edinburgh can be seen in several design features which the group 2 half-crowns have in common with the Briot-Falconer Scots issues (Plate 1, No. 10), especially the forms of the crown and harp. If Briot supplied the punches, such features may simply indicate that he chose to revive them from his repertoire, or perhaps possessed a set with these designs. Briot's Edinburgh colleague and son-in-law, Sir John Falconer, may have been involved at York, but there is no evidence. He was at the 'conyiehouse' in Edinburgh in October 1641, in Edinburgh again in 1650, when he was ordered to coin sixty stones of copper, and in October 1661 was sent for to return to Edinburgh, probably from London.<sup>45</sup>

Various claims have been made for the presence of Briot's signature on certain dies of the York coinage, but none can be substantiated. The dies in question are:

Half-crown, 2D, obverse: a recut EBOR signature (see above) (Plate 2, No. 7)

Half-crown, 2B, reverse: a letter B at the start of the reverse legend is certainly a minute E, which cannot at present be explained (Plate 2, No. 8).

Shilling, 2Dd: See Farquhar pp. 195, 223. There is no sign of any signature on this coin.

Sixpence, 1A, reverse: a putative NB Monogram in the crown<sup>46</sup> recently refuted as 'in fact another arch ("face on") of the crown' (Plate 2, No. 9).<sup>47</sup>

### *Hoard Evidence*

York coins are known from twelve hoards with *termini* pre-1650 (11 English, 1 Scottish, see Appendix 2) and a further six from later in the century. The earliest hoards show a regional pattern typical of royalist issues from other mints, but with the dispersal of the northern royalist forces from mid-1644, York issues became widely distributed. Despite their distinctive physical appearance, their designs were fairly close to those of Tower issues, and they seem to have been acceptable currency even in the South-East (one may, however, remark the existence of a few coins on which the EBOR signature has been erased).

The chronological information available from these hoards is strictly limited. They do, however, support the documentary evidence that there was no mint at York during the 1630s, since the earliest date indicated by a hoard is 1641/3 (Constable Burton). The date of Chesterfield (Vicar Lane) is not closely established, since the detailed record of it was

<sup>45</sup> Cochran-Patrick, I, p. lxi; II, p. 133, no. III; II, p. 142-3, nos. XXI-XXII.

<sup>47</sup> See Glendining 5 Oct. 1977 (Archbishop Sharp collection), 106.

<sup>46</sup> Carlyon-Britton (n.15 above).

destroyed during the 1939–45 War, but Allen's date '1643' probably indicates the presence of Tower issues with privy-mark (P) (May 1643 – July 1644). The St Anne's hoard was also probably buried in 1643, since its Tower issues close with a single (P) half-crown. Chesterfield and St Anne's tend to confirm the group 1 half-crowns as the earliest York products.

One other hoard with York coins has a Tower *terminus* of (P): the forty-eight (or more) half-crowns found at Pocklington (twelve miles east of York) form one of the largest caches of royalist coins ever recorded. They were accompanied by fifty Tower half-crowns (seven of them (P)) and other smaller denominations. The York coins are all of group 3 and their fine condition suggests that they represent a batch of coin fresh from the mint. The hoard was probably buried late in 1643 or in 1644, since some time would be required for (P) issues from the Tower to arrive in the north and to circulate (Hawkins described the non-York coins as 'all much worn', but to some extent may have mistaken the typical poor striking of wartime Tower issues as wear). Group 3 half-crowns extant today are mostly in excellent condition, and Pocklington would appear to be the source of most of them. Without it we would have no hoard evidence for this group. These coins are otherwise extremely rare, and their absence from other finds suggests a small issue.

The commonest group of half-crowns (group 2) is represented in at least six hoards, all buried after the middle of 1644. The paucity of the evidence is underlined by the fact that the largest number found in a single hoard is two coins, in the Ashdon, Essex (1644/5) and Wyke, Bradford (1647+) hoards, both recently discovered. Shillings are only known from three hoards, sixpences and threepences from none. With only four hoards known that were concealed during the lifetime of the mint, it is clear that further understanding will depend on future discoveries of York coins in hoards buried before 1645.

### *York Mint in Context*

If we accept Christopher Hildyard's statement that the mint began to coin 'about the latter end of January [1643]', there was a gap of about six months between the issuing of the warrant and the mint's first substantial issues. Several reasons may be suggested for this delay, and in considering the third of these we encounter some slight documentary evidence which indirectly suggests that Hildyard was correct.

The first and most obvious reason for delay is the seizure of Briot's equipment off Scarborough on 15 July 1642. It is likely, though not certain, that this will have included the instruments prepared by Ramage, necessitating a fresh start. Secondly, the need for a mint to coin plate was perhaps not as urgent as the royalists at first thought. It is clear that in the short term the king was able to raise considerable sums in cash. For instance, a letter from Edward Nicholas dated 20 July mentions that Oxford University has sent ten thousand pounds and that of Cambridge a 'fair proportion also'.<sup>48</sup> A letter from Beverley printed in London on 3 August says that Sir Michael Wharton has lent £20,000 (this probably exaggerated) and 'other Yorkshire gentlemen doe profer much'.<sup>49</sup> There survive receipts for smaller sums, such as £1,500 from Sir Thomas Gower, and £500 from Inigo Jones, the surveyor of works.<sup>50</sup>

The third reason is more a military one. On 16 August the king left York, and on the twenty-second he set up his standard at Nottingham. The newsletters printed in London, hitherto full of the bustle of royalist preparations in York relate the departure from York of staff, troops and equipment bound for the king.<sup>51</sup> The earl of Cumberland was left at York with a small garrison and a commission as Lieutenant-General of Yorkshire. In other

<sup>48</sup> *Calendar of State Papers Domestic* (CSPD), Charles I vol. 491, no. 84.

<sup>49</sup> BL Thomason Tracts E108 (35), p. 6.

<sup>50</sup> *CSPD Charles I*, vol. 491, no. 92 (Inigo Jones); no. 98 (Gower).

<sup>51</sup> e.g. BL Thomason Tracts E116 (9).



words, York became a backwater as the focus of action and the need for large sums of money moved elsewhere. Hostilities in Yorkshire did not begin in earnest until the end of the year, when the earl of Newcastle brought his forces to York and replaced Cumberland. Here our principal witness is Sir Henry Slingsby, a royalist living near York, whose diary reveals the disorganised state of affairs:

Now y<sup>e</sup> soulgiers begin to enquire after their pay; they had spent their mony's in y<sup>e</sup> march from Newcastle, they cannot longer be w<sup>th</sup> out; they hop'd to find mony plenty here; but this was y<sup>e</sup> mischeif of it; Here was neither treasure nor treasurer; y<sup>e</sup> commissioners had allott'd out an assesment thro' y<sup>e</sup> country, but nothing yet collect'd. The soulgiers must be y<sup>e</sup> Collectors & in y<sup>e</sup> mean time live upon free Billet, w<sup>th</sup> caus'd great wast to made, especially where y<sup>e</sup> horse came, & put y<sup>e</sup> countryman at a great charge, so great as not to be imagin'd. Well y<sup>e</sup> Soulgiers must be satisfy'd but how it must be done y<sup>e</sup> Gentlemen & Commissioners must be Consulted w<sup>th</sup>; whome he sends for to come unto him, & propounds to y<sup>m</sup> to subscribe their names w<sup>th</sup> every one will lend, & himself begins & subscribes two hundred pounds, & so y<sup>e</sup> rest follow'd untill it came to my turn to subscribe one hundred, w<sup>th</sup> I paid y<sup>e</sup> night unto S<sup>t</sup>. W<sup>m</sup> Carnaby treasurer at warr.<sup>52</sup>

None of which suggests a well-organised commissariat, or a mint in full swing, although the intervening months may have been used to set up the machinery and for an experimental issue. The gentry were still able to provide cash to pay the troops. Hildyard's date early in 1643 for the first substantial issues from the mint seems reasonable as liquid assets ran out and it became necessary to coin plate or bullion from other sources. One function envisaged for the York mint will have been the recoinage of foreign coin. Before the capture of Bristol (July 1643) and other western ports, the royalists were dependent upon the northeastern ports for supplies of money and equipment from Holland, of which they had high hopes. In the event, much was intercepted, but on 8 March 1643, Queen Henrietta Maria arrived at York, having landed at Bridlington late in February from Holland with a large quantity of war supplies, perhaps including coin.<sup>53</sup> A more likely source of metal for the mint is silver plate, contributed by royalists or seized from delinquent parliamentarians. On 3 May 1643, the York City Corporation agreed with the earl of Newcastle an assessment of £3,000 from the City and Ansty of York 'towards the maintenance of his majestie's army' – this too may have yielded a proportion of plate.<sup>54</sup>

