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Delivered at the Anniversary Meeting, 25 November 1969

HISTORICAL PROBLEMS OF ANGLO-SAXON COINAGE—(3)  
DENOMINATIONS AND WEIGHTS

Introduction

One of the problems of the Anglo-Saxon and Norman currency systems is to distinguish units of account from units of weight and denominations of coinage. The mancus and the penny were used in each of these senses; the pound, the mark, the ora, and—generally—the shilling were employed in the first two of them only.

What, for example, was a pound? As a unit of account it seems always to have consisted of 240 pence, though in Norman times a payment of a pound could only be discharged by 240 minted pennies if it were due 'by tale'. If it were due to the crown 'blanched' the payment would have to be large enough to leave a standard pound of silver by weight after assay; alternatively it could be met by tale at a surcharge which, at the time of the Domesday survey, was as high as 25 per cent.

Thus in the reign of William I there must have been a pound of silver which was close to the weight of 300 pence. The entry in Domesday Book for Bosham, Sussex, indicates that fifty pounds burnt and weighed amounted to £65 by tale; in other words, that it took 312 pence to yield a pound. These pence would have weighed close to 6,630 Troy grains (430 g.), taking the average weight of late pence of William I at 21½ grains (1-38 g.), and they might have lost about 5 per cent when melted down. We can compare this with David I's Scottish pound of the twelfth century, which was said to have weighed 25 shillings of sterling pennies and to have contained fifteen ounces: at 22½ grains to the sterling it ought therefore to have weighed 6,750 grains (437-5 g.).

So for some purposes, at least, money seems to have been reckoned by weight according to a mercantile pound of fifteen ounces. How was such a pound related to the Anglo-Saxon pound of capacity (cf. pint) referred to in a tenth-century leech book from...
Winchester? This book appears to tell us, in pennyweights, the differences in weight between pounds by capacity of various commodities and a similar pound of water, viz.:

Pund eles (oil) gewihth (weighs) xii penegum (pence) laesse thonne pund waetres (water), & pund ealoth (ale) gewihth vi penegum mare thonne pund waetres, & i pund wines (wine) gewihth xv penegum mare thonne i pund waetres, & pund huniges (honey) gewihth xxxii penegum mare thonne pund waetres, & i pund buteran (butter) gewihth lxxx penegum laesse thonne pund waetres, & pund beores (beer) gewihth xxii penegum laesse thonne pund waetres, & i pund beames (beans) gewihth lv penegum laesse thonne pund waetres. & xv pund waetres gath to sestre (sextarius).1

Research into these measurements might throw some light on the size of this pennyweight. Was it, for example, the 240th or the 300th part of a mercantile pound? It could scarcely have been a fraction of a ‘currency pound’—i.e. the weight of 240 minted pennies—which varied greatly from time to time. The maximum value of the currency pound was about 6,480 Troy grains (420 g.), attained periodically during the period from c. 973 to c. 1053,2 and it may have had a minimum value as low as 2,400 grains (155-5 g.) for coins issued by the London mint for a short period in about 1049.3 Not until the late twelfth century did it finally settle down for a considerable period at a level close to the figure of 5,400 grains (350 g.), which was to become known as the Tower pound.4 This twelve-ounce pound was, for several centuries, the ‘mint pound’ out of which prescribed numbers of coins of different denominations were ordered to be struck.

With the advent of the twelfth century we no longer find payments to the crown being made with a surcharge of 25 per cent: it seems only to have been necessary to make good the weight of a Tower pound in pure silver, and for a time in Henry I’s reign a ‘blanching’ addition as small as 2½ per cent was apparently acceptable.5 What help can a study of the coins offer towards an understanding of the significance of these different pounds?

The Roman pound, the solidus, and tremissis

The origin of the Anglo-Saxon pound in the context of coinage must surely lie in the corresponding Roman pound. Values ranging from 322-56 to 327-45 g. (4,978 to 5,053 Troy grains) have been assigned to the latter, though as Mr. Grierson has pointed out there is a degree of spurious accuracy in such figures. The late Roman solidus was struck at six to the ounce, or seventy-two to the pound, and was continued at this level for centuries by the Byzantines. The consistency of weight is remarkable; for example 350 solidi of Anthemius (467-72) fresh from the mint averaged 4-48 g. with a maximum weight of 4-515 g.; thus the pound could not be far removed from 325 g.6 For the purpose

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1 Early English Manuscripts in Facsimile, v (Copenhagen, 1955, ed. C. E. Wright) f. 108 b. The hand is identical with that of the annals for 925-55 in the Parker Chronicle (N. R. Ker, Catalogue of Manuscripts Containing Anglo-Saxon [Oxford, 1957] 332-3). The manuscript is edited and translated in Leechedoms, Wortcunning, and Starcraft in Early England, ed. O. Cockayne, vol. ii (Rolls Society, London, 1865), pp. 298-9, where it is suggested that fifteen ounces of water to the sester is the correct relationship. I have quoted it in Old English, but with modern letters, in order to convey its feeling; it virtually translates itself.

2 See p. 216, n. 5.

3 i.e. towards the end of the short cross type of Edward the Confessor.

4 The Tower pound of 240 dwt. was thought of as containing 5,400 Troy grains (0-0468 g. per grain) but 5,760 Tower grains (0-0608 g. per grain), which may have been equivalent to a former rating of 7,680 wheat grains (presumably c. 0-0456 g. per grain)—see Ruding, Annals of the Coinage, 3rd ed., i. pp. 7 and 193.


a NC 1964, ‘President’s Address’, pp. xi-xiv.
of this discussion let us assign to it a value of 324 g. ± 1 per cent, or 5,000 Troy grains ± 1 per cent. The central figures are exactly equivalent and are convenient to handle: they correspond to an ounce of 27 g. (416.7 grains) and a solidus of 4.50 g. (69.4 grains), and the 1 per cent range must surely include the true value.

Now the Roman solidus officially weighed 24 siliquae (i.e. carats, or carob seeds); thus the siliqua must have been a weight of 0.188 g. (2.89 grains) ± 1 per cent. The tremissis, or third of a solidus, became the principal coin of the Merovingians, who reduced its weight from eight to a declared seven siliquae, which would have been 1.31 g. (20.2 grains) ± 1 per cent. Taken literally this means a rate of approximately 247 tremisses to the Roman pound. Mr. Grierson has suggested that the Merovingian adjustment was intended to bring the coinage on to a Germanic standard of 20 barley (i.e. Troy) grains, in which case the declared weight of seven siliquae would have been an approximation designed to establish the value of the new tremissis (and the corresponding solidus) in relation to the contemporary Byzantine issues. The Anglo-Saxon gold coins in the seventh century hoard from Crondall could well have been struck to a standard of 20 grains. The average weight of seventy-three coins listed by C. H. V. Sutherland is 1.294 g. (20.0 grains) and the distribution of weights is remarkably compact:

<table>
<thead>
<tr>
<th>Weight (grains)</th>
<th>No. of coins</th>
<th>Equivalent weight (grains)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 1.32</td>
<td>4</td>
<td>Over 20.4</td>
</tr>
<tr>
<td>1.32</td>
<td>5</td>
<td>20.4</td>
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<tr>
<td>1.31</td>
<td>12</td>
<td>20.2</td>
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<tr>
<td>1.30</td>
<td>19</td>
<td>20.1</td>
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<td>1.29</td>
<td>11</td>
<td>19.9</td>
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<td>1.28</td>
<td>10</td>
<td>19.8</td>
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<td>1.27</td>
<td>3</td>
<td>19.6</td>
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<td>1.26</td>
<td>4</td>
<td>19.4</td>
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<tr>
<td>1.25</td>
<td>4</td>
<td>19.3</td>
</tr>
<tr>
<td>Under 1.25</td>
<td>73</td>
<td>Under 19.3</td>
</tr>
</tbody>
</table>

Only thirteen coins differ from the average by more than half a grain. The number which would have weighed a Roman pound would thus have been 250 ± 1 per cent, though it is very doubtful whether this quantity had any significance.

