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THE ILLUSTRATION OF COINS: AN HISTORICAL SURVEY. PART II

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Introduction

LAST year I ended my survey of coin illustration in 1840, at the dawn of photography. Since the first printed images of coins appeared, early in the sixteenth century, there have been numerous developments affecting the way in which coins can be shown. The impact of some of these has been both progressive and cumulative: for example, the invention of lithography in about 1798,¹ followed by photography from 1839² and by the offset printing press, patented in 1909.³ I am neither prescient nor rash enough to speculate what the future may bring but the pace of innovation appears to be quickening, especially with advances in computer hardware and software and the related ousting of analogue by digital photography.

The utility and aesthetic merit of coin illustration depend on the quality of the coins themselves, the means employed to capture the images, the skill applied to such means and the visual medium chosen. This is usually the printed page where the paper specification also has a measurable bearing on the eventual result. The technology and terminology associated with the many developments can be confusing – and even tedious to the layman – so I shall try to concentrate in readily understood language on those which have had the greatest impact on numismatic illustration in the past 170 years.

Regardless of origin, all the illustrations for this address have been prepared with a Nikon D200 camera and 60mm Micro Nikkor lens. I believe these images reproduce the original illustrated material with an acceptable degree of accuracy, but the camera has translated everything shown in the accompanying figures and plates into digital images, upon which the process of printing has further impacted. I simply cannot reproduce exactly the levels of refinement attainable with some of the processes I describe. Moreover, the illustrations have been selected to show as clearly as possible the means chosen to portray the images without necessarily reproducing them life size.

Invention of photography

The year 1839 was a watershed. On 7 January Louis Daguerre's success in producing a photographic image on silver plate was reported to the Académie des Sciences in Paris⁴ and eighteen days later Faraday described to the Royal Institute Fox Talbot's achievement in producing a photographic negative on chemically sensitized paper.⁵ Shortly afterwards, on 14 March, twenty-three examples of photography were exhibited to the Royal Society by Fox Talbot's friend and fellow-scientist, Sir John Herschel.⁶ Although for the next decade or so John Ruskin,

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¹ Suarez and Woudhuysen 2010, 888; the *OED* dates this 1796.

² *OED*.

³ UK patent 25446, 4 November 1909.

⁴ Lenman 2005, 317.

⁵ *DNB* 1975, 2044.

⁶ Herschel 1839, 132.

for one, enthusiastically used eponymous daguerreotypes to record architectural features,⁷ the process, capable of producing only a single image and involving the use of vaporized mercury, was eventually eclipsed by developments following upon Fox Talbot's pioneering work.⁸

However, it appears that photography was not adopted for coin imaging until the 1860s. An early example – for research purposes – was photographs of the Gjerde hoard, sent in 1865 from Bergen Museum to Oslo for identification (Pl. 23). The eighty year old but forward-looking keeper at Bergen, W.H. Christie, claimed bullishly that the plates were no less distinct than the actual coins.⁹ At about the same time the famous Parisian photographer, François Franck, published twelve mounted plates in sepia of medals and coins struck on the continent at different periods (Fig. 1).¹⁰



Fig. 1. François Franck, photograph in sepia (Douglas Saville).

Non-photographic techniques used in 1840 and beyond

Meanwhile, the use of copper-plate engraving continued. As late as 1887, the publishers of Hawkins' *Silver Coins of England* were still employing, for the third edition, plates used in the first edition of 1841 and added to in the second edition of 1876 (Fig. 2).¹¹ Their conservatism may, of course, have been prompted by cost and convenience rather than partiality. For creating individual images a well-established method was to make plaster casts from wax impressions and in 1840 electrotyping was invented.¹² When, in 1881, Head's *Gold and Silver Coins of the Ancients* appeared, electrotypes of the obverse and reverse of the coins illustrated were offered by the British Museum at a substantial 2s. 6d. a pair.¹³ Both formats enjoyed a considerable vogue and Ruskin again owned an extensive collection of each for study purposes.¹⁴ From

⁷ Hilton 2002, 479.

⁸ Hoberman 1981, 302–3; Lenman 2005, 317; Rosenblum 1997, 29.

⁹ Letter from Christie to C.A. Holmboe, 23 May 1865.

¹⁰ Franck 1860s.

¹¹ Hawkins 1887, pl. xxvi (pt).

¹² OED.

¹³ Head 1881, 128.

¹⁴ R.J. Eaglen, unpublished study.

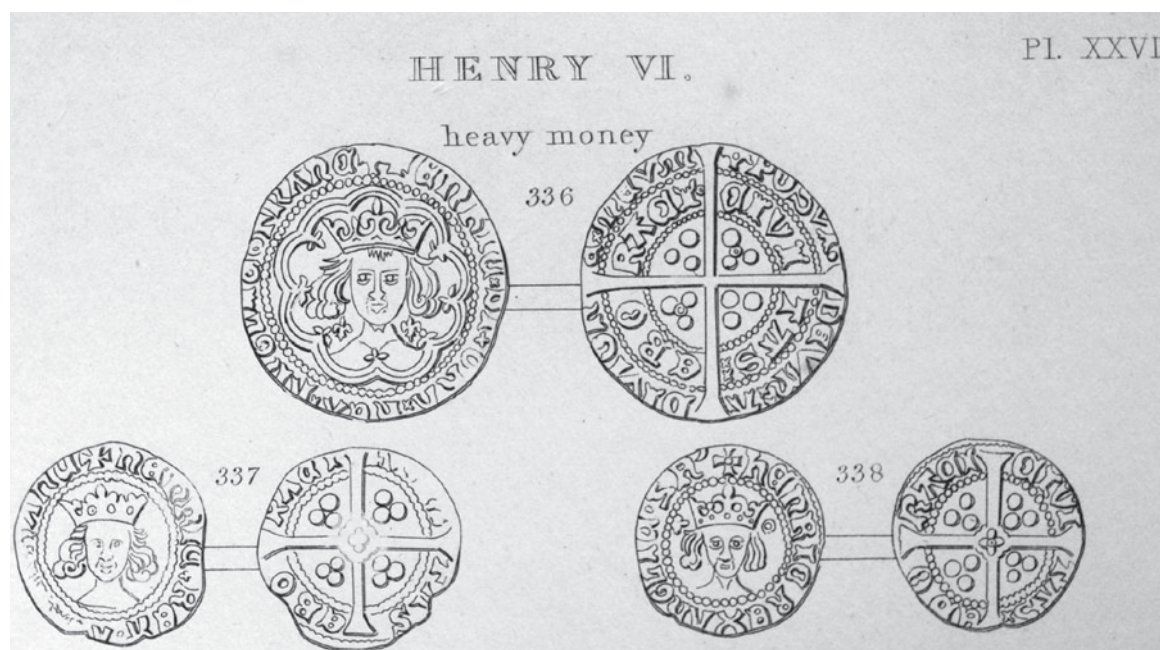


Fig. 2. Copper-plate engraving, from the 1887 edition of Hawkins' *Silver Coins of England*.

the outset of coin photography casts were preferred to coins as the objects set before the camera and, as we shall see later, remained so beyond the middle of the twentieth century.

