
Francia. Forschungen zur westeuropäischen Geschichte
Herausgegeben vom Deutschen Historischen Institut Paris
(Institut historique allemand)
Band 17/1 (1990)

DOI: 10.11588/fr.1990.1.53865

Rechtshinweis

Bitte beachten Sie, dass das Digitalisat urheberrechtlich geschützt ist. Erlaubt ist aber das Lesen, das Ausdrucken des Textes, das Herunterladen, das Speichern der Daten auf einem eigenen Datenträger soweit die vorgenannten Handlungen ausschließlich zu privaten und nicht-kommerziellen Zwecken erfolgen. Eine darüber hinausgehende unerlaubte Verwendung, Reproduktion oder Weitergabe einzelner Inhalte oder Bilder können sowohl zivil- als auch strafrechtlich verfolgt werden.

SIMON COUPLAND

MONEY AND COINAGE UNDER LOUIS THE PIOUS
(Plates I–IV)

Introduction

In the eyes of historians, the Emperor Louis the Pious (814–840) has always been overshadowed by his more illustrious father, Charlemagne (768–814). Even the conference which was held in 1986 at Oxford to reconsider the achievements of Louis's reign was entitled ›Charlemagne's Heir‹. While Charlemagne is usually perceived as the great architect of the Carolingian Empire, Louis tends to be portrayed as having lost control of his inheritance, thereby weakening the bonds of imperial unity and sowing the seeds of dissolution. In a typical attack, Jan Dhondt wrote: ›Que Louis le Pieux ait été un souverain incapable ne sera contesté par personne; que son impéritie et sa faiblesse aient précipité la ruine de l'empire, nous serons les derniers à y contredire‹¹. Although there has recently been a willingness among historians to question these assumptions and to reassess Louis's reign², those who suggest that the Emperor was more powerful and successful than has hitherto been believed still face an uphill struggle³.

Numismatists have contributed little to this discussion. No individual study of Louis the Pious's coinage has ever been published, in contrast to the two important articles devoted to Charlemagne's coinage by the doyens of Carolingian numismatics, Philip Grierson and Jean Lafaurie⁴. The only discussions of Louis's coinage to have appeared are those included in general surveys, of which the most complete and up-to-date is that by Grierson and Blackburn in the first volume of ›Medieval European Coinage‹⁵. However, the numismatist has important insights to offer

1 Jan DHONDT, *Etudes sur la naissance des principautés territoriales en France (IX^e–X^e siècle)*, Bruges 1948 (Rijksuniversiteit te Gent. Werken uitgegeven door de faculteit van de wijsbegeerte en letteren 102), p. 13.

2 See notably François-Louis GANSHOF, *Louis the Pious Reconsidered*, in: *History* 42 (1957) p. 171–180; and more recently Rosamond MCKITTERICK, *The Frankish Kingdoms under the Carolingians, 751–987*, London 1983, esp. at p. 124; Pierre RICHÉ, *Les Carolingiens: une famille qui fit l'Europe*, Paris 1983, at p. 149.

3 As was apparent from the reaction to Janet NELSON's revisionist paper, *The Last Years of Louis the Pious*, at the 1986 Oxford conference. It has now been published in: Roger COLLINS and Peter GODMAN (ed.), *Charlemagne's Heir: New Perspectives on the Reign of Louis the Pious, 814–840*, Oxford 1990.

4 Philip GRIERSON, *Money and Coinage under Charlemagne*, in: Wolfgang BRAUNFELS (ed.), *Karl der Große, Lebenswerk und Nachleben*, 4 vols, Düsseldorf 1965–1968, vol. 1, p. 501–536; Jean LAFAURIE, *Les monnaies impériales de Charlemagne*, in: *Comptes rendus de l'Académie des Inscriptions et Belles-lettres* 1978, p. 154–176.

5 Philip GRIERSON and Mark BLACKBURN, *Medieval European Coinage [MEC]*, vol. 1, *The Early Middle Ages (5th–10th Centuries)*, Cambridge 1986, p. 211–217.

regarding the state of the economy during Louis's reign, which in turn have significant implications for our perception of the Emperor's rule. As the present study will argue, the evidence of Louis's coinage, and in particular of the hoards deposited between 814 and 840, implies tight imperial control over the economy, a centralised and unified currency in use throughout the Empire, and rapid and widespread circulation throughout the vast area within its borders, from Brittany to Italy and from Frisia to northern Spain. The exclusion of foreign coin from the Empire and the lack of significant coinages struck in the names of Louis's sons similarly highlight the strength of the Emperor's hold over his realm, as do his relatively rapid and extremely efficient recoinages. Furthermore, an examination of metrology, fineness and die-linking indicates that a very large number of coins was minted to a consistently high standard, which again implies a prosperous and tightly-controlled economy.

In short, the numismatic material portrays a very different situation from that imagined by most historians: a strong, vigorous monarch ruling over a unified empire with a prosperous, centralised economy. We shall examine the evidence by looking at the three principal phases of the coinage in turn: first, Louis's scarce portrait coinage, second, an issue bearing the mint-name in field, and third, the well-known *Christiana religio* coinage.

Class I: portrait coinage

Louis's first issue, a portrait coinage, was minted from his accession in 814 until 818. This latter date can be established on the basis of an imperial edict from the winter of 818–819 which contained the clause, *De nova moneta*⁶. Although this was the first type minted by Louis during his reign, a small coinage had been produced in Louis's name by Charlemagne before the monetary reform of 793/794. The most likely date for such an emission was 781, when Louis was crowned subking of Aquitaine, and it was probably no more than a token commemorative issue, struck on a relatively small scale⁷. Five mints are known: Clermont, Limoges, St Sulpice of Bourges, St Stephen (St Etienne), probably also of Bourges, and a fifth, SCS IANR, which

6 *Capitulare missorum* c. 12: MGH, Cap. I, p. 290. For a fuller discussion of the grounds for the dating of Louis's three coinage types, see SIMON COUPLAND, *La chronologie des émissions monétaires de Louis le Pieux (814–840)*, in: *Bulletin de la Société française de numismatique* 1988, p. 431–433. The significance of Louis's capitularies for the dating of his coinage types was emphasised in a series of articles by Jean LAFURIE, notably *Chronologie des émissions de deniers carolingiens*, in: *Annuaire de l'École pratique des hautes études*, IV^e section, 1970–1971, p. 341–346.

7 The coinage is conveniently discussed by Michael METCALF in his article, *Pre-Reform Coins of Charlemagne from the Grave-find at Breuvery*, in: *Numismatic Circular* 76 (1968) p. 152. Photographs of the coins from the Breuvery hoard have now been reproduced in an article by Jean LAFURIE, *Les frappes monétaires de Metz et de sa région aux VI^e–IX^e siècles*, in: *Actes du colloque 'Autour d'Hildegard', Paris 1987*, fig. R, and in the catalogue of the Etienne Page sale, Drouot Montaigne, 4–5 October 1989, nos. 118–131.

Lafaurie has interpreted as St Ianuarius (St Janvier) of Viviers⁸. A coin of this type bearing the mint-name of Bourges is now known to be a forgery⁹.

Louis's portrait coinage was minted on a much more significant scale and right across the Empire. It followed the pattern of the rare portrait issue which Charlemagne had minted at the end of his reign, in that the obverse bore a bust of the emperor in paludamentum and laurels, facing right, and the reverse the mint-name or the legend *XPISTIANA RELIGIO* around a symbol representing the status of the mint. In the case of the emporia of Dorestad and Quentovic, the symbol was a ship. The mint at the silver mine of Melle was represented by a pair of coin dies and hammers, while the *civitates* of Arles, Orléans, Pavia, Sens, Strasbourg, Toulouse, Tours and Treviso were all denoted by a town gate. All of these designs had been used under Charlemagne, as had the fourth, a stylised temple, which was depicted on Louis's *Christiana religio* issues and on deniers from Milan.

There were thus at least twelve mints, of which only three (Arles, Dorestad and Quentovic) are known to have produced mint-signed portrait coinage under Charlemagne, although all twelve had struck coins at some point during the latter's reign. By contrast, the mints at Lyon, Trier, Rouen and »Metall German« all produced Charlemagne's portrait issue but did not apparently continue to operate after 814¹⁰. None of these mints was particularly prolific, however, and it would be unwise to attach much significance to their apparent inactivity between 814 and 818. The overall impression is rather that Louis expanded the number of mints in operation in 814, even though the total remained low.

Louis's *Christiana religio* portrait coins are all of one style, which is itself comparable to that of a number of the *Christiana religio* issues struck by Charlemagne¹¹. This group has been plausibly attributed to the palace mint at Aachen by Grierson¹², and it seems very likely that Louis's *Christiana religio* portrait coins were also produced at Aachen. Another group of Charlemagne's *Christiana religio* issues bear a longer title, *DNKARLVSIMPAVGREXFETL*, that is, *Dominus Noster KARLVS IMPerator AVGustus REX Francorum ET Langobardorum*, but these are not paralleled among Louis's *Christiana religio* coinage. However, these coins do bear a marked stylistic resemblance to Louis's portrait issues from Milan¹³, and it is noteworthy that the portrait coinage produced at Milan under Louis the Pious bore

8 LAFaurie, *Frappes monétaires* (as n. 7) p. 102.

9 This was originally published as genuine by Jean LAFaurie, *Denier de Bourges au nom de Louis le Pieux*, in: *Bulletin de la Société française de numismatique* 1955, p. 324–325, but M. Lafaurie subsequently recognised the piece as a forgery: see Pierre BASTIEN, Françoise DUMAS, Hélène HUVELIN and Cécile MORRISON (ed.), *Mélanges de numismatique, d'archéologie et d'histoire offerts à Jean Lafaurie*, Paris 1980, p. 21.

10 Unless »Metall German« should be identified as Melle, as GRIERSON has proposed: MEC 1, p. 209. The unique denier of Rouen has recently been republished by Jacqueline DELAPORTE, *Un denier de Charlemagne frappé à Rouen*, in: Hartmut ATSMa (ed.), *La Neustrie: Les pays au nord de la Loire de 650 à 850*, Sigmaringen 1989 (Beihefte der Francia 16/2), p. 41–43.

11 There is one exception to this, which I would not regard as a genuine coin of Louis the Pious: GIACOMO CASTELLANI, *Catalogo della raccolta numismatica Papadopoli-Aldobrandini*, Venice 1925, no. 163.

12 GRIERSON, *Money and Coinage* (as n. 4) p. 522.

13 Notably in the omission of a second, inner triangle in the depiction of the roof.

the mint-name around a temple, rather than a town-gate. This association is also consistent with the Italian element in the longer imperial title on the coins of Charlemagne, and Milan and the palace at Aachen can therefore almost certainly be added to the list of mints which continued production of portrait coinage either side of 814.