Dr. D. M. Metcalf and Mrs. J. M. Merrick have shown that the Merovingian and Anglo-Saxon tremisses in the Crondall hoard were heavily debased with silver and that there is a strong statistical probability of the debasement having proceeded in steps of one siliqua, or one-seventh of the weight of the Merovingian tremissis. Of the Crondall coins which they analysed, some appear to have contained five siliquae of gold and others four. Such steps seem strange in the context of a change to a Germanic standard of twenty barley grains—a figure that does not lend itself to division by seven—and should perhaps make us pause before accepting too readily the introduction of the barley grain as the unit of weight at such an early stage.

1 See below, p. 212.  
The reduction in the weight of the Merovingian tremissis, which took place in the 570s,\(^1\) was accompanied by a corresponding reduction in the quasi-imperial Provencal solidus which seems eventually, some 200 years later, to have become known as a *solidus mancus*. (The derivation of the term *mancus* is still contested; it may have had an Arabic origin, or may simply be the Latin 'deficient'.\(^2\)) On a Germanic standard of 60 barley grains the light solidus would have weighed 3.89 g., taking the barley grain as identical with the modern Troy grain. The coins themselves sometimes declare a weight of twenty siliquae and sometimes twenty-one (i.e. 3.75 g. or 3.94 g. respectively, ± 1 per cent), which seems to indicate that the true weight was intended to lie between these figures. S. E. Rigold obtained an average weight of 3.86 g. (59.6 grains) for ten quasi-imperial solidi, and noted that eight of them varied from the mean by less than 1 per cent.\(^3\) There was no deficiency in the purity of the gold, until debasement set in under Dagobert II (629–639).\(^4\)

The *mancus*, gold weight, and gold coin

In England the *mancus*, as it is called in documents from the late eighth century onwards, was quite clearly used as a unit of weight for gold objects. Ceolwulf I of Mercia made a grant of land in Kent to Archbishop Wulfred in 822, one of the considerations for which was a gold bracelet containing seventy-five mancuses.\(^5\) In 855 Burgred received from Bishop Ealhun of Worcester two gold armlets which weighed forty-five mancuses in return for a concession over some land in Gloucestershire.\(^6\) Bishop Ælfwold of Crediton, who died in 1012, bequeathed to Wilton 'a chalice and a paten of 120 mancuses of gold all but three mancuses'.\(^7\) It seems reasonable to suppose that, just as the solidus was a stable unit of weight for gold in the late Roman and the Byzantine empires, so was the *mancus* in Anglo-Saxon England. However, it is difficult to establish its precise weight from the surviving coins, because the *mancus*, when minted, had a variable weight as in the case of the penny.

There are very few references in the documents to the *mancus* as a coin. In one of these King Eadred (946–55) gave instructions in his will that 2,000 mancuses of gold were to be taken and minted into mancuses for distribution throughout the bishoprics 'for the sake of God and the redemption of my soul'.\(^8\) None of these is known today, and indeed only three gold coins have survived from the Anglo-Saxon period which could have been mancuses and which give the impression of issues made with royal authority: one is of Edward the Elder, another of Æthelred II, and the third of Edward the Confessor. All three were struck from penny dies, the second bearing the Lewes mint-signature and the third that of Warwick.\(^9\) Hitherto their varied weights (74.1, 51.5, and 54.1 grains respectively or 4.80, 3.34, and 3.50 g.) have been regarded as casting doubt on their

\(^{3}\) S. E. Rigold, 'Imperial Coinage in Southern Gaul', *NC* 1954, p. 104.
\(^{5}\) *English Historical Documents* vol. i (ed. White-lock; London, 1955), no. 83.
\(^{6}\) *EHD* i, no. 100.
\(^{7}\) *EHD* i, no. 122.
\(^{8}\) *EHD* i, no. 107.
\(^{9}\) See the two definitive articles by D. F. Allen and C. E. Blunt in *BNJ* xxv, pp. 259–81, and another by C. E. Blunt and Michael Dolley, *NC* 1968, pp. 151–9. In the latter the weight of the coin of Edward the Elder is corrected on p. 158 n.
identification as minted mancuses, but in fact these weights could be explained on the basis that they were intended to weigh exactly three silver pennies of the current minting. For example, forty out of sixty-five pence listed in the British Museum Catalogue which are of the same design as the gold coin of Edward the Elder (BMC Type ii) weigh between 24-0 and 24-9 grains. The Æthelred coin is at the light end of the range of weights of pence bearing the 'helmet' type, which extends from 24 down to 16 grains at mints in Sussex and Kent: a penny from the same obverse die as the gold coin, but struck when the die was fresher, weighs 19-8 grains. The gold coin of Edward the Confessor is of the 'expanding cross' type, the pence of which began on a light standard of about 18 grains: this standard was raised to about 27 grains, apparently as a result of the abolition of the heregeld in 1051. From the diameter of the beaded outer circle on obverse and reverse it is clear that the gold coin belongs to the period of the light issue, for which its weight is entirely appropriate on the basis of a ratio of three to one.

A much earlier coin, by a moneyer Ciolheard but with no reference to royal authority, weighs 63-6 grains (4-12 g.). If, as seems probable, it was struck in the reign of Coenwulf of Mercia, it conforms to the same pattern: six out of eight pence of Coenwulf's moneyer of that name weigh between 20-1 and 22-3 grains. So, perhaps, does the gold coin by Offa's moneyer Pendred, weighing 57-8 grains (3-74 g.) as compared with seventy-nine out of 160 pence of groups 1 and 2 of Offa which weigh between 18-0 and 19-9 grains. All these coins, therefore, may bear a fixed relationship by weight of three to one with the silver pence struck contemporarily.

This implies a ratio of ten to one between a given weight of minted gold and the same weight of minted silver, having regard to the consistent relationship of thirty pence to a mancus which is found in the documents. In the ordinance of the bishops and reeves of the London district in Athelstan’s reign an ox is valued variously at a mancus and at thirty pence. As late as the so-called 'Laws of Henry I' the relationship was recognized, as for example v mance que faciunt xii sol. et vi den. It followed that a mancus was also equated with six of the short shillings, each of five pence, in which fines and compensations were usually expressed in the West Saxon law codes. The compiler of the 'Laws of Henry I' found these shillings confusing and tended to translate them into mancuses, as when he wrote xxx solidi ad manbotam, id est hodie v mance.

It is not necessary to assume that references to mancuses are always to be taken as implying payments in gold. In 799 Coenwulf of Mercia restored some lands to Christ Church, Canterbury, for 'the payment of money, whose estimation amounts to 100 mancuses'. Bishop Ælfwold of Crediton (997-1012) made various bequests expressed in mancuses of gold, but another was described as five mancuses of pence. Presumably by this phrase he meant 150 pence. Nevertheless it is clear that gold was handed over on many occasions when land was purchased, though we do not know whether minted gold was ever used. In 994 Æswig, bishop of Dorchester, received an estate from Archbishop Sigeric of Canterbury in exchange for 90 pounds of refined silver and 200 man-

1 See BNJ xxviii, pl. 29 and xxix, p. 191. Mr. H. H. King kindly allowed me to weigh his silver penny.
2 The four known light pence of Warwick weigh 16-9, 17-0, 17-3, and 18-0 grains—see BNJ xxxiv, pp. 78-9.
3 BNJ xxxiv, pp. 8-10 and xxxii, p. 58.
5 EHD i, no. 37.
6 F. Liebermann, Die Gesetze der Angelsachsen i (Halle, 1903), p. 593, art. 76. 6a.
7 Liebermann i, p. 587, art. 69. 2.
8 EHD i, no. 80.
9 EHD i, no. 122.
cuses of the purest gold, which the archbishop needed to buy immunity for Christ Church Cathedral during the Danish raid of that year.  