To illustrate his *Notes on Syracuse* (c.1848–50) William Leake issued a set of coin images impressed into thin cards and mounted behind thicker cards perforated to resemble coin trays (**Pl. 24.1**).¹⁵ The embossed impressions were created by the Barclay process from electrotypes and were available both plain – with a plaster-like appearance – or metallically coloured. For the latter the coloured discs would have been printed on the card before embossing.

In the *Numismatic Chronicle* for 1840–1, J.W. Bergen described somewhat nebulously and illustrated a distinctive process for making images of coins (Fig. 3).¹⁶ This involved the creation of stereotype blocks and, although used to illustrate the Gravesend (1838) hoard, does not appear to have been much favoured.¹⁷ It was only suited to coins with low relief and resulted in images with an unhelpful black background, resembling a negative.



Fig. 3. Illustration produced using stereotype blocks, as described by J.W. Bergen (1840–41). (Spink and Son Ltd.)

¹⁵ Leake c.1848–50, pls. vi–xiv.

¹⁶ Bergen 1840–1, 190, 191 (pl.).

¹⁷ Hawkins 1840–1.

More significantly, from the beginning of the nineteenth century, lithography was available for coin illustration in books. It was a planographic (flat) printing process originally using limestone (from the Greek λιθος) but later metal and even plastic, and had the attraction of offering the option of colour.¹⁸ A monochrome example is Hildebrand's *Anglosachsiska Mynt* (1846) with a second edition in 1881 (Pl. 25.1)¹⁹ and an example with background colour is John Lindsay's *A View of the Coinage of the Heptarchy* in 1842 (Pl. 25.2).²⁰ A more striking polychrome example was H.N. Humphreys' *The Coins of England* (1846) illustrated by 'fac-similes . . . printed in gold, silver and copper' (Fig. 4).²¹ Significantly Humphreys' background was as a graphic artist rather than a numismatist.²² He prepared the plates by copying engravings from other works to which the appropriate colour was applied against a blue background. Fig. 5 shows a coin from Humphreys' first plate (Fig. 5a) alongside the same coin illustrated by Ruding (Fig. 5b).²³



Fig. 4. Polychrome plate from Humphreys 1846.

Popular illustrations

Numismatically, the chromolithographic technique used for popular works, such as those by Humphreys, offered no advantages over the less exotic engraved image. Another such work was Lt Colonel Thorburn's *A Guide to the Coins of Great Britain and Ireland*, first published in 1884.²⁴ Extraordinarily, it contained examples of three types of plate: shallowly-embossed images impressed upon pre-printed metallic coloured discs of the appropriate size (Fig. 6a),²⁵ line engravings printed over such discs (Fig. 6b)²⁶ and conventional engravings (Fig. 6c).²⁷ Despite the effort involved, the embossed images achieved realism at the expense of clarity. Any scholarly pretensions of Thorburn's work were undermined by the extensive and bizarre

¹⁸ *OED*; Suarez and Woudhuysen 2010, 888–9.

¹⁹ Hildebrand 1881, pl. 5 (pt).

²⁰ Lindsay 1842, pl. 2 (pt).

²¹ Humphreys 1846. Fig. 4 is part of the title page.

²² Manville 2009, 141.

²³ Humphreys 1846, pl. xiv, 137; Ruding 1840, pl. xiv, 5.

²⁴ Thorburn 1884.

²⁵ Thorburn 1888, pl. I (pt).

²⁶ Thorburn 1888, pl. XVI (pt).

²⁷ Thorburn 1888, pl. XXIX (pt).

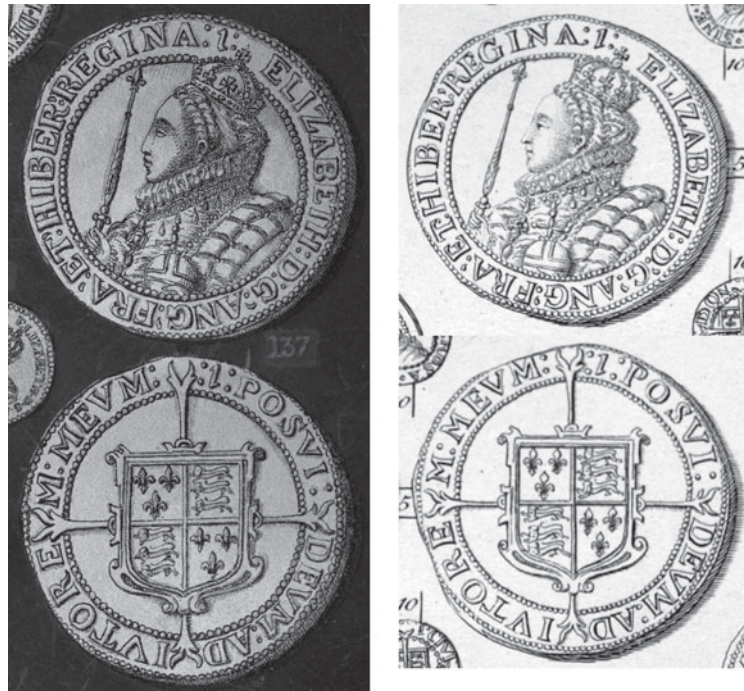


Fig. 5 a–b. Coin of Elizabeth I as illustrated by Humphreys 1846 and Ruding 1840.



Fig. 6 a–c. The three types of plate employed in Thorburn 1888: embossed coloured discs, line engraving on coloured discs, and conventional engravings.

advertisements at the end of the volume, including one for Spratt's Dog Cakes. This must be one of the earliest examples of niche marketing.

Embossed and coloured images of coins were also used for postcards. A series produced in Germany served to identify the denominations of various currencies and provide a table of currency conversions (**Pl. 26.1**).²⁸ In the example illustrated, from c.1902, £1 enjoyed an enviable exchange rate of 4.86 US dollars. Altogether more frivolous, a series produced in England associated representations of coins with somewhat puerile aphorisms. In the example shown the coins, from Victoria and Edward VII, have had their dates erased (**Pl. 26.2**).²⁹

Photography: autotype and collotype

By the 1870s the photograph was not only being used in its own right as a means of illustration but also as a vehicle whereby photographic images could be reproduced by the printing press. In 1871 the ever-progressive Ruskin published *Aratra Pentilici*, based on a series of lectures delivered at Oxford in which he advocated the use of coins to illustrate elements of sculpture. In the preface he briefly describes the process used:

Casts are first taken from the coins, in white plaster; these are photographed and the photographs printed by the autotype process.³⁰

Pl. 24.2 is reproduced from his book. The details of the autotype process were apparently lost during the First World War.³¹ Before then it was used, for example, to illustrate Andrew's schismatic 'Numismatic History of the Reign of Henry I', to which we owe the birth of our Society (**Pl. 27.1**).³² The loss of the process was tragic because above all others it came closest to reproducing in print the continuous tones of fine analogue photography.