Unfortunately, no hoard has yet been found which was deposited during the four-year period when Louis's portrait issue was in circulation. The consequences of this fact should not be underestimated. We know a great deal about Louis's second coinage type above all because of the fortuitous discovery of two large contemporary hoards, which together contained a total of more than one thousand Class II coins. Yet as a result of the effectiveness of the Emperor's recoinage in 818, these hoards contained just two of the earlier portrait coins between them. In contrast, the complete absence of hoards from 814–818 means that we can study only relatively few specimens of Louis's Class I coinage. This cannot be taken to indicate that the portrait coinage was necessarily minted on a smaller scale than its successor, and other mints may have been active of which we are at present unaware. Indeed, very few firm conclusions can be drawn about the nature of the Class I coinage, because of the lack of evidence. Too few specimens have survived to provide reliable metrological data, although the surviving examples appear to conform to the weight standard of 1.7g established by Charlemagne in the reform of 793/794¹⁴. No analysis of silver content has yet been undertaken. The absence of hoards also makes it difficult to deduce anything about the patterns of minting and circulation. All that can be said is that if the coins which are known today are to any extent a reliable indication of the scale of production in the ninth century, the mints at Dorestad and Melle were probably the most prolific. Even in these cases we are dealing with samples of no more than thirty coins apiece, but this conclusion would be entirely consistent with what can be stated with greater confidence about the output of these mints later in Louis's reign.

One interesting feature of Louis's portrait coinage is the apparent increase in the number of oboles struck. These small half-deniers were coined under Pippin III and Charlemagne, but evidently in very small quantities¹⁵. During the period 814–818 oboles bearing an obverse portrait were minted at Arles, Sens, Toulouse and Tours, as well as the mint producing *Christiana religio* issues, which, as we have seen, was probably located at Aachen¹⁶. This increase in the production of oboles perhaps indicates that there was an increasing demand for smaller denomination coinage, as people used coins for transactions involving smaller sums.

14 Karl MORRISON and Henry GRUNTHAL [MG], *Carolingian Coinage*, New York 1967 (American Numismatic Society Numismatic Notes and Monographs 158), Table III. On Charlemagne's reform of the denier weight, see Jean LAFAURIE, *Numismatique des carolingiens aux capétiens*, in: *Cahiers de civilisation médiévale* 13 (1970) p. 126–128; MEC 1, p. 215–216.

15 On the oboles struck by Charlemagne, see GRIERSON, *Money and Coinage* (as n. 4) p. 518; for an obole of Pippin the Short, see Raymond WEILLER, *Die Münzen von Trier I.1*, Düsseldorf 1988 (Publikationen der Gesellschaft für Rheinische Geschichtskunde 30), p. 267. My thanks to Professor Grierson for drawing this coin to my attention.

16 Arles: MG 438; Sens: E. H. TOURLET, *Monnaies royales de France inédites*, in: *Bulletin de numismatique* 1 (1891–1892) p. 149–150; Toulouse: MG 418; Tours: MG 370; *Christiana religio*: MG 471. Oboles of Melle bearing coin dies and hammers on the reverse and four triangles in the form of a cross on the obverse were undoubtedly also minted at this time: MG 397.

One obole is of particular interest: it bears a bust of the Emperor on the obverse, as is customary, but on the reverse the mint-name in field, VISTA-ΓEDCII¹⁷. It consequently appears to be a transitional type between the Class I portrait coinage and Class II, which bore the mint-name in field on the reverse but the imperial title around a cross on the obverse. It was presumably struck in 818, the year in which the change of type took place, and, if so, provides an important clue to the dating of the small portrait coinage struck in the name of a King Pippin of Aquitaine. The bust on the two coinages is remarkably similar, notably in the depiction of the neck, and an early dating of the coins of Pippin is also suggested by the crudeness of the reverse design, on which the temple is little more than a rectangle surmounted by a triangle and enclosing a cross. This Aquitanian coinage was therefore presumably struck to celebrate the coronation of Pippin I (817–838) as subking of Aquitaine in 817, much as Charlemagne had minted a limited series of Aquitanian coinage to mark Louis's own accession there in 781. It appears to have been produced on a very small scale, and was evidently the only coinage minted by Louis in Pippin's name during his entire reign¹⁸. Unfortunately, the imprecise mint-name on the Pippinid issue, *Aquitaniarum*, offers no solution to the problem of the correct interpretation of the bizarre legend on the transitional obole of Louis. The style of this coin is quite unlike that of Louis's other portrait coins, and it is improbable that the mint which produced it struck regular Class I issues in Louis's name.

The Emperor does not seem to have produced a similar inaugural issue in the name of Lothar I (817–855) in 817, nor one for Louis the German (817–876). As will be shown below, the portrait coinage which bears Lothar's name should almost certainly be dated later, to Lothar's accession as Emperor of Italy in 822–823.

Another portrait coinage which can, however, confidently be judged to have been contemporary with Louis's Class I is the small issue of gold coinage struck in the Emperor's name. These gold *solidi* were the subject of an exhaustive study by Grierson in 1951, and the author's conclusions are still valid today¹⁹. Grierson showed that the original issue was minted on a very small scale, since all the surviving specimens were struck from only four pairs of dies. The *solidi* were probably coined to commemorate Louis's coronation by Pope Stephen at Reims in 816, and the most likely location of the mint was the palace at Aachen. It is clear that these coins did not play any significant role in the imperial economy, which was based upon the use of a silver currency. This conclusion is not altered by the discovery of numerous imitations of Louis's *solidi* in the Netherlands, for it is evident that these were produced and circulated on the fringes of the Empire or even beyond, in Frisia and perhaps the British Isles.

17 The legend recorded in MG 465 is incorrect; see Ernest GARIEL, *Les monnaies royales de France sous la race carolingienne*, 2 vols, Strasbourg 1883–1884, vol. 2, pl. XVI.62. One specimen of the coin is held in the Grenoble collection: *Monnaies de la Bibliothèque municipale de Grenoble*, Grenoble 1976 (*Journées numismatiques* 1976), pl. III.22.

18 This coinage is discussed at greater length in my article, *The Coinages of Pippin I and II of Aquitaine*, in: *Revue numismatique* 1989, p. 195–223, pl. XX.

19 Philip GRIERSON, *The gold solidus of Louis the Pious and its imitations*, in: *Jaarboek voor Munt- en Penningkunde* 38 (1951) p. 1–41; see now MEC 1, p. 329–330.

Class II: coinage with mint-name in field

As has already been mentioned, Louis's second silver coinage bore the imperial title around a cross on the obverse, and the mint-name in one, two or three lines filling the reverse field. The dates of emission can once again be established on the basis of capitulary evidence. The decree which was cited earlier indicates that the type was introduced in 818, while its replacement was signalled in an edict of 825 which referred back to a planned recoinage *iam per tres annos*. This could signify 822 or 823, since the Carolingians could use either inclusive or exclusive reckoning²⁰. Hoard evidence shows that the recoinage of 818 was extremely thorough, since very few Class I coins are found in Class II deposits: the examples of the large hoards from Apremont-Veuillin (Cher) and Belvézet (Gard) have already been quoted²¹ (see p. 26).

Louis's Class II coinage was produced at a much larger number of mints than is known for the portrait issue. Forty-five are currently known, from Dorestad in the north to Barcelona in the south, and from Rennes and Dax in the west to Regensburg and Venice in the east. A few mints have yet to be identified, all of them probably situated in Germany, to judge from their names: *Alaboteshain*, *Aldunheim* and *Stottenburg*²². The absence of any *Christiana religio* issues from the large hoard found at Apremont-Veuillin, which was deposited between 818 and 822/823, suggests that they were not produced during this period, perhaps because the palace mint at Aachen was producing its own mint-signed coinage.

The production of oboles seems to have further increased at this time, so that they were now coined in at least fifteen mints. At Arles, Cologne, Dax, Narbonne, Sens and Toulouse the design followed that of the regular Class II deniers, while at Bourges, Meaux, Nantes, Quentovic, Reims, Rouen and Tours it was reversed, with the Emperor's name in two lines on the obverse (LVDO-VVIC) and the mint-name around a cross on the rear. The *Aquitania* mint and Melle struck both forms, as well as a variant form which is discussed below.

It is not clear how we should account for this marked rise in the number of mints. It is true that when Charles the Bald attempted to restrict the number of mints, his aim was to tighten his control over the currency²³, and it could therefore be deduced that an increase in the number of mints in 818 reflected a loss of control on Louis's

20 *Admonitio ad omnes regni ordines* c. 20: MGH, Cap. I, p. 306. The dating is considered in more detail in my article, *Chronologie des émissions* (as n. 6).

21 Ferdinand BOMPOIS, *Notice sur un dépôt de monnaies carlovingiennes découvert en juin 1871 aux environs de Veuillin, commune d'Apremont, département du Cher*, Paris 1871; Frédéric DE SAULCY, *Deniers carlovingiens, déterrés à Belvezet, près d'Usez [sic] (Gard)*, in: *Revue numismatique* 2 (1837) p. 347–359, 376; see now also Jean DUPLESSY, *Les Trésors monétaires médiévaux et modernes découverts en France*, vol. 1, 751–1223, Paris 1985, nos. 17, 40.

22 Hans Hermann VÖLCKERS referred to a coin found at Schouwen which he, following notes made by Hubregtse, described as of Louis the Pious, and perhaps minted at Würzburg: *Karolingische Münzfunde der Frühzeit (751–800)*, Göttingen 1965 (*Abhandlungen der Akad. der Wiss. in Göttingen*, phil.-hist. Klasse III.61), p. 155. I am extremely grateful to Drs. Arent Pol of the Koninklijk Penningkabinet (KPK) in Leiden for informing me that the coin in question is not in fact Carolingian, but a penny of Count Wichman of Hamaland (967–1016).

23 *Edict of Pitres* c. 12: MGH, Cap. II, p. 315.

part. However, in this instance the coins are so uniformly correct in design that it would surely be wrong to assume that anyone but the Emperor was responsible for their production. A more likely explanation is that Louis wished to make coin more readily available in regions of the Empire where no mints were active. That such a motivation could underlie the opening of new ateliers is evident from royal charters granting minting rights at Corvey in 833, Prüm in 861 and Châlons-sur-Marne in 865, all of which specifically related the opening of the new atelier to the scarcity of locally available coin²⁴. The creation of new mints in 818 should therefore probably be seen as a sign of economic expansion rather than a loss of control.