Such references to payments partly in mancuses of gold and partly in pounds of silver are not uncommon at this time. The Atheling Athelstan, who died in 1015 and was the eldest son of Æthelred II, refers in his will to three estates he bought from his father, one for 200 mancuses of gold by weight and five pounds of silver, and the others each for 250 mancuses of gold by weight. We cannot be sure, but it is conceivable that the prices of all three estates were intended to be the same. This would be the case if fifty mancuses of gold were equivalent to five pounds of silver. Taking a mancus at thirty pence the figures can be reconciled on the basis of 300 pence to a pound of silver—a relationship for which we have already seen evidence from later in the eleventh century.

When we come to look at this equation in terms of shillings the pattern is confused. Taking the shilling at five pence, a pound of silver would have to be worth sixty shillings. This is a relationship which is well known in Mercia, where at least two of the three estates mentioned by the atheling were situated. For example, a charter of Burgred, 150 years earlier, refers to the purchase of the liberty of an estate in London for sixty shillings of silver, and adds that it had been purchased before with the same amount of money, namely one pound. But there is a difficulty, because the shilling of the Mercian laws contained four pence, not five, so that 300 pence, or ten mancuses, would presumably have been reckoned at seventy-five of these shillings. Indeed the London ordinance of Athelstan's reign which values an ox at a mancus or thirty pence also appears to equate a payment of four pence with a shilling.

Yet the fact is that many recorded payments in Anglo-Saxon charters—not just Mercian charters—are expressed either in pounds of silver, or in multiples of ten (sometimes five) mancuses of gold. This reinforces the impression that there may have been an identity of value between the pound and ten mancuses when payment by weight was involved. Had a mancus of gold been equated with thirty 240ths of the silver pound, multiples of eight mancuses, rather than ten, could have been expected to be the general rule.

Shillings, marks, and ores

The problem of the London ordinance apart, the argument for an equation between 300 pence and a pound of silver, as compared with 240 pence and a pound of account or a currency pound, could perhaps be extended to explain the apparent difference between the fourpenny and fivepenny shillings. Is it possible that the fourpenny shilling of the Mercian laws was originally the sixtieth part of a (mercantile) pound of silver which was divided into fifteen ounces of sixteen heavy pennyweights; and that the fivepenny shilling of the West Saxon laws was the forty-eighth part of a pound 20 per cent lighter, which was divided into twelve similar ounces of twenty light pennyweights? On such a hypothesis the shillings would be identical, and the West Saxon pound could perhaps
be thought of as a theoretical currency pound, five (minted) pence of which would be needed to discharge a debt of four pence when the debt was payable in silver by weight.¹

Two other pieces of evidence point in this direction. The first concerns the value of the mark, a unit of weight and account which was of Scandinavian origin. In Anglo-Saxon sources it is most commonly found in the form of the half-mark, and as such it first appears in the late ninth century in the treaty between Alfred and Guthrum Athelstan.² From the laws it is quite clear that the half-mark contained four *ores*, at least from the beginning of the eleventh century.³ As a unit of account the *ora*, in late Anglo-Saxon and early Norman times comprised sixteen pence. Some fragments of surveys from the abbey of Bury St. Edmunds have survived from the time of Abbot Baldwin (1065–98) which demonstrate this and also show the process of translation of ores into Norman (twelvepenny) shillings. The abbot gave to his brethren as a charitable gift the rent of two mills at Lackford. This is first recorded as half a pound from the one and twelve ores from the other. A later entry describes it as ten shillings from one and sixteen shillings from the other. Also two fat pigs had to be produced to supply lard, or else three ores. In the later entry the alternative is four shillings.⁴

Now on this reckoning a mark of account at the time of the Conquest must have been 128 pence, or 10s. 8d. Norman. It may, perhaps, be presumed by analogy that a mark of silver by weight contained 128 (heavy) pennyweights. But when the Pipe Rolls of Henry I refer to a mark of silver they use it as a synonym for 160 pence, as for example in the account of Gloucestershire in 31 Henry I: ‘Ælfric, son of Godric, accounts for 15 marks of silver in respect of his father’s land and office. He has paid in the Treasury 40 shillings and he owes 12 marks of silver.’⁵ By the reign of Henry II the term ‘mark’ is being used to denote a sum of 13s. 4d. without any reference to silver. In this new sense its origin seems clearly to lie in an equality between five minted pence and four (heavy) silver pennyweights.

As has already been indicated, an identical relationship is found in Domesday Book. Miss S. Harvey has convincingly demonstrated that payments from royal estates which had to be ‘blanched’ (i.e. they were due in pure silver, by weight) were in many instances paid in coin by tale subject to a surcharge of 25 per cent, and that this is the meaning of the frequent references to payment in pence *de xx in ora* instead of the usual sixteen.⁶

**Shillings and wergilds**

If the fourpenny and fivepenny shillings could be equated in value, the supposed disparity in the ‘blood prices’ (wergilds) of ceorl and thegn in Mercia and Wessex would disappear. In the laws of each kingdom the wergild of a ceorl is stated to be 200 shillings and that of a thegn 1,200 shillings. The so-called ‘Laws of William’, dating from the early twelfth century, refer baldly to the wergild of a thegn as twenty pounds in Mercian law and twenty-five pounds in West Saxon law,⁷ but the lack of comment on the disparity in the figures may simply mean that the Norman scribe did not understand their

¹ In practice, due to variations in the weight of the minted penny, this relationship may not always have been accepted—e.g. at Bosham in D.B. (see p. 204 above).
² *EHD* i, no. 34.
³ See Æthelred II’s code issued at Wantage (*EHD* i, no. 43).
⁴ *EHD* ii, no. 175.
⁵ *EHD* ii, no. 71.
⁷ Liebermann i, p. 498, art. 8.
significance. The Mercian figure is in keeping with the 120 pounds which is given for a king's simple wergild according to Mercian law in a compilation on status that has been associated with Archbishop Wulfstan of York (1002–23). The compilation describes it also as equal to the wergilds of six thegns.¹

It is, perhaps, a matter of some surprise that if there were any real difference in the Mercian and West Saxon wergilds it is not brought out in the treaties governing relations with the Danes. The treaty between Alfred and Guthrum Athelstan, which dates from 886–90, says that 'if a man is slain, all of us estimate Englishman and Dane at the same amount, at eight half-marks of refined gold, except the ceorl who occupies rented land, and their [the Danes'] freedmen; these also are estimated at the same amount, both at 200 shillings'.² Æthelred II's treaty with the Viking army in 991 states that 'if an Englishman slays a Dane, a freeman a freeman, he is to pay for him with 25 pounds, or the actual slayer is to be surrendered; and the Dane is to do the same for an Englishman, if he slays one'.³ In the latter case the West Saxon wergild for a thegn is specified, and it seems reasonable to think, as H. M. Chadwick did, that the eight half-marks of gold laid down in Alfred's treaty were intended to be of the same order.⁴

Moreover, recent work by P. Grierson seems to have made it possible to explain away the much greater disparity which has always been thought to exist between the early Kentish wergilds and those of Mercia and Wessex. The wergild of an ordinary freeman in the Kentish law codes of the seventh century is set at 100 shillings, and that of a man of noble birth at 300 shillings.⁵ The laws of Wessex, up to the time of Alfred, have three classes of wergild—200, 600, and 1,200 shillings—but the middle one subsequently disappears. It has hitherto been thought that there was a correspondence between the Kentish nobleman of 300 shillings and the West Saxon thegn of 1,200 shillings, and that the Kentish ceorl was therefore worth much more than the West Saxon ceorl. Chadwick arrived at this conclusion by arguing that a Kentish shilling was divided into twenty sceattas, so that the Kentish ceorl was worth 2,000 sceattas, while the Mercian shilling was reckoned at just over four sceattas, giving a value for the Mercian ceorl of only a little over 800 sceattas.⁶ He assessed the Mercian sceatt from the compilation on status to which reference has already been made, where the king's simple wergild, valued as we have seen at 120 pounds or 7,200 shillings, is also said to be worth 30,000 sceattas.⁷ But if the Kentish and Mercian shillings were different, as seems certain, why did Chadwick assume that the Kentish and Mercian sceattas were the same?