A closely-related French process, patented in 1855 and known as collotype, was more hale, lasting in the UK until the 1980s. Derived from the Greek word κόλλα (glue), it employed thin plates of gelatine.³³ It was capable of creating delicate, fine-grained images from photographed casts almost comparable to autotype. At their best, both autotype and collotype images of artistic, well-struck and preserved coins are unsurpassed at any period. For study purpose, their advantage was that the image remained stable under magnification (**Pl. 27.2–3**).³⁴ For plates published before the First World War it is not easy to identify which process was used unless revealed in the accompanying text or on the actual plates, both regrettably rare occurrences. The plates in early volumes of the *BNJ* are simply labelled with the names of companies producing them, such as the London Stereoscopic Co. and Photophane S.E., who both contributed to the Fox study of Edwardian pence.³⁵ However, the Preface to Brooke's *Norman Kings* specifically refers to the plates as collotypes prepared by the London Stereoscopic Co.³⁶

The business of the last collotype printer in the UK, the Cotswold Publishing Company, finally closed in 1987, after a history stretching back to 1895. Somewhat prosaically their bread-and-butter market had been picture postcards, but they also became notable for producing fine coin and other artistic plates. Their customers included Cambridge University Press, the Clarendon and Oxford University Presses, the British and Ashmolean Museums, the Royal Numismatic Society and major coin auction houses.³⁷ Fig. 7 shows part of the works in the early 1950s, where a collotype plate was being prepared for printing.³⁸

²⁸ Royal Mint Museum, Llantrisant.

²⁹ Royal Mint Museum, Llantrisant.

³⁰ Ruskin 1890, vii.

³¹ Ruskin 1890, pl. II (identical to illustration in Ruskin 1871, pl. II).

³² Andrew 1901, pl. II (pt). Carson 1986, 20–2.

³³ Gascoigne 1986, 40–1.

³⁴ Brooke 1916, pl. I (pt).

³⁵ Fox 1910–14, pls. I–V (London Stereoscopic Co.), VI–XII (Photophane Co. S.E.)

³⁶ Brooke 1916, vi.

³⁷ Emes 1995, 2, 103–5.

³⁸ Emes 1995, 39.



Fig. 7. Preparation of a collotype plate at the Cotswold Publishing Company. (D. Emes.)

Demise of collotype

Sotheby's catalogue of the Bruun sale in 1925 provides a slightly later example of collotype. It is especially interesting because it consisted of 142 pages and 24 plates at a cover price of 1 guinea.³⁹ The process was manifestly expensive.

Collotype plates produced from casts continued as the preferred medium for high-quality numismatic illustration well into the 1970s, when their use was assailed by rising costs and the enticement of cheaper alternatives. The first edition of Brooke's *English Coins* (1932)⁴⁰ used such plates, as did Allen's British Museum catalogue of the *Cross-and-Crosslets* type (1951) (Pl. 28.1).⁴¹ Clarity in illustration was particularly important to cope with the shoddy workmanship of Tealby pennies. In the 1960s, however, the process began to be adapted for use with photographed images of coins rather than of casts. The result was less visually satisfying and very variable in quality. The idiosyncrasies of surface tone, lustre, staining, encrustation and other aberrations, apart from the intrinsic skill of the photographer, often combined to compromise the visual impact.

The *SCBI* series began in 1958 with collotypes from casts (Pl. 28.2)⁴² but from 1964 increasingly turned to coin photography. The Edinburgh Sylloge (1966) used a mixture of both. The Copenhagen volumes from 1964 onwards, are particularly disappointing because of excessive contrast and a lack of sharpness in the original photographs (Pl. 28.3).⁴³ The Mack Sylloge (1973) was the last based on casts and by 1977 collotype was superseded by half-tone illustrations, shortly to be discussed.⁴⁴

Photogravure

Photogravure, a process developed before 1880 to etch a photographic negative into a metal plate, was also suited to coin illustration but was not widely used for that purpose. Although

³⁹ Sotheby, 18–22 May 1925, front cover.

⁴⁰ Brooke 1932.

⁴¹ Allen 1951, pl. V (pt).

⁴² *SCBI* 1 Fitzwilliam Museum, pl. XXII (pt).

⁴³ *SCBI* 13 Copenhagen IIIA, pl. 35 (pt).

⁴⁴ *SCBI* 20 Mack.

intrinsically expensive and requiring the careful use of hazardous ingredients, it is widely used in, for example, newspaper colour supplements where the virtual indestructibility of the plates makes them suitable for very long print runs and thereby economical.⁴⁵ An instance from 1958 is found in the plates for Michael Grant's *Roman History from Coins* (Pl. 29.1–2).⁴⁶ The effect is of a regular, fine-grained surface, not dissimilar to later half-tone plates, but without as great loss of coherence under magnification. The Cotswold Publishing Company had photogravure as well as collotype equipment.⁴⁷

Half-tone illustration

Half-tone illustrations began to appear from the early 1880s, being used in the *Graphic* from 1884.⁴⁸ The process involves photographing an existing flat image through a glass screen ruled with fine cross lines, resulting in a printed image composed of equally spaced dots.⁴⁹ Toning arises from differences in the size of the individual dots. It was initially adopted in numismatic publications for black and white illustrations appearing amidst text. Fig. 8 is taken from *BNJ* 7 (1911), which had a mixture of collotype and half-tone plates.⁵⁰ The ornamental initial letter is symptomatic of the attention given to presentation in the early volumes of the *BNJ*. The British Numismatic Society switched entirely from collotype to half-tone plates, based on photographic images, at the same time as the publishers of the *SCBI* series. *BNJ* 36 (1976) was the last with collotype plates and *BNJ* 37 (1977) the first with half-tone plates prepared from both casts and photographs.

