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THE GOLD SOLIDUS OF LOUIS THE PIOUS AND ITS IMITATIONS[1])

by

PHILIP GRIERSON

Ever since the first gold 'coin' of the Emperor Louis the Pious (814—40) came to light in 1606, the series of which it was a representative has attracted the attention of scholars[2]). Their views about it, however, have been based on casual acquaintanceship with a few isolated specimens, not on systematic study, and for a long time there was little attempt to distinguish solidi actually issued by the imperial mint from the more numerous imitations of them struck in Frisia and elsewhere. It may therefore be worth while to attempt a fresh survey of the material at our disposal and re-examine some of the problems involved in its interpretation.

The 'coinage' can be classified as follows:

1. Solidi weighing approximately 4.4 g. the normal weight of the Roman and Byzantine solidus and a little more than that of the Abbasid dinar of this period. The obverse legend is DNHLVDOVVICVSIMPAVG *(Dominus noster Hludowicus imperator augustus)*, the type a laureate bust of the emperor facing right. On the reverse is the legend MVNVSDIVINVM around a cross in a wreath. Over a dozen specimens have been recorded, and four pairs of dies account for all those that can at present be traced. Two of the dies, in each case represented by only a single specimen, are of very fine style; the others approximate to the rather low standard of the silver portrait deniers of the emperor. The uniformity in weight of these coins, and the coincidence of this with that of the contemporary Byzantine nomisma, is sufficient proof that they were intended to be used as currency.

2. Rude imitations of these solidi, some not departing very far from the originals, others absolutely degenerate in their rendering of the bust and of the legend. The better imitations, which are presumably the earlier in date, are of fine gold and of full weight, but many of the more barbarous specimens are very base and weigh less than 4 g. It seems reasonable to assume that they were all intended as currency. They can for the most part be located in Frisia. Some eighty specimens have been recorded, twenty of them from a single find. They can be dated from the fourth or fifth decade of the ninth century to nearly its close.

3. A 'medallion' of anomalous weight and remarkable style, a unique specimen of which exists in the Bibliothèque Nationale. It is of similar legend and design to the normal solidi, save that the bust faces left instead of right and the design is executed in much higher relief, reminiscent of Roman coinage of the pre-Constantinian period and quite unlike anything produced at a later date. The weight is 7.04 g.

4. A very miscellaneous series, consisting partly of coins and partly of coin-like ornaments, often provided with hooks and elaborate settings. The obverses, in all save one case, derive from the solidi of Louis the Pious; the reverses, with such varied designs as an eagle, a human figure, or a temple, are either original or copied from ancient coins. They probably all date from the ninth century. Their study is in the main a matter for the archeologist rather than for the pure numismatist. For this reason I have not dealt with them in detail, but have contented myself with bringing together such scattered material as is known to me in the hope that it may be of use to some scholar more competent than I can claim to be in this rather specialised field.

1. *The Solidi of Louis the Pious* [3]).

The solidi, rather than their imitations or the enigmatic medallion, are clearly the point from which any investigation must begin. There is no written evidence regarding the date, place, or circumstances of their minting. Attempts have been made to relate them to a petition of the Council of Rheims of May 813 [4]),

which finds an echo in legislation of 816 [5]), against the use of the solidus of 40 deniers, but this will not stand up to examination; a gold coin weighing 4.4 g. would be worth 30 deniers, not 40 [6]), and the petition and the legislation relate simply to the ambiguity of Frankish and Saxon law over the use of the word *solidus* as a unit of account [7]).

There are, however, fairly strong grounds for believing that the issue is to be dated 816/18, and that the chief but not the only mint was Aachen.

The date is suggested by two things, the type and legend and the question of the gold supply.

The obverse type, the laureate bust of the emperor, differs in no substantial manner from the portrtait deniers of Charlemagne and of Louis himself. The reverse type and legend — the cross in a crown of laurel, surrounded by MVNVS DIVINVM — have been variously interpreted. In the last century it was widely held that these solidi were struck as gifts for monasteries and churches, and the legend was supposed to refer to the coin itself. Prou, on the other hand, suggested that it was analogous to the DONO D[E]I found on a silver Merovingian coin, and that both implied wealth in general to be a gift from God [8]). He subsequently modified this opinion, and argued that the words referred to the crown surrounding the cross on the reverse and worn by the emperor on the obverse; they implied that the crown, solemnly placed on the emperor's head by the pope, was a divine gift [9]). This view is borne out by a study of contemporary accounts of the coronation at Rheims on 5 October 816. Exceptional importance, in papal and imperial circles, was attached to the ceremony. The crown was bought form Rome by the pope; it was said to be the crown of Constantine [10]); one eye-witness of the ceremony refers to it as *munus Petri* [11]). It is therefore inherently probable that the striking of the coins is to be brought into close relationship with the coronation, and that they should be dated 816/818.

The same conclusion is suggested by the question of gold supply, always a difficult matter for medieval rulers desirous of indulging in the luxury of a gold coinage when there was no

very strong economic justification for one. A Carolingian sovereign had no natural supply of gold. There were no mines in the empire, and the occasional finds of alluvial gold were of little importance. The produce of the royal estates was collected in kind. The *dona annualia,* the nearest equivalent to direct taxation, were paid, so far as is known, either in kind or in silver, the regular currency of the empire. Gold could no doubt be obtained from merchants, but only in small quantities, and it would not be practicable at this period to base a coinage on it.

There remain the treasure of Louis' predecessors, and gifts and tribute from outside. The first was not a promising source of precious metal, for Charlemagne in his will had made the most precise dispositions for its distribution after his death. Two-thirds of the treasure, at the moment that the will was made, were allocated as alms to the metropolitan sees of the empire, the lot due to each being set aside at once under seal so that each would have its share already indicated when the time came for distribution. The remaining third was to serve the needs of the court as long as the emperor lived; when he died, what remained was to be divided into four parts, three of which were to be disposed of as alms in various specified ways, and the fourth was to be distributed 'fairly and reasonably' amongst his children and grandchildren [12]). Although our sources disagree as to the precise way in which these terms were carried out, the two most trustworthy concur in saying that the whole treasure was distributed either as alms or as gifts to Louis' sisters, and that the new emperor retained almost nothing for himself [13]). Charlemagne's immense treasure could therefore not have served as the basis for the new currency.

The remaining possibility was gifts and tribute, which throughout the Middle Ages formed a regular resort for sovereigns desirous of establishing an abundant gold currency. The Frankish Annals record numerous embassies from Byzantium and the Islamic world, and from the tribes on the eastern borders of the Frankish state, during the early years of Louis' reign, and these no doubt did not arrive empty-handed. Pope Stephen, when he

came to crown the emperor, brought with him *dona aurea,* though if the chroniclers are right in their estimate that Louis repaid them by others of three times their value they cannot have represented any gain to the treasury. Tribute from the princes of Benevento, however, was a different matter. Grimoald IV (807—818) seems to have been at war with the Franks from soon after his accession, but no precise details are preserved. In 812 he came to terms, and agreed to pay Charlemagne a lump sum of 25,000 gold solidi, and 7000 solidi a year tribute for the future [14]). This tribute was continued during the early years of Louis' reign [15]), but Grimoald was murdered in 818, and his successor Sico, though he sent an embassy with gifts to excuse the murder [16]), seems to have discontinued the tribute; at least, it is not heard of again. Between 814 and 818, however, it is reasonably certain that the tribute was paid, and it is from it that the gold for Louis' short-lived issue of solidi may well have come.

The chief mint was probably Aachen. It has sometimes been thought that it might have been Duurstede, the most important commercial centre of north-western Europe at that period, but although some of the imitations of the solidus and the trinkets inspired by it almost certainly came from there, Duurstede is not likely to have been the original mint. The whole concept of the type of the coin, the very idea of minting an imperial series in gold, is so intimately bound up with the court and the ideas of the imperial circle around Louis that it must have been in the mint of the Palace that the coin originated. This, to all intents and purposes, would mean Aachen, which in the early years of Louis' reign, as in the later ones of his father's, was the regular imperial residence. After his coronation at Rheims early in October 816, Louis moved to Compiègne, where he was on 8 and 17 November, for the autumn Diet, and when that was over he established himself at Aachen. He stayed there for the whole of 817, only leaving for hunting trips to Nijmegen in May and to the Vosges in August. Not till the summer of 818 was he absent for a fairly prolonged period (July-October) on an expedition against the Bretons. Most of the year 819 he again spent at Aachen [17]). Since

these are the years to which the issue of the coins can most probably be ascribed, Aachen seems the most likely mint.

There are purely numismatic grounds, however, for supposing that Aachen was not the only mint. Since an upper die wears out more quickly than a lower one, owing to the disintegrating effect of the hammer blows upon it, it is usual to find, in any coin series, several reverses to each obverse, and where several dies are being used simultaneously in the same mint there are normally a certain number of die linkages between them. In this case, however, the coins that can reasonably be regarded as official issues have two peculiarities. Only four obverse and four reverse dies are known, and there are no die linkages; each obverse always goes with the same reverse. The first peculiarity might be due either to the issue being so limited that the upper die did not have time to wear out, or to the moneyers continuing from motives of economy to use worn dies long after they should have been discarded. In one case at least (Die 4), this last is certainly the explanation, and the condition of another die (Die 3) leaves a good deal to be desired. The absence of die linkages might be due either to the dies being fixed to one another or to the fact that they were not actually being used in the same mint. Since the axes of the same obverse and reverse dies are not always identical in different coins, the first explanation can be ruled out, and we must fall back on the possibility of different mints, a possibility which is reinforced by the marked superiority in style of two of the pairs of dies to the two others. My inclination would be to ascribe Dies 1 and 2 to Aachen, and 3 and 4 to other (different) mints, of which Duurstede may well have been one. But it would be profitless to conjecture further on this point.