Mr. Grierson has convincingly shown that the Kentish shilling and sceatt were weights of gold. He cites the very early poem known as Widsith for a reference to an armlet (beag) 'in which there was reckoned of refined gold 600 sceattas counted in shillings'.⁸ As he points out, the laws of Æthelberht were framed at the beginning of the seventh century when there was no local coinage. The code, as it has come down to us, is provided with an introductory statement that it was established in St. Augustine's days:⁹ Bede states that Æthelberht formulated, with the advice of his councillors, judicial decrees after the example of the Romans and written in the English language.¹⁰ Thus

¹ EHD i, no. 52(c).
² EHD i, no. 34.
³ EHD i, no. 42.
⁴ Chadwick, pp. 50 f. See also p. 216 below.
⁵ EHD i, no. 30.
⁶ Chadwick, p. 19.
⁷ EHD i, no. 52(c).
⁸ Widsith, lines 90-2, ed. R. W. Chambers (Cambridge, 1912), p. 217, where sceattas are translated as 'pieces'.
⁹ EHD i, no. 29.
¹⁰ Bede, Ecclesiastical History, in EHD i, no. 51 at p. 610.
Grierson says that originally the fines, expressed in shillings and sceattas, must have denoted weights of gold rather than coins—though presumably Merovingian tremisses were often used for convenience. When coins began to be minted in Kent it would have been natural to align them with the indigenous system of weights, and with the Merovingian coinage which conformed to it. Grierson therefore identifies the Anglo-Saxon coins in the Crondall hoard as gold shillings. As has been mentioned, they adhere very closely to a standard of 20 barley (Troy) grains. A sceatt, therefore, would have been a Troy grain of gold.¹

By the time of Crondall—now dated by J. P. C. Kent to shortly after 640²—both Merovingian and Anglo-Saxon gold coins were heavily debased with silver. It may, however, be presumed that the shilling of the Kentish laws was 20 grains of pure gold, a weight identical with the Merovingian tremissis of a declared value of seven siliquae.³ As such it would have been worth one-third of the light-weight solidus. If this solidus, like the later mansus, can be equated with six shillings of silver, two of these shillings would have had the same value as the old Kentish gold shilling: thus the Mercian and West Saxon ceorl, rated at 200 silver shillings, would have had the same real value as the Kentish ceorl worth 100 gold shillings. The implication of this, as D. A. Bullough has pointed out, is that the Mercian and West Saxon thegn with a wergild of 1,200 shillings of silver would have been worth twice as much as the Kentish nobleman rated at 300 gold shillings.⁴

Why the term 'shilling' should have been transferred to a weight of silver which was worth only half a Kentish golden shilling must remain something of a mystery. Grierson thought it had to do with the debasement of the minted Kentish shilling, and this may well be the explanation.

The development of a monetary economy⁵

Before we jump too firmly to conclusions about the pounds of the Mercian and West Saxon law codes it would be as well to remember that the specific evidence for a relationship of 300 pence to a fifteen-ounce pound of silver comes from a period when the use of coin by tale was established throughout the country, and money was issued and exchanged at mints up and down the land. The system of frequent changes of the coinage which could be regarded as current (i.e. acceptable by tale) dates back only to a date towards the end of Edgar’s reign, and under it the weight of the penny varied on either side of the eventual late Norman pennyweight of 24 Tower or 22½ Troy or (perhaps) 32 wheat grains (1-46 g.).⁶ If this system is still only partially understood, we have even less knowledge of the earlier development of the use of coin by tale. It is probable that the bulk of the English coinage south of the Humber before c. 860, and perhaps as late

³ See above, p. 206.
⁵ This section has been added since the Address was delivered.
⁶ These deliberate and sometimes drastic changes in weight, both upwards and downwards, are too complex to discuss here. For an extensive analysis see H. B. Petersson, Anglo-Saxon Currency (Lund, 1969). Petersson’s interpretation of them by reference to a development of Bolin’s theory of overvalued currency should, however, be treated with some reserve.
as c. 886, was produced at mints in Kent and East Anglia. There is no evidence during this time for a mint in Mercia outside London, and the output of the London mint seems generally to have been exiguous, at least before the reign of Burgred.\(^1\)

Any interpretation of monetary payments or fines must therefore be made against the numismatic evidence that the use of coins for internal trade, as measured by the establishment of mints outside south-east England, only became widespread after the Treaty of Wedmore. The development seems to have been quite rapid, judging by the extensive imitation of Alfred’s coinage in the Danelaw and by the introduction of a coinage of silver pennies in Danish Northumbria to replace the miserable copper ‘stycas’ of the old Northumbrian kingdom.\(^2\) Athelstan’s laws promulgated at Grately, in which each borough in Wessex is entitled to at least one moneyer, may mark the completion of one stage in this development.\(^3\)

The transition is accompanied by regulations of various kinds governing trade and coinage.\(^4\) The Grately laws lay down that no goods worth more than twenty pence are to be bought outside a town, but must be bought there in the witness of the town-reeve or of another trustworthy man, or in the witness of the reeves at a public meeting.\(^5\) A code of Edgar makes provision for purchases made at a distance to be declared to the purchaser’s neighbours.\(^6\) Cnut requires that no one is to buy anything worth more than fourpence, whether livestock or other goods and whether in town or country, without the trustworthy witness of four men.\(^7\) Laws against false and defective coining are also developed, coupled with the requirement that no one shall refuse money of the proper weight, in whatever town in the kingdom it may have been minted.\(^8\) Eventually, in the reign of Henry I (though this may, of course, represent a restatement of traditional practice), we find moneyers being prohibited from reminting money except in their own county, and no one except a moneyer being allowed to change money.\(^9\)

If the general development of a monetary economy began after Alfred’s acquisition of English Mercia, the change in the pattern of metrology which took place at that time may have a bearing on it. The coins of the Kentish mints from the early ninth century have a median weight of about 21 grains (1.36 g.). This weight is maintained in the East Anglian coinage throughout the century, and is also the median weight of the post-Wedmore coins of Guthrum Athelstan and of the Northumbrian (Cuerdale hoard) Vikings. The mid-ninth-century coins of the kings of Wessex and Mercia, however, have median weights in the region of 20 grains (1.30 g.); as in East Anglia, barely one coin in ten exceeds 22 grains (1.43 g.).\(^10\) With Alfred’s later coinage, if one excludes the Danelaw imitations, the median weight rises to more than 24 grains (1.56 g.)\(^11\) and Edward the Elder’s coins fully maintain this weight,\(^12\) as do Athelstan’s mint-signed issues. Subsequently there is a decline, and barely one in ten of the weights of Eadred’s coins in *BMC* exceeds 24.0 grains.

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\(^1\) See my Presidential Address of last year (*BNJ* xxxvii, pp. 216–38) for a discussion of ninth-century coinage and the status of the London mint.

\(^2\) See the papers on these coinages in *Anglo-Saxon Coins*, ed. Dolley (London, 1961), pp. 37–121.

\(^3\) [II Athelstan, art. 14, 2 (*EHD* i, no. 35).]  

\(^5\) [II Athelstan, art. 12.]

\(^6\) [IV Edgar, art. 7–11 (*EHD* i, no. 41).]

\(^7\) [II Cnut, art. 24 (*EHD* i, no. 50).]

\(^8\) [IV /Ethelred, art. 5–9 (Liebermann, i, pp. 234–6).]

\(^9\) [Henry I: Decree concerning the coinage (Liebermann, i, p. 523).]

\(^10\) Weights derived from *BMC*, vols. i and ii.

\(^11\) E.g. taking the ‘clean’ types, *BMC* xi, xx, xxi, thirteen out of sixteen coins weigh between 24.0 and 24.6 grains.