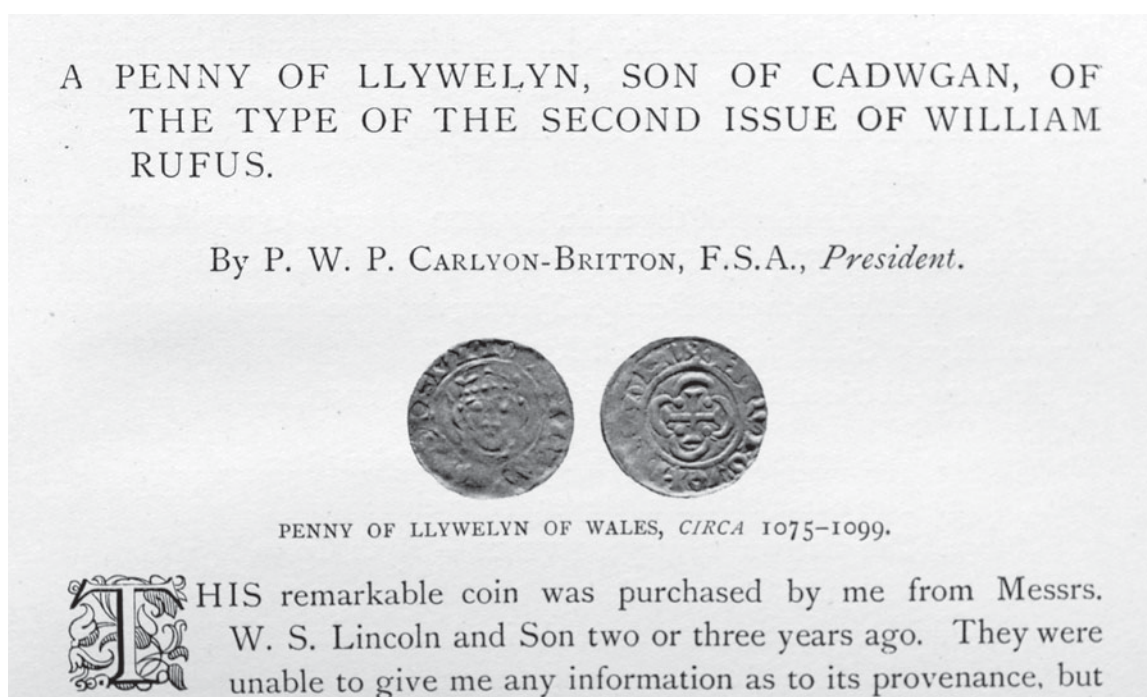


Fig. 8. Half-tone illustration from *BNJ* 7 (1911).

⁴⁵ Suarez and Woudhuysen 2010, 1107.

⁴⁶ Grant 1958, 9; pl. 4.

⁴⁷ Emes 1995, 47.

⁴⁸ *OED*.

⁴⁹ Suarez and Woudhuysen 2010, 777.

⁵⁰ Carlyon-Britton 1912, 83.

The main drawback of half-tone illustrations is that the image decomposes even at low levels of magnification into its constituent dots. This is illustrated from a Seaby catalogue of 1976 (Fig. 9).⁵¹ The defect obviously becomes more exaggerated the smaller the coin being reproduced. Half-tone plates may nevertheless be satisfactory in their unmagnified state depending upon the quality of the photography, the fineness of screen used and lines per linear inch. Superb results were in fact achieved with the plates of the Gulbenkian collection of Greek coins issued in two parts in 1971 and 1989, starting from casts rather than the actual coins (Fig. 10).⁵²



Fig. 9. Half-tone coin from Seaby catalogue, to scale and enlarged (3x), revealing the constituent dots of the image.

Normally, the human eye cannot detect the half-tone structure at 150 lines per linear inch for black and white illustrations or 175 for colour. However, meticulous printers prefer to select 200 or even 400. Half-tone screened colour plates are usually produced using four colours. This results in a distinctive pattern under magnification described as 'rosebuds' or 'rosettes' instead of dots. The example illustrated in Fig. 11 is derived from Hoberman's *The Art of Coins and their Photography*.⁵³ No numismatic publication has applied both techniques to photographs of coins to greater effect than Kraay and Hirmer's *Greek Coins* (1966), illustrating the finest specimens captured by Hirmer's camera over many years (Pl. 30.1 and 30.2).⁵⁴ The latter coin has a diameter of 20 mm.

David Sellwood used half-tone plates in his introductory study of the coinage of Parthia, in 1971, but mainly relied on reproducing line drawings and an accompanying text created by his own hand (Fig. 12).⁵⁵ He was thereby following in the footsteps of Blake, and keeping company with A.W. Wainwright of Lake District fame.

The digital age

Digital technology developed in the last quarter of the twentieth century and gathered momentum from the 1990s. Its impact on photography, printing and the internet has been and continues to be profound.

⁵¹ Seaby 1976, 227 (no. 3090).

⁵² Robinson 1971, pl. XXXI (pt).

⁵³ Hoberman 1981, fifteenth unnumbered pl. between 254–87.

⁵⁴ Kraay and Hirmer 1966, pl. X (no. 315) and 181 (no. 608 O.).

⁵⁵ Sellwood 1971, 61.



Fig. 10. Half-tone illustration, Gulbenkian collection of Greek coins. (Gulbenkian Museum, Lisbon.)

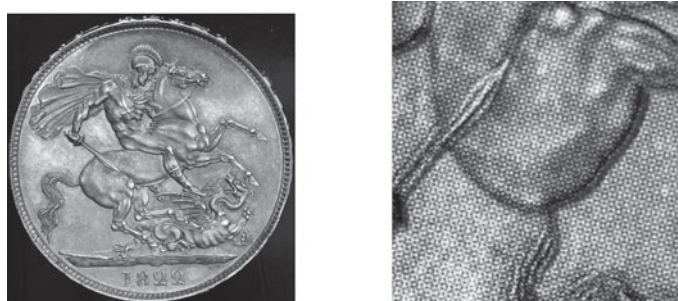


Fig. 11. Half-tone screened colour plates, at scale and under magnification (Hoberman 1981). (Spink and Son Ltd.)

For photography, although digital camera manufacturers are making constant advances, my own experience is that the results achieved with a well-esteemed Nikon D200 digital camera are perceptibly inferior to those achieved with my R Series Leica analogue cameras when using fine grain film. But this unfavourable comparison is more than outweighed by the ease and flexibility with which the digital images, whether produced by a camera or a scanner, can be manipulated. The only insurmountable problem I have so far encountered is when photographing fine line etchings made in the 1840s by the Frenchman Achilles Collas from low relief objects, such as coins, medals and seals (or casts or electrotypes of them) using a sensing machine known as an anaglyptograph.⁵⁶ As **Pl. 31** shows, my camera stubbornly distorts the original image.⁵⁷

⁵⁶ *OED*; Johnson 2010.

⁵⁷ Anon. 1837, pl. V.4.