We have no idea as to how long the issue continued. The small number of dies involved shows that it must have been a very limited one, and it is not likely that it lasted for more than a couple of years at the outside; we would probably not be far wrong in dating it 816—18. The long series of later imitations shows that the coins enjoyed considerable popularity in at least one part of the empire. The suggestion has been put forward that

they were intended to facilitate the trade of Frankish merchants in the Mediterranean, where gold was still in use in Byzantine and Arab lands and in much of Italy. This is not likely, for no specimens have been found in the southern part of the empire [18]) and in the design of the coins themselves no attempt is made to imitate the products of contemporary Byzantium, as one would expect would have been the case if Louis had purely commercial considerations in mind. Motives of prestige were probably more important. Louis had a far more exalted conception of the imperial office than his father had had, and the striking of gold coin, in however limited an amount, was to that extent an assertion of the imperial prerogative. It was at the same time only reasonable to make the coins of a weight and fineness satisfactory to merchants, familiar with the coinage of Byzantium and the Arab world [19]). A similar mixture of motives is often found to lie behind the creation of a gold coinage by princes in the Middle Ages. The value of the coin was presumably identical with that of the Byzantine nomisma, i.e. thirty silver pence [20]).

2. *The imitations of the solidus*

Since Leblanc published a barbarous imitation of the solidus in 1690, many more specimens have come to light, but the literature on them is scattered and of unequal value. The most important contributions to our knowledge are the description of the Delfzijl Hoard by S. Wigersma in 1907 [21]) and the lists of specimens found in the Netherlands compiled by Dr. P. C. J A. Boeles [22]). These prove beyond question that the Netherlands, and Frisia in particular, must be regarded as their original home. Dr. Boeles' enquiries, however, did not take him much outside the Netherlands, and the account that follows is based on an appreciably larger volume of material — over 70 specimens in all — drawn from museums and private collections in many countries of western Europe.

Despite a strong family resemblance between the coins, which in many cases proves them to have been copied from one another and not independently from the originals, there are considerable

differences in the degree of rudeness with which the type has been reproduced and the extent to which the legends have been simplified. In all save one coin (Type XXIX), which is probably not of Frisian origin at all, the bust continues to face to the right, but the emperor's wreath has been reduced to two or three large blobs and to the pendant tails behind the head, and the eye is sometimes represented by three pellets. On the reverse, the wreath has usually become a circle of pellets, and the tails of it a sign formed by three strokes (/|\ ), sometimes joined at the top and sometimes not, the central stroke being apparently derived from the die flaw found in one of the originals (below, p. 24. Dies O^3, R^3). The reverse legend MVNVSDIVINVM has in a few cases been reproduced fairly correctly, if sometimes retrograde, but is usually reduced to a meaningless jumble of strokes, broken almost invariably by an O (the D of the original legend) and sometimes by two V's taken over from the rather frequent occurrence of this letter in the original inscription.

A completely scientific classification of the imitations is scarcely possible, for many distinct types are represented by single specimens, with no transitional pieces or common reverse dies to link them to other groups. A summary classification, based on the coins found in the Netherlands, was worked out by Dr. Boeles, but it cannot well accommodate the substantially larger quantity of material I have been able to bring together. After various unsuccessful attempts to work out some kind of genealogical tree to link the types, I have come to the conclusion that except in a few cases, where the connection is obvious, this cannot be done. The process of barbarisation did not affect equally both faces of the coin. In some groups, a relatively good style of bust is united with a reverse legend consisting of no more than a series of strokes and the almost invariable O, while in at least one group (XXV) a good reverse legend occurs in conjunction with a wholly degenerate obverse legend and bust. In the arrangement give in the appendix, I have contented myself with placing near to one another such types as seems to show a certain stylistic resemblance, but have not as a rule ventured to suggest the

existence of any necessary connection between them. A workman making a die would take his model more or less at random, and even late in the ninth century might well revert to a relatively good piece of earlier times.

The dating of the imitations is a difficult problem. In many cases, we have no record at all of the circumstances in which the coins were found; in any case, coins found in isolation, as many of these were, provide no clue as to their chronology. Specimens of four groups [23]), however, are known to have come from hoards that can be approximately dated:

1. The Hon Hoard contained two specimens, mounted as ornaments, of Type I. This hoard was discovered at the farm of Hon (or Hoen), near Eker (Eger), some 50 km south-west of Oslo, in August 1834. It consisted of a large quantity of gold and silver ornaments, which included 20 coins furnished with hooks to enable them to be hung on a necklace. The hoard was described at the time by C. M. Holmboe [24]), but his account has been superseded by that given in two studies by Hans Holst [25]).

The coins were late Roman (1), Byzantine (3), Frankish or imitations (5), Anglo-Saxon (1), and Abbasid (10). The latest in date were a denier of the Emperor Lothar (840-55), a Byzantine solidus of the Emperor Michael III and his mother Theodora which can be dated c. 852, and a dinar of al-Mutawakkil of 848/9. The last two had scarcely circulated at all before they were mounted as jewellery, and the same is true of the two Frisian solidi. The hoard can therefore be dated 860/70, and these imitations can be ascribed with fair confidence to the middle of the ninth century (c. 850).

2. The Roswinkel Hoard contained one specimen of Type XV. The hoard was found between Emmen and Roswinkel, in the province of Drenthe, in May 1870,, and consisted of 145 Carolingian coins. A manuscript account of it by Hooft van Iddekinge, together with the coins of the hoard itself, now in the Provinciaal Museum at Assen, provided the material for the published descriptions by Raymond Serrure [26]) and Dr. Boeles [27]).

The bulk of the hoard consisted of deniers of the Emperor Lothar, struck at Duurstede, and their later imitations. The latest coins in date were six deniers struck at Visé (near Liège) in the name of King Louis the Stammerer (877-9). The hoard can therefore be dated c. 880, which gives at least an approximate date for the gold solidus also.

3. The Delfzijl (or Marsum) Hoard consisted very largely of solidi of Types IV and V. It was found in 1906 in a 'terp' — one of the artificial mounds erected by the early inhabitants of the northern Netherlands and used either for regular inhabitation or as a place of refuge in time of flood — near the village of Marsum, 5 km from Delfzijl, in the province of Groningen. The exact circumstances of the find are unknown, and some coins may have been dispersed before it came into Wigersma's hands to be described. It consisted of a number of silver ornaments, about a dozen Carolingian deniers, and at least 20 solidi [28]).

Two of the deniers, which passed to the Friesch Museum at Leeuwarden, serve to fix the approximate date of the hoard, for they are of the large thin type which were struck in Italy by the Emperor Charles the Fat (882-887). The hoard can therefore be ascribed to the last decade of the century.

The fact that so many solidi of the same pairs of dies occurred in the hoard strongly suggests that they had been struck both locally and recently, but the appearance of the coins proves that the dies were old and worn, and probably rusty; they may therefore date from several decades earlier. It is interesting, none the less, to find them being used at so late a date.

The meagre evidence of the few relevant hoards therefore does no more than indicate what we might otherwise have expected, that some types of imitation can be ascribed with confidence to the second half of the ninth century, and that they were still being struck right up to its close. They may well have started before the turn of the century, and even during the lifetime of Louis the Pious; I am disposed to associate the finding of two coins of relatively good style (Type II (b); p. 38, no. 3) in La Vendée with

the activities of the Northmen in this region in the years following 843, which would probably mean that they were struck before 840. It is not likely that any were struck later than 900; the low standard of fineness of the Delfzijl coins seems to indicate an issue reaching the point of extinction. At the outside, I would date the whole of the imitations beween 830 and 900, the only possible exception being the anomalous solidus of Type XXIX, which is a problem in itself and will be discussed below.

The Frisian origin of the vast majority of the imitations — using Frisia in the large sense of the *Lex Frisionum*, the land between the Zwin and the mouth of the Weser — is so clearly indicated by the records of find-spots that there is no need to discuss it at length. Only in two cases does the Frisian origin seem open to doubt. Type XVI is represented by four coins, three of them from the same pair of dies. Two were certainly found in England, one at Cambridge and the other at Lewes; the other two were acquired by the British Museum from private persons, not collectors, and were almost certainly found in the country. I am disposed to regard the isolated specimen as an importation from Frisia sometime in the mid-ninth century, and to suppose that the others were struck in England in imitation of it. The other group whose Frisian origin is open to doubt is I(i). One specimen was found in Elgin, in northern Scotland; two more were in the Hon Find, and clearly imported from somewhere in western Europe; a fourth is in Paris; and all are clearly related to I(ii), the only representative of which is in the British Museum and may well have been found in Great Britain. It is therefore very possible that Type I as a whole may have originated in Britain.

There is little to show whether the few specimens known or believed to have been found outside Frisia reached their destinations as a result of Viking piracy or Frisian trade. In the case of the two coins in the Hon Hoard, the former is almost certainly the explanation; the company in which the coins were found suggests strongly the profits of a plundering expedition to western Europe. For the two early imitations found in La Vendée,

I incline to a similar view. After the sack of Nantes in 843, a Viking band occupied the island of Noirmoutier and used it as a base for their predatory raids on the mainland; in this way coins acquired earlier in Frisia might well have reached La Vendée [29]). On the other hand, the original from which the English imitations were copies, and perhaps the specimen which stimulated the production of the solidus of Archbishop Wigmund [30]), may well have come to England by peaceful means.

There is one coin which is in a class to itself: the unique solidus of Type XXIX, with bust lest instead of bust right. Nothing is known of its provenance. The style is entirely different from that of any of the Frisian solidi; the whole design is built up of thick straight strokes in high relief, so that the surface is quite rough to the touch. The only coin I have seen which is reminiscent of it in any way was an imitation of a Spanish dinar of the tenth century in the Jonas Sale [31]); though the design of the two is quite different, the "texture" of the coins is essentially the same. The provenance of the dinar, unfortunately, is entirely unknown; the compiler of the catalogue suggested Germany or Poland, but this was purely a guess with no substantial evidence to support it. My impression of the anomalous solidus is that it does not belong to Frisia, but may perhaps be North German or Scandinavian, and that it dates from the tenth or perhaps even the eleventh century. One cannot hope to go further without the evidence of some future find. It seems certain, however, that its prototype was one of the Frisian solidi of the type under discussion here.

The fact that the normal imitations of the solidus were struck for the needs of commerce seems scarcely open to doubt. The number of different types which are still extant implies a coinage of respectable dimensions extending over a considerable span of years, and links up both with the prominence of Frisian merchants in the written records of the Frankish period and with the traces which the habit of reckoning in terms of gold left behind it in Frisian laws and local customs. The imitations differ profoundly from the occasional 'gold pennies' which turn up occasionally in every country of western Europe during the feudal epoch, and which

were used for ceremonial payments, mainly of an ecclesiastical character. Since the function of these was symbolic, and their actual value immaterial, they conform to no weight system whatsoever; they are simply small pieces of gold struck with the dies ordinarily used for the striking of silver pennies. The Frisian imitations exist in their own right; they have a definite weight — they aim at, if they do not always achieve, that of the Byzantine nomisma, and they have dies and types proper to themselves. The fact that the latest precimens are of very poor quality and very variable weight no more affects their right to be regarded as coin than does the occurrence of the same phenomena in the last issues of tremisses in Merovingian and Visigothic times.