Meanwhile, the City Corporation took great pains to hang on to its own plate. A minute of 23 October 1642 charged the lord mayor with securing the city's plate, but realistically was prepared not to hold him personally responsible should it be lost. But by early February 1644 the Corporation was in debt and desperate for ready cash and finally decided to sell part of its plate in order to raise £100 for current use. The weights and donors of the pieces to be sold were carefully recorded in the House Book and it was ordered that 'such like plate of the like weight with several doners names engraven ther on shall be bought again as soone as money can conveniently be raised'.<sup>55</sup> The opportunity never arose, and none of this plate survives today. It was presumably melted down, and perhaps found its way to the mint. If so, sporadic coining may have been taking place as late as March 1644. Late in April 1644, the city was besieged by the armies of Lord Fairfax and the Scots, and these were joined early in June by that of the earl of Manchester. The city was short of money, but well-provisioned. Sir Henry Slingsby's diary records a system of free billeting which seems to have been efficient.<sup>56</sup> There is no evidence (for or against) that the mint was functioning during the siege, and no mention of it in the articles of surrender agreed on 15 July.

<sup>52</sup> *The Diary of Sir Henry Slingsby of Scriven, Bart.*, published by Rev. Daniel Parsons (London, 1836), pp. 84–5.

<sup>53</sup> The only mention of the queen bringing money comes in a letter from the Venetian secretary in England, Gerolamo Agostini, to the Doge and Senate, dated March 13 1642/3 (= 3 March 1643): 'she brought with her 1000 soldiers and 300 officers and they say she also brings 80,000 l. sterling and 20,000 suits of armour ...' (*Calendar of State Papers*

*Venetian XXVI, 1642–3*, edited by A.B. Hinds (1925), no. 244). This can only have been hearsay, and as such is of uncertain value.

<sup>54</sup> York City Corporation House Book (York City Archives B36), 88a.

<sup>55</sup> Corporation House Book B36, 77a; 98a (7 Feb. 1644); 98b (16 Feb. 1644).

<sup>56</sup> *Diary of Sir Henry Slingsby*, p. 108.

## APPENDIX 1

*Catalogue of York Coins of Charles I*

The following list gives every die and die-combination known to the author, and the coins used as the basis of this study. Coins illustrated are indicated by an asterisk.

## HALF-CROWNS

- Group 1* Obverse: Lion 1 ·CAROLVS·D·G·MAG·BRI·FR·ET·HI·REX Equestrian figure, pellet stops  
Reverse: Lion 1 CHRISTO AVSPICE REGNO; pellet stops  
Die-diam. 32mm; cutter-punch diam. 34.5mm.
- 1A obv: groundline with grass, REX·; rev: square shield, C-R to sides, REGNO·; die-axis 0°. (Hawkins 1)  
1. BM E1080, 13.77g; 2. Glasgow Hunter 190, 14.90g; 3. Brooker 1076, 15.02g; 4. Baldwin, 14.42g; \*5. Private coll. (Rashleigh III, 234), 13.80g; 6. Private coll., 11.40g (clipped); 7. Burstal 478; \*8. Folkes pl. XXVI, 4: trial-piece on square flan (not traced).
- 1B obv: groundline with grass, REX·; rev: oval shield, REGNO·; die-axis 90°. (Hawkins 2)  
\*1. BM E1079, 14.11g; 2. NMW E3875 (Brooker 1077), 14.65g; 3. Royal Mint coll. (Chesterfield, Vicar Lane hoard 1934), 13.57g; 4. Private coll. (Lockett 3436), 14.59g; 5. Baldwin, 14.52g; 6. Baldwin, 14.12g; 7. Clarke-Thornhill, Glen 26 May 1937, 569; \*8. Brooker 1078: trial-piece on square flan, 18.84g.
- 1C obv: groundline with grass, REX·; rev: similar to 1B; die-axis 0°. (Hawkins 2)  
\*1. Fitzwilliam (Montagu 13 Nov 1896, 561), 14.26g; 2. Private coll., 13.80g; 3. Lockett 2366.
- 1D obv: groundline of pellets, REX·; pellet stops oval;  
rev: similar to 1B; die-axis 0°. (Hawkins 2 variant)  
1. BM 1935-4-1-7488, 14.03g; \*2. Glasgow Hunter 188, 14.12g; 3. Yorkshire Museum; 4. Brooker 1078a, 14.79g; 5. Glen. 13 Mar. 1974, 316 (part).
- 1E obv: no groundline, REX·; rev: similar to 1B; die-axis 0°. (Hawkins 3)  
\*1. BM SSB 65-65, 14.43g; 2. Brooker 1079, 11.67g (clipped); 3. Private coll., 13.80g; 4. Heath (Glen. 9 Sept. 1937), 144; 5. Rashleigh III, 236; 6. Glen. 13 Mar. 1974, 316 (part); 7. Archbp Sharp (Glen 5 Oct 1977), 103; 8. Trenerly List, Jul.-Aug. 1984, 133.
- 1F obv: no groundline, REX·; rev: similar to 1B. REGNO·, large flaw; die-axis 0°. (Hawkins 3)  
\*1. BM 1983-8-11-1, 14.20g; 2. Harris Museum, Preston (St. Annes hoard 1961), 13.90g; 3. Spink 6, 9 Oct. 1979, 39, 14.80g; 4. Baldwin, 14.27g; 5. Glen. 13 Mar. 1974, 317.
- Group 2* Obverse: Lion 2 ·CAROLVS·D·G·MAG·BRI·FRAN·ET·HI·REX Equestrian figure (tail between hind legs); EBOR beneath horse; pellet stops; dies A-F show progressive deterioration of sword-hilt, G-L show sword-hilt broken throughout  
Reverse: CHRISTO·AVSPICE·REGNO· Lion 2 Crowned oval shield garnished with lionskin; pellet stops; dies a-f: lionskin shows jaws with fangs but no face, harp has 6 strings; g-l: lionskin with eyes and nose, no fangs, crown plain and unjewelled  
Die-diam. 34mm; cutter-punch diam. 36mm; die-axis 0° Hawkins type 7
- 2A obv: CAROLVS·FRA·ET·HIBA·, sword-hilt intact  
rev: crown unjewelled, frosted (pellets); garniture frosted (punch)  
\*1. BM 1935-4-1-7486, 13.72g; 2. BM Grueber 650, 13.48g; 3. Ashmolcan, 14.29g; 4. Fitzwilliam, 13.94g; 5. NMW E3878 (Penybryn hoard 1979), 13.76g; 6. Brooker 1088, 14.42g; 7. Baldwin 14.29g; 8. Baldwin, 14.06g; 9. Baldwin, 13.80g; 10. Baldwin, 13.42g; 11. Baldwin 13.83g (pierced); 12. Baldwin, 13.69g (EBOR erased); 13. Glen. 13 Mar. 1974, 321 (part).