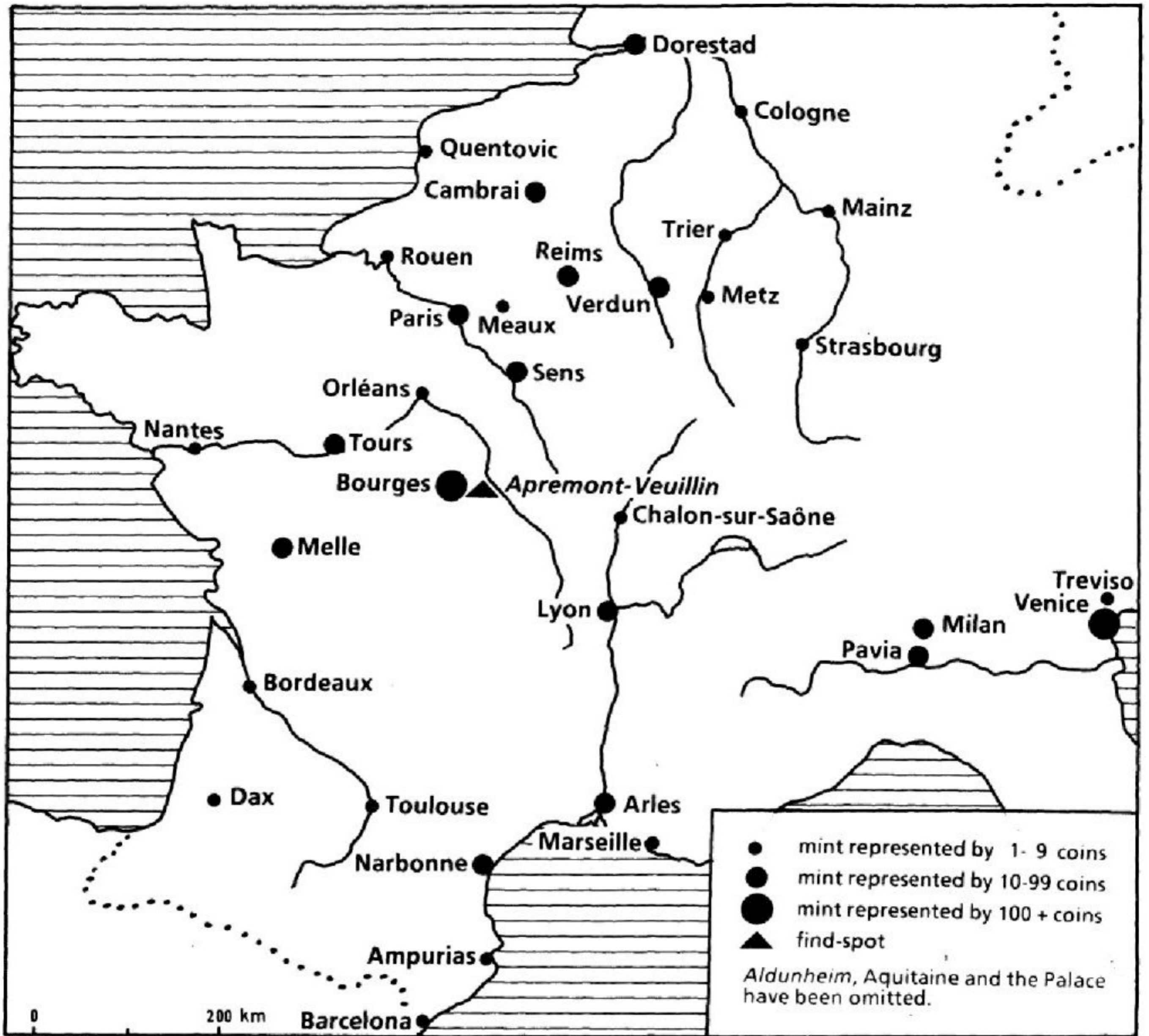
This hypothesis is further supported by metrological analysis of Louis's Class II coinage, which suggests that the Emperor attempted to increase the weight of the denier in 818. This assumption is based on the reported weights of the coins found at Apremont-Veuillin and at Belvézet, which cluster around 1.8g rather than the 1.7g characteristic of Carolingian post-reform coinage, and also on the weights of those Class II issues now held in collections²⁵. Grierson has argued that this sample may be unrepresentative, since the owners of the coins deposited at Apremont-Veuillin and Belvézet might have retained only particularly fine and heavy pieces, and these are the very coins which have found their way into present-day collections²⁶. However, it would be a remarkable coincidence if both owners had independently selected only unusually heavy coins, and there is no other reason to suspect that the hoards contain anything other than a representative sample of the coinage in circulation at the time. Moreover, an increase in the denier weight in 818 would explain both the remarkable effectiveness of the recoinage in that year, removing virtually all of Louis's portrait coins from circulation, and the difficulty which Louis experienced when he attempted to replace the Class II coinage by Class III, his *Christiana religio* coinage, since the latter was evidently struck to the usual 1.7g weight standard (see below). This difficulty is apparent from the capitulary of 825 cited above, which reveals that the recoinage which the Emperor had ordered three years earlier had still not been implemented. It therefore appears likely that Louis attempted to raise the denier weight from 1.7g to *circa* 1.8g in a second Carolingian currency reform in 818, but that the measure proved unworkable, presumably because of cost, and had to be reversed four or five years later. Not surprisingly, the populace was then reluctant to exchange their old Class II deniers for the lighter Class III *Christiana religio* issues, and the recoinage proved hard to enforce. As for the fineness of the Class II coinage, only five analyses have as yet been published. Two deniers of Paris were found to contain 94.4% and 96.37% silver, deniers of Cambrai and Rouen contained levels of 95.81% and 93.56% respectively, and a denier of Venice had the slightly lower, but still respectable figure of 89.8% silver²⁷.

24 The texts are conveniently assembled in Maurice PROU, *Catalogue des monnaies françaises de la Bibliothèque Nationale: les monnaies carolingiennes*, Paris 1892, p. lviii, lx, lxii.

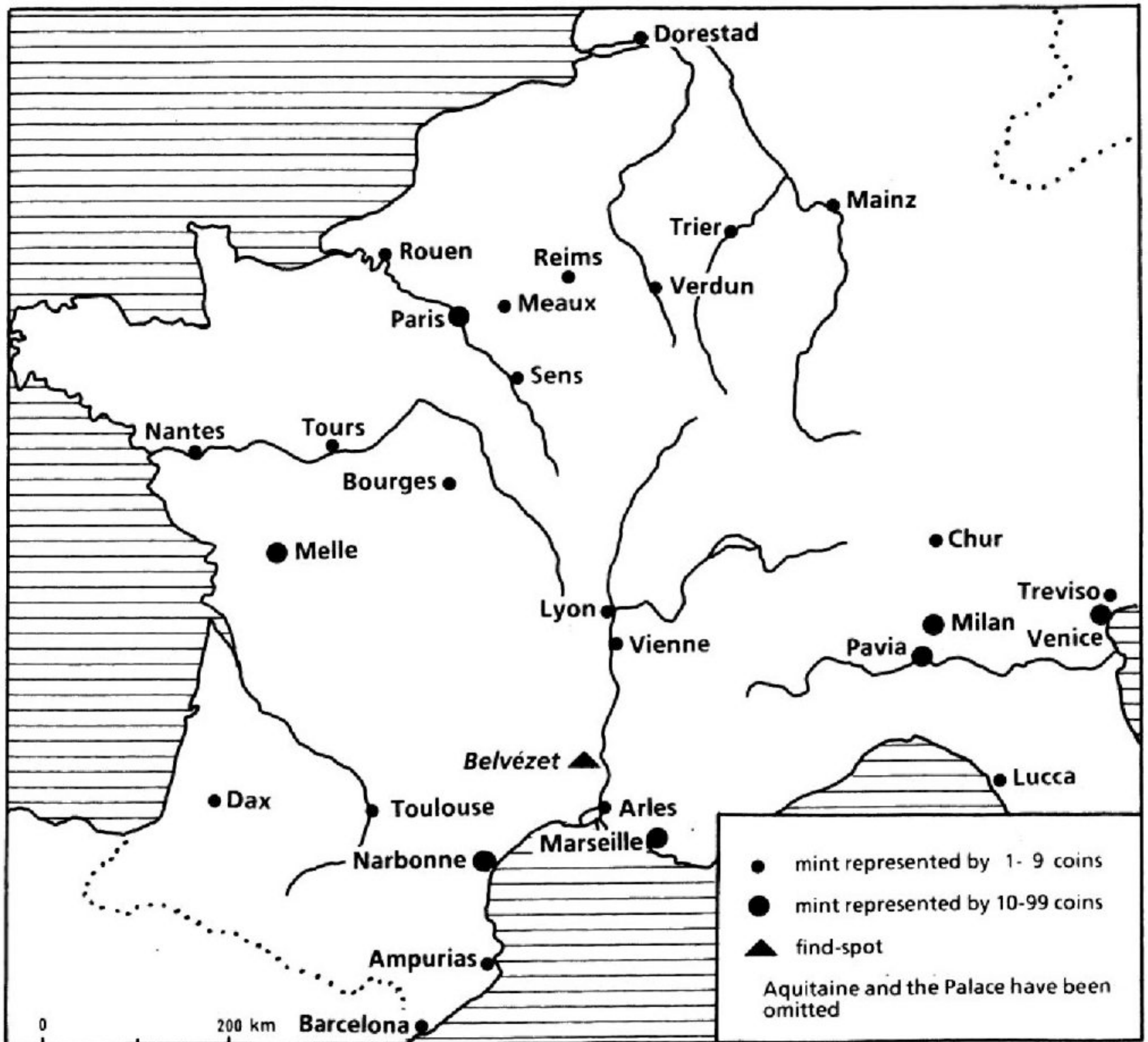
25 MG Table II.

26 MEC 1, p. 215–216.

27 Michael METCALF, *Analyses of the Metal Content of Medieval Coins*, in: Edward HALL and Michael METCALF (ed.), *Methods of Chemical and Metallurgical Investigation of Ancient Coinage*, London 1972 (Royal Numismatic Society Special Publications 8), p. 405; Michael METCALF and Peter NORTH-OVER, *Coinage Alloys from the Time of Offa and Charlemagne to c. 864*, in: *Numismatic Chronicle* 149 (1989) nos. 35–37.



Map 1: Class II coins present at Apremont-Veuillin (Cher)



Map 2: Class II coins present at Belvézet (Gard)

As has been indicated, much of our knowledge of Louis's second coinage type stems from the discovery of two large hoards in the nineteenth century, one at Apremont-Veuillin in Berry, the other at Belvézet in Languedoc. The former hoard contained 753 Class II issues, the latter 257, and both deposits contained a single denier of Class I. The total absence of any Class III issues at Apremont-Veuillin and the presence of just three *Christiana religio* issues of an unusual, transitional type at Belvézet allows the two hoards to be dated to 820/822 and 822/823 respectively. A few other, smaller hoards containing Class II coinage have also turned up. The most significant include two hoards from Angers, one of them (St Julien d'Angers 1919) containing thirty-two Class II issues²⁸, the other (Angers c 1812) just twelve²⁹. In addition, a deposit which was unearthed during excavations at Dorestad in 1972 contained fifteen of Louis's Class II coins alongside seventeen much earlier issues of Charlemagne³⁰. It thus appears to be a 'savings hoard', composed of two separate parcels which were removed from circulation several years apart.