Essentially the same considerations prevent us regarding the solidi as ornaments. Some, it is true, have been mounted to serve as such, but in this they have not been treated differently from Byzantine solidi or Arab dinars. Turning gold coin into ornaments is in many communities a recognized way of using it as a "store of value", as for example in India in modern times. If the solidi had been intended as ornaments from the first, regularity in weight would have been unnecessary, and it is also probable that a higher standard of workmanship would have been achieved. In any case, many surviving specimens bear no trace of mountings or attachments, which seems sufficient ground for doubting the validity of such a theory.

There were, however, certain types which seem to have been definitely intended from the first to serve as ornaments. To these we may now turn.

3. *The Gold "Medallion".*

The 'medallion' about to be described should in strictness be classed with the gold pieces imitated from the solidus which will be referred to in the next section, but since it differs so little from the normal solidi that it has usually been regarded as part of the regular coinage of the reign of Louis the Pious, it seems more

convenient to deal with it separately. It is now in the Bibliothèque Nationale [32]). It resembles in every respect the solidi, save that the bust faces left instead of right, the weight is 7.04 g instead of c. 4.4 g, and the work is executed in strikingly high relief. The die positions are ↑↗. It is illustrated on Pl. II, no. ii.

The piece has been frequently published. In 1690, Leblanc inserted a somewhat conventionalized woodcut of it in his *Traité historique des monnoies de France* [33]). This illustration served other authors up to 1837, when Fougères and Combrouse used it in their *Description complète et raisonnée des monnaies de la deuxième race de France* (no. 64) and then substituted to it a new drawing made after the original (no. 471). This new design was in turn used by a long series of authors up to Gariel [34]) and the Vicomte de Jonghe [35]), till in 1896 it was displaced by the photographic illustration in Prou's catalogue (no. 1070). This has been so frequently reproduced by later writers [36]) as to make the 'coin' one of the best known of the Carolingian period.

The coin passed to the Bibliothèque Nationale from the ancient Cabinet du Roi, and was already in this in 1690. Earlier still it had belonged to the great French scholar and humanist Peiresc, who bought it in Flanders in 1606. It was stolen from his collection in 1623, and his biographer records how deeply he felt its loss [37]). He never recovered the piece, and how it passed to the Cabinet du Roi, rejoining there many other coins of Peiresc, which had been bought after his death by M. de Harlay and presented by the latter to Louis XIV, is not known.

This pedigree is of considerable importance. The style of the coin is so remarkable that one's first examination of it almost inevitably raises the suspicion that it is a modern forgery, inspired by one of the normal solidi with bust facing right. These solidi, however, were not known in the 17th century — Peiresc believed his coin to be unique, and Leblanc only knew a Frisian imitation with a blundered legend —, so Peiresc's piece, bought in 1606, cannot have been imitated from them and must be regarded as of unimpeachable authenticity.

The 'medallion' is a most remarkable piece to examine and handle. The high relief, the plastic sense of the artist and his extraordinary control over his medium, raise it far above the ordinary level of coin design in the early Middle Ages. The reverse is particularly effective; the letters and the details of the wreath are beautifully formed, and the proportions observed between legend, cross and wreath combine to form an admirably balanced design. The portrait of the emperor is very striking, for the modelling of the nostril, moustache and chin are excellent, and the expression on the face is vigorous and lifelike [38]). The eye, on the other hand, is clumsy, and the treatment of the hair is quite unsatisfactory; the series of lines above and below the wreath, converging to a point at the top of the head, represents a falling-away from the naturalism of the rest of the portrait, and in this respect the skill of the artist is conspicuously inferior to that displayed on the better dies of the solidi. But for this, indeed, one would be tempted to regard the 'medallion' as the model from which the solidus was subsequently copied, instead of the other way about. It seems likely, in fact, that the artist had in front of him two solidi, of Dies 2 and 3; the admirable reverse was taken from one of Die 2, while the position of the head in the field and the adjustment of the knot of the wreath, with the ends hanging straight downwards instead of fluttering in the air, make it probable that the obverse was copied from a solidus struck from Die 3.

With regard to the purpose of the 'medallion', and the place at which it was struck, we are wholly in the dark. It was acquired, and presumably found, in Flanders, so we would probably not be far wrong in assigning it to the southern part of the Low Countries. On the upper part of the edge of the coin there are traces of mounting, and it seems probable that the piece should be regarded as an ornament analogous to those which will be considered in the next section. Its anomalous weight shows that it was not intended to be a coin. Perhaps it was made for presentation on some official or semi-official occasion, but whether by a private goldsmith or by the official mint is impossible to say.

4. *Coins and Ornaments derived from the Solidus*

The 'coins' discussed in the two preceding sections reproduce, with varying degrees of fidelity, both the obverse and reverse types of the solidus of Louis the Pious. There remains a miscellaneous group of pieces which clearly take their origin from the solidus, but differ from it intentionally, by change of type or legend, in some marked fashion. Many of them are simply ornaments, but some were apparently intended as coin. If the original solidus of Louis be compared with the Florentine florin of the thirteenth century, the Frisian imitations would represent the florins of Aragon, Dauphiné, Orange and other places which reproduced the types of the original, while some at least of those now to be considered would be the equivalents of the goldgulden of the Rhineland or the ducats of Hungary, which took their origin from the florin but substituted, for example, St Ladislas for St John the Baptist and a shield for the fleur de lys.

A. *Solidus of Archbishop Wigmund of York (837—854)*

Obv. VICMVNDVREP Tonsured bust of archbishop facing.

Rev. .MVNVSDIVINVM. Cross in wreath; pellet between ends of wreath. British Museum (from Pembroke Sale, Sotheby, 31.vii.1848, lot 34). 4.38 g (doubly pierced) ↑↑. This famous coin, which has been known since the middle of the 18th century, is illustrated in virtually every work on English numismatics.

The reverse of this coin is copied exactly from the solidus of Louis the Pious, the only difference being the addition of three pellets to the legend. The obverse is entirely different; it clearly owes something to the silver coins with facing bust of Pope Adrian I (772—95), either directly or through the imitations of these by Archbishops Wulfred (805—32) and Ceolnoth (833—870) of Canterbury, but the workmanship and design is much superior to any of these, and it is possible that the die-sinker had before him some coin of Benevento. The object of the coin, a complete anomaly in the styca series of Northumbria, is obscure.

but York was an important trading centre and it is not impossible that it was hoped to inaugurate with it a serious commercial coinage.

B. *Solidus with the legend* + CBITA ZITIMVZ

Obv. DHHLVVV OVLHHIAVC Laureate bust r., very barbarous.

Rev. +CIBITA ZITIMVZ Cross in simplified wreath: the upper and lower arms of the cross connected by lines to the edge of the coin; two pellets between the tails of the wreath. Copenhagen, Kongelige Møntsamling (Thomsen Collection, no. 1206). 3.99 g. Published by Thomsen in 1834 and in 1835 (in Grote's *Blätter für Münzkunde*), and by Combrouse, *Catalogue*, pl. 32. 6 (Texte, p.31, no. 442); also by C. Piot in *Revue de la numismatique belge*, 2nd series, VI (1856), pp. 264—5 and pl. xi.1.

This 'coin' is one of the most puzzling in the whole series. Despite its low weight, its general appearance supports the idea that it was intended as currency. The die-sinker was clearly literate, and knew what he was doing when he altered the legends; that on the obverse has been transposed, so that it starts at the top right instead of the bottom left of the coin, while the reverse legend has become the enigmatic CIBITA ZITIMVZ . The style of the lettering is Anglo-Saxon rather than Frankish, and such legends as DOROBREBIA CIBIT , on a Canterbury penny of Archbishop Ceolwulf I (822—4) [39]), are known, but an English moneyer would scarcely have taken pains to retain the reference to Emperor Louis, and there seems no obvious identifications for ITIMVS (or SITIMVS) on either side of the Channel. For the moment, therefore, the coin must remain a mystery.

C. *Solidus with standing figure on the reverse.*

Obv. DIIIIIVDOVVICVSIIIPAVC Laureate bust r., of relatively good style.

Rev. DDNNAVC CTVIOTLN Female figure standing r. (on prow?) with arms extended, holding a kind of

beaded cord between them. Manx Museum, Douglas (Isle of Man). 4.4 g. Found during excavations in Maughold churchyard, in the Isle of Man, in 1884. The piece has been frequently published : by John Evans in the *Numismatic Chronicle,* 3rd series, IV (1884), 258—62; by S. N. Harrison in the *Manx Note Book,* I (1885), 65—8; by Ll. Jewitt in *The Reliquary,* XXV (1884—5), 169—72; and in the *Journal of the Manx Museum,* III (1935), 67—8 (with enlarged reproduction on pl. 64).

Despite the fact that it is the normal weight of the solidus, this can scarcely be regarded as anything but a 'pièce de plaisir' produced by some local goldsmith. The reverse type and legend are probably inmitated from a Roman gold coin. Evans suggested that the legend is a corruption of DDNNAVG VICTORIA which seems very probable: in that case, the original would have been a fourth century coin, and the type a Victory advancing r., with a wreath. The coin, though found in the Isle of Man, can scarcely have been produced there, and it seems more likely that it originated in Frisia than in England.

D. *Solidus with standing figure holding crozier and cross.*

Obv. VCI VIITC Laureate bust r., in double pearl border.

Rev. CNV NITHI VIIV Bareheaded figure turning r., holding crozier and cross: in ex., IAII double pearl border. Hague, Koninklijk Penningkabinet, Coll. M. de Man, 468. 4.7 g ↑↑. Found in the vicinity of Dokkum. Published by Marie de Man in the *Revue belge de numismatique,* XLIX (1893), p. 537 and L (1894), pp., 305—27 and pl.viii.3; illus. in Boeles, *op.cit,* pl.xlix. 17.