- 2B obv: sword-hilt intact ; rev: crown unjewelled, frosted (punch); garniture frosted (punch); tiny letter E by crown at beginning of legend  
 \*1. BM 1915-4-5-1, 14.87g; 2. BM 1946-10-4-514, 14.41g; 3. Ashmolean, 13.94g; 4. Fitzwilliam, 14.34g; 5. NMW E3883, 14.46g; 6. Brooker 1088a, 13.70g; 7. Baldwin, 14.30g; 8. Baldwin, 14.10g; 9. Private coll., 12.70g; 10. Glen. 23 May 1984, 181, 13.25g; 11. Bradford Museums (Wyke hoard 1982), 12.23g (clipped).
- 2C obv: sword-hilt damaged, BRT- ; rev: crown jewelled, frosted (punch); garniture frosted (punch)  
 \*1. BM 1935-4-1-7481, 14.93g; 2. Baldwin, 14.22g; 3. Lockett 2374.
- 2D obv: sword-hilt damaged, EBOR recut; rev: crown unjewelled, frosted (pellets); garniture frosted (pellets)  
 \*1. BM 1896-3-5-1, 14.66g; 2. BM 1935-4-1-7482, 14.40g; 3. Brooker 1087, 14.74g; 4. Baldwin, 13.43g; 5. Lockett 2371 (part).
- 2E obv: sword-hilt broken; rev: crown unjewelled, frosted (pellets); garniture frosted (pellets)  
 1. BM E1085, 13.40g; 2. BM 1935-4-1-7484, 13.53g; \*3. Fitzwilliam (Montagu 570), 13.18g; 4. Glasgow Hunter 185, 13.30g; 5. Spink, 13.65g; 6. Spink 11, 8 Oct 1980, 236, 14.61g; 7. Stack's NY 22 Oct. 1981 (H.S. Bareford coll), 502, 13.54g; 8. Galata List, Autumn 1983, 190.
- 2F obv: sword-hilt broken; rev: crown jewelled, frosted (pellets); garniture frosted (punch)  
 \*1. BM 1983-8-11-2, 14.84g; 2. Spink 6, 10 Oct. 1979, 42, 14.69g; 3. Sotheby 27 Apr. 1977, 175.
- 2G rev: garniture frosted (punch); harp has 6 strings.  
 1. BM E1086, 14.27g; 2. Ashmolean, 12.39g (clipped); \*3. Fitzwilliam, 13.98g; 4. Brooker 1086, 13.88g; 5. Private coll., 12.37g; 6. Baldwin, 14.54g; 7. C.J. Martin List Jul.-Aug. 1984, P1, 13.14g; 8. C.J. Martin, 13.44g; 9. Lockett 2371 (part); 10. Archbp. Sharp (Glen. 5 Oct. 1977), 104; 11. Sotheby 14 Jul. 1976, 428.
- 2H rev: garniture frosted (punch); harp has 6 strings; large flaw near A  
 1. BM 1983-8-11-3, 13.68g; 2. Bradford Museums (Wyke hoard 1982), 14.70g; \*3. Ashdon (Essex) hoard, 1984, 14.36g; 4. Ashdon hoard 1984, 14.04g; 5. Manchester Univ. Museum, 14.16g (plugged); 6. Spink 6, 9 Oct. 1979, 44, 13.79g; 7. Spink 6, 45, 14.98g; 8. Glen. 17 Nov. 1976, 153 (clipped).
- 2I obv: flaw develops through tail and hind legs of horse  
 rev: garniture frosted (punch); harp has 7 strings; CHRISTO flawed  
 \*1. BM 1983-8-11-4, 14.74g; 2. Spink 6, 9 Oct. 1979, 43, 15.17g; 3. Moyse's Hall Museum, Bury St. Edmunds (Bury, Risbygate hoard), clipped; 4. Glen. 13 Mar. 1974, 321 (part).
- 2J obv: ·D G·, REX;  
 rev: garniture frosted (punch); harp has 7 strings  
 \*1. BM 1983-8-11-5, 15.10g; 2. Baldwin, 14.50g; 3. Lockett 4181; 4. Glen. 13 Mar. 1974, 320 (part).
- 2K rev: garniture frosted (punch); harp has 6 strings.  
 \*1. BM 1983-8-11-6, 14.40g; 2. Private coll., 14.08g (perhaps clipped).
- 2L rev: garniture with raised stippled decoration; harp has 6 strings.  
 \*1. BM 1935-4-1-7483, 15.08g; 2. Ashmolean, 14.16g (EBOR erased); 3. Glasgow Hunter 186, 14.67g; 4. Baldwin, 14.25g; 5. Glen. 23 May 1984, 180, 11.81g (clipped); 6. Lockett 3439 (part); 7. Galata list, Winter 1980, 271.
- Group 3* Obverse: LION 3 ·CAROLVS·D·G·MAG·BRIT·FRAN·ET·HIB·REX· Equestrian figure (tail behind); EBOR beneath horse; lozenge stops.

Reverse: CHRISTO (fleur) AVSPICE (fleur) REGNO· Lion 3 crowned shield; C-R (crowned) to l. and r.; lozenge stops  
Die-diam. 34mm ; cutter-punch diam. 34.5mm ; die-axis 0°

- 3A rev: square shield; crown jewelled; inner border 'wire-line' and pellets. (Hawkins 5)  
1. BM 1935-4-1-7485, 14.37g; \*2. BM 1849-7-12-1 (Pocklington hoard 1849), 14.64g; 3. Fitzwilliam, 14.28g; 4. NMW E3884, 14.79g; 5. Brooker 1081, 14.40g; 6. Private coll., 15.03g; 7. Baldwin, 14.54g; 8. Glen. 7 Apr. 1982, 54, 14.93g; 9. Lockett 2368; 10. Glen. 13 Mar. 1974, 318 (part); 11. Glen. 4 Apr. 1979, 237; 12. *N.Circ* Dec 1979, 11359; 13-14. Bridgewater House coll., Sotheby 15 Jun. 1972, 250 (2 coins).
- 3B rev: oval garnished shield; crown jewelled. (Hawkins 6)  
1. BM 1935-4-1-7487, 14.14g; 2. BM 1849-7-12-3 (Pocklington hoard), 14.67g; \*3. Fitzwilliam, 15.51g; 4. Fitzwilliam, 14.52g; 5. NMW E3877, 14.87g; 6. Glasgow Hunter 187, 14.17g (worn); 7. Glasgow Coats 1270, 13.84g; 8. Brooker 1083, 14.48g; 9. Baldwin, 14.47g; 10. Baldwin, 14.30g; 11. Baldwin, 14.22g; 12. Stack's NY, 22 Oct. 1981 (H.S. Bareford coll.), 501, 14.97g; 13. Glen. 13 Mar. 1974, 319 (part); 14. Glen. 24 Mar. 1976, 58; 15. Irelands (Norwich) 3 May 1984, 1686; 16. J. Lepczyk Auction 58 (Detroit) 22 Jul. 1984, 951.
- 3C rev: similar to 3b, small fleurs; crown jewelled; flaws in lower l. field.  
\*1. BM 1915-5-7-168, 15.13g; 2. BM E1087, 14.55g; 3. Fitzwilliam, 14.88g; 4. NMW E3876, 14.36g; 5. Blackburn Museum (Hart coll.), 14.15g; 6. Brooker 1084, 14.40g; 7. Baldwin, 14.68g; 8. Baldwin, 14.67g; 9. Spink 31, 12 Oct. 1983, 212, 14.67g; 10. Spink 32, 30 Nov. 1983, 445, 14.44g; 11. Seaby Mail Bid Sale 3, Mar. 1984, 63, 14.05g; 12. Lockett 2370; 13. Glen. 13 Mar. 1974, 319 (part).
- 3D rev: similar to 3b, two large fleurs; crown arches decorated.  
1. BM E1088, 14.77g; \*2. Fitzwilliam, 14.94g; 3. Fitzwilliam, 14.91g; 4. Brooker 1082, 14.28g; 5. Spink 16, 9 Jul. 1981, 543, 14.41g; 6. Spink 18, 18 Nov. 1981, 824, 14.94g; 7. Private coll., 13.28g (worn); 8. Baldwin, 14.96g; 9. Baldwin, 14.74g; 10. Yorkshire Museum (Pocklington hoard 1849); 11. Lockett 3438 (perhaps the same coin as 6).
- 3E rev: similar to 3b, two small fleurs and 'bezants' in legend; crown arches decorated as 3D  
\*1. BM 1849-7-12-2 (Pocklington hoard 1849), 14.75g; 2. BM 1920-9-7-1000, 14.43g (EBOR erased); 3. Private coll., 13.34g; 4. Baldwin, 15.02g; 5. Baldwin, 14.84g; 6. Spink, 14.60g; 7. Spink 6, 9 Oct. 1979, 40, 14.67g; 8. Spink 31, 12 Oct. 1983, 213, 14.67g (different coin from 7); 9. Lockett 4517; 10. Glen. 4 Apr. 1979, 238; 11. *N.Circ* Apr. 1983, 1881; 12. Bridgewater House coll., Sotheby 15 Jun. 1972, 251.