\(^12\) See above, p. 208.
What was the object of Alfred's monetary reform (for such there must have been)? Was the increase in weight designed to enable a penny to pass as the equivalent of a pennyweight of silver? If so, it seems to have failed in the long run, though for a time a payment of four pence may conceivably have been accepted as worth a shilling both in Mercia and Wessex. During this period a pound of currency must have approached 6,000 grains (389 g.). If we think in terms of an original currency ounce of twenty light (i.e. 20-grain) pence, which at 26 g. would be about 4 per cent lighter than the Roman ounce, Alfred's pound can be seen as containing fifteen ounces rather than twelve.

Although on the Continent a pound of silver seems to have contained fifteen ounces before Charlemagne's reform, the first specific reference to a fifteen-ounce pound in the context of English coinage is not found until a century after Alfred. It occurs in the code of laws known as IV Æthelred, which has survived only in the Latin of the early twelfth-century compilation called Quadripartitus. Article 9.2 has been translated, without conveying any very clear meaning, as follows:

And those who have the charge of towns shall see to it, under pain of incurring the fine for insubordination to me, that every weight is stamped according to the standard employed in my mint; and the stamp used for each of them shall show that the pound contains 15 ores.

Liebermann's text for the crucial passage is *ut omne pondus sit marcatum ad pondus pecunia mea recipitur; et eorum singulum signetur ita, cur xv ore libram faciant.* He does, however, indicate that different readings are found in other manuscripts. One of these, the Brompton MS., gives it as *ut omne pondus ad mercatum sit pondus quo pecunia mea recipitur . . .*, in which form the passage could be translated with more meaning as ordering

... that every market-weight is the weight by which my money is received; and each one is stamped thus, that 15 ores make a pound.

Thus Brompton's version infers that the mercantile pound to be used in the market of a borough was to be identical with the pound weight on which the king's money was received (by the moneyers, when exchanging old money for new?). If he is right, and if an ora and an ounce were synonymous, this pound may also have been related to the heavy pounds of Domesday and of David I.

The ratio of gold to silver, and the weight of the shilling

We have little positive information from which to deduce the relative values of gold and silver in Anglo-Saxon England. Chadwick compared the weight of pennies of

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1 See below, p. 222, for a probable Carolingian precedent.
2 The London ordinance referred to on p. 209 appears to be reinforced by a charter to which Mr. H. E. Pagan has kindly drawn my attention, namely Birch 648 (Sawyer 1417). The clergy of the New Minster at Winchester lease some land at Chiseldon, Wilts., to a thegn of Athelstan's for eighty mancuses of gold, and for an annual rent of eighty *solidi ex meris denaris* (i.e. shillings in pence of fine silver). For non-payment of rent there is a fine of sixty *denarii* for the first offence, thirty *solidi* for the second, and the property is to be forfeited if the rent is still not paid. If the second fine is twice the first (which, of course, it may not be), the implication is that four pence make a shilling.
3 See below, p. 220.
5 Liebermann, i, p. 236-7. He translates the passage more literally than Robertson, viz. *daß jedes Gewicht gezeichnet werde, gemäß dem Gewicht, wonach meine Münze angenommen wird; und deren jedes werde so gezeichnet, dass 15 Öre ein Pfund ausmachen.*
6 Liebermann in his work on *Quadripartitus* (1892), p. 71, says Brompton comes from a lost MS. from at least no later than 1150.
Edward the Elder with the supposed weight of the mancus (71½ grains, or 4.63 g., on the strength of an Arabic derivation which cannot now be sustained). He commented that 'if the mancus was at this time already regarded as the equivalent of 30 pence and if, as is extremely probable, the ratio of gold to silver at the same time was 10:1, there would be a natural tendency to make the penny equal to one-third of the mancus in weight'.

As we have seen, there is evidence that the minted mancus and the minted penny did have this weight ratio, though Chadwick was thinking in terms of a fixed, not a variable, mancus. But a ten-to-one ratio of pure gold to pure silver cannot necessarily be deduced from it, unless we can be sure that the same proportion of both gold and silver bullion was retained by the moneyers when they converted it into current coin.

On the Continent Charles the Bald, in article 24 of the Edict of Pitres (864), specified a ratio of twelve to one between refined gold and minted silver, viz. ut in omni regno nostro non amplius vendatur libra aurii purissimi cocti, nisi duodecim libris argenti de novis et meris denariis. The article continues as follows: Iliud vero aurum, quod coctum quidem fuerit, sed non tantum ut ex eo deauratura fieri possit, libra una de auro vendatur decem libris argenti de novis et meris denariis. Prou thought it reasonable to conclude from this that the relationship between minted gold and minted silver was ten to one or thereabouts, though the evidence of the coins of Louis the Pious suggests that this ratio, too, was twelve to one. Here again we are not given any information about the relative values of unminted gold and unminted silver.

In England the first explicit relationship we appear to have is to be found in the Pipe Rolls of Henry I. We have already seen that a mark of silver is used there as a term synonymous with 160 pence in money. So, too, a mark of gold is used to denote £6, thus: Roger, son of Osbert the priest, accounts for half a mark of gold in respect of the grant of the land and of the churches of his father. He has paid 60 shillings in the Treasury in respect of this half mark of gold. And he is quit. Now £6 by tale for a mark of gold and 13s. 4d. by tale for a mark of silver clearly indicates a ratio of nine to one between the pure metals unless the two marks differed in weight. But it would be rash to say that a figure applicable to the mid twelfth century can be adduced as evidence for the ninth and tenth centuries. Is there any other source which can help?

If sixty Anglo-Saxon shillings made a fifteen-ounce pound of silver, a shilling would have been rated at ½ ounce. Chadwick drew attention to the fact that certain early charters equated the shilling of silver with the siclus. This was synonymous with ½ ounce in Roman times, and so ought to have weighed 6.75 g. (104.2 grains) ± 1 per cent. A figure of this order seemed to Chadwick to fit the maximum weight of pennies of Edward the Elder, taking them at four to the shilling. At the time of the relevant charters, however, it would have taken five lighter pence to make up the same weight. If the shilling of silver were indeed a fixed weight of one-quarter of an Anglo-Saxon ounce, six shillings would weigh 1½ ounces. A mancus of gold, if worth six shillings, would weigh one-sixth ounce if the ratio between the metals were nine to one. This is plausible, because the

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1 Chadwick, pp. 11 and 42.
3 See p. 222 below.
5 EHD ii, no. 71, p. 573. These shillings are, of course, of twelve pence.
6 He quotes (op. cit., pp. 43-4) a West Saxon charter of the Mercian queen Æthelswith dating from 868 (Birch, 522) which reads pecunia . . . hoc est mille quingentis solidis argenti et auri vel quindecies centum stelis.
7 See p. 206.
8 Ibid., p. 39.
gold solidus was reckoned at six to the Roman ounce. On the other hand, a lighter mancus of 0.15 oz., weighing three silver pence at five to the shilling and twenty to the ounce, would result from a ratio of ten to one. The difficulty is that such a mancus would weigh only 2.4 heavy pence at four to the shilling and sixteen to the ounce—less, in fact, than the minted mancus of Edward the Elder.

On the same reckoning of four shillings to the ounce, 1,200 shillings would be 300 Anglo-Saxon ounces of silver. In gold the equivalent would be 33\(\frac{1}{3}\) ounces if the ratio were nine to one and 30 ounces if it were 10:1. Alfred’s treaty with Guthrum Athelstan refers, as we have seen, to a payment of eight half-marks of refined gold in circumstances in which 1,200 shillings of silver might have been expected to be specified. As far as we can tell, eight half-marks would have amounted to thirty-two ores, which is as close as one could get to either figure, reckoning in half-marks, assuming that an ora and an ounce are synonymous. The answer must remain in doubt, though I am inclined to prefer ten to one.