This also can be regarded as a 'pièce de plaisir'. The style of the bust so closely resembles that of the one last described, especially in the treatment of the lower part of the face, that one is inclined to ascribe both to the same workshop, though the lettering is different and the solidus of Louis from which the

obverse is taken was one in which the tails of the wreath were straight and not fluttering. The letters seem to be quite meaningless. The reverse type, as Marie de Man points out, is copied from the standing figure, holding a crozier and cross, of several Merovingian tremisses (Limoges, Chartres, etc.), either directly or by way of a denier of Pepin of similar type both struck and found at Duurstede. She ascribed the coin to the Merovingian period, but this is certainly too early.

E. *Solidus with* SCI MAR.

Obv. DNHLVDOVVICVSIIIPAVC Laureate bust r., in double pearl border.

Rev. Cross, with SCI above, MAR below, and star to r. and to l., in double pearl border.

3.82 g. Base gold. Formerly in the collection of M. Bigant, of Douai; present whereabouts unknown. Found in 1836 at Lessines, in Hainault, by a farmer, who sold it to M. Hove of Ghent, from whom it passed to M. Bigant. Published by Fougères and Combrouse, *Description,* pl. xxvi. 469; and by Combrouse, *Catalogue,* pl. 32.3; more accurately, with valuable discussion, by Lelewel in *Revue de la numismatique belge,* I (1841), pp. 113—115, pl. ii.9; Gariel, *op. cit.,* II, pl. xviii.16 (reproducing the inaccurate design of Combrouse).

This is also a 'pièce de plaisir', which at one time made part of a piece of jewellery; there are, on the reverse, the marks of the way in which it was attached to a ring or other ornament. The style of the obverse, if the only illustrations available can be trusted, was very fine indeed. Combrouse and Lelewel both associated the piece with St Martin's of Tours; Cartier, writing in the *Revue Numismatique,* 1842, p. 397, suggested as a possible alternative St Martial's of Limoges. Neither of these places had any connection with the Netherlands, in the southern part of which this 'coin' was found and in the northern part of which some examples at least of this type of object originated. My own

inclination would be to ascribe the piece to Utrecht, whose church was likewise dedicated to St Martin, but for what purpose it was made I cannot guess.

F. *Solidus with standing armed figure.*

Obv. †NETIVI DIIO. TCIVIT Laureate bust l., of fine style.
Rev. VITAI TVICTUIWarrior striding l., with spear and shield. Mounted in a heavy pearl border; weight not known. Formerly in the Münzkabinett of the Kaiser-Friedrich Museum at Berlin, Schausammlung, Schrank 18, No. 12. Found in northern France, and successively in the Dancoisne and Fabre collections before being acquired by Berlin. See *Bulletin de la Commision des Antiquités départementales du Pas-de-Calais,* I (1848—59), pp. 273—4 (and plate facing p. 272); Engel and Serrure, *op.cit.,* I. 330 (with line illustration); Menadier, *art.cit.,* col. 270 (with illus.); Schramm, *op.cit.,* p. 170 and pl. 14 α (illus.).

The style of this fine piece, which was probably intended as an ornament from the beginning, is full of life and vigour. The obverse bust seems to derive from that of the Paris 'medallion', to which in many respects it is superior; the reverse type appears to be original, though it has obvious affinities with C above. The reverse legend, as Schramm suggests, must be regarded as an attempt to reproduce VITA ET VICTORIA, part of the formal acclamation of the emperor in the Laudes. The same scholar suggests that this also underlies the obverse legend, but a place-name, followed by CIVIT, seems to me more likely. I cannot, however, suggest what it may be.

To these might be added three further pieces. One is what is described as a gold solidus, formerly in Berlin (Schausammlung, No. 292), with the reverse legend VICODVFωTAT *(Vico Durstat);* it is illustrated by Menadier, *art.cit.,* col. 270, fig. 254. Its general appearance, however, is that of a silver gilt piece and not one of gold, the style of the lettering does not resemble that

of the ninth century, and neither the style of the bust nor the obverse legend — this cannot be read in the only illustrations available to me — appears to owe anything to the solidus of Louis the Pious. There is therefore no need to discuss it here.

The second piece is equally elusive. The Italian numismatist Cordero di San Quintino, writing in the *Revue numismatique* in 1841 (p. 56), described how some years previously he had seen in a private collection three barbarous solidi, each weighing about 4.4 g., and a lighter solidus (3.45 g) of different style; the obverse had the usual bust and the legend + HLVDOVVICVSINPAVG, but the reverse showed a building, surmounted by a cross, different from the usual temple on the deniers of the period. The collection here alluded to can only be that of Lelewel, who is known to have acquired no fewer than six barbarous solidi by the middle of the century, but no other reference to this 'temple solidus' has come my way. Possibly it resembled the bronze piece, with bust and temple and hopelessly corrupt legends, which was in the seventh section of the Fürstenberg Sale (Cahn, Versteigerungs-Katalog 70, 14 December 1932), lot 1224. The weight of this is unfortunately not given, but there are stated to have been traces of gilding on the obverse. Neither piece can be regarded as closely related to the solidi of the MVNVS DIVINVM type.

The third piece is a gold coin, with an imperial bust and the legend CAPVTIMPERATOR on the obverse and an eagle on the reverse, all in an elaborate gold setting, which was acquired by the Koninklijk Penningkabinet at the Hague in 1951. It will be described in a forthcoming study by Dr A. N. Zadoks-Jitta.

APPENDIX

The lists that follow include all specimens of the original solidus and the 'Frisian' imitations known to me. Since one example of each type is illustrated, I have not felt it necessary to try and describe their characteristic features in detail, since these can be made out from the plates I—III. It will be appreciated that the readings of the legends, particularly those on coins of which

we have only line drawings or indistinct reproductions in sale catalogues, are in some cases open to doubt. It is of course impossible to indicate small varieties of lettering: I have started the legend in each case with the same symbol (/\), derived from the tails of the wreath around the cross, and used this symbol whether the strokes forming it are actually joined to one another or not. The die indications given (O^1, R^1, etc.,) are valid only within each group. I have not tried to indicate the fineness of particular coins; all are ostensibly of gold, but in many of the imitations this is heavily alloyed with silver.

It may be convenient to give a concordance between the numbering of the specimens listed by Dr Boeles in his *Friesland tot de elfde eeuw* (pp. 424—5) and that of the catalogue below:

1.	X (a)	6—25.	IV (a)-(c), V (b)-(m)	30.	XI (c)
2.	XI (b)	26.	XII (a)	31.	IV (d)
3.	IV (e)	27.	XVIII (d)	32.	XVIII (f)
4.	XIII (a)	28.	XV (a)	33.	XIII (b)
5.	XVII (a)	29.	XIV (b)	34.	XVI (c)

The titles of books and pamphlets referred to have been simplified as follows:

Boeles. P. C. J. A. Boeles, *Friesland tot de elfde eeuw* (below, note 22).

Boeles, 'Trouvailles'. P. C. J. A. Boeles, 'Les trouvailles de monnaies carolingiennes dans les Pays-Bas' (below note 22).

Combrouse. G. Combrouse [Conbrouse], *Catalogue raisonné des monnaies nationales de France*. Ière Partie, Carolingiennes. (Paris, 1839).

de Jonghe. B. de Jonghe, 'De la frappe de l'or sous les Carolingiens'. (below, note 2).

Engel and Serrure. A. Engel and R. Serrure, *Traité de numismatique du moyen âge*. Vol. I (Paris, 1891).

Fillon. B. Fillon, *Lettres à M. Ch. Dugast-Matifeux sur quelques monnaies françaises inédites*. (Paris, 1853).

Fougères and Combrouse. F. Fougères and G. Combrouse, *Description complète et raisonnée des monnaies de la deuxième race de France.* (Paris, 1837).

Gariel. E. Gariel, *Les monnaies royales de France sous la race carolingienne* (below, note 2).

Menadier. J. Menadier, 'Karolingerdenare' (below, note 2).

Prou. M. Prou, *Catalogue des monnaies carolingiennes de la Bibliothèque Nationale* (below, note 2).

Rolland. H. Rolland, *Monnaies françaises. Etudes d'après le cabinet numismatique de M. Georges Motte de Roubaix.* (Macon, 1932).

Schramm. P. E. Schramm, *Die deutschen Kaiser und Könige in Bildern ihrer Zeit* (below, note 36).

Suhle. A. Suhle, *Die Deutschen Münzen des Mittelalters.* (Berlin, no date).

Van der Chijs. P. O. van der Chijs, *De munten der Frankische-en Duitsch-Nederlandsche Vorsten.* (Haarlem, 1862).

Vente Motte. *Ancienne Collection Georges Motte.* Sale Catalogue. Bourgey (Paris), 12—15 novembre 1951.

Wigersma. S. Wigersma, 'Notice sur la trouvaille ... de Delfzijl' (below, note 21).

(I) *The Solidi.*

Obv. DNHLVDOVVICVSIMPAVG Bust of the emperor r., wearing cloak and laurel wreath.

Rev. MVNVSDIVINVM Cross pattée in laurel wreath.

Dies O^1, R^1.

1. Brussels, Bibliothèque royale (Vte. B. de Jonghe Collection) 3.43 g ↑ ↙. Found in Zeeland (R. Serrure in *Bulletin mensuel de numismatique et d'archéologie,* V (1885—6), p. 50). The low weight is due to the outer rim of the coin having been cut off, presumably with an attached mounting. Illustrated (line drawing) by de Jonghe, plate, no. 4. Wrongly described by some writers as a half-solidus.

Dies O^2, R^2.

2. Author's collection, formerly in the Motte collection, 5.56 g (including the setting) ↑↖. Mounted in a pearl border. Illus. by Rolland, no. 116; Vente Motte, lot 109.

Dies O^3, R^3.