## SHILLINGS

- Group I* Obverse: Lion 2 ·CAROLVS·D·G·MAG·BRI·FR(A)·ET·HI(B)·REX· Bust l., XII behind head; pellet stops  
Reverse: ·CHRIST·O·AVSP·ICE·RE·GNO Lion 2 pellet stops  
Die-diam. 30mm; cutter-punch diam. 31mm
- 1A obv: FR·ET·HI·B·REX·  
rev: square shield on long cross fourchee; 'bezant'-on-stalk in cross-ends; EB - OR above shield;  
Die-axis 270°. (Hawkins 1)  
\*1. BM 1935-4-1-7581, 5.92g; 2. Ashmolean, 5.83g; 3. Ashmolean, 5.52g; 4. Fitzwilliam, 5.81g; 5. Brooker 1089, 5.42g; 6. Baldwin, 5.70g; 7. Lockett 4521 (part); 8. Glen. 13 Mar. 1974, 322 (part).
- 1B obv: FRA·ET·HI·REX·  
rev: - O·AVSPI - CE·REG - NO·lion·; similar to 1a, twigs in cross-ends; die-axis 270°  
\*1. BM Bank M136, 5.53g; 2. Ashmolean, 5.33g; 3. Fitzwilliam, 5.09g (worn); 4. Fitzwilliam, 5.60g; 5. Fitzwilliam, 5.24g (pierced); 6. Glasgow Hunter 194, 5.60g; 7. Glasgow Coats 1291, 5.23g (worn); 8. Manchester Univ. Museum, 5.40g; 9. Brooker 1090, 5.64g; 10. Baldwin, 5.46g; 11. Lockett 3440 (part); 12. Glen. 13 Mar. 1974, 322 (part); 13. *SCMB* Sept. 1978, E543; 14. *SCMB* Oct. 1979, E497 (clipped).

- 1C obv: FRA-ET-HI-REX· ; very faint pellet before CAROLVS  
rev: ·CHRIS·-TO-AVSP·-ICE-RE·-GNO· lion ; similar to 1a, fine pellets in cross-ends; EB (fleur and 4 pellets) OR; die-axis 0°  
\*1. BM E1240, 6.40g; 2. Brooker 1091, 6.02g; 3. Baldwin, 6.40g; 4. SCMB, Dec 1977, E1248.
- 1D obv: FR-ET-HI-REX·; draped bust, crudely finished ; 'wire-line' inner border  
rev: O-AVSP·-CE-REG·-NO· lion·; similar to 1A, 'bezant'-on-stalk in cross-ends; 'wire-line' inner border; die-axis 270°; (Hawkins 2)  
\*1. BM 1839-9-21-2, 5.63g; 2. Glasgow Hunter 195, 5.90g; 3. Glasgow Coats 1290, 5.81g; 4. Brooker 1092, 5.96g; 5. Baldwin, 5.55g; 6. Lockett 4182 (part); 7. Glen. 13 Mar. 1974, 323 (part); 8. SCMB Jun. 1981, E271.
- 1E obv: FRA-ET-HI-REX· ; similar to 1A-C  
rev: Lion 2 ·CHRISTO-AVSPICE-REGNO·-·; oval shield, EBOR below; die-axis 270°; (Hawkins 3)  
\*1. BM 1922-5-22-35, 5.64g; 2. BM E1241, 5.65g; 3. Ashmolean, 5.66g; 4. Fitzwilliam, 5.60g; 5. Fitzwilliam, 5.43g (worn); 6. Glasgow Hunter 192, 6.12g; 7. Glasgow Coats 1292, 5.74g; 8. Brooker 1093, 5.97g; 9. Baldwin, 5.48g (worn); 10. Baldwin, 5.64g; 11. Lockett 2376; 12. Glen. 13 Mar. 1974, 323 (part).
- Group 2*  
Obverse: Lion 3 ·CAROLVS-D-G-MAG-BRIT-FRAN-ET-HIB-REX· Bust l., XII behind head; inner circle pellets + 'wire-line'; lozenge stops  
Reverse: ·CHRISTO-AVSPICE-REGNO· lion 3; crowned oval shield, EBOR below ; lozenge stops  
a-c: oval garnished shield, lozenge or pellet to r. and l. (Hawkins 4)  
d-e: oval shield garnished with lionskin as half-crowns 2G-L (Hawkins 5)  
Die-diam. 30mm ; cutter-punch diam. 31mm; die-axis 0°
- 'Normal' die-combinations*
- 2Aa obv: BRTT; lozenge above XII behind head  
rev: outer arch of crown jewelled; lozenges beside shield; EBOR (small letters)  
1. BM E1242, 5.01g (clipped); 2. Brooker 1095, 5.64g; 3. Baldwin, 5.46g; 4. Yorkshire Museum; 5. Lockett 4182 (part); \*6. Glen. 13 Mar. 1974, 324 (part); 7. SCMB Jan. 1977, E556.
- 2Bb obv: D·G·MAG·; REX■; lozenge above XII  
rev: similar to 2a ; large pellets beside shield; ·EBOR·  
\*1. BM E1243, 6.17g; 2. BM 1935-4-1-7583, 5.72g; 3. BM 1946-10-4-466, 5.16g (worn); 4. Baldwin, 5.60g; 5. C.J. Martin, 5.76g; 6. Lockett 4521 (part); 7. Glen. 13 Mar. 1974, 324 (part); 8. SCMB Feb. 1976, 1116 (clipped).
- 2Cc obv: lozenges above and below XII  
rev: similar to 2a; lozenges beside shield; ·EBOR·  
\*1. BM 1935-4-1-7582, 5.91g; 2. BM 1839-9-21-3, 5.70g; 3. BM 1909-4-5-16 (Constable Burton hoard 1909), 4.31g (clipped); 4. Ashmolean, 5.81g; 5. Fitzwilliam, 5.93g; 6. NMW E3879, 4.87g (heavily worn and ?clipped); 7. Glasgow Hunter 193, 6.28g; 8. Blackburn Museum (Hart coll.), 5.42g; 9. Brooker 1094, 5.43g; 10. Baldwin, 5.87g; 11. Stack's NY 22 Oct. 1981 (H.S. Bareford coll.), 5.03, 6.21g; 12. Seaby Mail Bid Sale 3, Mar 1984, 64 (part), 5.88g; 13. C.J. Martin Jul.-Aug. 1984, P2, 5.87g; 14. Glen. 13 Mar. 1974, 324 (part); 15. SCMB May 1979, E251.
- 2Dd obv: D·G·; lozenge above XII  
rev: REGNO lion ; crown plain; EBOR  
1. BM SSB 64-42, 5.59g; 2. Ashmolean 5.77g; 3. Ashmolean, 5.31g; \*4. Fitzwilliam, 6.02g; 5. Fitzwilliam, 5.49g; 6. NMW E3881, 5.60g; 7. Brooker 1098, 5.74g; 8. Baldwin, 5.14g; 9. Glen. 13 Mar. 1974, 325 (part); 10. SCMB Jan. 1979, E68.



- 2Ee obv: D·G· ; lozenges above and to r. of XII  
rev: similar to 2d; crown jewelled; garniture frosted; EBOR

\*1. BM 1935-4-1-7584, 5.04g; 2. NMW E3880, 5.97g; 3. Glasgow Hunter 191, 5.77g; 4. Manchester Univ. Museum, 5.50g; 5. Brooker 1097, 5.90g; 6. Baldwin, 6.31g; 7. Baldwin, 5.74g; 8. Lockett 4520; 9. Glen. 13 Mar. 1974, 325 (part); 10. Trencerry list, May/Jun. 1983, 144.

*'Hybrid' die-combinations*

- 2Ae \*1. BM 1983-8-11-8, 5.25g (worn); 2. Ashmolean, 4.96g (worn); 3. Brooker 1096, 5.37g; 4. SCMB Oct. 1976, E323.  
2Ba Not found.  
2Cb 1. Ashmolean, 6.04g; \*2. Glasgow Coats 1293, 5.51g; 3. Lockett 2377; 4. Glen. 13 Mar. 1974, 324 (part).  
2Dc \*1. BM 1983-8-11-9, 5.64g.  
2Ed 1. BM 1983-8-11-7, 5.43g (worn); 2. Lockett 3440 (part); \*3. Glen. 13 Mar. 1974, 325 (part).