These hoards, particularly those from Apremont-Veuillin and Belvézet, provide a wealth of information about the Carolingian economy of the early 820s, notably with regard to minting and circulation. The hoards' locality must of course be taken into account. Thus the large numbers of coins of Bourges and of Marseille at Apremont and Belvézet respectively are not necessarily significant, for these are in each case the products of the local mint. Even so, the presence of these local coins in such quantities is of itself a valuable indication that the hoards were formed locally, not simply brought to the site as complete parcels.

Once these two ateliers are discounted, the best represented mints in both of these large hoards are Italian: Venice at Apremont (195 coins, or 25.8 % of the total), and Pavia at Belvézet (40 coins, or 15.5 %; 34 Venetian coins were also present, i.e. 13.2 % of the total). This high proportion of Italian issues is somewhat surprising in view of the hoards' find-spots, and underlines the prominence of Italy in the Carolingian economy. In all, 36 % of the coins at Apremont and Belvézet alike were minted in Italy³¹, and Italian issues were also present in the Angers hoard of 1919 and at Dorestad. It is particularly unexpected to find Venetian coins minted in Louis's name, since the port was theoretically independent of Carolingian rule. Indeed, Venice is known to have produced its own mint-signed coinage later in Louis's reign when the Emperor's other mints were all striking his *Christiana religio* coinage (although the Venetian mint may also have been coining these at the same time: see below). The motive for this practice was undoubtedly commercial, for it gave Venice open access to the Carolingian markets without the need for recoinage. It is a notable feature of the hoards deposited during Louis's reign that none contains even a single

28 DUPLESSY (as n. 21) no. 11.

29 Benjamin FILLON, *Lettres à M. Dugast-Matifeux sur quelques monnaies françaises inédites*, Paris 1853, p. 125–126; DUPLESSY (as n. 21) no. 12.

30 Hendrik ENNO VAN GELDER, *Coins from Dorestad, Hoogstraat 1*, in: W. A. VAN ES and W. J. H. VERWERS, *Excavations at Dorestad 1: The Harbour, Hoogstraat 1*, Amersfoort 1980 (*Nederlandse Oudheden* 9) p. 215–221.

31 Contra Karl MORRISON, *Numismatics and Carolingian Trade: A Critique of the Evidence*, in: *Speculum* 38 (1963) p. 431.

foreign coin (unlike the hoards from Charlemagne's reign). This demonstrates the extreme effectiveness of the imperial ban on the acceptance of unapproved coinage.

Melle in Poitou seems to have been another particularly significant Frankish mint. Just under 10% of the coins at Apremont were minted there, 4.3% of those at Belvézet, but no fewer than twenty-five of the thirty-nine Class II issues found in the two hoards from Angers, which is some 140 km from the mint. Moreover, although none was present in the 1972 Dorestad hoard, three Class II deniers and one obole of Melle have been unearthed in stray finds at the site, despite its great distance from the mint³². Melle was the location of the only known silver mine of any significant size in the Carolingian empire, and it is consequently not unexpected that its issues appear to have been so numerous. A variant form of the Class II coinage was also produced at Melle and at Toulouse, bearing the mint-name around a cross on the reverse and the Emperor's name encircling a cross on the obverse. Two deniers of this type from Melle were present at Apremont, indicating that they were struck at the same time as the regular Class II, and Grierson has plausibly suggested that they were the result of a moneyer's error³³. Similar oboles, with a cross on both faces, are also known from Melle and the unidentified *Aquitania* mint³⁴. They can be seen as a combination of the two different forms of Louis's regular Class II oboles, one of which bears a cross on the obverse, the other a cross on the reverse, and both of which were minted at Melle and *Aquitania*³⁵. It is not difficult to see how confusion between the two officially sanctioned forms of obole could have led to the production of the variant with a cross on both sides. At Melle and, more surprisingly, Toulouse, a few deniers were also coined bearing a cross on both faces. Nonetheless, these issues are rare, and it appears that the error was thus swiftly spotted and corrected, offering further evidence of the tight control exercised over the imperial mints.

Another mint which is well represented in both large Class II hoards is Paris, although the figures are less impressive than for Melle: twenty-four coins (3.2%) at Apremont, thirteen (5.0%) at Belvézet. It is hard to judge how significant these figures are, as Parisian issues have not been found in large numbers elsewhere. However, we may tentatively suggest that Paris was the most prolific mint in the region between the Rhine and the Loire at this time.

In the south, production appears to have been largest at Narbonne, since not only were fourteen issues present at Apremont (1.9%) and ten at Belvézet (3.9%), but coins from Narbonne were also among the contents of the hoards found at Angers in 1919 and Dorestad in 1972.

Finally, the most important mint in the north of the empire was unquestionably Dorestad itself. Although only fourteen of its issues were found at Apremont (1.9%) and three at Belvézet (1.2%), the great distance between the mint and the find-spots

32 VÖLCKERS (as n. 22) p. 146; VAN GELDER, *Coins from Dorestad* (as n. 30) p. 223.

33 MEC 1, p. 215.

34 MG 401–405 and MG 392 respectively. MG 411 should be ignored, as it is an incorrect duplication of MG 409, which records the true form of the coin: see GARIEL, *Monnaies royales de France* (as n. 17) vol. 2, pl. XV. 41.

35 It is noteworthy that these are the only two mints known to have struck oboles of both forms. Does this perhaps indicate that the *Aquitania* coinage struck in Louis's name was minted at Melle? The theory is certainly plausible.

must be taken into account. Surprisingly, only three of the fifteen Class II issues in the 1972 Dorestad hoard were locally minted, but another six turned up as stray finds in the nineteenth century³⁶. Five deniers from Dorestad were also found in a hoard unearthed at St Cyr (Vendée) in the 1830s. Benjamin Fillon gave three different versions of the hoard's original composition, of which the most plausible recorded that the deposit contained five examples of Louis's portrait coinage and eighteen Class II issues, five of them from Dorestad and six (four deniers and two oboles) from Melle³⁷. The overall impression given by these and the other finds of Class II Dorestad issues is that the mint was highly productive during this period, which is of course entirely consistent with its leading role in international trade³⁸.

It has already emerged from this brief consideration of mint output that Louis's Class II coinage circulated widely. Indeed, one remarkable feature of the Apremont and Belvézet hoards is the very large number of mints represented: thirty-six at Apremont and thirty at Belvézet. Only six of the mints which are known to have produced Class II coinage are not represented in one or other of these two hoards: Besançon, Regensburg, Rennes, Roda, *Alabotesbain* and *Stottenburg*. Similarly, the coins found in the 1972 Dorestad hoard come from eleven different mints, including Bourges, Milan, Narbonne and Strasbourg, and stray finds and an earlier hoard from the site bring the total of Class II mints represented at Dorestad to eighteen³⁹. As for the two hoards found at Angers, these included issues from thirteen mints, most of them in the south of the empire. These figures suggest that in the early 820s the vast empire ruled by Louis the Pious was economically united. They therefore corroborate the testimony of the uniform design of the coins in implying effective imperial control of the currency.

The Apremont and Belvézet hoards also reveal another important fact, namely the rapidity of circulation within this huge currency pool. It has already been observed that the absence of *Christiana religio* issues from the Apremont hoard indicates that it was deposited before the introduction of Class III in 822 or 823, while the presence of a few variant Class III issues at Belvézet dates that hoard to the years 822 or 823 themselves. Given that Class II had only been in circulation since 818, these coins, from so many different mints in so many different regions of the empire, must have come together within a five-year period, possibly less. Not only was the Empire united, but there was evidently also rapid and widespread circulation of coin throughout its vast extent, which surely suggests thriving internal trade.

36 P. O. VAN DER CHIJS, *De Munten der Frankische- en Duitsch-Nederlandsche Vorsten*, Haarlem 1866, p. 149–150. These finds were unaccountably omitted by Völckers.

37 Benjamin FILLON, *Notice sur Saint Cyr*, Fontenay 1847, p. 16–17. This appears the most reliable account, because it most closely matches the pattern of other Carolingian hoards; it seems unlikely that the hoard would have contained Charles the Bald's *Gratia Dei rex* coinage of after 864, as Fillon's other reports claimed. See IDEM, *Monnaies royales inédites*, in: *Revue numismatique* 1845, p. 354; and IDEM, *Considérations historiques et artistiques sur les monnaies de France*, Fontenay 1850, p. 56–57. Compare DUPLESSY (as n. 21) no. 297.

38 See also SIMON COUPLAND, *Dorestad in the ninth century: the numismatic evidence*, in: *Jaarboek voor Munt- en Penningkunde* 75 (1988) p. 5–26.

39 1845/1846 hoard: LOUIS DE COSTER, *Explications faisant suite aux précédentes notices sur l'attribution à Charlemagne de quelques types monétaires*, in: *Revue belge de numismatique* 1857, p. 34–36; single finds: VÖLCKERS (as n. 22) p. 146–147; VAN GELDER, *Coins from Dorestad* (as n. 30) p. 223–224.

Unfortunately, the dispersion of the Apremont and Belvézet hoards soon after their discovery rules out the possibility of the sort of die-study which could offer some insight into the scale of production of Louis's Class II coinage.

Class III: *Christiana religio* coinage

Louis's third major coinage type was characterised by the legend *Christiana religio* around a temple on the reverse. The obverse design was retained from Class II, except for the addition of pellets in the angles of the central cross. The only Class II deniers to display such pellets are from Dorestad, where an array of crescents, wedges and points were added to the regular design. However, they are also present on Class II oboles from a number of mints, including *Aquitania*, Arles, Cologne, Melle and Toulouse⁴⁰. Does this perhaps indicate that Class II oboles continued to be minted after the introduction of Class III? Certainly standard Class III oboles were minted, but apparently on a much smaller scale than the deniers, to judge by the limited numbers which are found in hoards. Perhaps some mints did therefore continue striking mint-signed oboles after 822/823. This would explain why the hoard found at Roermond contained eight oboles but only two deniers of Class II alongside 725 deniers and nine oboles of Class III⁴¹.

The documentary evidence cited earlier shows that Class III was introduced in 822 or 823, and minting evidently continued until Louis's death in 840. Because it was coined for such a comparatively long period in all the imperial mints, the *Christiana religio* issue is by far the commonest Carolingian coinage. However, it is unfortunate that a widespread misconception has arisen that Class III continued to be produced even after the death of Louis the Pious, and that it is impossible to distinguish the posthumous issues from the contemporary⁴². On the contrary, all the evidence suggests that Louis's sons began minting in their own names as soon as they were able. One northern hoard even contained *Christiana religio* issues of Louis the Pious and Lothar I struck from the same reverse die⁴³. Moreover, since Louis the German was only entitled to call himself king, not emperor, there was a definite interruption in minting of *Christiana religio* issues in the name of an Emperor Louis in 840. Although it is true that Louis II of Italy seems to have resumed minting imperial *Christiana religio* issues in the 850s, his coins are distinguishable from those of Louis the Pious on stylistic grounds, and his later issues were also struck on broader flans⁴⁴. It is also true that *Christiana religio* coinage was minted in subsequent centuries, notably at St Maurice d'Agaune in Switzerland, but these coins are debased in style,

40 *Aquitania*: GARIEL, *Monnaies royales de France* (as n. 17) vol. 2, pl. XIV.3; Arles: MG 442; Cologne: MG 338; Melle: MG 393; Toulouse: MG 422–423.