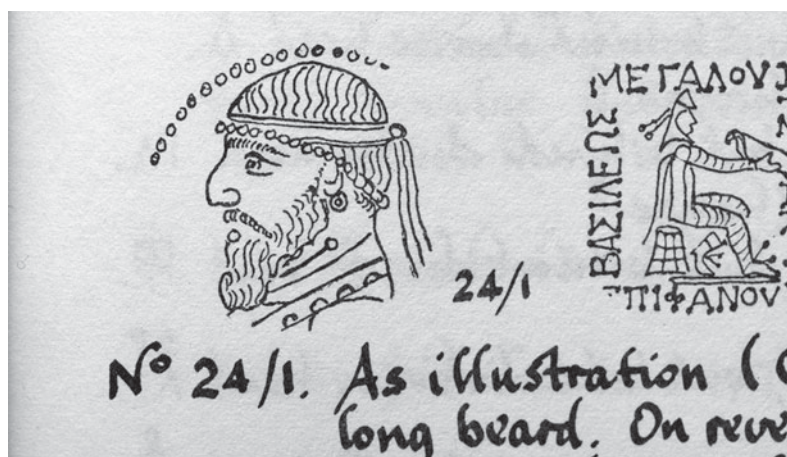


Fig. 12. Line drawing from Sellwood 1971. (D.G. Sellwood.)

For printing, again the flexibility, ease and convenience of digital processing has contributed to cost savings even more impressive than those attained by printing changes in the 1970s and 1980s. It is sobering to think how many specialist works, with short print runs, would still be affordably published were it not for the digital revolution. As an example of what is now achievable, the Society's most recent Special Publication, on the *Coinage of Offa and his Contemporaries* has been printed from pdf (portable document format) files created digitally at the Fitzwilliam Museum.⁵⁸ In parallel with such desk-top developments, the printing trade has also progressed remarkably. Pardy and Son, a major producer of auction catalogues, have recently installed the first Ryobi 920 five colour offset litho press in the UK using computer-controlled spectrophotography. It measures 33½ feet long by 5 feet wide, weighs 30 tons and is capable of producing 16,200 sheets of 920cm × 640cm sheets per hour (Fig. 13).



Fig. 13. Ryobi 920 five colour offset litho press, Pardy and Son. (Pardy and Son.)

The contribution of the internet is, in many ways, even more remarkable, supported by software such as Photoshop. It enables images and other details of coin collections, such as the hammered English series in the British Museum, to be made freely accessible to interested scholars and collectors with the most rudimentary surfing skills. It also has the potential to make available earlier publications on line, such as the *SCBI*, and works otherwise hard and

⁵⁸ Chick 2010.

costly to find in their original format. The Society is currently preparing to place past issues of the *BNJ* on its website.

Digital concerns and limitations

Although the digital age has given rise to these welcome developments, there are also concerns and limitations. Amongst the former I ardently hope that it will not lead in the long term, as some speculate, to the virtual demise of physical books. For me they have been my elemental companions since first learning to read. Secondly, the ease with which digital images of coins can be manipulated places a moral obligation on those producing images of coins offered for sale to ensure that the illustrations faithfully represent the coins on offer. There is, of course, always the caveat that – as with photographs of people – some coins are inexplicably more photogenic than others.

Another concern is that, for economic and other reasons, dealers in coins increasingly rely on the internet rather than illustrated catalogues and lists to advertise their offerings. As their sites are updated an increasing proportion of illustrations may disappear from the public domain. Lastly, and most importantly of all, the durability of internet data is an unknown quantity, whether from viral attacks or other detrimental influences.

The limitation of half-tone illustrations, in terms of dissolution under magnification, applies equally to analogue and digital photography because it stems from the printing process itself. Nevertheless there are a number of ways in which the effect may be mitigated. The first is the specification of the half-tone screen itself, referred to above. Secondly, for quality reproduction 300dpi (dots per square inch) is desirable at actual reproduction size. Thirdly, enlargements can be printed digitally with only slight loss of sharpness compared with the original image. This technique is used to great effect in the superb auction catalogues of Numismatica Ars Classica (Zurich and London), printed with four colour half-tone plates set in an elegant fifth colour background using high quality paper.

Auction catalogues

Apart from numismatic books of many kinds the other main source of coin illustration both before and still largely since the digital era is in auction catalogues, as mentioned above. Not surprisingly, the evolution of their illustration follows closely upon that of numismatic books.

The first British coin catalogue listed by Manville and Robertson was issued anonymously in 1710.⁵⁹ It was not, however, until 1878 that Sotheby first included a plate in its Bank of England sale of European Greek coins (**Pl. 32**).⁶⁰ Even so, only from the mid-1890s did they begin to use autotype and collotype illustrations more intensively, prompted by a clutch of important collections coming on the market, such as Montagu (mainly 1895–97) (**Pl. 33.1**),⁶¹ Murdoch (1903–04)⁶² and Rashleigh (1909)⁶³ in the English series. Christie and Glendining did not follow Sotheby's lead until 1902⁶⁴ and 1904⁶⁵ respectively.

Collotype illustrations based on casts were still being used by Glendining for the major Lockett sales between 1955 and 1961 (**Pl. 33.2**).⁶⁶ For Mack (1975 and 1977), however, the coins were photographed and reproduced as half-tone plates (Fig. 14).⁶⁷ By the 1970s, including the Elmore Jones 1971 sale,⁶⁸ half-tone had become the norm. As with book illustration,

⁵⁹ Manville and Robertson 1986, 4.

⁶⁰ Sotheby, 13 February 1878, pl.

⁶¹ Manville and Robertson 1986, 177–81, 405. Sotheby, 16–20 November 1897, pl. I, pt (**Pl. 32**).

⁶² Manville and Robertson 1986, 201–6, 406.

⁶³ Manville and Robertson 1986, 215, 410.

⁶⁴ Manville and Robertson 1986, 198. Christie, 29–30 April 1902.

⁶⁵ Manville and Robertson 1986, 203. Glendining, 22–3 February 1904.

⁶⁶ Manville and Robertson 1986, 402. Glendining, 6–9 June 1955, pl. XII, pt (**Pl. 33.2**).

⁶⁷ Manville and Robertson 1986, 403. Glendining/Spink, 23 March 1977, lot 96 (Fig. 14).

⁶⁸ Manville and Robertson 1985, 393. Glendining, 12 May 1971.