SIXPENCES

Obverse: Lion 4 ·CAROLVS·D·G·MAG·BRIT·FRAN·ET·HIB·REX· Bust l., VI behind head; lozenge stops  
Reverse: ·CHRISTO·AVSPICE·REGNO· Lion 4 Crowned oval shield; crowned C and R to l. and r.; arches of crown jewelled; lozenge or lozenge and 'bezant' stops  
Die-diam. 23mm; cutter slightly oval 24x23mm  
Die-axis 0°

- 1A rev: lacks C-R (Hawkins 1)  
\*1. BM 1935-4-1-7631, 3.10g; 2. Ashmolean, 2.84g; 3. Fitzwilliam, 2.92g; 4. Glasgow Hunter 197, 2.96g; 5. Brooker 1099, 3.11g; 6. Baldwin, 2.71g (worn); 7. Glen. 10 Feb. 1965, 304.  
1B rev: with C-R; lozenge stops (Hawkins 2)  
1. BM Grueber 652, 2.89g; \*2. Glasgow Hunter 196, 2.89g; 3. Baldwin, 3.02g; 4. Glen. 13 Mar. 1974, 326 (part); 5. Sotheby 26 May 1976 (Westminster School), 429.  
1C rev: similar to 1b  
\*1. BM 1930-4-7-25, 2.78g.  
1D rev: similar to 1b, but 'bezants' in legend.  
1. BM E1292, 3.01g; 2. Fitzwilliam, 2.88g (pierced); \*3. NMW E3885, 2.63g; 4. Brooker 1100, 2.93g; 5. Baldwin, 2.42g (worn).  
1E obv: stops in legend are pellets  
rev: similar to 1d  
1. BM E1291, 2.95g (officially pierced in 1696?); \*2. Brooker 1101, 2.95g; 3. Baldwin, 2.82g (worn); 4. Yorkshire Museum.  
1F rev: similar to 1d.  
\*1. Glen 13 Mar. 1974, 326 (part); 2. Lockett 3441.

THREEPENCES

Obverse: Lion 5 ·CAROLVS·D·G·MA(G)·BR·F(R)·E(T)·H(I)·REX· Bust l., III behind head; pellet stops.  
Reverse: CHRIST - O·AVSP - ICE·RE GNO Lion 5 square shield on long cross fourchee; EB·OR above shield; pellet stops

Die-diam. 18mm; cutter-diam. 18.5 mm; die-axis 270°

- 1A  
obv: MAG·BR·FR·ET·HI·  
rev: two lis only in bottom r. field; harp has 6 strings  
\*1. BM 1983-8-11-10, 1.34g; 2. BM E1327, 1.17g (worn); 3. Fitzwilliam, 1.30g; 4. Brooker 1102, 1.34g; 5. Baldwin, 1.34g; 6. Lockett 4521 (part).
- 1B  
obv: MAG·BR·FR·ET·HI·; III behind head double-punched  
rev: GNO· lion; two lis only in bottom r. field; harp has 4 strings  
1. BM 1840-11-20-23, 1.38g; 2. BM 1935-4-1-7650, 1.12g; \*3. Fitzwilliam, 1.36g; 4. Glasgow Coats 1319, 1.29g; 5. Brooker 1103, 1.26g; 6. Baldwin, 1.42g; 7. Baldwin, 1.37g; 8. Yorkshire Museum; 9. Lockett 4521 (part).
- 1C  
obv: MA·BR·FR·ET·HI·; no pellet before CAROLVS  
rev: B of EBOR double-punched; harp has 5 strings.  
\*1. BM E1325, 1.37g; 2. Fitzwilliam, 1.30g (pierced but no metal lost); 3. Manchester Univ. Museum, 1.20g; 4. Brooker 1104, 1.20g; 5. Lockett 2380 (part).
- 1D  
obv: MA·BR·FR·ET·HI·  
rev: lion double-punched; harp has 6 strings  
\*1. BM 1946-10-4-478, 1.25g; 2. Brooker 1105, 1.28g; 3. Baldwin, 1.33g; 4. Baldwin, 1.16g.
- 1E  
obv: MA·BR·FR·ET·HI·  
rev: E of EBOR double-punched; harp has 6 strings.  
\*1. BM 1983-8-11-11, 1.17g; 2. Ashmolean, 1.32g; 3. Ashmolean, 1.26g; 4. Ashmolean, 1.24g; 5. Brooker 1106, 1.21g; 6. Baldwin, 1.34g; 7. Baldwin, 1.28g; 8. Baldwin, 1.23g (pierced); 9. Yorkshire Museum; 10. Lockett 4521 (part).
- 1F  
obv: MA·BR·FR·ET·HI·; middle I of III weak  
rev: O of REGNO double-punched; harp has 6 strings.  
1. BM Bank M143, 1.36g; \*2. BM E1326, 2.01g (trial-piece on square flan); 3. Fitzwilliam, 1.41g; 4. Fitzwilliam, 1.18g; \*5. Glasgow Coats 1320, 1.22g; 6. Baldwin, 1.30g; 7. Baldwin, 1.30g; 8. Baldwin, 1.38g; 9. Brooker 1107, 1.36g; 10. Seaby Mail Bid Sale 3, Mar. 1984, 65, 1.33g; 11. *ibid.*, 64 (part), 1.09g (poor worn example, probably these dies).
- 1G  
obv: MA·BR·FR·ET·HI·; third I of III double-punched  
rev: CHRIS - TO·AVS - PICE·R - EGN lion; harp has 6 strings  
\*1. BM E1324, 1.24g; 2. Ashmolean, 1.41g; 3. Ashmolean, 1.82g (trial-piece on square flan); 4. NMW E3882 (Brooker 1108), 1.26g; 5. Baldwin, 1.28g; 6. Baldwin, 1.59g; 7. Baldwin, 1.07g; 8. Spink 31, 12 Oct. 1983, 215, 1.33g; 9. Yorkshire Museum.
- 1H  
obv: MA·BR·F·E·H·  
rev: - O·AVSP - CE·REG - NO· lion (traces of I of AVSPICE); harp has 6 strings  
\*1. BM 1935-4-1-7651, 1.46g; 2. Ashmolean, 1.39g; 3. Fitzwilliam, 1.54g; 4. Fitzwilliam, 1.48g; 5. Brooker 1109, 1.36g; 6. Baldwin, 1.36g; 7. Baldwin, 1.26g; 8. Garrett coll. (Leu Zurich 16 Oct. 1984), 1040, 1.38g; 9. Lockett 2380 (part); 9. Yorkshire Museum.
- 1I  
obv: MA·BR·F·E·H·  
rev: - O·AVSP - CE·RE G·NO· lion; harp has 5 obvious strings, traces of a sixth  
\*1. BM SSB 65-72, 1.32g; \*2. BM 1954-10-2-34, 1.50g (trial-piece on octagonal flan); 3. Glasgow Hunter 198, 1.25g; 4. Baldwin, 1.27g; 5. Lockett 2380 (part).