41 Hendrik ENNO VAN GELDER, *De Karolingische muntvondst Roermond*, in: *Jaarboek voor Munt- en Penningkunde* 72 (1985) p. 13–47. Moreover, four of the *Christiana religio* oboles were of transitional types, with a cross instead of a temple on the reverse.

42 MORRISON (as n. 31) p. 427. Similar views are expressed in MG p. 1; PROU (as n. 24) p. xiv; GARIEL, *Monnaies royales de France* (as n. 17) vol. 1, p. 74.

43 SIMON COUPLAND, *A die-link between coins of Louis the Pious and Lothar I*, in: *De Beeldenaar* 12.6 (November–December 1988) p. 438–439.

44 MEC 1, p. 216.

lighter in weight, and distinguishable at a glance from the genuine issues of Louis the Pious which are known from ninth-century hoards⁴⁵. In short, it is not difficult to distinguish between later *Christiana religio* issues and those minted by Louis the Pious, and there was a definite interruption in minting after the Emperor's death. The numerous large ninth-century hoards of *Christiana religio* issues in Louis's name can therefore confidently be accepted as consisting of coins of Louis the Pious.

The fact that some of the Class III issues in these hoards have blundered inscriptions has been taken by certain scholars as an indication that they were the products of unofficial ateliers, particularly in Frisia⁴⁶. Such comments would support the view that Louis the Pious did not exercise effective control over the economy. However, two factors must be taken into account in this context. First, such coins are in a tiny minority: in hoards containing hundreds of Louis's *Christiana religio* issues it is usual to find only a handful which are blundered. The vast majority of the coins have a neat appearance and correct obverse and reverse legends, and such uniformity again gives the impression of a centralised economy under tight imperial control. What is more, it is noteworthy that the barbarous issues also follow the prescribed design, even if they are executed with little technical skill. The second important point is that the coins' poor execution cannot be interpreted as evidence that they were produced at unofficial mints. It merely reflects the fact that some die-cutters were less skilled than others, as is evident from the production of blundered or barbarous issues from mints whose official status is unquestioned. For example, on Louis's Class I coinage from Toulouse the imperial bust is little more than a caricature, on Charles the Bald's temple coinage from Auxerre the mint-name is more often retrograde than correct, and on Lothar I's temple issues from Dorestad and Huy the Emperor's name is so badly misspelt as to be barely recognisable⁴⁷. The blundered Class III issues are comparable to these other badly produced but official coinages, rather than the utterly barbarous imitation *solidi* minted in Frisia later in the ninth century. In sum, there is no evidence that significant numbers of Louis's *Christiana religio* issues were struck at unofficial mints; on the contrary, the generally high standard and uniform design of the issue underline the impression given by the preceding class, of a centralised and efficiently run economy.

As has been mentioned, numerous large hoards of Class III coins have been discovered. The majority were concealed in the two decades after 840, when Louis's coinage remained in circulation alongside that of his sons. Charles the Bald (840–877) did not apparently carry out a recoinage until 864, and there is no indication of any recoinage in the Middle Kingdom under either Lothar I or Lothar II (855–869). The largest of these finds are those from Pilligerheck (Rheinland-Pfalz: at least 1412

45 See for example PROU (as n. 24) nos. 1033–1041. In addition to the discussion in MEC 1 mentioned in the previous note, see also J. GRUAZ, *Le Trésor d'Hermenches et les temps carolingiens*, Lausanne 1922, p. 15–16.

46 Hendrik ENNO VAN GELDER, *De Karolingische muntslag te Duurstede*, in: *Jaarboek voor Munt- en Penningkunde* 48 (1961), p. 34–35; IDEM, *Le trésor carolingien d'Ide*, in: *Revue numismatique* 1965, p. 246, 251–252; Stanisław SUCHODOLSKI, *Der Geldumlauf in der karolingischen Epoche*, in: *Deutscher Numismatikertag 1981. Vorträge*, Munich 1983, p. 48.

47 Toulouse: MG 417; Auxerre: MG 987–988, 990; Dorestad: MG 525–530; Huy: MG 541–542.

Class III coins, deposited 855–860)⁴⁸, Roermond (Limburg: 734 Class III issues, deposited 850–855)⁴⁹, Fontaines (Saône-et-Loire: 516 Class III coins, deposited 845–850)⁵⁰, Achlum (Friesland: at least 484 Class III coins, deposited 845–850)⁵¹, Emmen (Drenthe: 219 Class III issues, deposited 845–855)⁵² and Chaumoux-Marçilly (Cher: 216 Class III coins, deposited 840–845)⁵³. As for the period of emission itself, between 822/823 and 840, two large hoards and a number of smaller finds are known, but few are adequately recorded in print. One sizeable hoard was discovered at Hermenches (Vaud) in Switzerland. It contained some 320 Class III issues and two contemporary issues from Venice; most of the coins are now in the museum at Lausanne⁵⁴. The other significant hoard was found at Oosterend in Friesland in the 1850s. It contained five or six hundred *Christiana religio* issues, but, regrettably, no further details are available⁵⁵. Of the smaller hoards, little is known about those from Thouars (Deux-Sèvres: forty-six Class III deniers and one of Lothar from before 840, on which see below)⁵⁶ or Barbentane (Bouches-du-Rhône: twenty-eight coins were examined, all of them *Christiana religio* issues)⁵⁷. However, there are useful accounts, with illustrations of some of the coins, of the finds from Valence (Drôme: forty Class III issues and one obole of Class II from Melle)⁵⁸ and Häljarp in Skåne, a hoard of thirty coins which were apparently taken to Sweden by Viking traders or raiders⁵⁹. Finally, mention must be made of two later hoards. One of them was unearthed at Zelzate (East Flanders) in 1949, and reportedly contained at least 289 Class III issues, but the hoard's original composition, and thus its dating, is uncer-

48 A summary of the hoard's contents can be found in Jean LAFURIE, *Numismatique romaine et médiévale*, in: *Annuaire de l'École pratique des hautes études*, IV^e section, 1969–1970, p. 323–326. A full record is held at the Rheinisches Landesmuseum in Trier, to whose staff I am grateful for their assistance during my visit.

49 VAN GELDER, *Muntvondst Roermond* (as n. 41); my thanks are due to M. Lafaurie for making a full photographic record of the hoard available to me for study, and to Arent Pol of the KPK for assisting my research there.

50 DUPLESSY (as n. 21) no. 147. The hoard appears to have been dispersed.

51 P. C. J. A. BOELES, *Les trouvailles de monnaies carolingiennes dans les Pays-Bas, spécialement celles des trois provinces septentrionales*, in: *Jaarboek voor Munt- en Penningkunde* 2 (1915) no. III, but see my comments in COUPLAND, *Dorestad* (as n. 38) p. 19.

52 Raymond SERRURE, *Notice sur deux trouvailles de monnaies carlovingiennes, faites dans la province de Drenthe (Pays-Bas) II: trésor d'Emmen*, in: *Bulletin mensuel de numismatique et d'archéologie* 2 (1882–1883) p. 183–189. The bulk of the hoard is now in the Assen museum, but has been on temporary deposit at the KPK, where I was able to study it.

53 P. CHENU, *Un dépôt de monnaies carolingiennes dans le département du Cher*, in: *Mémoires de la Soc. hist., littéraire et scientifique du Cher*, 4.39 (1931–1932) p. 103–126; DUPLESSY (as n. 21) no. 94. The hoard has apparently been dispersed.

54 GRUAZ (as n. 45); I am grateful to M. Lafaurie for lending me photographs of the hoard for study.

55 J. DIRKS, *Monnaies anciennes trouvées en Frise*, in: *Revue belge de numismatique* 1858, p. 10.

56 DUPLESSY (as n. 21) no. 354.

57 DUPLESSY (as n. 21) no. 33.

58 CHALANDE, *Lettre à M. R. Chalon*, in: *Revue belge de numismatique* 1857, p. 321–324, pl. XXI.18–19; DUPLESSY (as n. 21) no. 364. Four of the coins are now in the Grenoble collection: see *Monnaies de la Bibliothèque municipale de Grenoble* (as n. 17) p. 15.

59 *Corpus nummorum saeculorum IX–XI qui in Suecia reperti sunt* 3.4, Stockholm 1987, p. 95–96, pl. 5–6.

tain⁶⁰. The second was deposited in the late 870s at Mercurey-Bourgneuf (Saône-et-Loire), and included *circa* 440 Class III issues of Louis together with at least one thousand coins of Charles the Bald, some of them almost certainly contemporary forgeries⁶¹.

One important benefit afforded by the discovery of such large numbers of Class III coins is that it permits us to determine with a considerable degree of assurance that the coinage was struck to a 1.7g weight standard⁶². As was noted earlier, this marked a return to the denier weight established by Charlemagne in the reform of 793/794. It may therefore be significant that of the five objects which are believed to be Carolingian coin weights, no fewer than three bear the imprint of the *Christiana religio* issue⁶³. If Louis did indeed change the denier weight at this time, it would have been necessary to provide the mints with new coin weights. These replacement weights were presumably stamped with a regular coin die in order both to link them decisively with the new issue and to prove their authenticity: coin forgery was viewed as a grave offence and severely punished⁶⁴.

Another fortunate consequence of the abundance of finds of Louis's *Christiana religio* coinage is that a number of coins have been chemically analysed. Two of the coins from the Hermenches hoard were found to have silver contents of 90.3 % and 82.5 % respectively⁶⁵, and two present in the Chaumoux-Marcilly hoard contained 92.6 % and 81.6 % silver⁶⁶. More recently, Metcalf and Northover have also analysed a number of Class III issues, and continue to press ahead with this important research. The nine analyses which have been published so far reveal relatively respectable levels of silver, even if they do show some slight debasement compared with earlier Carolingian coinage: 86.02 %, 87.59 %, 91.00 %, 92 %, 93.5–95 %, 94.14 %, 94.22 % and 96 %, with one outlier at the particularly low level of 73.61 %⁶⁷. However, when Prou had certain Class III deniers from the Fontaines and Mercurey-Bourgneuf hoards analysed, he found that two very different standards appeared to prevail. According to his published report, one of the Mercurey-Bourgneuf coins had a silver content matching those recorded above, 86.6 %. Yet a

60 Paul NASTER, *Trouvaille de monnaies carolingiennes à Zelzate* (1949), in: *Revue belge de numismatique* 1950, p. 208–224.