3. Paris, Bibliothèque Nationale (Prou, no. 1071). Bought from Feuardent, 1896. 4.35 g ↑↖. Illus. by Prou and Schramm, pl. 14a.
4. Munich, Staatliche Münzsammlung. 4.39 g ↑←
5. Formerly Berlin, Staatliches Münzkabinett, Schausammlung, No. 289. Present whereabouts unknown. Acquired at the Gariel Sale (1885). 4.41 g. Line drawing in Gariel, II, pl. xiv.11; in Gariel sale catalogue (Hoffmann, Paris, 27.iv.85), lot 682; in *Zeitschrift für Numismatik,* 1887, p.20; in Engel and Serrure, I, p.230, fig. 406. Photographic reprod. by Menadier, col. 270, fig. 154; Suhle, p.25; Schramm, pl. 14 b (obv. only).
6. Baltimore, Johns Hopkins University (Garrett collection). From the Jenks collection. Illus. in Jenks sale catalogue (Chapman, Philadelphia, 27.xii.21), lot 1845.
7. Formerly Prince Esterhazy collection; present whereabouts unknown. 4.34 g. Illus. in Fougères and Combrouse, no. 217 (on p. 8), and in Combrouse, pl. 32, no. 5 (p. 31, no. 5). Described by them as in the Baron Lambert collection. This was bought in its entirety by Prince Esterhazy in May 1837 (*Rev. num.,* II, 1837, pp. 156—9, 225—6).

Dies O^4. R^4.

8. Paris, Bibliothèque Nationale (Prou, no. 1072). Bought from Feuardent, 1896. 4.32 g ↑←. Not illus. in Prou.
9. British Museum. Banks gift, 1877. 4.36 ↑↑. Illus. in de Jonghe, plate, no. 3.
10. Author's collection, ex Lord Grantley collection (sale catalogue, Glendining, 29.xi.43, lot 189), ex Carlyon-Britton collection. 4.32 g ↑↑. Illus. in *British Numismatic Journal,* V (1908), no. 9 on plate facing p. 55,

and in Carlyon-Britton sale catalogue (Sotheby, 17.xi. 13), lot 270.

11. Fürstenberg Sale, Part VII (Cahn, Auktions-Katalog 79, 14.xii.32), lot 1223 (illus.). Bought by Prof. Zeiss of Munich. Present whereabouts unknown.

12. Verworn Sale (Sammlung eines rheinischen Gelehrten: Cahn (Frankfurt), Cat. 49, 18.xii.22), lot 513. 4.45 g. Apparently identical with the specimen in the Jules Norman sale (Bourgey, 14.iv.10), lot 544. Illus. in both catalogues. Present whereabouts unknown.

13. Schlessinger sale catalogue of 31.iii.30 (Sammlung aus norddeutschem Besitz, 11e Abt.), lot 1492. Apparently identical with the specimen in the Köhler sale (Hamburger, Frankfurt, 15.vi.91), lot 471. Illus. in both catalogues. Present whereabouts unknown.

(II) *Imitations of the solidus.*

Type I (i).

Obv. DNHNVVDOVSNHAVC Bust of good style, with moustache visible. There is a projection upwards, from the front of the wreath, between the letters O and V in the legend.

Rev. MVNVSDIVINVM (retrograde) The ends of the wreath resemble separate letters (S), and there is a line between them: there are also lines connecting three arms of the cross with the wreath.

(a) British Museum. 4.31 g ↑↙. Dies O^1, R^1. Bought from Col. Frazer, 1864; found near Elgin in Scotland. Illus. in de Jonghe, plate, no. 6.

(b) Paris, Bibliothèque Nationale (Prou, no. 1074). 4.29 g ↑↑ Dies O^1, R^1. Bought from Feuardent. Illus. in Prou, and obv. in Schramm, pl. 14v.

(c) Oslo, Universitetsmyntkabinettet. 4.80 g (including mounting) ↑↖. Dies O^1, R^1. From the Hon Find of 1834. Illus. (with detailed description) by H. Holst, 'On the coins of the Hon Find', *Norsk Numismatisk Forenings Småskrifter*, no. 4 (Oslo, 1931), plate, no. 2.

(d) As last. 9.41 g (including very elaborate mounting) ↑ ↗ Dies O^1, R^2 (reverse die reads MVNVSDIVINVMI retrograde). From Hon Find of 1834. Publ. as last, no. 1.

The poise and shape of the head, and the reproduction on the reverse of what appears to have been a flaw in the original die, show that this type was copied from a specimen of the original struck with dies O^3, R^3. The Hon Find dates from 860/870 — the latest dated coins in it are of 848/9 and c. 852 —, so this imitation is at any rate earlier than 860, and possibly several decades earlier.

Type I (ii).

Obv. DNNIVVDOVSHIMAVC As last, but details of bust less formalized.

Rev. MVNVSDIVNVMI (retrograde) As last. There is a line between the ends of the wreath, and one attaching the lower arm of the cross to the wreath. The cross is very large.

(e) British Museum. 4.33 g ↑→ . Clarke-Thornhill bequest, 1935.

The dies are close to those of Type I (i), and the reverse legend in particular is related to Type I (d).

Type I (iii).

Obv. DNINVVDOVSNIMAVC As last, bust very similar.

Rev. MVNVSDIVINVM As last. Cross rather large, with right arm (and perhaps others) attached by a line to the wreath; line between ends of wreath.

(f) Belli Sale (Rosenberg, 2.xi.04), lot 17. Appears to be the same specimen is in the H. M[eyer] sale (Rollin and Feuardent, 26.v.02), lot 132. Present whereabouts unknown.

(g) Specimen formerly in the Baron Lambert collection, which was acquired by Prince Esterhazy in 1837. Present whereabouts unknown. Illustrated by Combrouse, pl. 32, no. 2 (with readings DIIIILVVDOVCNIMAVC and

HIVIIIVIDIVNVM). With only Combrouse's drawing to work from, it cannot be regarded as certain that this coin should really be classified with (f), but is seems probable from the style and poise of bust.

Type II.

Obv. DNHLVDCVVICVSIMPAVC Bust r., of good style.

Rev. IS . IDVCHVIIƆIIVIIIVC Cross in wreath, a line connecting the upper and lower arms of the cross with the edge of the coin.

(a) Vienna, Bundessammlung. 4.42 g ↑↑ . Dies O^1, R^1.

(b) Paris, Bibliothèque Nationale (Prou, no. 1073). 4.32 g ↑↙ . Dies O^1, R^1. Bought from Benjamin Fillon in 1856. Found at Faymoreau (La Vendée, arr. Fontenay-le-Comte, cant. Saint-Hilaire-les-Loges). Illus. in Fillon, pl. viii. 6 (taking extraordinary liberties with the reverse legend); de Jonghe, plate, no. 5; not illus. in Prou.

(c) Gariel, pl. xiv. 12, as in Fabre collection. Dies O^1, R^1. Present whereabouts unknown; does not seem to be identical with (a) or (b).

This type is clearly derived from an original of dies O^4, R^4; though the reverse legend has been so completely bungled that one does not know where to begin reading it, the general resemblance is extremely close.

Type III.

Obv. DNIIVVDOVSINNAVC Bust r., much more barbarous.

Rev. NIVNIOIVNVM (corruption of MVNVSDIVINVM , retrograde). Cross in wreath, with line between the ends of the wreath, and one attaching the lower arm of the cross to the wreath.

(a) Paris, Bibliothèque Nationale (Prou, no. 1075). 4.11 g ↑→ . Dies O^1, R^1. From the ancient Cabinet du Roi. Publ. by Leblanc, plate facing p.100 no. 2, but taking

great liberties with the style of the portrait and with the obv. legend, which is given as DNHLVDOWICIMPAVC; the first V has become an L, the VS a W, and NN an IMP. Illus. by de Jonghe, plate, no. 7; not illus. in Prou.

(b) Gariel, pl. xiv.14, from the stock of M. Hoffmann. Present whereabouts unknown.

This type clearly derives from I (ii).

Type IV.

Obv. DHIHNVVDOVSHHAVC Bust r., style relatively good.

Rev. ⩚IIVIIIIIIOIIIIVIII Cross in wreath.

(a) Delfzijl Find, no. 1 (*Tijdschrift,* 1907, pl. ix—x. 1) 4.35 g (Wigersma gives 4.405) ↑↑. Dies O^1, R^1. Schulman sale, 21.x.12, lot 269. Later in Motte collection (Rolland, no. 117; Vente Motte, lot 110). Now in the author's collection.

(b) *Ibid.,* no. 2. 4.05 g (Wigersma gives 3.660 g). Dies O^1, R^1. Now in the Friesch Museum at Leeuwarden, Inv. 1907. Illus. in Boeles, pl. xlix. 4.

(c) *Ibid.,* no. 3. 3.585 g (Wigersma gives 3.630 g) Dies O^1, R^1. Now in the Friesch Museum at Leeuwarden, Inv. 1908.

(d) The Hague, Koninklijk Penningkabinet, Coll. Marie de Man 558. 4.5 g ↑↖. Dies O^1, R^1. Found at Domburg (Walcheren). Cf. M. de Man in *Tijdschrift,* VII (1899), pp. 33, 165.

(e) Leeuwarden, Friesch Museum, Inv. 1025. 4.356 g. Dies O^1, R^2 (reverse die reading ⩚IIIIIIIIIOVIIIIN). Found in Friesland; bought in 1901. Illus. in Boeles, pl. xlix. 10.

The reverse die R^1, relatively fresh on (d), is extremely worn on the specimens from the Delfzijl Hoard. The comparatively good style of the obverse would suggest an early date for the imitation, but this is belied by the degeneracy of the reverse legend and by the fact that there were three coins from identical dies in the

Delfzijl Hoard, which can be dated c. 870. Perhaps this may be dated c. 860/70.

Type V.

Obv. IIDIIVVIII[...]VV[...]IIICAVI (some letters doubtful, the die being very worn). Extremely barbarous head r.

Rev. ΛIIIIIIVOIIIIIII Cross in wreath.

(a) Munich, Staatliche Münzsammlung. 3.86 g. Date of acquisition unknown, the inventories having been destroyed in the recent war, but this does not appear to be one of the Delfzijl specimens.