## APPENDIX 2

### *York Coins in Hoards*

#### *A : With termini pre-1650*

1. CONSTABLE BURTON, Yorks (NR), 1909. 236 AR, face value £8. 11s. 6d. Latest coins: Tower 1s. (9)/York 1s. York: shilling 2Cc (1, clipped). Ref: G.C. Brooke, *NC* 4th series 9 (1909), 285–91.
2. CHESTERFIELD (Vicar Lane), Derbys, 1934. 32 AR, face value £2. 3s. 6d. Latest coins: 'date of burial about 1643', no details. York: half-crown 1B (1). Ref: D.F. Allen, *NC* 5th series 19 (1939), 183–4.
3. LYTHAM ST ANNES, Lancs, 1961. 7 AU, 376 AR, face value £20. 15s. 11d. Latest coins: Tower 2s. 6d. (P)(1)/York 2s. 6d. York: half-crown 1F (1). Ref: J.P.C. Kent, *BNJ* 37 (1969), 138–45.
4. POCKLINGTON, Yorks (ER), 1849. At least 161 AR, face value £17+. Latest coins: Tower 2s. 6d. (P)(7)/York 2s. 6d. (48+). York: half-crowns, group 3 (48 or more, all types present). Ref E.H(awkins), *NC* 13 (1851), 42–3. (as a discovery 'in Yorkshire'; numerous sales of 2nd half of 19th century refer to the Pocklington hoard).
5. PENYBRYN, Clwyd, 1979. 105 AR, face value £6. 12s. 1d. Latest coins: Tower 2s. 6d. (R)(1?), 1s. (R)(1)/Oxford 2s. 6d. 1644, etc. York: half-crown 2A (1). Ref: G.C. Boon, *Bulletin of the Board of Celtic Studies of the University of Wales* 29(1)(1981), 368–78.
6. ASHDON, Essex, 1984. 2 AU, 1201 AR, face value £63. 6s. 0d. approx. Latest coins: Tower 2s. 6d. (R)(23), 1s. (R)(147)/Oxford 2s. 6d. 1644. York: half-crowns 2H (2). Unpublished.
7. 'SOUTH MIDLANDS' (COTSWOLDS?), c. 1900. 168 AR, face value £21. Latest coins: Tower 2s. 6d. (R) (19)/Oxford 2s. 6d. 1645 (2), etc. York: half-crown (1) of group 2 or 3, no further details. Ref: Prof (C). Oman, *Trans. Bristol and Gloucestershire Archaeol. Soc.* 32 (1909), 193–201.
8. GLOUCESTER, 1972. 21 AR, face value £1. 7s. 6d. Latest coin: Tower 2s. 6d. Sun. York: half-crown, group 2 (1). Ref: S.A. Castle, *BNJ* 41, (1972), 182.
9. MUSSELBURGH, Midlothian, 1951. 318 AR, face value £16. 8s. 0d. approx. Latest coins: Tower 2s. 6d. Sun (6), 1s. Sun (11)/Oxford 2s. 6d. 1646 (1). York: shilling (1), unspecified. Ref: R. Kerr, *NC* 6th series 12 (1952), 116–8.
10. BURY ST. EDMUNDS, Suffolk, 1956. About 45 AR, face value not known. Latest coin (of 30 known): Tower 1s. Sun (1). York: half-crown 2f (1, clipped). Unpublished.
11. BRADFORD (Wyke), W. Yorks, 1982. 1,048 AR in two pots, total £38. 7s. 0d. approx. Latest coins: Tower 1s. Sceptre (1), 2d. Sceptre (1). York: half-crowns 2B (1, clipped); 2H (1). Unpublished.
12. SHEERNESS, Isle of Sheppey, 1968. 417 AR, face value £22. 17s. 6d. Latest coins: Tower 1s. Sceptre (11). York: half-crowns 1A (1), 2 unspecified (1). Ref: J.P.C. Kent, *BNJ* 38 (1969), 163–6.

#### *B. Uncertain terminus after 1642*

13. NOTTINGHAM (Region), c. 1783. 'A quantity of old silver coins', apparently a typical Civil War period hoard, including a 'beautiful half-crown of King Charles the first of the York coinage'. Ref: Walter Merrey, *Remarks on the Coinage of England* (Nottingham, 1789), 103–4.

#### *C. Post-Restoration hoards*

14. BAMPTON, Oxon., 1850–1. 456 AR, face value £61. 5s. 0d. Latest coins: Charles II 5s. 1673 (3), 2s. 6d. 1673 (1). York: half-crowns unspecified (3). Ref: *Proc. of the Numismatic Society* (23 Jan. 1851), 9–11.
15. ACTON, Suffolk, 1973. 81 AR, face value £7. 2s. 6d. Latest coins: Charles II 1679 (2). York: half-crown (1), published as 'Lion (EBOR below horse) N2312' i.e. Hawkins type 4. This cannot be confirmed: the coin is more probably from group 2 or 3. Ref: S.A. Castle, *BNJ* 44 (1974), 82–3. (See Appendix 3).
16. CREDITON, Devon, 1896. 1884 AR, face value £90 approx. Latest coins: Charles II 2s. 6d. 1683 (2). York: half-crowns unspecified (4). Ref: H.A. Grueber, *NC* 3rd series 17 (1897), 159–72.

17. BROADWOODWIDGER, Devon, 1972. 326 AR, face value £14. 7s. 4d. Latest coin: James II 1s. 1685 (1). York: shilling 1A-C (1). Ref: S.A. Castle, *BNJ* 43 (1973), 146-50.
  18. BRISTOL, Welsh Back, 1923. 5449 AR, face value over £281. Latest coin: James II 2s. 6d. 1688 (1). York: half-crown (1), shilling (1), unspecified. Ref: L.W.G. Malcolm, *NC* 5th series 5 (1925), 236-64.
- D. Excavation find*
19. SANDAL CASTLE, Wakefield, W. Yorkshire, 1965. Half-crown, anomalous type B, found in the stable. Now in Wakefield Museum. Ref: P. Mayes and L. Butler, *Sandal Castle Excavations 1964-1973* (Wakefield, 1983), p. 267, no. 16, incorrectly published as 'North 2312'.

### APPENDIX 3

#### *Anomalous Half-Crowns*

There exists a small group of half-crowns, of which five examples are known to the writer, which appears to stand apart from the main output of the York mint of Charles I. There are three pairs of dies, based on the designs of the group 3 half-crowns:

- A: rev. fleurs similar to type 3C; 1. BM 1913-12-12-3, 11.28g, die-axis 180° (Plate 8, No. 1);  
 B: rev. fleurs similar to type 3C (different rev. die); 1. Wakefield Museum, 11.78g, die-axis 180° (Plate 8, No. 2);  
 C: rev. fleurs similar to type 3D; 1. Brooker 1085, 10.32g (Plate 8, No. 3); 2. Baldwin, 10.77g, die-axis 180°; 3. Lockett 4518, 11.63g, die-axis not known.

These coins share a number of features in common, which set them apart from the group 3 York half-crowns. Most obviously, the dies have all been made from a completely different set of punches. The coins appear to be struck, but surface features suggest that the dies were rusty when used. All coins are of very light weight and appear to be clipped – this may be a deliberate feature of manufacture, but the edges show signs of filing. Analyses of types A and B show silver contents of 93.6 per cent and 96.3 per cent respectively.<sup>1</sup> In the absence of a complete example it is difficult to specify the production technique. The regular die-axis of 180° (an alignment otherwise not known at York) suggests the use of machinery, perhaps a rocker-press, but the unique die-relationships observed for the few examples so far known suggest that a further set of cylinder-dies may have existed, in which case two or three more die-pairs could yet come to light. Until it is possible to examine an example with an unclipped edge, this question is unlikely to be answered – and may never be, since it is possible that all of these coins were systematically clipped before issue.

The designs of these coins follow fairly faithfully those of the group 3 half-crowns, but lack the fine style and competence of die cutting of the latter. Unaware of the Wakefield Museum example, the writer suggested that these curious objects were forgeries made for collectors before 1849, when the discovery of the Pocklington hoard released onto the market plentiful examples of what had hitherto been a very rare York type.<sup>2</sup> However, the existence of this piece forces a reconsideration. It was discovered in 1965 during total excavation of Sandal Castle, near Wakefield, in a stable building which produced nine of the ten English coins of Charles I found on the entire site. The castle was garrisoned for the king during the Civil War, and survived two attempts at its capture before its garrison of about 100 men surrendered on 1 October 1645, following a heavy artillery bombardment. It was rendered untenable in 1646, and was not occupied subsequently. This half-crown must thus have arrived at Sandal not later than July 1645, when the castle was finally blockaded, and this group of coins must therefore be accepted as a contemporary Civil War issue.<sup>3</sup>

Whether or not they are products of the regular York mint is another matter. If the group 3 half-crowns are the latest of the cylinder-press products (as suggested by the die-engraving sequence), these anomalous half-crowns, which imitate them, must come at the end of the sequence. However, their systematic departure from the official weight-standard undermines their credibility as a regular issue, and they thus make sense as a royalist York coinage only if they are seen as a local emergency issue, perhaps during the siege of April – July 1644.<sup>4</sup> Other possibilities exist, for instance an unofficial issue of light-weight coins, seeking to take advantage of the known good quality and acceptability of York issues. Until further examples appear and the full extent and production technique of the group is understood, the status of these half-crowns must remain uncertain.

<sup>1</sup> The second figure may be marginally high, because of possible surface enrichment following cleaning and conservation of the coin.

<sup>2</sup> This suggestion, made in a lecture to the British Numismatic Society, 26 June 1984, has been enshrined in *SCBI* 33 (Brooker), footnote to no. 1085.

<sup>3</sup> P. Mayes and L. Butler, *Sandal Castle Excavations 1964-1973* (Wakefield, 1983), pp. 6-7 and 267. See also Appendix 4 below.

<sup>4</sup> The Carlisle siege coinage of 1645 was struck roughly one-sixth light in weight.