61 P. PINETTE, *Le trésor de Bourgneuf*, in: *Gazette numismatique* 1 (1897) p. 43–53; DUPLESSY (as n. 21) no. 210. For the most recent discussion of the coins' authenticity, see Michael METCALF and Peter NORTHOVER, *Carolingian and Viking Coins from the Cuerdale Hoard: an Interpretation and Comparison of their Metal Contents*, in: *Numismatic Chronicle* 148 (1988) p. 102.

62 VAN GELDER, *Muntvondst Roermond* (as n. 41) p. 24; I have personally tabulated the weights of 400 *Christiana religio* issues from the Ide, Muizen, Pilligerheck and Zelzate hoards with similar results. On the Muizen hoard, see Heli ROOSENS, *Trouvaille de monnaies carolingiennes à Muizen-les-Malines* (1906), in: *Revue belge de numismatique* 1950, p. 203–208.

63 Two of these are now in Leiden, one in Brussels: all were found at Dorestad. MORRISON (as n. 31) p. 423–424, and plate facing p. 430.

64 The *Translatio sancti Alexandri*, a little-known text written at Fulda in the 860s, refers to »a certain man named Gerhard who was blinded on the orders of the Emperor Lothar for minting fraudulently«: MGH, SS II, p. 679 (c. 9).

65 GRUAZ (as n. 45) p. 19.

66 CHENU (as n. 53) p. 114.

67 Michael METCALF, Julia MERRICK and Lynette HAMBLIN, *Studies in the Composition of Early Medieval Coins*, Newcastle-upon-Tyne 1968 (*Minerva Numismatic Handbooks* 3), p. 57; METCALF and NORTHOVER, *Offa and Charlemagne* (as n. 27) nos. 38–43.

second coin from the same hoard and a specimen from Fontaines were said to be significantly less pure, with levels of 44.2 % and 45.5 % respectively⁶⁸. Nevertheless, certain reservations may be expressed concerning Prou's figures. In the first place, the two coins from Mercurey-Bourgneuf were of an identical style, and can be ascribed to the same mint (the reasons for identifying this as Orléans will be set forth below). Is it likely that they would have been made of such different alloys? The same holds true of the two *Christiana religio* issues of Charles the Bald from Mercurey-Bourgneuf whose analyses were published in the same article, and whose silver contents likewise varied by a factor of two, despite their similar style and likely Orléans provenance. In the light of Metcalf's recent discovery that early issues of Charles the Bald are of markedly baser alloy than the coins of Louis the Pious⁶⁹, is it not plausible that Prou – or his technician – mixed up the results of the analyses? That is, that the silver contents of the two coins of Louis were similarly high (86.6 % and 81 %) and those of Charles similarly low (44.2 % and 41.5 %)? Moreover, it is rather surprising that the silver content of the Fontaines coin is reported to be identical, to three figures, to that of the *Gratia Dei rex* issue of Rennes which immediately precedes it: 45.5 %. It seems highly improbable that both results were the same, although it is of course possible. Such factors leave me sceptical of Prou's figures until they are corroborated by modern results.

We have highlighted two positive aspects of the study of Louis's Class III coinage, but there is of course also one major drawback, namely the absence of any mint-name on the coins. This makes it difficult, if not impossible, to determine the number of mints in operation, the relative scale of their output, and the patterns of circulation. Three important points can nonetheless be made. First, it seems reasonable to presume that mints which struck Louis's Class II coinage and were also active in the early 840s continued production in the intervening period. Second, we know that some new mints were opened, since on 1 June 833 Louis the Pious issued a charter to the abbey of Corvey in Westfalia decreeing that 'because that region was in need of a place of commerce, we have established a public mint in our name there, to produce a continual profit for those serving Christ'⁷⁰. Hävernick has also proposed that the Emperor opened a mint at Hamburg at this time, though the evidence in this case is purely circumstantial⁷¹. Certainly some of the barbarous Class III issues

68 Maurice PROU, Note sur le titre de quelques deniers des IX^e et XI^e siècles essayés à la Monnaie, in: *Gazette numismatique* 2 (1898) p. 228, 230. The remaining portions of the coins from Mercurey-Bourgneuf are in the Bibliothèque Nationale, inv. 1029a–1029b.

69 See METCALF and NORTHOVER, *Offa and Charlemagne* (as n. 27) nos. 53–70. The *Christiana religio* issues (nos. 67–70) can all be ascribed to Orléans.

70 Heinrich August ERHARD, *Regesta historiae Westfaliae* 1, *Codex diplomaticus*, Münster 1847, p. 8. The translation is my own.

71 Walter HÄVERNICK, Hamburg als karolingische Münzstätte, in: *Hamburger Beiträge zur Numismatik* 1 (1947) p. 9–13. None of the other three documentary references to mints active under Louis the Pious is trustworthy. A charter granting the income from the public mint to the church at Le Mans (PROU, as n. 24, p. lix) is forged: Walter GOFFART, *The Le Mans Forgeries*, Cambridge, Mass. 1966, p. 274–275. The early tenth-century *Translatio sancti Sebastiani* records the granting of a similar privilege to St Médard at Soissons in 827 (PROU, as n. 24, p. lvii–lviii), but the reliability of the source has been questioned: Georges TESSIER (ed.), *Recueil des actes de Charles II le Chauve roi de France*, 3 vols, Paris 1943–1955, vol. 2, p. 635. Finally, the statement in Ademar of Chabannes' *Chronicle* that Louis minted in his own name at Angoulême and Saintes in the 830s appears only as an interpolation in

referred to above may well have been produced by new northern die-cutters learning their trade. Third, Louis's *Christiana religio* coinage can be grouped on the basis of stylistic criteria, and some of these groups can be tentatively, or even confidently attributed to known mints. The task of classification is aided by the assumption that the coinage was probably produced at no more than fifty or sixty mints (forty-five are known to have produced Class II). Beyond this, the basis for the attribution of particular groups is their stylistic similarity to mint-signed temple types struck by Louis's sons. The number of mints which can be identified in this way is of course limited by the number striking such coinage: thirteen in the case of Charles the Bald (Auxerre, Bourges, Chartres, Clermont, Laon, Meaux, Melle, Orléans, Paris, Quentovic, Reims, Sens and St Martin in Tours), ten under Lothar (Bordeaux, Cambrai, Cologne, Dorestad, Huy, Maastricht, Metz, the Palace, Trier and Verdun), and another one under Pippin II of Aquitaine (Dax)⁷². Let us now consider the attribution of certain specific groups.

Group A: Quentovic

The first stylistic link to be recognised between the anonymous *Christiana religio* coinage and mint-signed temple issues was remarked upon as long as the 1850s, by Benjamin Fillon⁷³. Fillon noticed that two coins of Charles the Bald found in the old cemetery at St Cyr were of identical style, even though one was from Quentovic and the other a *Christiana religio* issue. Both had not one but three pellets in one quadrant of the obverse cross, as well as pellets beneath the temple on the reverse. Moreover, the lettering on both coins was similarly sprawling and spindly, with the letter S reversed. Fillon concluded that the *Christiana religio* coin was minted at Quentovic, and Poey d'Avant and Prou both followed him, attributing the anonymous coin to Quentovic in their catalogues⁷⁴. Although Fillon did not know of any similar coins of Louis the Pious, comparable Class III issues have since turned up in hoards, including Roermond (van Gelder 10p–10q), and can confidently be ascribed to Quentovic. However, it is of interest that relatively few such coins are known: there were only thirteen at Roermond and thirteen at Pilligerheck⁷⁵, and just one was found at Emmen and one at Wagenborgen (Groningen)⁷⁶. This somewhat surprising paucity of issues from Quentovic is paralleled in Class I and Class II⁷⁷. Only seven Class II issues from Quentovic were present at Apremont, while the Belvézet hoard

late manuscripts: Jules CHAVANON (ed.), Adémar de Chabannes: Chronique, Paris 1897, p. xx–xxi and 132.

72 Pippin II's *Aquitaniarum* coinage can be ascribed to Bordeaux on stylistic grounds: COUPLAND, *Coinages of Pippin I and II* (as n. 18) p. 204–205.

73 Benjamin FILLON and Octave DE ROCHEBRUNE, *Poitou et Vendée, Fontenay 1861, Saint Cyr-en-Talmondais*, p. 9 (each locality is paginated separately).

74 Faustin POEY D'AVANT, *Monnaies féodales de France*, 3 vols, Paris 1858–1862, no. 6566; PROU (as n. 24) no. 189.

75 The figures are from my own examination of the hoards.

76 Emmen: VAN GELDER, *Trésor d'Ide* (as n. 46) coin o; Wagenborgen: BOELES (as n. 51) no. 152.

77 And also under Charles the Bald: only one mint-signed issue has been found in a hoard, at Pilligerheck, which also contained three *Christiana religio* issues of Charles attributable to Quentovic. Two of the latter were also found at Roermond (VAN GELDER, as n. 41, no. 51) and one at Ide (VAN GELDER, as n. 46, no. 112).

contained none. Apart from this, three coins found at Dorestad complete the corpus of finds⁷⁸. This consistently low number of finds suggests that Quentovic was not a particularly important mint in the early ninth century, and thus that the emporium did not play a very significant role in Carolingian trade during Louis's reign.

Group B: Dorestad

By contrast, very large numbers of *Christiana religio* issues have been found which can be attributed on stylistic grounds to Dorestad. This was first pointed out by Enno van Gelder in his monograph on the Dorestad mint in 1961⁷⁹, and I have discussed the matter at length elsewhere⁸⁰. These coins do not have such pronounced distinguishing features as the Quentovic coins, but are nonetheless of an easily recognisable style. They are frequently crude in execution, and several have pellets or a bar beside or below the temple. Because the coins are so numerous (the Roermond hoard contained at least ninety, the Pilligerheck hoard some 195), it is possible to undertake a die-study which is likely to be representative. The ninety coins at Roermond were struck on eighty-two obverse dies and eighty-four reverse dies, which, using the Good estimator⁸¹, suggests that some 455 dies may have originally been in operation. If Metcalf's conservative figure of 10000 coins per die is accepted, then the Dorestad mint could have struck in the region of four and a half million coins in the 820s and 830s. Whether this figure is broadly accurate or not, it is clear that production at the mint was on a very large scale, and it seems to have been the most important in the north at this time.

Group C: Maastricht

Another northern mint whose production of Class III coinage has previously been identified is Maastricht, although the scale of production bears no comparison with Dorestad. Coins of Lothar I from Maastricht are characterised by a circle instead of a pellet in one quadrant of the obverse cross, as was recognised by Boeles in 1915 after the discovery of the Wagenborgen hoard⁸². At least one Class III issue of Louis the Pious is known which also displays this peculiar characteristic, and it can likewise be attributed to Maastricht⁸³. Towards the end of Louis's reign the Maastricht atelier also struck a small number of coins bearing the mint-name around a temple, and a very few coins of this type are also known from Dorestad⁸⁴. The obverse design was similar to that of Class II and Class III, and there seems little reason to doubt that

78 Two were present in the 1845/1846 hoard: DE COSTER (as n. 39) p. 36, and one was a stray find: VÖLCKERS (as n. 22) p. 146. VÖLCKERS III.113–114 are the coins from the 1845/1846 hoard.