The evidence adduced for a shilling of silver having represented \(\frac{1}{2}\)-ounce would suggest a weight for the shilling of around 100 grains (6.48 g.) originally, but nearer to 112.5 grains (7.29 g.) in the tenth and eleventh centuries. The latter weight, if divided into five light pennyweights of 22\(\frac{1}{2}\) grains (1.46 g.), would give a result consistent with the subsequent Tower pennyweight but exceeding the weight-standard of the Domesday penny by about 5 per cent. If divided into four heavy pennyweights of 28\(\frac{1}{2}\) grains (1.82 g.) it would exceed by about the same margin the highest weight-standard reached by the penny after Edgar’s reform. It seems unlikely that these correspondences can be purely fortuitous, though their significance may only become apparent when the currency system established by Edgar’s reform is more fully understood.

Sceattas and thrymsas

Of the units mentioned in the law codes, we are left with sceattas and thrymsas. These are the names traditionally assigned by numismatists to the silver and gold coins issued before the time of Offa. But the sceatt, on Grierson’s theory, was originally a barley grain of gold. If the compilation on status attributed to Wulfstan is to be believed, it became valued in Mercia at 250 to the pound of silver. Can the two values be reconciled?

Chadwick thought that Mercian sceatt and Mercian penny were to be regarded as

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1 However, if the mancus originally weighed 60 grains this argument leads to an ounce of only 360 grains (23.3 g.). I put forward that figure when I delivered this Address, but it implies an original pennyweight of silver of 22\(\frac{1}{2}\) grains (1.46 g.), with sixteen pennyweights to the ounce and a fifteen-ounce pound of only 5,400 grains. The Carolingian evidence, at least, seems at variance with this—see Appendix.

2 See above, p. 211.

3 The corresponding ounces are 400 grains (25.9 g.) and 450 grains (29.2 g.) respectively.

4 See above, p. 204.

5 Pence were clearly struck to a standard close to 27 grains (1.75 g.) at the commencement of most of the issues of Æthelred II, and for a short time under Edward the Confessor—apparently due to the abolition of heregeld: see the tables and diagrams in Petersson, op. cit.


7 It will be apparent that I could not have prepared this section without extensive help from Professor Whitelock. This is not to say that she necessarily accepts my conclusions, which largely depend on arguments developed earlier in this Address.
synonymous. As he put it, 'it would of course be absurd to suppose that there was a
contemporary currency of sceattas and pennies differing from one another by only
4 per cent'. But was this sceatt a silver coin or a silver weight? Rating a pound of silver
at ten mancuses of gold, or thirty Kentish shillings, a Mercian sceatt would seem to be
worth just under one-eighth of a Kentish shilling, or 2-4 grains of gold. It is hard to
see how such a value could have come about. Nor is it easy to find a reason for the name
'sceatt' being given to a silver weight or coin of about 20 grains.

A clue to an alternative approach may lie in the Lindisfarne Gospels, where the Latin
dragmas decern in Luke 15: 8 is glossed in the late tenth century as fif sceattas teasidum,
or ten times five sceattas. A drachm has traditionally been regarded as equivalent to
one-eighth ounce, and still has this value in the apothecaries' (Troy) scale. If five sceattas
amounted to this fraction of an Anglo-Saxon ounce of silver a single sceatt would have
been one-fortieth of an ounce, or say ten grains taking the ounce at 400 grains. If the
ratio between the metals were ten to one, this sceatt would have had the same value as
a Kentish sceatt of one grain of gold. At a fortieth of an ounce it would also have been
a tenth of a shilling of silver, and so would have been equivalent to a halfpenny. It is
therefore worth noting that in another context 'sceatt' is used to translate obulum, the
half of a denarius.

Unfortunately these glosses are not conclusive. Professor Whitelock, who kindly
supplied me with them, has pointed out to me that the lost dragma of the story in Luke
15 is glossed in v. 8 as casering and in v. 9 as 'that shilling'. On the face of it this implies
that five sceattas made a shilling, but it is possible that the word 'shilling' is here being
used in the general sense of a coin, a meaning which could hardly be conveyed by 'five
sceattas'. Thus in the source where obulum is glossed as sceat the same term (var. obelus)
is elsewhere glossed as scilling. A full study of glosses of ancient denominations and
weights might throw further light on this subject, and in particular on what Wulfstan
understood by the sceattas he used in describing the Mercian king's wergild. For the
present all one can say with confidence is that the word 'sceatt' is most commonly
used where its meaning is simply money, or silver money, and that there is no real
evidence that it was ever thought of as a denomination of coin.

Wulfstan's compilation on status expresses the wergilds in the 'law of the north
people' (nordleoda laga) in thrymsas. It has been thought that this thryms is to be
equated with three pence, since it is stated that 'a ceorl's wergild is 266 thrymsas, which
is 200 shillings according to the law of the Mercians'. If so, the rest of the wergilds are
not in the proportions we know from other law codes. The other main class, that of a
mass-thegn (priest) and a secular thegn, has a wergild of 2,000 thrymsas, which is seven

1 Chadwick, op. cit., p. 13 n.
2 Evangeliorum quattuor Codex Lindisfarnensis, ed.
T. D. Kendrick and others (Olton and Lausanne, 1956–60), fo. 179R.
3 The origin may lie in the Neronian denarius, which
weighed one-eighth of a Roman ounce. Four such
denarii were approximately equivalent to an Alex-
andrian tetradrachm.
4 Thomas Wright, Anglo-Saxon and Old English
Vocabularies, 2nd edn. (ed. W tücker), i, col. 462, line
17. (N. R. Ker has ascribed this gloss to the mid tenth
century.)
5 i.e. a coin bearing Caesar's image.
6 In another tenth-century gloss (Wright-Wüecker,
col. 1831, line 21), scylling glosses munisma.
7 Ibid., col. 460, line 17.
8 EHD i, no. 52 (c).
9 EHD i, no. 52 (b).
10 3rym is the dative of Old English 3ry, 'three'. It
seems unlikely that 'thryms' is related to the Latin
tremissis; if it were, it ought to denote ten or even
doule of pence. On the other hand, 3trines, which is
found as a weight in Leechdoms (see above, p. 205 n.),
may well be derived from tremissis.
and a half times as large. Above this level certain holders of office, such as a king's high-reeve, are valued at 4,000 thrymsas, and so on up to an anheling (15,000 thrymsas) and a king (15,000 thrymsas, and another 15,000 for the kingship). It seems worth pointing out that had the ceorl's wergild been 666 thrymsas the two main classes would have corresponded to the Kentish 100-shilling and 300-shilling wergilds on the basis of a thryms equal to three gold sceattas (barley grains) or their equivalent in silver. Is it possible that there was a contemporary error of transcription (i.e. cclxvi for dclxvi)?

Be this as it may, we can probably dismiss from our minds any thought that either sceattas or thrymsas were denominations of coin in Anglo-Saxon England. Coinage, therefore, appears to have been limited to gold shillings in seventh-century Kent; occasional gold mancuses—unofficial and official—from the time of Offa to Edward the Confessor; and extensive issues of silver pence (and, occasionally, halfpence) from the end of the seventh century onwards.

**Conclusion**

To sum up, a possible view of the Anglo-Saxon monetary system is that it was founded in gold on the basis of a tremissis or shilling of one-twentieth ounce, three of which subsequently made a solidus mancus ('gold penny'). It was then developed in silver on the basis of a penny of one-twentieth ounce, five of which made a new shilling of $\frac{1}{2}$ ounce of silver. This shilling of silver was valued at half the former shilling of gold, implying a ratio of ten to one between the metals. Ten pence were thus worth a shilling of gold and thirty pence a mancus, and the mancus was therefore minted to a weight of three pence. The gold shilling had been divided into twenty sceattas, each of which weighed a Troy (barley) grain of 0.0648 g. Thus a single sceatt was worth a halfpenny of silver, or 10 grains.

An ounce of coin was originally 400 Troy grains (25.9 g.), about 4 per cent lighter than the Roman ounce, though it was raised by about 7½ per cent towards the end of Offa's reign. Twelve ounces, containing 240 pence of full weight, constituted the standard currency ('West Saxon') pound of forty-eight shillings. Fifteen ounces, or 300 pence, made up a sixty-shilling commercial ('Mercian') pound of silver. However, the commercial pound was also divided into 240 heavy pennyweights, four of which therefore made a shilling and sixteen an ounce. For half a century after Alfred's acquisition of English Mercia, pence were actually minted to a weight approaching this level except in areas under Viking rule, and four pence may have been taken for a payment of a shilling. This does not appear to have been the case when, during the reigns of Æthelred II, and Edward the Confessor, pence were periodically struck at a heavy weight, probably because the average weight of pence in circulation was usually much lower.