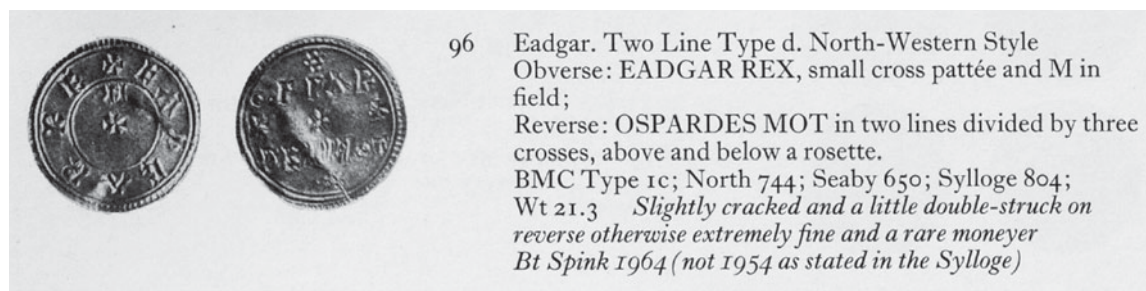


Fig. 14. Half-tone plates in the Mack 1977 sale (23 March 1977, lot 96).

it will be noticed from the Montagu example (Pl. 33.1) that the quality of plates used by British auction houses from the 1890s to the First World War are of supreme quality. This was true also on the Continent, as an example from a catalogue of the Munich dealer, Hirsch, in 1907, reveals (Fig. 15).⁶⁹



Fig. 15. High-quality illustrations from Hirsch sale, 27 May 1907, pl. II (pt).

The final illustration is taken from CNG's Triton XIII Sale in January 2010, printed in the USA. The colour process used here is known as stochastic and replaced their use of half-tone illustration at the beginning of 2009. It achieves an even texture under magnification somewhat akin to collotype and photographic prints by employing random shaped dots instead of the regular grid of half-tone rosettes (Fig. 16).⁷⁰ The software is costly, the proofing system is complex and, although available since the 1990s, the process does not appear to have so far found favour with UK and European based producers of fine illustrations.

The major coin auction houses now issue their catalogues in both hard copy and via the internet. It may sadly be only a matter of time before the former capitulates to the latter. A great advantage of the internet is in enabling potential purchasers to consider up to the last minute how high they are prepared to bid, without even the need to set up a telephone link. I suspect that this may be one reason for the recent strength of the coin auction market.

Die studies

There is a particular reason for ending this survey of coin illustration with auction catalogues. The probability, even the very idea, of making a die study of a given coin series depends upon

⁶⁹ Hirsch, 27 May 1907, pl. II (pt).

⁷⁰ CNG, Triton XIII, 6 January 2010, 2098.



Fig. 16. Stochastic colour process, at scale and under 3.5x magnification. (Classical Numismatic Group Inc.)

access to sufficient coins or images to make the exercise practicable and meaningful. Illustrated scholarly works, and especially sylloges, are an obvious source and not entirely dependent on works published after the invention of photography. However, auction catalogues from late in the nineteenth century, based upon photography for their illustrations, are an equal and sometimes more extensive source of raw material for die study. They are especially valuable because many coins offered at auction appear fleetingly before disappearing again, sometimes for decades, into private hands.

François de Callatây has found an isolated reference in 1767 by Johann Winckelmann to matching dies (*conio medesimo*) but die study as a systematic tool did not develop until the early years of the twentieth century, led by a small band of young students of Ancient Greek coins.⁷¹ De Cattalây lists thirteen resulting die studies between 1906 and 1929.⁷² With hoard evidence die-linking was fundamental to understanding the chronology of the series being studied. In the British series, for collectors of milled coinage die study is an established practice, with the added inducement, especially in modern issues, of discovering anomalies. In the English hammered series the technique has so far been less widely used than might have been expected or hoped for. Mossop's *Lincoln Mint* (1970) remains an outstanding example, but apart from a brilliant brief analysis of the material from Stewart Lyon, the die study was left to speak for itself.⁷³ Although die studies of lesser mints have undoubtedly contributed to knowledge, major mints offer the greatest rewards in the hammered series. They also present the most daunting challenge to stamina, patience and precision. A corpus of Winchester coins is reportedly, after many years in preparation, close to publication. Work on York appears for the moment to have stalled, and sadly London is not even a gleam in a rash person's eye. At the beginning of this evening I eschewed crystal ball gazing, but is it too much to hope that for die studies computer technology will come to our aid?⁷⁴

⁷¹ de Callatây 2007, 6.

⁷² de Callatây 2007, 3–4.

⁷³ Mossop 1970.

⁷⁴ See Talbot and Leins 2010, 3–4 and 22, for an example of the use of composite digital images to assist die-studies of Celtic coins.

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Harry N. Abrams Inc., **Pl. 30.1, 30.2.**

The British Academy *SCBI* Committee, **Pl. 28.2, 28.3.**

Cambridge University Press, **Pl. 29.**

Douglas Saville, **Pl. 24.1, 31.1–2.2.**

Museum of Cultural History, University of Oslo, **Pl. 23.**

Royal Mint Museum, Llantrisant, **Pl. 26.1, 26.2.**

Trustees of the British Museum, **Pl. 27.2–3, 28.1, 32.**



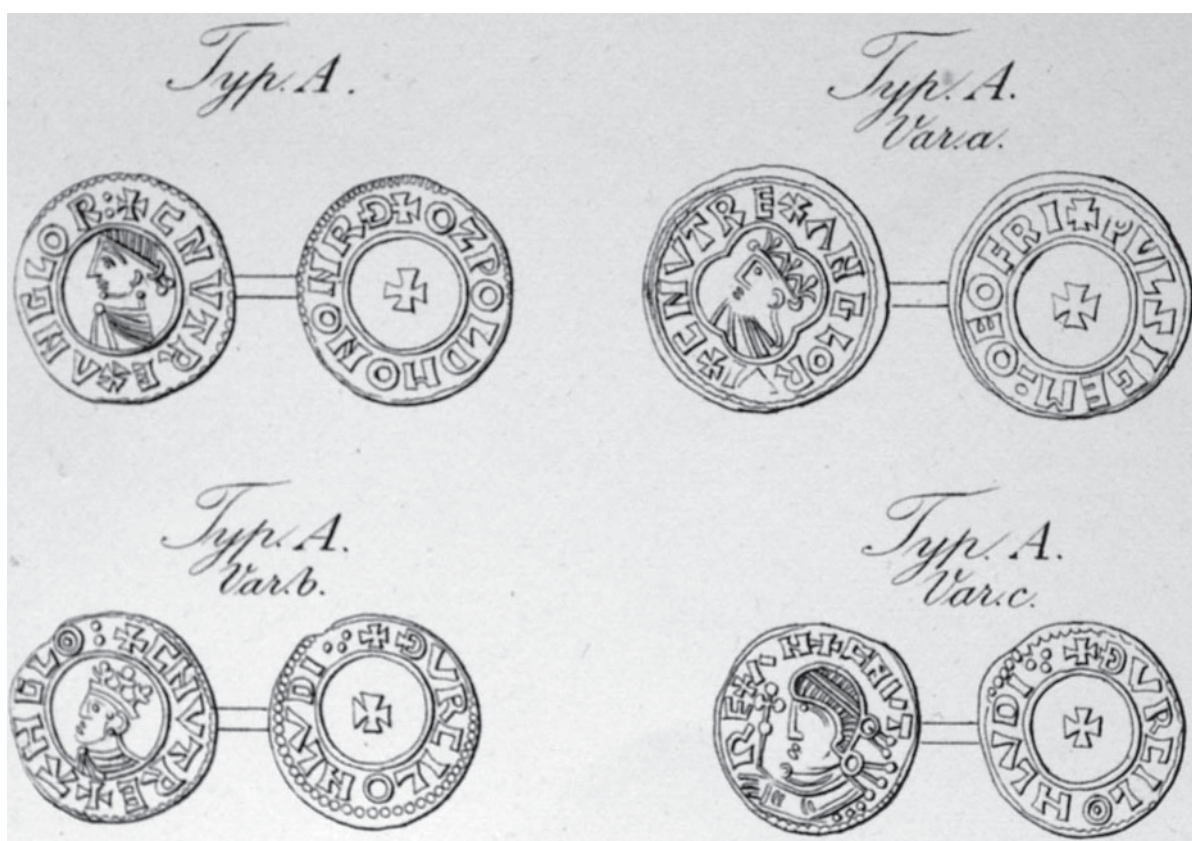
EAGLEN: ILLUSTRATION OF COINS (1)