79 VAN GELDER, *Duurstede* (as n. 46) p. 31–32.

80 COUPLAND, *Dorestad* (as n. 38) p. 16–22.

81 WARREN ESTY, *Estimation of the size of a coinage: a survey and comparison of method*, in: *Numismatic Chronicle* 146 (1986) p. 208–209.

82 BOELES (as n. 51) p. 85.

83 GARIEL, *Monnaies royales de France* (as n. 17) vol. 2, pl. XLIII.20. MG strangely omits the coin as 'not Carolingian'.

84 The Pilligerheck hoard contained one example of each type, and another coin of Dorestad was also present in the Ide hoard: VAN GELDER, *Trésor d'Ide* (as n. 46) no. 2.

this was an official issue, even if it was produced at only two mints on a very limited scale.

Group D: Trier

The *Christiana religio* issues which can be attributed to Trier are primarily distinguished by the absence of pellets in the quadrants of the obverse cross⁸⁵. There are, however, other stylistic characteristics which identify the group, and it must be emphasised that not all Class III issues without pellets around the cross should be ascribed to Trier: they must also display the group's characteristic features. These include the square, solid lettering, the occasional inclusion of pellets in the reverse legend, and the peculiar winged fork often found on the letters A and V, giving them almost the appearance of an X. The temples are generally solid and compact, and on a few coins crosses have been added to left and right of the temple. The proposed attribution of the group to the Trier mint is strengthened by the presence of an unusually large number, seventy-seven, in the Pilligerheck hoard (by comparison, only sixteen were found at Roermond, five at Emmen and none at Hermenches). This is entirely consistent with the fact, noted above, that local mints tend to be over-represented in hoards.

Group E: Orléans

The identification of Class III issues from Orléans was referred to by Morrison and Grunthal in the introduction to »Carolingian Coinage«⁸⁶, but the description of the group was imprecise and unaccompanied by any illustration, making it impossible to be sure which coins they included. The group was also distinguished by van Gelder, but without attribution (Ide S, Roermond 9c and 10f). The coins can be recognised by their large, solid, but sprawling lettering (particularly the exaggerated S and R), the low temple with an elongated roof cross, whose base is often marked by a ball, and on some issues the placing of the first I of RELIGIO in the angle of the L. This latter feature is a particular characteristic of the *Gratia Dei rex* issues of Orléans under Charles the Bald, and the form of the temple is identical to that on Charles's earlier mint-signed coinage from Orléans. Stylistically similar *Christiana religio* issues of Charles the Bald are also known, which can likewise be attributed to Orléans⁸⁷. Some of Louis's Class III coins of this group also have an inverted triangle beneath the temple steps, though this does not appear to have any particular significance.

85 The association of these coins with Trier was first proposed by VAN GELDER in 1965, but he has not repeated it since: Trésor d'Ide (as n. 46) p. 247–248. I will discuss the group at greater length in a forthcoming issue of the *Trierer Zeitschrift*.

86 On p. 15.

87 Ide F, Roermond 50d.

Group F: Milan

The connection between another group of Louis's *Christiana religio* issues and the mint at Milan appears to have first been made by Chenu in his publication of the Chaumoux-Marcilly hoard in 1932⁸⁸, but it has recently been repeated by Grierson⁸⁹. He drew attention to the forms of the letters, the splayed ends of the obverse cross and the inclusion of pellets in the legends as features which are all associated with the mint-signed coinage of Milan. To this evidence we can add the presence of large numbers of coins of this group in the southern hoard of Hermenches (*circa* 130 out of 320 Class III coins present) and their scarcity in northern hoards such as Pilligerheck (fifteen coins), Roermond (three), Emmen (none) and Ide (none). There is considerable variation within the one large group (for instance, some have HL ligatures, others do not; some have pellets in the obverse and/or reverse legends, others do not), but all have the same characteristic large, solid lettering, and all have an unusual form of the central obverse cross. On some coins this takes the form of a snowflake, with long crossbars at the ends of the arms, while on others the cross is squat and stubby and fills the central field. The Hermenches hoard contained both extremes, and transitional forms which bridge the gap between them. All of these coins can be attributed to Milan, above all on the basis of the ligatures and the inclusion of pellets in the legends. The Pavian coinage of both Louis and Lothar I is stylistically very different, and it would be wrong to ascribe any coins of this group to Pavia, or to any other Italian mint but Milan⁹⁰.

Among the 130 coins of the Milanese group at Hermenches I was able to find only two die pairs. This may be an under-estimate, but certainly the group appears to have been minted on a very scale, which is of course consistent with the evidence of the Class II coinage discussed above. A large number of these Milanese issues (178 out of a total of 216 Class III coins) were also concealed at Chaumoux-Marcilly, near Bourges, in the early 840s⁹¹. This may seem surprising, but it will be recalled that the Apremont hoard, which was deposited only 30 km away, likewise contained no fewer than 274 Italian issues, albeit out of a larger total. Both these figures suggest that there was a lively trade between northern Italy and central France in the early ninth century.

Thus far we have considered groups of Louis's Class III coinage where an attribution, however tentative, has been proposed in the past. We shall now look briefly at three others which have not been identified before.

Group G: Venice

It is not surprising to find that such an important trading centre as Venice produced Louis's *Christiana religio* coinage, especially in view of the large-scale local production of Class II issues. As has already been mentioned, the Hermenches hoard

88 CHENU (as n. 53) p. 118–119.

89 MEC 1.791.

90 This applies in particular to MEC 1.792, which is of an identical style to 1.791, but lacks pellets in the inscriptions.

91 CHENU (as n. 53) p. 110–113.

contained two coins of Venice which were independently minted by the port, bearing the legends *Deus conserva Romanorum imperium* and *Christe salva Venecias*. In appearance, however, the coins are similar to Louis's Class III coinage, with the obverse legend encircling a cross and a temple on the reverse. This stylistic similarity, the presence of the coins in the Hermenches hoard, deposited between 825 and 840, and the existence of mint-signed coins of Venice both in Louis's Class II and under Lothar I all suggest that the type was minted at the same time as Louis's Class III. And it is above all the style of these coins which permits the attribution of a group of Louis's *Christiana religio* issues to the mint at Venice, for Lothar's Venetian coinage did not bear a temple on the reverse, but the mint-name in field⁹².

The group is characterised by the broad, block-like lettering of the inscriptions, the large, unplayed obverse cross, and the unusually flattened appearance of the designs. The temples vary greatly in size and shape, thus offering little assistance; some are particularly elongated with a circle beneath (Roermond 10e). Some coins have HL ligatures, typical of Italian issues, and some have MP ligatures, which are otherwise only found on mint-signed coins from Venice. Once again, the attribution is strengthened by the distribution of finds. At least fifty-six are present at Hermenches, among which are three die duplicates and three reverse die-links. As might be expected, coins of the group are less common at Roermond, where ten were found, and Pilligerheck, where there were only three. It is interesting to note that a number were also present among the twenty Class III issues discovered at Lauzès (Lot) in southern Aquitaine⁹³. These figures are not sufficient to conclude that Milan had replaced Venice as Italy's leading mint by the 830s, but they do demonstrate that Italy continued to play a key role in the Carolingian economy throughout the latter part of Louis's reign.

Group H: Verdun

The mint-signed coinage struck at Verdun in Lothar's name is of two distinct styles. The majority have large, slender obverse crosses, large, neat lettering, and large, squarish temples with a latin cross at the centre (MG 551). Later issues in this style are characterised by the addition of a small cross between the steps of the temple, a feature which is continued under Lothar II (MG 1187). However, a few early issues of Lothar I⁹⁴ are distinguished by a smaller obverse cross, patté and with thick arms, and, on the reverse, a squat temple with pronounced capitals on the columns (Roermond 25). A number of Louis's *Christiana religio* issues are stylistically similar to this earlier Verdun coinage, and these turn up, as we would expect, in northern hoards such as Roermond (ten coins) and Ide (Ide H), but not at Hermenches⁹⁵.

92 Nevertheless, there is a stylistically similar group of *Christiana religio* issues minted by Lothar which can likewise be ascribed to Venice: Roermond 29b.

93 J.-L. BÉCHADE, Une trouvaille de monnaies carolingiennes, in: *Revue numismatique* 1906, p. 302–305, pl. XII, nos. 1, 2 and 4; DUPLESSY (as n. 21) no. 191. The precise number of Venetian issues cannot be determined, as only a few of the coins were illustrated.

94 The chronology can be deduced from the continuity of style between the coins already described and the succeeding issues of Lothar II.

95 A number were also present at Pilligerheck, but in my brief visit to the Rheinisches Landesmuseum I did not have time to make a complete inventory. Five are illustrated in the catalogues of the two sales

Group J: Dax

The group of Class III issues which can be attributed to Dax is similarly represented at Roermond (five coins) and Pilligerheck (eight), as well as at Häljarp (two), which gives the impression of being a collection of coins from the south of the empire. The Dax coins have a number of peculiar features, notably the frequent inclusion of one or more balls in the roof of the temple⁹⁶, the thin, slightly tapering obverse cross, and the unusual form of the letters D, which has a particularly thin vertical bar, and V, which consists of two convergent Is. The group is relatively small, but this is not unexpected, for output at Dax does not appear to have been large, and none of those hoards which are available for study has been discovered in the south-east of the empire.

It is therefore possible to ascribe a number of Louis the Pious's *Christiana religio* issues to known mints, and several other groups have also been identified which cannot yet be attributed⁹⁷. It is to be hoped that further research, and particularly further finds, will continue to advance this process of classification and attribution.

Louis the Pious and Lothar I

The fact that sizeable groups of Louis's *Christiana religio* coinage can be ascribed to the Italian mints of Milan and Venice is of particular significance, because it indicates that at this time coins were being minted in Italy bearing Louis's name, even though Lothar had been granted control over the region by the *Divisio imperii* of 817, and crowned Emperor of Italy on Easter Day, 823. Indeed, Lothar issued imperial charters and capitularies in his own name, including edicts which referred to the minting of coinage such as the *Capitulare Papiense* and the *Capitulare missorum*, both of 832⁹⁸. Yet the question remains as to whether Lothar also struck coinage in his own name before 840. Certainly the Venice mint offers a possible parallel case of an Italian mint striking two independent coinage types concurrently at this time.

Two groups of Lothar's coinage appear likely candidates if we are looking for issues which might have been struck before the death of Louis the Pious, both of them *Christiana religio* issues. One group is a portrait coinage, the other of the same design as Louis's Class III coinage, and both are characterised by the use of the title *augustus* instead of the more usual *imperator*. *Augustus* is not found on any of the mint-signed coinage known to have been struck by Lothar after 840, and it might perhaps have been employed in order to distinguish Lothar *augustus* from Louis *imperator*. Such a distinction is made in certain charters of the period, as for instance:

of coins from the Pilligerheck hoard: Kress sale 140, 7 August 1967, nos. 228, 257, 270; Kölner Münzkabinett sale 41, 7 April 1986, nos. 554, 559.