## APPENDIX 4

### *Forgeries and Other Oddities*

Appendix 1 lists all York coin types that can be identified as authentic products of the mint active in 1643–4. Apart from the 'anomalous' half-crowns (Appendix 3), three further classes of 'York' coins remain to be considered.

#### 1. *Contemporary forgeries*

Although Royalist coins make little impact on the composition of hoards, sufficient numbers seem to have circulated to make them attractive to counterfeiters. Some examples of false 'York' shillings are illustrated in Plate 8, Nos. 4–5. These are readily recognised by their crude style, and may be distinguished from other Royalist issues of 'York type' (which are also crude) by their poor metal and the fact that they imitate the York signature.

#### 2. *'Base Halfcrowns'*

York's reputation for uneven adherence to standards and debasement of its products depends entirely on a single group of half-crowns, comprising base examples of type 1A (i.e. Hawkins type 1, but from different dies) and Hawkins's class 4 half-crowns, which form a hybrid group combining designs approximating to the group 1 half-crowns with an EBOR signature similar to that found on the coins of groups 2 and 3. These two types were made from the same set of punches, which was also used for the dies of some base half-crowns purporting to be Tower issues of 1639–41 (see Plate 8, Nos. 6–9). There seems to be little doubt that these coins are forgeries.<sup>1</sup> Each type is represented by a single pair of dies, and was struck in a different manner from that used at York in 1643–4. None of the coins is clipped, but all are very light in weight, between nine and 12½ grams, compared with the official standard of just over 15 grams. Analyses of two of these 'York' coins from the BM collection give silver contents of 55 per cent ('H1') and 44 per cent ('H4'). A debasement of this magnitude, at a time when the royalists will have been keen to demonstrate their ability to maintain their war effort, is unthinkable.<sup>2</sup> In addition, both coins contain around 5 per cent of arsenic, presumably intended to whiten the alloy, whose presence in a seventeenth-century context is surprising.

Are these coins contemporary forgeries, or were they made subsequently for collectors? They do not seem to have become widely known before the nineteenth century: the Hawkins class 4 half-crowns were apparently unknown to both Folkes (1745) and Snelling (1762), but are relatively common today. They surface in auction sales in 1842, but seem to have been eschewed by several major nineteenth-century collectors of varieties.<sup>3</sup> The British Museum acquired its base example of Hawkins 1 in 1839. However, there is an example of Hawkins 4 at Glasgow University from the collection of Dr William Hunter, which was formed during the period from 1770 to Hunter's death in 1783.<sup>4</sup> One possible explanation is that all of these base half-crowns could have been made during the second half of the eighteenth century, when newly-published 'standard works' on English coinage may have stimulated the 'discovery' of new varieties to satisfy the wants of collectors.

Two further features point to forgery aimed at collectors: although this group shares punches in common, the harps used on the 'Tower' coins are different from that used for the 'York' coins. It is unlikely that a contemporary forger would have gone to this trouble to differentiate the groups. Likewise, the manufacturer was careful to match the shapes of the coins to those of the authentic products. The 'Hawkins 1' coins show the polygonal shape often found with group 1 York half-crowns, while Hawkins 4 is fully circular.

There is no convincing evidence for an early date for these forgeries. The published list of the Acton (Suffolk) hoard (Appendix 2, no. 15) which closed in 1679 seems to indicate the inclusion of a Hawkins 4 half-crown, but the reference given is almost certainly a misprint for one of the other types.<sup>5</sup> The discovery of a half-crown described as 'North 2312' (i.e. Hawkins 4) during excavations at Sandal Castle, Wakefield, provides at first sight an impeccable provenance, since the castle was demolished in 1646, but this reference is also faulty, since the coin in question is the anomalous half-crown B, discussed above in Appendix 3.<sup>6</sup> Some of the Hawkins 4 half-crowns show signs of significant wear, implying that they may have circulated, but whether this is natural

<sup>1</sup> Six of the seven York counterfeits listed by H. Linecar (*N. Circ.* 1981, p. 118) belong to this group (the seventh being a base metal cast of a halfcrown type 2J), but unfortunately were not illustrated. The two 'Tower' types are listed as forgeries in the Brooker Sylloge (*SCBI* 33 (1984), nos. 1188–9).

<sup>2</sup> No debasement of this magnitude is found anywhere in the Royalist coinages, even late in the war (Besly and Cowell, forthcoming).

<sup>3</sup> I am indebted to T.G. Webb-Ware for this information.

<sup>4</sup> J.D. Bateson, 'The Hunter Coin Cabinet', *International Numismatic Commission Compte Rendu* 27 (1980), 43–8.

<sup>5</sup> Discussion with Dr J.P.C. Kent, who first sorted the hoard, and S.A. Castle, who published it, convinces me that the Acton hoard did not contain a base-metal York half-crown of this type. The coin in question was presumably from group 2 or group 3.

<sup>6</sup> I am greatly indebted to Pamela Judkins of Wakefield Museum for the opportunity to examine this coin.



or a combination of poor production and artificial distressing is not clear. For the moment we must be content to remove the base half-crowns from the regular output of the York mint, and absolve the mint from any suspicion that it debased its products.

### 3. 'York gold'

York issued no gold, but two cases of the gilding of York threepences have come to the writer's attention. The first was published in all good faith as a gold three-shilling piece in 1807, but was correctly identified when sold at auction in 1854.<sup>7</sup> The second example was in Archbishop Sharp's collection, auctioned in 1977.<sup>8</sup> The mark of value on the latter has been erased. Were a gold three shillings to have existed, its weight (around 21 grains or 1.36g) would have been, coincidentally, close to that of a typical York threepence. The Sharp example was certainly gilded during the seventeenth century, and the erasure of its value may have been intended to enable it to be passed off as a gold crown, since these were approximately the same size.

<sup>7</sup> Mark Noble, 'A Description of an unpublished gold coin of King Charles I', *Archaeologia* 13 (1807), 23–6; Sotheby and Wilkinson, 20 Dec. 1854, lot 20 (part), 'York threepence, gilt'.  
<sup>8</sup> Glendining, 5 Oct. 1977, lot 107.

## KEY TO PLATES

### PLATE 1

1. Charles I, Tower half-crown, i.m. Crown (1635–7) (BM)
2. Charles I, Tower half-crown, i.m. Star (1640–1) (BM)
3. Spain, Philip III, 4-Reales, Segovia 1621 (BM)
4. Charles I, Maltravers farthing, Peck 266 (BM)
5. Charles I, Scots 'Stirling' turner (BM)
6. Charles I, York half-crown 1A on square flan (Folkes, pl. XXVI, 4)
7. Charles I, York half-crown 1B on square flan (Private collection)
8. Charles I, Briot half-crown, i.m. Anchor (1638–9) (BM)
9. Charles I, Briot shilling, i.m. Anchor (1638–9) (BM)
10. Charles I, Thirty shillings Scots, Falconer's 2nd issue (BM)
11. Commonwealth, pattern half-crown 1651, by Ramage (BM)

### PLATE 2

Details of York coins of Charles I

1. Initial-marks; (l. to r.): Lion 1 (half-crown 1B); Lion 2 (half-crown 2J); Lion 3 (shilling 2Dd); Lion 4 (sixpence 1B); Lion 5 (threepence 1H) (all enlarged x4).
2. Lettering on half-crowns, l. to r.: 2A, 2B, 2J, 3B, 3C, 3A (x5.5 approx).
3. Obverse swords on half-crowns, l. to r.: 2A, 2D, 2L, 3A (x5.5 approx).
4. Obverse detail of half-crown 2J, showing traces of neighbouring die (x4).
5. Hand-stippling, half-crown 2A reverse (x5.5 approx).
6. Garniture stippled by punch, half-crown 2B reverse (x5.5 approx).
7. Recut EBOR signature, half-crown 2D obverse (x5.5 approx).
8. Letter E, half-crown 2B reverse (x2).
9. Detail of crown, sixpence 1A reverse (x5.5 approx).

### PLATES 3–7A

Die-combinations of the York coinage of Charles I (Appendix 1).

### PLATE 7B

'Sir Henry Jenkins' house in the Minster Yard'.