(b)—(m) Seventeen specimens found at Delfzijl in 1906, and described and illustrated by Wigersma, *art. cit.*, nos. 4—20. The weights he gives are as follows:

4. 4.22 g	9. 4.155 g	14. 4.11 g	19. 4.055 g
5. 4.15 ,,	10. 4.15 ,,	15. 3.975 ,,	20. 4.185 ,,
6. 3.955 ,,	11. 3.98 ,,	16. 4.06 ,,	
7. 3.905 ,,	12. 4.065 ,,	17. 4.18 ,,	
8. 3.93 ,,	13. 3.92 ,,	18. 4.115 ,,	

Wigersma kept two of these solidi for the Friesch Museum at Leeuwarden; J. A. Rodbard of Dordrecht acquired two for his private collection; the rest were sold to Max Schulman, and in due course passed to his clients. They provide the bulk of the specimens which have since appeared on the market. Unfortunately the coins are so alike, and the details of Wigersma's illustrations so indistinct, that it is almost impossible to identify individual specimens with certainty. Nor do his weights seem to be very trustworthy; the two specimens now n the Friesch Museum weigh 4.2 and 4.041 gm., which do not correspond to any of those given by Wigersma, and I am not sure which of his list these two coins are. With the help of Mr. J. Schulman, I have been able to compile the following list of specimens which have appeared in the sale catalogues of his firm, and give tentative identifications with Wigersma's list:

(I)	Sale of	21	October	1912,	Lot	270. Wigersma 6 (?)
(II)	,,		,,	,,		271. (Not illustrated).
(III)	,,	14	May	1914,	,,	3222. Wigersma 15
(IV)	,,	15	May	1917,	,,	466. (Not illustrated).
(V)	,,	11	June	1923,	,,	102. Wigersma 13 (?)
(VI)	,,	16	Nov.	1925,	,,	791. ,, 6 (?)
(VII)	,,	31	Oct.	1927,	,,	1401. ,, 14.
(VIII)	,,	19	Jan.	1931,	,,	1861 ,, 4.
(IX)	,,	12	March	1934,	,,	262. Not identifiable
(X)	,,	7	June	1937,	,,	347. Wigersma 14.
(XI)	,,	17	May	1938,	,,	80. ,, 14.

No. VIII was acquired at the F. Schlessinger sale of 31 March 1930 (Sammlung aus norddeutschem Besitz), Lot 1493. There was also a specimen in Hans M. F. Schulman (New York), Catalogue 26 (1946), no. 333 b (and 448); it was from the Virgil Brand collection, and had been acquired by this collector from Max Schulman.

So far as can be made from Wigersma's plates, all the coins of this group were struck by the same pair of dies, these being extremely worn and probably rusted. They seem to have been imitated from a specimen of Type IV. Their date cannot have been much earlier than that of the burial of the Delfzijl Hoard, i.e. c. 890.

Type VI.

Obv. SIIIIVVDO . ISHNAVC Bust r., very barbarous, with stroke upwards from the front of the head cutting the legend after the S.

Rev. ⅄IIIVIIIIOIIIIVIII Cross in wreath.

(a) Stephanik Sale (Muller, 12.xii.04), lot 83. 4.5 g. Present whereabouts unknown.

Type VII.

Obv. DNIIIIVVDOVCNIIIAVI Bust r., good style.

Rev. ⅄LVIMHIOVHVH Cross in wreath.

(a) O'Hagan Sale (Sotheby, 27.iv.08), lot 3. Bought by the

Philadelphia dealer Henry Chapman. Present whereabouts unknown.

Type VIII.

Obv. ɔIIIINIVVDOVIIIIAVC Bust r., barbarous. The front of the wreath has fused with the central V of the legend.

Rev. ΛIIIIIIIIOIIIIIII Cross in wreath.

(a) Vienna, Bundessammlung. 4.59 g. ↑←.

(b) Van der Chijs, pl. XII.11. 4.5 g. Apparently same dies. According to Van der Chijs (p. 148), this specimen was in the Penningkabinet of the Leidsche Hoogschool at the time of writing (1862). This collection passed to the Koninklijk Penningkabinet of the Hague in 1881, but the coin was not included. Its present whereabouts is unknown. It is certainly not identical with the Vienna specimen.

Type IX.

Obv. DIIIIIIVVPOVᔕIIIIAVC Bust r. The front of the wreath has fused with the legend.

Rev. ΛIIIIIIIIOIIIIIN Cross in wreath.

(a) Brussels, Bibliothèque royale (Vte B. de Jonghe Collection). 4.30 g. ↑↖. Dies O^1, R^1.

(b) Brussels, Bibliothèque royale. 4.12 g (pierced). ↑↑. Dies O^2, R^2 (reading HIIIIVDOVHIIIAV and ΛIIIIIIIIOIIIIIN). The dies of this coin were clearly copied from a specimen of the previous one.

(c) Fillon, pl. VIII.9, as in the Lelewel collection. Present whereabouts unknown. The dies appear to be O^1, R^2, though one can have little confidence in the accuracy of Fillon's designs, which give the legends as VI[...]NVDOVSIIIIAV and Λ IIIIIIIIOIIIIII.

Type X.

Rev. ɔIIIIVVDOVSIIIIAC Bust r., resembling the last but with longer nose.

Rev. ⩚IIIVIIIIOIIIIVIII Cross in wreath.

(a) Leeuwarden, Friesch Museum, Inv. 1024. 4.22 g. Found at Ylst (Friesland) in 1858. Illus. by Boeles, pl. XLIX. 12.

Type XI.

Obv. DIIIIVVDOV ꝏ IIIIΛVC Bust r., resembling the last. The top of the forehead has fused with the ꝏ of the legend, and the hair is bristly and runs straight backwards.

Rev. ⩚IIIIIIIIOIIIIIN Cross in wreath.

(a) Brussels, Bibliothèque Royale (Vte. B. de Jonghe Collection). 4.20 g ↑←. Illus. (very unsatisfactorily) in the *Algemene Geschiedenis der Nederlanden,* I (Utrecht, 1949), pl. 38, no. 14).

(b) Leeuwarden, Friesch Museum, Inv. 1023. 4.427 gm. Found in Friesland; formerly in the collection Bloembergen Santée of Leeuwarden. Illus. by Dirks in *Revue de la numismatique belge,* 3rd series, II (1858), pl. II.15; by Van der Chijs, pl. XIII2; and by Boeles, pl. XILX.13.

(c) Specimen illustrated by Van der Chijs, pl. XIII.4. 4.35 g. According to Van der Chijs, it was in the Koninklijk Penningkabinet of the Hague, but it cannot now be found.

(d) Formerly Berlin, Staatliches Münzkabinett, Schausammlung, no. 291. Present whereabouts unknown. Obv. illustrated in Schramm. pl. 14 x.

Despite certain variations in the illustration of (c) by Van der Chijs, and the lack of a record of the reverse of (d), it seems likely that four coins are from the same dies.

Type XII.

Obv. IIIVVIꝏ+C VIIVↃ Bust r., copied from Type VIII but more barbarous.

Rev. IIIV+IVIOIIIIIIHII Cross in wreath.

(a) The Hague, Koninklijk Penningkabinet, Inv. 17421. 4.2 g ↑↗. Found at Raskwerd (Groningen); acquired in 1899. Illus. in Boeles, pl. XILX.26.

This type appears to derive from the last, and is remarkable as being, with Type XXVII, one of the only two types in the whole series to show a cross in the legend on both sides of the coin.

Type XIII.

Obv. IIIIIIVVDOVS IIIIAVC Bust r., clearly related to the preceding types.

Rev. ⋀IIIIIIIIOIVIIIIII Cross in wreath.

(a) Leeuwarden, Friesch Museum, Inv. 1022. 4.49 g. Probably found c. 1886 at Aalsum near Dokkum (Friesland). Illus. in Boeles, pl. XLIX.16, and in his 'Trouvailles', p. 51 and pl. i.63.

(b) Leeuwarden, private collection. 4.15 g (pierced). Probably found locally. Mentioned by Boeles, p.541.

(c) Specimen illus. by Gariel, pl. XIV.16. Then in the hands of Rollin and Feuardent; present whereabouts unknown.

All these specimens appear to be from the same dies.

Type XIV.

Obv. IIHIII[...]HVIIIAV (reading uncertain). Bust r., very barbarous.

Rev. ⋀IMNHCONHVHN Cross in wreath.

(a) Vente V. Luneau, 3e partie (Platt, 4.ii.23), lot 395. Dies O^1, R^1. Present whereabouts unknown.

(b) Van der Chijs, pl. XIII.1. 4.4 g. Dies O^1 (?), R^2 (reading ⋀IIIVIIIOIIIIIVII). Then in the Kaan Collection at Haarlem; present whereabouts unknown.

The reading given by Van der Chijs for the obverse legend of (b) is IHDVVOIIIVHIAV, but in spite of this the two coins seem to me to have the same obverse die. The reverse dies are clearly different.

Type XV.

Obv. IIIVVDOVVIIIIIAVI Bust r., with bristly hair.

Rev. ⋀IVIIIIIIOVIIVIII Cross in wreath.

(a) Assen, Provinciaal Museum van Oudheden in Drenthe. 4.4 g ↑↑. Found at Roswinkel (Drenthe) in 1870. Published (not illustrated) by Boeles, p. 424, no. 28, and 'Trouvailles', p. 70, no. 103, the weight in each case being given as 4.31 g.

Type XVI.

Obv. IIIIIIVVDOVIIIVIVAVI Bust r.

Rev. ⩚IIIVIHIOVHVN Cross in wreath.

(a) British Museum. 4.53 g ↑. Dies O^1, R^1. Presented by A. W. Franks, 1881.

(b) British Museum. 4.58 g ↑↑. Dies O^2, R^2, (reading IIIIIIVVDOIAIIIIIAVI and ⩚IIVIIIIOVIIVI). Bought from Joseph Baldman, 1860.

(c) Cambridge, Fitzwilliam Museum. 4.3 g ↑↑. Dies O^2, R^2. Found in the River Cam at Cambridge, near Magdalene Bridge.

(d) Oxford, Ashmolean Museum. 4.4 g ↑↓. Dies O^2, R^2. Found at Lewes in 1884. From Sir John Evans' collection.

These coins have been discussed above, p. 11, where it has been suggested that (a) came from Frisia — it appears to be related to Type XV —, and the others were struck in England.

Type XVII.

Obv. IIIVI–DO IIVV Bust r.

Rev. ⩚IIIVIIIODIIIVIII Cross in wreath.

(a) The Hague, Koninklijk Penningkabinet, Inv. 17422. 4.4 g ↑↓. Found in Friesland; bought in Leeuwarden in 1913. Illus. by Boeles, pl. XLIX.14.

Type XVIII.

Obv. DIHIIVDOHVHC Bust r.

Rev. ⩚IIVIIIIOIIIIIVII Cross in wreath.