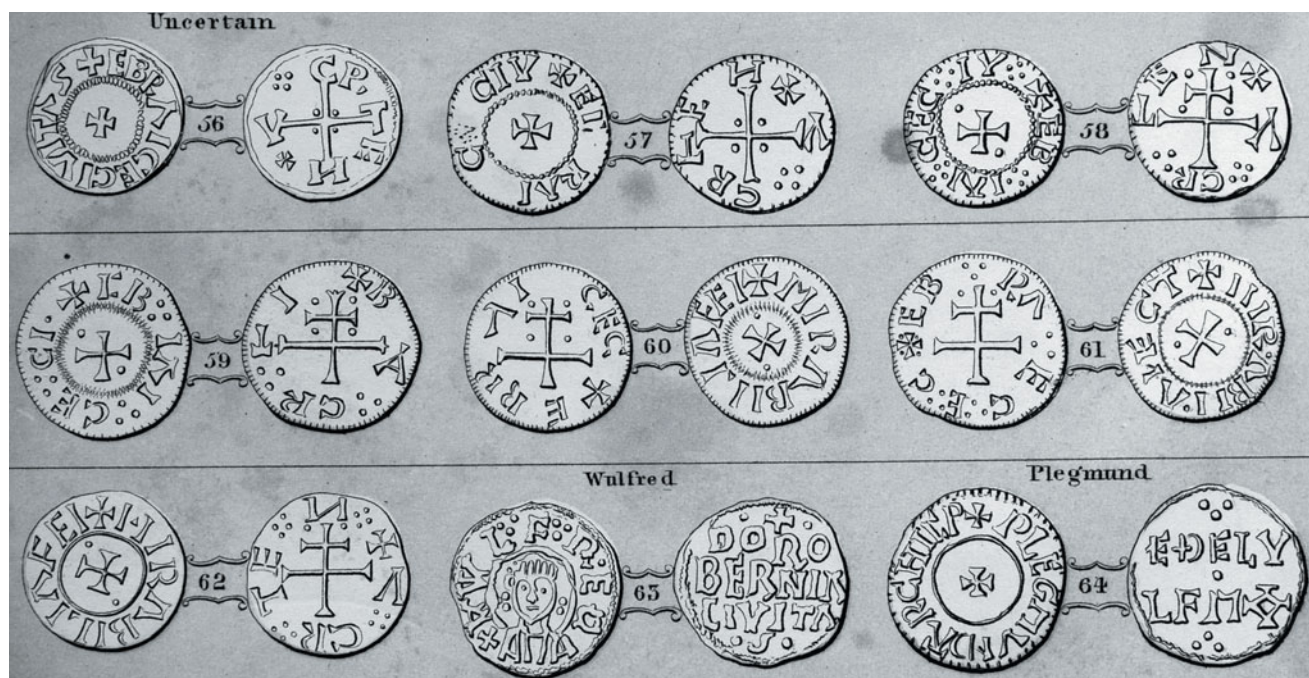
1



2



1



2

Serie I Nr. 11. Post-card with national flag,
to give information about international
coinage.

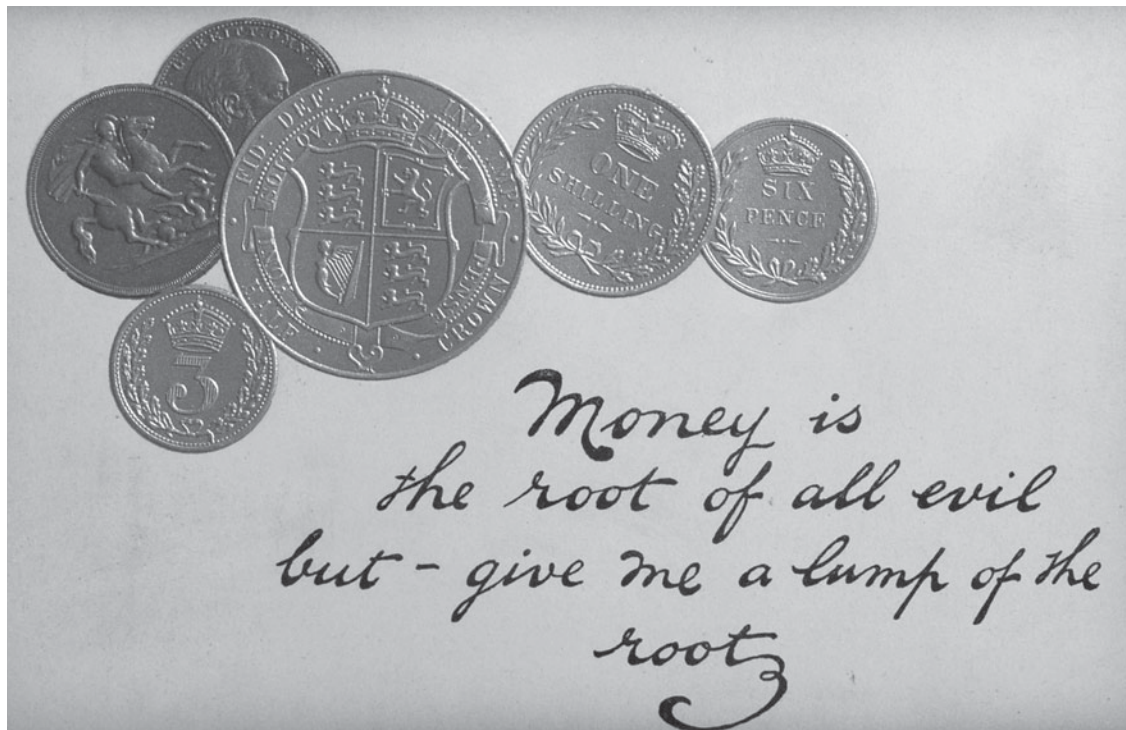
Germany
France
Belgium
Switzerland
Italy
Netherlands
Austria
Hungary
Russia
Denmark
Sweden
Norway
United States
of North-
America