### PLATE 8

1. Fine half-crown A, copying type 3C (BM)
2. Fine half-crown B, copying type 3C (Wakefield Museum)
3. Fine half-crown C, copying type 3D (Private collection)
4. Contemporary copy of York shilling, type 2D/E (BM)
5. Contemporary copy of Tower shilling, with i.m. Lis/Lion? and EBOR signature (cf. Folkes pl. XXVI, 7) (BM)
6. Base half-crown, copying type 1A (BM)
7. Base half-crown, Hawkins type 4 (BM)
8. Base half-crown, copying Tower type, i.m. Triangle (Private collection)
9. Base half-crown, copying Tower type, i.m. Star (Private collection)

## PLATE 1

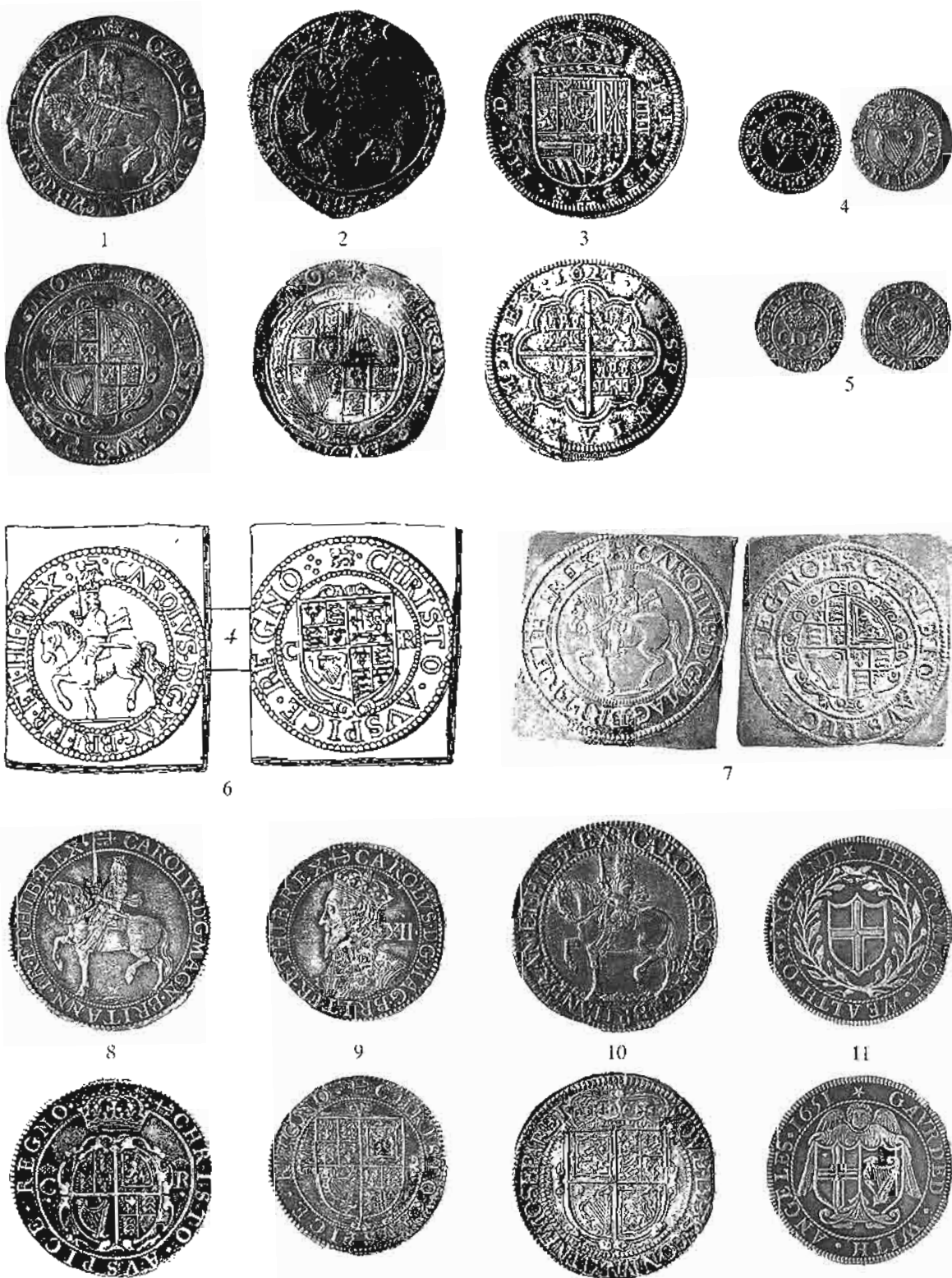


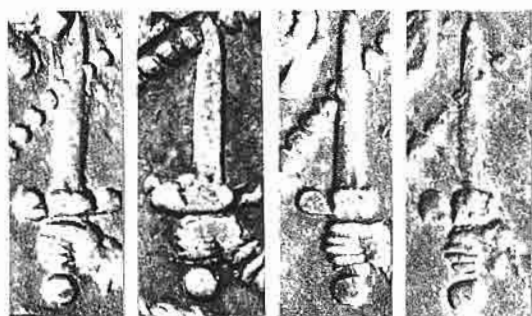
PLATE 2



1



2



3



4



5



8



7



6



9

PLATE 3



1A



1B



1C



1D



1E



1F



2A



2B



2C



2D



PLATE 4



2E



2F



2G



2H



2I



2J



2K



2L



3A



3B







3C



3D



3E



1A



1B



1C



1D



1E



2Aa



2Bb



## PLATE 6



2Cc



2Dd



2Ee



2Ae



2Cb



2Dc



2Ed



1A



1B



1C



1D



1E

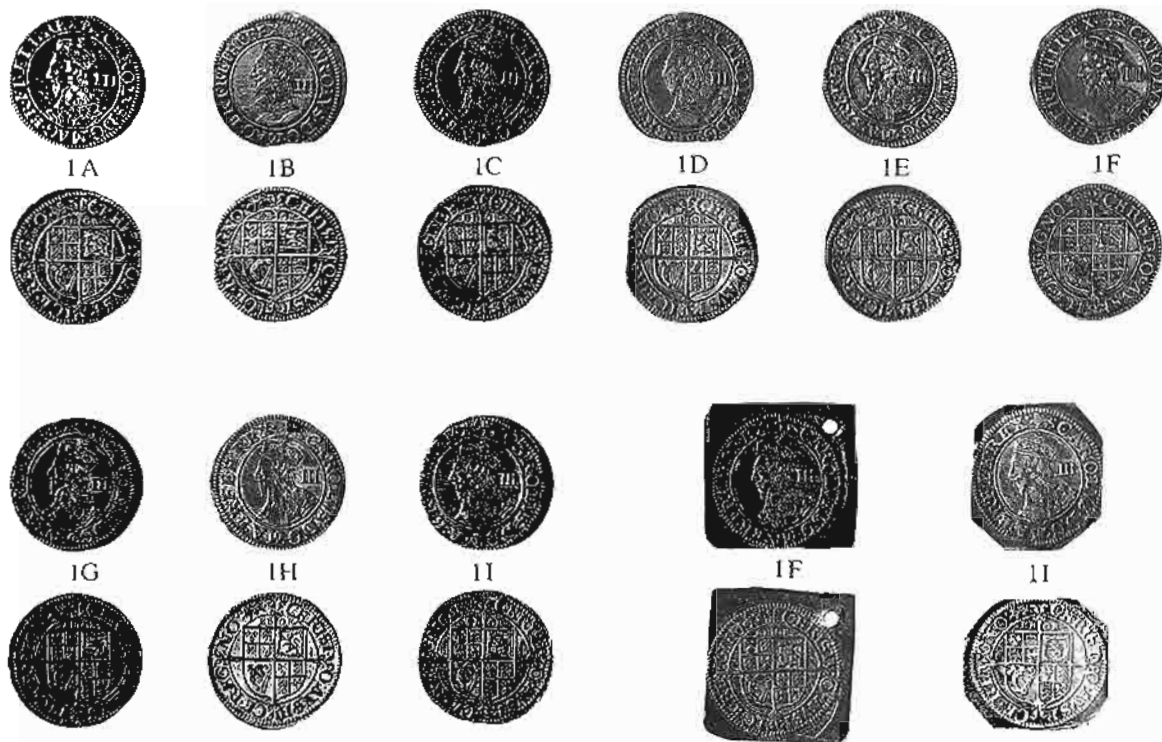


1F





## PLATE 7



## PLATE 8



1



2



3



4



5



6



7



8



9