(a) Vienna, Bundessammlung. 4.42 g ↑→. Dies O^1, R^1.

(b) Brussels, Bibliothèque Royale. 4.43 g ↑→. Dies O^1, R^1.

(c) Schulman Sale of 16.xi.05, lot 790. Dies O^1, R^1. Present whereabouts unknown.

(d) Van der Chijs, pl. xiii.3. 4.45 g. Dies O^1, R^1. Found in Drenthe. Then in the Van der Chijs collection; present whereabouts unknown.

(e) Formerly Berlin, Staatliches Münzkabinett, Schausammlung, Schrank 18, no. 12. Dies O^1, R^1. With very elaborate pearl mounting. Illus. in Fillon, pl. viii.7, and Schramm, pl. 14 β.

(f) The Hague, Koninklijk Penningkabinet, Inv. 17420. 4.4 g. Dies O^1, R^2 (reading ᛋIIIVIIIIOIIIIVIII). Bought from Schulman in 1898.

(g) Verworn Sale (Sammlung eines rheinischen Gelehrten: Cahn, Cat. 49, 18.xii.22), Lot 514. 4.4 g Dies O^1, R^2. Present whereabouts unknown.

(h) Specimen formerly in the Lelewel collection; present whereabouts unknown. Dies O^1, R^2. Illus. in Fillon, pl. viii.10.

Type XIX.

Obv. IIIVIIV.ƆOHVIIIV Bust r.

Rev. ᛋIIIVIIIIIIOIIIIVIIᗡ Cross in wreath.

(a) Specimen formerly in the Lelewel and Gariel collections; present whereabouts unknown. Illus. in Fillon, pl. viii.11; Gariel, pl. xiv.13 (also Vente Gariel: Hoffmann, 27.iv.85, lot 683, without illustration). Illus. here from a photograph in the Bibliothèque Nationale.

Type XX.

Obv. I I–ƆIᗡ . HOᛋVIC Bust r.

Rev. IIVNVIIOIIVNIII Cross in wreath.

(a) Paris, Bibliothèque Nationale (Prou no. 1076). 4.04 g ↑ . Bought from Feuardent in 1896. Formerly in the Lelewel collection. Illus. in Fillon, pl. VIII.8; Prou, no. 1076; Schramm, pl. 14 w (obv. only).

Type XXI.

Obv. IIIII[...]VOIIIVII[...] (reading uncertain). Bust r.

Rev. ᛋIIIIIIIOIIIIIII Cross in wreath.

(a) Vente Rous (Bourgey, 29.v.11), lot 749. Present whereabouts unknown.

Type XXII.

Obv. HIVIIIIVOƆHVIIC Bust r.

Rev. ⅄IIIVƆIIIOIIIIIIII Cross in wreath.

(a) Author's collection. Formerly in the Motte collection. 4.05 g ↑↗. Illus. by Rolland, no. 119; Vente Motte, lot 112.

Type XXIII.

Obv. IIIIIIIDOIIVIIII Bust r.

Rev. ⅄IIIVIIIIOIIINIII Cross in wreath.

(a) Specimen formerly in the Lelewel collection; present whereabouts unknown. Illus. in Fillon, pl. viii.12.

Type XXIV.

Obv. IVIIIVIIOIIIIIVI Bust r.

Rev. ⅄IIIVIIIIOIVIIVII Cross in wreath.

(a) Author's collection. Formerly in the Motte collection. 4.10 g ↑↖. Illus. by Rolland, no. 118; Vente Motte lot 111.

Type XXV.

Obv. VHVINVNSIIVA Bust r., very barbarous.

Rev. HIVHVHNDVHVH (i.e. MVNVS DIVINVM retrograde). Cross in wreath, with line connecting lower arm of cross with the edge of the coin.

(a) Paris, Bibliothèque Nationale (Prou, no. 1077). 4.04 g ↑↘. Bought from Feuardent in 1896. Illus. in Gariel, pl.xiv.15; not illus. in Prou.

The obverse of this coin is very barbarous, but the reverse is fairly close to one of the originals of Die R³, and to Types I and III of the imitations.

Type XXVI.

Obv. DVNVIIDOVIC Bust r., extremely barbarous.

Rev. ⅄IIIVIIIIOIVIVII Cross pattée in wreath.

(a) Brussels, Bibliothèque Royale (Vte. B. de Jonghe Collection). 4.28 g ↑↘.

Type XXVII.

Obv. IIIAII+IIDIIVMO Bust r.

Rev. +[...]VIIPII[...]IIOITI Cross in wreath.

(a) Specimen formerly in the Fabre collection; present whereabouts unknown. Illus. in Gariel, pl. XIV.17, and described as a contemporary forgery.

Type XXVIII.

Obv. ƆIA[...]NVOCVSNVC Bust r.

Rev. AIIIIOIIIIIIIIIII Cross in wreath.

(a) Verworn Sale (Sammlung eines rheinischen Gelehrten: Cahn, Cat. 49, 18.xii.22), Lot 515. A contemporary forgery in bronze. Present whereabouts unknown.

Type XXIX.

Obv. IIIIIIVOIVVIIIII Bust l.

Rev. e IIIIIIIIOIIIIII Cross in wreath.

(a) Formerly in the Motte collection. 4.20 g ↑↗. Illus. by Rolland, no. 120; Vente Motte, lot 113.

This coin is discussed above, pl. 12.

(III) *Unidentified Specimens.*

To the best of my knowledge, the lists given above include all those coins which can be reproduced from old illustrations or identified with specimens in existing collections. Only in a few cases, as a result of the freedom allowed themselves by the artists in engraving the coins, is the identification a little hazardous, but where there is any doubt about this the reader's attention has been called to the fact. It only remains to bring together, in a final section, a few references to specimens which cannot be identified or illustrated at all.

1. A specimen stated to be an original solidus, with a legible inscription, was in the possession of the Dutch collector and antiquary Michiel Oudaan in 1741. It was found on the beach at Domburg in Walcheren, and is mentioned in a letter of H. Cannegieter, who wrote on the antiquities of Domburg, of 24

February 1741 [40]). Oudaan's coins were included in the first portion of the sale of his antiques at Rotterdam on 23—26 September 1766 [41]), but this piece does not appear amongst them [42]).

It cannot be regarded as certain that this coin was one of the original solidi; it may have been one of the early imitations with a legible inscription.

2. A solidus which in 1839 was in the collection of M. Sivard of Paris. It is mentioned by Combrouse [43]), but it is not clear whether it was an original or a Frisian imitation. Probably it is identical with one or other of the pieces found later in French collections.

3. A solidus "de la bonne époque", with legend DNHLVDOIV IVICVSIMPAVG, found in the neighbourhood of Saint-Vincent-sur-Graon (La Vendée, arr. Les Sables-d'Olonne, cant. Les Moutiers-les-Mauxfaits) in 1881 or 1882. It is referred to in a note by Raymond Serrure [44]), but he does not say that he had seen it, or indicate what had become of it.

The legend does not correspond precisely to that of any existing specimen, and one cannot have much confidence in its absolute accuracy. Whether it was an original or an early imitation cannot now be determined with certainty, but since another imitation (Type IIb) was found not far away, I am disposed to think it was the latter.

4. A barbarous solidus bought by Raymond Serrure from a jeweller at Dokkum [45]). It is presumably identical with a specimen in one of the French collections, perhaps with Type XIII (c), since the only other known solidus of this group was found at Aalsum, north-east of Dokkum, in 1886.

5. A barbarous solidus formerly in the collection of Lord Grantley, from which it passed to that of the late Mr R. C. Lockett [46]). In the Grantley Sale Catalogue the legends are given as VIITLVDOVIII AV and VIIIIIIIIOIIIIA, but one can have little confidence in their accuracy. Unfortunately the coin is not illustrated, and despite the kind efforts of Messrs. Baldwin & Sons, on my behalf, it has not been possible to locate it in Mr. Lockett's cabinets.

[1]) This article could not have been written without help from many quarters. For casts and photographs, for information regarding coins under their charge, and for permission to publish, I am indebted to the authorities of the British Museum, the Ashmolean Museum at Oxford, the Fitzwilliam Museum at Cambridge, the Garrett Collection at the John Hopkins University, Baltimore, the Bibliothèque Nationale, the Biblothèque Royale at Brussels, the Konnklijk Munt- en Penningkabinet at the Hague, the Friesch Museum at Leeuwarden, the Provinciaal Museum at Assen, the Kongelige Mønt- og Medaillesamling at Copenhagen, the Universitetets Myntkabinet at Oslo, the Staatliche Münzsammlung at Munich, and the Bundessammlung von Medaillen, Münzen und Geldzeichen at Vienna. I am grateful to many scholars and dealers for sending me information, and for consulting on my behalf books and catalogues inaccessible to me: Dr P. C. J. A. Boeles, Dr A. N. Zadoks-Jitta, Mr J. Schulman, Prof. W. Hävernick, Dr P. Berghaus, Dr H. A. Cahn, Mr A. Baldwin, and Mr G. C. Miles. Above all, I am grateful to M. Jean Lafaurie, of the Bibliothèque Nationale, for generously putting at my disposal his own notes on the solidi of Louis the Pious; he saved me thereby many hours of work, and brought to my attention at least two specimens of Frisian imitations in French sale catalogues which I would otherwise have missed.

[2]) The most useful accounts are E. Gariel, *Les monnaies royales de France sous la race carolingienne* (Strasbourg, 1883—4), II. 166—9 and plate xiv; Vicomte B. de Jonghe, 'De la frappe de l'or sous les Carolingiens et spécialement sous Louis le Pieux', *Congrès Internationale de Numismatique ..... à Bruxelles: Procès-Verbaux et Mémoires* (Brussels, 1891), pp. 209—23; M. Prou, *Catalogue des monnaies françaises à la Bibliothèque Nationale. Les monnaies carolingiennes* (Paris, 1896), pp. xxxii—xxxiv, 151—3; J. Menadier, 'Karolingerdenare', *Amtliche Berichte aus den Königlichen Kunstsammlungen*, XXXII (1911), 261—82; A. Blanchet, *Manuel de numismatique française*, I (1912), 364—5. These give such references as are necessary to earlier discussions by E. Cartier, A. de Barthélemy, B. Fillon, and others. For the literature of the Frisian imitations, see below, notes 21, 22.