In the tenth and eleventh centuries the Danish ora was generally used as a unit in

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1 If a thryms is three pence, 266 thrymsas represent a 'Mercian' ceorl's wergild of 200 shillings, taking a shilling at four pence, and 2,000 thrymsas a 'West Saxon' thegn's wergild of 1,200 shillings, taking a shilling at five pence. This is hardly a satisfactory reconciliation, and is of course incompatible with the view expressed above that the 'Mercian' and 'West Saxon' shillings were of the same weight.

2 In what may perhaps represent a parallel, Engel and Serrure (Tracté de numismatique du moyen âge, i, p. xxxvii) refer to a troisken or troisquin as the 1,280th part of an 8-ounce Flemish mark of 246.5 g., thus 0.192 g. It therefore appears to denote three barley grains, which may be a sign of early date since that mark came to be regarded as containing 5,120 wheat grains, not 3,840 barley grains.

3 Added since the Address was delivered.
place of the ounce. As a weight of silver it seems to have been synonymous with an ounce of sixteen heavy pennyweights, but in accounting for pence it was also a unit of sixteen, not twenty as in the case of the ounce. So the currency pound and the pound of silver each contained fifteen ores, but the ores differed in weight. This meant that if a payment due in silver by weight was to be discharged in pence by tale it had to be made at the special rate of twenty pence for each ora due.

Eight ores made a mark. (Curiously, fines in the Danelaw were related to a half-mark.) When in Norman times the use of the accounting ora was discontinued in favour of shillings of twelve pence, the term 'mark of silver' was retained as a synonym for eight ores of pence at twenty to the ora.1 Seemingly the ratio between the metals had fallen to nine to one, since a 'mark of gold' was worth nine marks of silver.

By the middle of the twelfth century a sum of 160 pence, or 13s. 4d., was simply called a mark. The scales of weights now counted twenty sterling pence to the ounce, and the weight of an ounce of coin had risen to about 450 Troy grains (29.2 g.). The use of a fifteen-ounce pound in the context of coinage had been discontinued.

An explanation on these lines undoubtedly fits a large number of documentary references to coins and to weights of precious metals. It does, however, create problems of its own, such as the interpretation of the compilation on status attributed to Archbishop Wulfstan, and it stops short of accounting for the variations in the weight of the minted penny.2 It should therefore be regarded as no more than a hypothesis, and must be subjected to rigorous analysis by numismatists and historians alike.

Summary Table of Suggested Values

<table>
<thead>
<tr>
<th>Metal</th>
<th>Unit, and whether coin (C), accounting unit (A) or weight (W)</th>
<th>Number of ideal units to an ounce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>Sceatt (Kentish) (W)</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>Thryms (?) (W?)</td>
<td>133½ (?)</td>
</tr>
<tr>
<td></td>
<td>Shilling (Kentish) (C, W)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Mancus (C)</td>
<td>6½</td>
</tr>
<tr>
<td></td>
<td>Mancus (W)</td>
<td>6½ (?)</td>
</tr>
<tr>
<td>Silver</td>
<td>Penny (C, A)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Penny (W)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Shilling (Mercian and West Saxon) (A, W)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Ora (A)</td>
<td>1½</td>
</tr>
<tr>
<td></td>
<td>Ora (W)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mancus (A)</td>
<td>¾</td>
</tr>
</tbody>
</table>

Acknowledgements

In concluding this Address, I freely acknowledge a very large debt of gratitude to three scholars, Professor Dorothy Whitelock, Mr. P. Grierson, and Mr. P. H. Sawyer. They kindly read a draft, and not only criticised it and encouraged me to go ahead with it but also helped me with many important references. These produced some missing

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1 Payments were expressed in marks of pure or white silver in Kentish charters of Cnut's reign (e.g. Anglo-Saxon Charters, ed. A. J. Robertson, Cambridge, 1956, nos. lxxix and lxxxvi).

2 For this reason I have not discussed the surviving coin-weights. One of Alfred (163½ g.) may be the weight of 120 pre-reform pence; another of Edward the Confessor (37·61 g.) is less easy to explain. Michael Dolley at one time regarded these weights as trial pieces—see BMJ xxvii, pp. 175–8.
pieces of the puzzle I was seeking to solve. To many others, both numismatists and historians, with whom I have discussed problems in this area over several years, I am also greatly indebted. Finally I must thank my wife who, by presenting me with some essential volumes of source material at a critical stage, saved me many visits to public libraries which would have been quite impracticable in the time available.

APPENDIX

The Carolingian Evidence

I do not regard myself as a competent authority on the Carolingian sources, but I think that the Anglo-Saxon evidence may throw some light on the nature of Charlemagne's reform of weights and coinage c. 790 and may make the interpretation of some familiar documents clearer. I therefore offer the following analysis for what it may be worth.

There are two sources which seem to suggest that before the reform the Anglo-Saxon ratio of five to four applied in Francia also. Prou quotes a document from Aquitaine, dating from c. 845, which refers to 300 coins by number, or 25 solidi of account, making the former pound. It is inconceivable that pre-reform deniers were still circulating in 845, and the writer must surely be referring to a relationship that formerly existed. It would seem therefore that 300 denarii were regarded as equivalent to a pound of silver, implying a pound of, say, 389 g. (6,000 grains) on the basis of a denarius of 1.296 g. (20 grains).

This is supported by the Capitulare Episcoporum of c. 780, which has been the subject of much discussion, most recently by D. M. Metcalf and H. A. Miskimin. Prou says that a famine had decimated the kingdom, and that the capitulary laid down a scale of almsgiving designed to appease the divine anger. The relevant part, as quoted by Metcalf, reads as follows:

\[\text{Et unusquisque episcopus, aut abbas, vel abbatissa, qui hoc facere potest, libram de argento in elemosinam donet; mediocres vero median libram; minores solidos quinque . . . Comites vero fortiores libram unam de argento aut valentem, mediocres medium libram, vassus dominicus de casatis ducentis medium libram, de casatis centum solidos quinque, de casatis quinquaginta aut triginta unciam unam et faciant biduanas, atque eorum homines in eorum casatis; vel qui hoc facere possint; et qui redimere voluerit, fortiores comites uncias tres, mediocres unciam et dimidiam, minores solidum unum.}\]

Thus three scales are specified, the first two of which run 'pound of silver, half pound, five solidi' and the third 'three ounces, one-and-a-half ounces, one solidus'. If it can be assumed that the third scale is in strict proportion to the others, it must be in the ratio of one to five and a pound of silver must contain fifteen ounces. Prou pointed out that in a Beauvais manuscript the reference to 1.25 ounces in the third scale is replaced by denarios triginta: this implies 300 denarii to the same pound. Again, if it can be assumed that the first two scales run in the ratio 1:3:5 the pound must contain 20 solidi; if the third scale runs similarly, the other relationships must also apply. The document from Aquitaine is not necessarily contradicted: its twenty-five solidi are clearly accounting

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1 Et trecenti tales nummi antiquam per viginti et quinque solidosefficient libram—Mabillon, vetera analecta, as cited by Prou, op. cit., p. xxxvii.
3 Prou, op. cit., p. xxx.
4 This is a solidus of silver, worth not more than half a solidus mancus of gold—cf. the gold and silver shillings in Anglo-Saxon England (p. 212 above).
5 Ibid., p. xi.
units, but the capitulary of bishops seems generally to be expressed in units of weight.\(^1\) A solidus-weight of \(\frac{3}{4}\) ounce, rated at fifteen deniers by tale, would be consistent with an Anglo-Saxon shilling of \(\frac{1}{4}\) ounce, rated at five minted pence.