2 sh.	1 sh.	1/2 sh.	1/4 sh.	1/8 sh.	1/16 sh.	1/32 sh.	1/64 sh.
40 Mk. 80 Pf.	20 Mk. 40 Pf.	10 Mk. 20 Pf.	5 Mk. 10 Pf.	4 Mk. 8 Pf.	3 Mk. 6 Pf.	2 Mk. 4 Pf.	1 Mk. 2 Pf.
80 fr. 37 cts.	23 fr. 18 cts.	12 fr. 59 cts.	6 fr. 29 cts.	3 fr. 14 cts.	1 fr. 7 cts.	1/2 fr. 3 cts.	1/4 fr. 1 cts.
50 Lr. 37 cts.	25 Lr. 18 cts.	12 Lr. 9 cts.	6 Lr. 4 cts.	3 Lr. 2 cts.	1 Lr. 1 cts.	1/2 Lr. 1/2 cts.	1/4 Lr. 1/4 cts.
24 B. 16 cts.	12 B. 8 cts.	6 B. 4 cts.	3 B. 2 cts.	1 B. 1 cts.	1/2 B. 1/2 cts.	1/4 B. 1/4 cts.	1/8 B. 1/8 cts.
48 cr.	24 cr.	12 cr.	6 cr.	3 cr.	1 cr.	1/2 cr.	1/4 cr.
18 rubl. 48 kp.	9 rubl. 24 kp.	4 rubl. 12 kp.	2 rubl. 6 kp.	1 rubl. 3 kp.	1/2 rubl. 1 1/2 kp.	1/4 rubl. 3/4 kp.	1/8 rubl. 3/8 kp.
86 cr. 26 or.	43 cr. 13 or.	21 cr. 6 or.	10 cr. 3 or.	5 cr. 1 1/2 or.	2 cr. 3/4 or.	1 cr. 3/8 or.	1/2 cr. 3/16 or.
do.	do.	do.	do.	do.	do.	do.	do.
9 \$ 78 cts.	4 \$ 39 cts.	2 \$ 19 cts.	1 \$ 9 cts.	50 cts.	25 cts.	12 cts.	6 cts.

The above mentioned amounts will be paid exclusive
of brokerage.

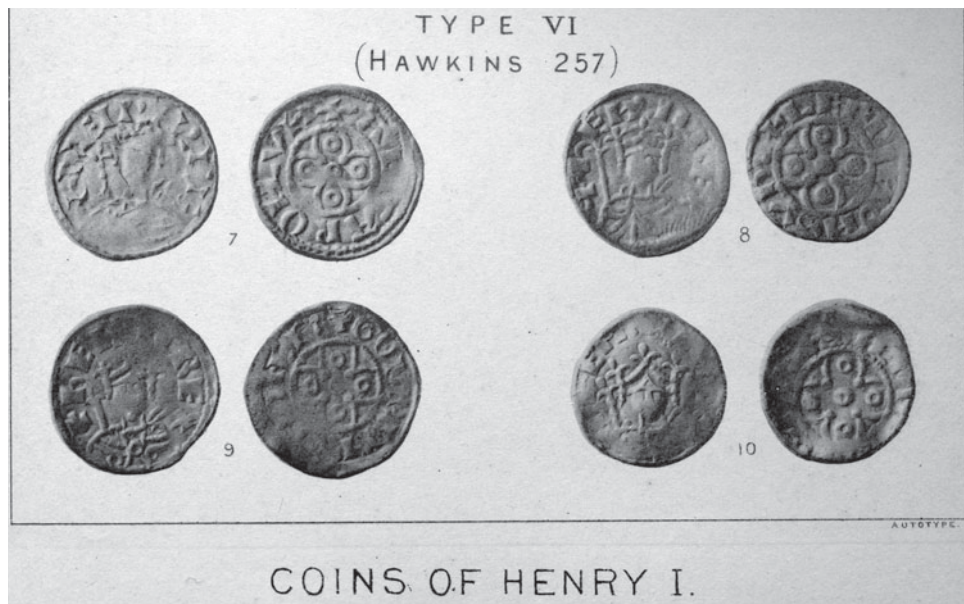
Great Britain and Ireland
1 Pfund (£) Sterling-20 Shilling (sh)
1 Shilling - 12 pence (d).

1

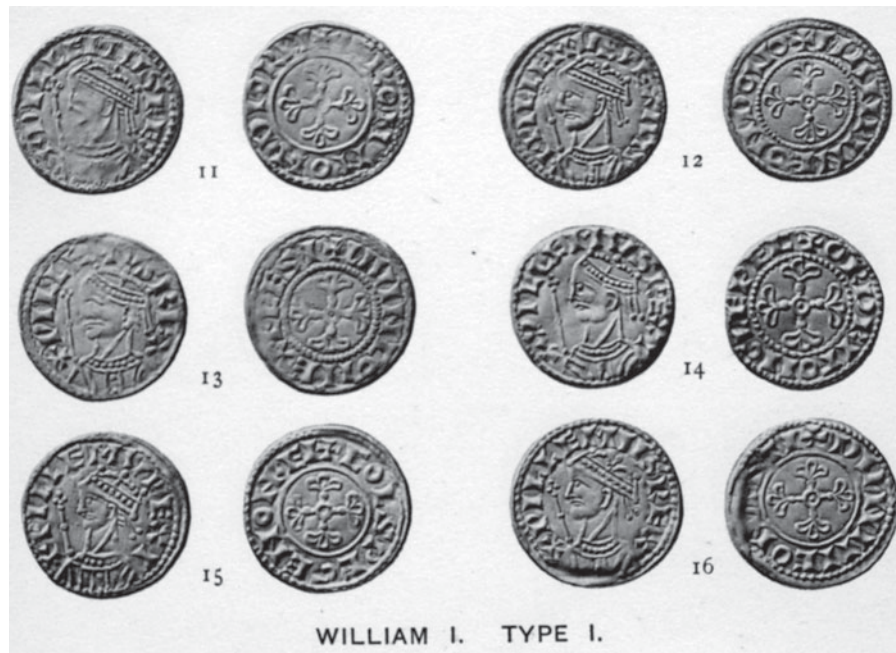


2

PLATE 27



1



2



3

EAGLEN: ILLUSTRATION OF COINS (5)



1



2



3

EAGLEN: ILLUSTRATION OF COINS (6)



1



2

EAGLEN: ILLUSTRATION OF COINS (7)



1



2





EAGLEN: ILLUSTRATION OF COINS (10)

PLATE 33



1



2