[3]) For the description of the coins discussed in this section and the next, see Appendix, pp. 23—37.

[4]) *Monumenta Germaniae Historica, Concilia*, II. 257 (cap. 41).

[5]) A. Boretius, *Capitularia regum Francorum*, I (Berlin, 1883), pp. 268 (*Capitula legi addita*, c.3), 269—70 (*Capitula altera legi addita*, c.2).

[6]) See below, n. 20.

[7]) The gold solidus had in early Frankish times been reckoned as the equivalent of 40 deniers; it had subsequently become a money of account as the sum of 12 deniers. The amounts of legal fines, assessed in terms of solidi, became in consequence a highly controversial matter.

[8]) M. Prou, *Catalogue des monnaies mérovingiennes de la Bibliothèque Nationale*, p. xciii, and in *Rev. Num.*, 3rd series, IX (1891), pp. 45—6.

[9]) *Les monnaies carolingiennes*, pp. xxxii—xxxiii.

[10]) *Chronicon Moissiacense*, a. 816 (*Mon. Germ. Hist., Scriptores*, I. 312): 'benedixitque (Stephanus) ipsum imperatorem, et imposuit illi coronam auream, quam attulerat, in capite'; Thegan, *Vita Hludowici*, c. 17 (*Ibid.*, ii. 594). 'coronam mirae pulchritudinis cum praetiosissimis gemmis ornatam, quam secum adportaverat, posuit super caput eius'; Ermoldus Nigellus, *Carmen in honorem Hludowici*, ii. 421 ff. (*Mon. Germ. Hist., Poetae aevi Carolini*, ii. 36), esp. lines 425—6. 'Tum iubet adferri gemmis auroque coronam, Quae Constantini Caesaris ante fuit.'

[11]) Ermoldus Nigellus, *Carmen,* line 423: 'Roma tibi, Caesar, transmittit munera Petri'. One is tempted to see in the substitution of *Munus Divinum* for *Munus Petri* an implied criticism of papal pretensions.

[12]) Einhard, *Vita Caroli,* c. 33 (ed. L. Halphen, Paris, 1923, pp. 92 ff.).

[13]) Einhard, *loc. cit.,* p. 102; who as Louis' secretary was in the best position to know, says that as soon as he had read his father's dispositions, he at once hastened to fulfil them. Thegan, *Vita Hludowici,* c. 8 *(Script.,* II. 592), says that he gave his sisters their lawful shares, and distributed the rest in alms for his father's soul, the bulk of it being sent to Pope Leo III; he only kept for himself a silver table, as a memento of his father, and even for this he substituted its equivalent in money. Nithard, writing much later and probably inaccurately, says that he spent one-third on the funeral and distributed the remainder between his sisters (*Historiarum libri iv,* i.2; ed. P. Lauer, Paris, 1926, p. 6). All are agreed on the immensity of the treasure, which one may well believe, and the fact that Louis kept nothing substantial for himself, which is quite in accordance with what we know of his character.

[14]) *Annales regni Francorum,* a. 812 (ed. F. Kurze, Hannover, 1895, p. 137): 'Pax (facta) ... cum duce Beneventanorum Grimoaldo, et tributi nomine xxv milia solidorum auri a Beneventanis soluta'. The further annual payment of 7000 solidi results from the text cited in the next note. It is generally assumed that the 25.000 solidi represents a composition of several years of unpaid tribute arising from an agreement between Charlemagne and Grimoald III.

[15]) *Ibid.,* a.814 (p. 141): 'cum Grimoaldo Beneventanorum duce pactum fecit atque firmavit, eo modo, quo et pater, scilicet ut Beneventani tributum annis singulis vii milia solidos darent'.

[16]) *Ibid.,* a. 818 (p. 149): 'obvios habuit legatos Sigonis ducis Beneventanorum dona deferentes eumque de nece Grimoldi ducis antecessoris sui excusantes'.

[17]) See J. E. Böhmer and E. Mühlbacher, *Die Regesten des Kaiserreiches unter den Karolingern, 751—918* (2nd ed. Innsbrück, 1908), pp. 265 ff.

[18]) One of the originals was found in Zeeland (above, p. 23, no. 1), and so was what may have been another (above, p. 37, no. 1). The 'medallion' was also acquired in the Low Countries, and it is there that the majority of the imitations come from. We are therefore justified in associating them with this region.

[19]) It may be noted that the coinage consisted only of solidi, just as to all intents and purposes did that of Byzantium und the Islamic world at this time. The ascription to Louis of double-solidi and half-solidi is without justification. The so-called double-solidus is the 'medallion' dealt with below; it is much too light for such a denomination, being 7.04 g as against 8.8 g. The so-called half-solidus (above, p. 23, no. 1) is too heavy — 3.43 g as against 2.2 g —, and is in fact only a cut-down solidus.

[20]) See the texts cited by U. Monneret de Villard in *Rivista Italiana di Numismatica,* XXXII (1919), pp. 98 ff.

[21]) S. Wigersma, 'Notice sur la trouvaille de monnaies et d'ornements carlovingiens dans un tertre près de Delfzijl', *Tijdschrift Munt- en Penningkunde,* XV (1907), 327—42.

[22]) 'Les trouvailles de monnaies carolingiennes dans les Pays-Bas', *Jaarboek Munt- en Penningkunde,* II (1915), 17—18, 51—2, 70, 94—8; *Friesland tot de elfde eeuw,* 2nd edn. (The Hague, 1951), 423—30, 541, and pl. xlix. These contain full references to earlier scattered notices by Dirks, Van der Chijs, Marie de Man, etc.

[23]) I omit the solidus of Type XIII from Aalsum, which may have been found in company with deniers of Louis the Pious. But the circumstances are very uncertain (Boeles, 'Trouvailles', pp. 50—1), and even if the coins were found together that would tell us little.

[24]) *Descriptio ornamentorum maximam partem aureorum et numorum saeculi VIII et IX, in praedio Hoen ... repertorum* (Oslo, 1835).

[25]) 'The Roman-Byzantine coins of the Hoen-Find', *Symbolae Osloenses,* VI (1928), 74—6; *On the coins of the Hon-Find* (Norsk Numismatisk Forenings Småskrifter. No. 4. Oslo, 1931).

[26]) In his *Bulletin mensuel de numismatique et d'archéologie,* II (1882—3), p. 137. (The figure 1143, for the number of coins found, is a misprint for 143.)

[27]) *Art. cit.,* pp. 66—70.

[28]) For the description of the hoard, see the reference above, notes 21, 22.

[29]) On the other hand, the Vikings who sacked Nantes were Norwegians from Vestfold, while the predominant Scandinavian interest in Frisia was Danish.

[30]) See above, pp. 16—17.

[31]) Glendining, 18.i.49, Lot 26. The coin is now in the possession of Mr. J. R. Stewart, of Sydney, New South Wales.

[32]) Prou, *Monnaies carolingiennes,* no. 1070.

[33]) Plate facing p. 100, no. 1.

[34]) *Monnaies royales,* pl. xiv, 10.

[35]) *Art. cit.,* (above, n. 2), plate, no. 1.

[36]) E.g. Blanchet, *Manuel de numismatique française,* I, pl. iii, 14; P. E. Schramm, *Die Deutschen Kaiser und Könige in Bildern ihrer Zeit,* I. Teil (Leipzig-Berlin, 1928), Tafeln, Pl. 14 c.

[37]) Leblanc, *op. cit.,* p. 99; 'J'ay vue une de ses lettres, où il paroist aussi affligé de cette perte, que s'il avoit perdu la moitie de son bien'; P. Gassendi, *Viri illustris Nicolai Claudii Fabricij de Peiresc ... vita* (3rd ed. The Hague, 1755), p. 57, 121; letter of Poullain to Peiresc of 8 August 1624, printed by M. Prou, 'Fabri de Peiresc et la numismatique mérovingienne', *Annales du Midi,* II (1890), p. 143.

[38]) See the excellent observations of Schramm, *op. cit.,* I. 43—44.

[39]) C. F. Keary, *A Catalogue of English Coins in the British Museum. Anglo-Saxon Series,* I (1887), p. 41, no. 112. — Rather similar lettering is also found in coins of some Rhenish mints (e.g. Strasbourg) at a slightly later date.

[40]) Letter of Cannegieter cited by Marie de Man in *Tijdschrift Munt- en Penningkunde,* VII (1899), p. 164; cf. also p. 39, n.l.

[41]) F. Lugt, *Répertoire des catalogues des ventes publiques,* I (The Hague, 1938), no. 1559.

[42]) I am grateful to Dr A. N. Zadoks-Jitta for consulting the copy of the sale catalogue in the Rijksbureau voor Kunsthistorische en Ikonografische Dokumentatie at the Hague on my behalf.

[43]) Combrouse, *Catalogue* (1839), Planches, p. 5 of explanatory text.

[44]) *Bulletin mensuel de numismatique et d'archéologie,* II (1882—3), p. 91. His note says Saint-Vincent-sur-Craon, but there is no such place, and the correction to Graon is obvious.

[45]) *Ibid.*

[46]) Glendining, 29.xi.43 (First Portion of the Grantley Collection), lot 190.

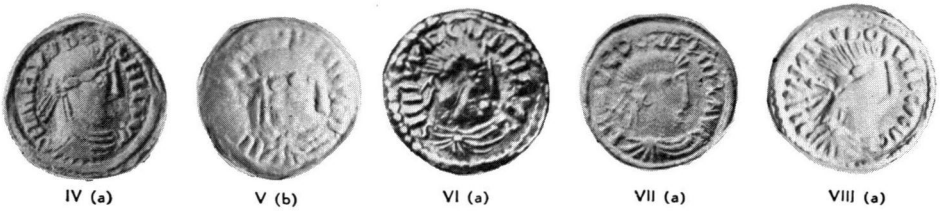


1 2 4 9



I (a) I (e) I (f) II (b) III (a)





IV (a) V (b) VI (a) VII (a) VIII (a)



Imitations of the Gold Solidus of Louis the Pious



IX (a) X (a) XI (a) XII (a) XIII (a)

XIV (a) XV (a) XVI (a) XVI (b) XVII (a)

XVIII (a) XVIII (f) XIX (a) XX (a) XXI (a)

Imitations of the Gold Solidus of Louis the Pious



Imitations of the Gold Solidus of Louis the Pious