Professor Miskimin, however, has claimed that the pre-reform pound contained only eight ounces.\(^2\) He relies for this on the second scale of the Capitulare Episcoporum which, as the text already quoted shows, contains a subsidiary tariff bringing in a fourth class. Thus a vassal with 200 casati must pay the middle rate of half a pound, a vassal with 100 casati five solidi, and one with fifty or thirty casati a special rate of only one ounce. If an ounce is half of five solidi—in other words, if the lowest payment in the tariff is based on fifty casati—there must have been eight ounces to a pound of twenty solidi, and this is Miskimin’s argument. If, on the other hand, there were really fifteen ounces to a pound, and the lowest payment was based on thirty casati, a vassal of 200 casati would have paid \(7\frac{1}{2}\) ounces and one of 30 casati should, in strict proportion, have been assessed at an ounce and an eighth, which is near enough to the actual assessment of one ounce. Further, the awkward reckoning of fifteen ounces to the pound would explain the varying units in which the dues were expressed. If the pound contained eight ounces, would not the payment of the vassal of 100 casati have been stated as two ounces? Miskimin has to deny that the tariffs in the third scale for fortiores, mediocres, and minores are in the ratio of \(1:3:4\) in order to prove his case.\(^3\) The balance of the evidence seems to be against him.

What, then, was Charlemagne’s reform? It did, of course, extend far beyond coinage. His general admonition of March 789 makes clear that he was concerned to ensure the use of correct and uniform measures and true and uniform weights everywhere, whether in town or monastery, whether in giving or receiving.\(^4\) Various estimates have been made of his ideal currency pound, on the basis of the weights of surviving denarii.\(^5\) Unfortunately these weights vary considerably, and in view of the uncertainty which still surrounds the classification and chronology of Carolingian coinage\(^6\) it may be more useful to approach the problem indirectly. One possible avenue is by way of the gold coins of Louis the Pious which bear the inscription Munus Divinum. These have been dated by Grierson to the early years of Louis’s reign, c. 816.\(^7\) Their weights, like those of the earlier quasi-imperial solidi, are remarkably stable but they are appreciably heavier. Eight out of ten of the normal pieces listed by K. F. Morrison and H. Grunthal\(^8\) weigh between 4.32 and 4.41 g. and have an average weight of 4.36 g., very close to the Byzantine solidus; of the other two, one (Grierson’s) is mounted and the other is clipped. If we assume that these coins were minted as ‘new’ mancuses of the value of thirty new denarii,\(^9\)

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\(^1\) A different pound seems to have been used in minting, for another capitulary of Pepin lays down that the pound weight is to contain not more than twenty-two solidi of which the moneyer may retain one, viz. De moneta constitutius similiter ut amplus non habeat in libra pensante nisi xxi solidos et de ipsis solidis monetarius accipiat solidum et illos alios domino quibus sunt reddat—see Prou, op. cit., p. xxix, note 3. If these were solidi of account the mint pound must have weighed 264 denarii, or, say, 343 g. (5,280 grains); if they were solidi of silver it could have weighed 330 denarii, or, say, 429 g. (6,600 grains).

\(^2\) Metcalf and Miskimin, art. cit., pp. 296 and 333.

\(^3\) This implies a denial that the first and third scales are proportionate to one another.

\(^4\) Prou, op. cit., p. xxxvi.


\(^6\) See, for example, P. Grierson’s review of Morrison and Gruntham in NC 1969, pp. 346–50.

\(^7\) P. Grierson, ‘La Date des monnaies d’or de Louis le Pieux’, Le Moyen Age, 1963, pp. 67–74.


\(^9\) In 815 Louis confirmed a charter of Charlemagne to San Zeno of Verona, in which it was specified that on the patronal festival the abbey should pay the bishop and clergy of Verona aut mancisos viginti aut
and if we take the ratio of gold to silver as twelve to one,\(^1\) the corresponding weight of the contemporary denarius is twelve-thirtieths of 4-36 g., or 1-74 g. (26-9 Troy grains), with a margin of error of perhaps 1 per cent. Thus 240 new denarii should have weighed 417-7 g. (6,445 grains)±1 per cent. These figures agree exactly with Morrison’s estimates based on the modal weight of non-portrait denarii of Louis. Do they have any meaning in themselves, or are they derived, by analogy with Pepin’s decree, from a standard mint pound 10 per cent heavier, as Morrison suggests?\(^2\)

Although the actual pound of currency was frequently lighter, the significance of a pound of the weight of 240 new denarii of about 1-74 g. appears to be underlined by the Carolingian weights which survive from north-west Europe. With perhaps one exception they seem to be multiples of a heavy ounce of about 35 g. (540 grains), though it is impossible to determine the precise value because of their corroded condition.\(^3\) A pound of 420 g. (6,480 grains) would have contained twelve such ounces, each of the weight of twenty new denarii.\(^4\)

The former ounce may be thought, from the capitulary of bishops, to have weighed twenty old denarii of full weight, or say 26 g. (400 grains). If fifteen of these ounces made up the old pound of silver, roughly sixteen would be needed to constitute Charlemagne’s currency pound. By redividing his pound into twelve heavy ounces, each of twenty new denarii, Charlemagne could identify the minted denarius with the denarius-weight of one two-hundred-and-fortieth of a pound. Also, by equating the mancus with thirty new denarii he could give it a weight virtually on a par with the Byzantine gold solidus. Were these, in fact, his objectives, or are the results fortuitous? The new mancus, incidentally, would have been worth approximately forty old denarii of full weight—the relationship found between denarius and solidus in Salic law. It would thus have been worth roughly two ounces of the former silver pound, and would have weighed about a sixth of one of those ounces.

This argument, if valid, appears to demand a slight increase in the weight of the solidus of silver from fifteen old denarii (say 19-5 g., or 300 grains) to twelve new denarii (say 21 g., or 324 grains). Such an increase might conceivably explain the raising of the weight of the English penny to around 21 grains at the end of the eighth century. If so, what was it that prevented Offa from adopting Charlemagne’s reform in full? quinquaginta solidos argenti—Grierson, art. cit. (‘Carolingerische und Araber‘), pp. 1070-1.

\(^1\) The ratio stated in the subsequent Edict of Pltres—see p. 215.

\(^2\) Morrison and Grunthal, op. cit., p. 58.

\(^3\) See Morrison and Grunthal, op. cit., pp. 61-2, and Metcalf and Miskimin, art. cit., p. 298.

\(^4\) It may be useful to record that an ounce of exactly 35 g. would contain 576 grains of English ‘Tower’ weight (0-0608 g.). This is not necessarily fortuitous, for the Roman ounce of c. 27 g. contained 144 carats, and in medieval Europe the carat was divided into four grains. We know, too, that there were 576 grains of 0-0531 g. in a French royal ounce (30-6 g.). It therefore seems possible that the ‘Tower’ grain was of Frankish origin. Its first recorded use in England is in the thirteenth century, when from a statute of 1280 we learn that the penny should weigh 24 grains, which were the same as the former 32 grains of wheat. This former wheat grain would have weighed c. 0-0456 g., and 576 of them would have amounted to 26-3 g. (405 Troy grains), virtually identical with the presumed weight of twenty old Frankish denarii or, for that matter, twenty Kentish gold shillings. On the other hand, Grierson (‘Money and Coinage under Charlemagne’, in Karl der Grosse, i (Düsseldorf 1965), pp. 501-46 at p. 530) sees the new denarius as containing 32 Paris grains of 0-0531 g., making 1-70 g. On this reckoning, Charlemagne’s currency ounce would have contained 640 Paris grains—compare the Flemish ounce (30-8 g.) of 640 grains of 0-048 g. and the presumed English Tower ounce (29-2 g.) of twenty pence at 32 wheat grains of 0-0456 g. However, the 640-grain ounce could perhaps have originated in the mini pound, if the difference between mint and currency pounds was intended to be 10 per cent. The subject is complex, and cannot be further developed here.