⁹⁶ See notably PROU (as n. 24) nos. 990–995.

⁹⁷ Although it has sometimes been suggested that Louis's *Christiana religio* issues with three pellets arranged in a triangle below the temple can be ascribed to Huy, where Lothar's coinage displayed the same feature, the coins are stylistically quite different, and no such link is justified. (See e. g. MG p. 15, and Hubert FRÈRE, *Le denier carolingien, spécialement en Belgique*, Louvain 1977 [Numismatica Lovaniensia 1], p. 69).

⁹⁸ MGH, Cap. II, p. 59–65.

*Hlotharius augustus invictissimi domni imperatoris Hludovici filius*⁹⁹. Even so, it must be acknowledged that the chancery did not always observe this distinction, and Lothar is styled *imperator* in some official documents before 840. The theory that those coins bearing the title *augustus* were minted before 840 also has another important piece of evidence in its favour, however. A hoard found at Thouars (Deux-Sèvres) contained forty-six regular Class III issues of Louis the Pious and one in the name of LOTAPIVSACN, that is, *Lotharius augustus*¹⁰⁰. If the hoard had been deposited after 840, we would expect to find at least one coin of Charles the Bald; it seems highly unlikely that the most recent issue present would have been a denier minted in Lotharingia or Italy. It therefore follows that the coin was probably minted before 840, at the same time as the *Christiana religio* issues of Louis the Pious.

Having thus established the likelihood that this coinage was struck before 840, we can also lay down a *terminus post quem* of 822. With regard to those coins without a portrait, this date is determined by the introduction of Class III by Louis the Pious, on which Lothar's coinage is evidently modelled. As for those coins which bear a portrait, however, these appear to represent a single issue, produced at one and the same time. Yet the use of the title *imperator* on some specimens demonstrates that they cannot have been minted before Lothar's coronation as Emperor of Italy in 823. Moreover, Lothar does not appear to have used the title outside Italy except during the revolt of 833–834, when charters distinguished between his imperial regnal years *in Francia primo, in Italia XIII*¹⁰¹.

Within the period 822–840 there are two points at which these coinages seem most likely to have been minted: Lothar's accession in Italy in 822–823 (he was sent to Italy and began issuing capitularies in 822, but was not crowned Emperor until 823), or the rebellion of 833–834. With this in mind, we shall turn to a study of the coins.

The portrait coinage can be divided into four stylistic groups. The largest consists of less than twenty coins, which underlines how small the groups are. Most issues in this first group bear the title LOTARIVSIMP AVG (or variants of this), while three, all from the same obverse and reverse dies, have the form LOTARIVSRE +AGVSTVS (with retrograde S). Stylistic criteria permit the attribution of this group to the Palace mint: particularly significant is the addition of capitals to the temple steps, as if they were columns. This is found only on Lothar's Palace coinage among mint-signed issues. Other features are also paralleled on issues from the Palace mint, including the retrograde S and the form of the temple¹⁰².

At the other end of the scale, the smallest group, represented by a unique coin in the Cabinet des Médailles in Paris¹⁰³, can be attributed to Pavia. This identification rests on the unusual TH ligature in the obverse legend, which is characteristic of Lothar's mint-signed Pavian coinage. This attribution to an Italian mint is also consistent with the use of the full imperial title on the coin, HLOTHARIVSIMP AV.

99 Charter of 18 December 822: MGH, Dip. Kar. III, p. 51.

100 Faustin POEY D'AVANT, in: *Revue numismatique* 1850, p. 367–368; DUPLESSY (as n. 21) no. 354.

101 Charter of 7 October 833: MGH, Dip. Kar. III, p. 80.

102 Certain similarities to Louis's Class I *Christiana religio* issues can also be noted, strengthening the case for ascribing that, too, to the Palace mint.

103 PROU (as n. 24) no. 1050.

The other two groups, both of them composed of a mere handful of coins, are more difficult to attribute. One group is characterised by a crude bust on the obverse, with a small head and disproportionately long, broad neck, and a temple on the reverse with a ball in the inner angle of the roof. Coins of this group have been found at Pilligerheck¹⁰⁴ and at Hon in Norway¹⁰⁵, while another two were present in the Papadopoli collection, one of them a unique obole¹⁰⁶. Two coins of the second group were present in a hoard unearthed in Frisia in 1853¹⁰⁷, and other examples are in the Berlin and Brussels collections. The coins are very different in appearance from those of the previous group: the head of the portrait fills the field, with the eye and the laurels particularly prominent. The temple is squarish, with clearly defined gables on the roof. Both groups employ the title HLOTHARIVSAGVS (or a form of it), and on both the legend commences above the head of the bust, rather than at the shoulder as usual. This suggests that they were not the products of mints which had previously produced Louis's Class I coinage, but there is at present little chance of any specific attribution.

As for the non-portrait coins, only three of these can be attributed, to Dorestad¹⁰⁸. Furthermore, although none of the rest can be associated with any particular mint, it is unlikely that they were produced at any of the Italian mints, whose stylistic peculiarities are easily recognisable. They are not uncommon, having turned up in several hoards, including Thouars (mentioned earlier), Pilligerheck (seven), Roermond (one), Kimsward (Friesland: one), Roswinkel (Drenthe: two), Wagenborgen (two), and Zelzate (one)¹⁰⁹.

Do these attributions help to determine whether the coinages were minted in the 820s, following the Aquitanian precedents of 781 and 817, or the 830s, as for instance Lafaurie has concluded¹¹⁰? The evidence of the non-portrait coins favours a date in the 830s, for it seems improbable that Dorestad would have produced coinage to commemorate Lothar's accession to the throne of Italy. By contrast, the coinage struck for Pippin I in 817 was minted only in Aquitaine, as were the deniers coined to mark Louis the Pious's accession in 781. We might therefore tentatively conclude that this non-portrait coinage was minted in Lothar's name during the rebellion of 833–834. However, the change of title on the portrait coins from the Palace mint, from *rex augustus* to *imperator augustus*, makes it seem more plausible that this type was minted in 822–823. For if minting began in autumn 822, when Lothar travelled to Italy, the title employed would have been *rex augustus*, but from Easter 823 he was entitled to call himself *imperator augustus*, albeit only in Italy. The fact that only one pair of dies is known to have struck the *rex augustus* coinage is consistent with this reconstruction of events. The other portrait issues were presumably also coined

104 Kölner Münzkabinett sale 41, 7 April 1986, no. 574.

105 Hans HOLST, *On the Coins of the Hon Find*, Oslo 1931 (Minor Publications of the Norwegian Numismatic Society 4), p. 3–4.

106 CASTELLANI (as n. 11) nos. 148, 153.

107 BOELES (as n. 51) nos. 15–16. The coins are illustrated as MG 562 and MG 568; both are now in Brussels.

108 COUPLAND, Dorestad (as n. 38) p. 18, 24.

109 Kimsward, Roswinkel and Wagenborgen: BOELES (as n. 51) nos. 46, 96 and 178–179 respectively; Zelzate: NASTER (as n. 60) no. 272.

110 As is evident from his inventory of the Pilligerheck hoard (as n. 48) p. 324.

at the same time. If this hypothesis is correct, the introduction of Louis's Class III coinage can more confidently be dated to 822, rather than 823, since the reverse design of Lothar's coinage, struck at the Palace mint in the autumn of 822, was already that of Class III, not the mint-name in field.

Conclusion

The image of Louis the Pious which has emerged from this study is quite different from that of the weak, incompetent and ineffectual ruler depicted by many past historians. On the contrary, the numismatic evidence reveals that the empire was united, centralised and tightly controlled. Thus foreign coin was effectively excluded, new coinage types were minted throughout the empire to a single design, and demonetised issues were swiftly removed from circulation. In addition, the economy appears to have been booming, with millions of coins being produced, and rapid circulation throughout the empire. The silver content of the coinage was generally high, though there may have been rare exceptions, and the denier weight was maintained. Indeed, Louis even seems to have raised it in a new economic reform in 818, only to reverse his decision four years later. As for the relationship between Louis and his sons, the evidence of the coinage is that the Emperor alone controlled the economy throughout his reign, except during the revolt of 833–834, when Lothar may have minted a small number of coins in his own name. Apart from this, however, the only coins struck in the names of Pippin and Lothar were commemorative issues produced on a limited scale. The usual coinage minted in Aquitaine and Italy until 840 bore Louis's name, as in the rest of the empire.

It should also be emphasised that this picture of uniformity and centralised control is not paralleled in the periods before and after Louis's reign. For example, it was only under Charlemagne that Italian coinage was brought into line with the Frankish silver economy, but already in 849 Abbot Lupus of Ferrières reported that West Frankish currency was not acceptable in Italy, but only *Italica moneta argento*¹¹¹. When Louis's reign is compared with the late Merovingian period or the early feudal era, the contrast becomes even more pronounced, with an absence of royal control over minting, a plethora of coinage types, and circulation primarily within small localised currency pools. This should give historians pause when they are tempted to make assumptions about the continuity or homogeneity of the early mediaeval period, for in the economic field at least, the reign of Louis the Pious appears to have marked an apogee of unification, centralisation and imperial control.

111 Léon LEVILLAIN (ed.), *Loup de Ferrières: Correspondance*, 2 vols, Paris 1927–1935, vol. 2, p. 18 (letter 75).



Class I portrait coinage

Gold *solidi*

Class II with mint-name in field



Class III Group A: Quentovic



Class III Group B: Dorestad



Class III Group C: Trier



Class III Group E: Orléans



Class III Group F: Milan



Class III Group G: Venice



Class III Group H: Verdun



Class III Group J: Dax



Lothar I portrait coinage

KEY TO PLATES

I should like to express my gratitude to all those who kindly supplied me with photographs or permitted me to photograph coins in their collections. These included the Cabinet des Médailles in Brussels, the Koninklijk Penningkabinet in Leiden [KPK], the Cabinet des Médailles in Paris [BN], the Bibliothèque municipale in Grenoble, the Fitzwilliam Museum in Cambridge [MEC, as n. 5], and the Rheinisches Landesmuseum in Trier.

Plate I

Class I portrait coinage; the deniers all bear the obverse legend HLVDVVICVSIMPAVG.

1. Arles (ARELATVM), town gate. Brussels.
2. Dorestad (DORESTATVS), ship. KPK.
3. Melle (METALLVM), coin dies and hammers. KPK.
4. Unspecified mint, Aachen? (XPISTIANARELIGIO), temple. BN 986.
5. Obol, Melle (HLVDVVICVSIMP/METALLVM), coin dies and hammers. KPK.
6. Obol, Toulouse (HLVDVVICS/TOLVSA), town gate. BN 804.
7. Obol, unidentified mint (HLVDVVICVSIMP/VISTA-ΓEDCII). Grenoble.

Gold *solidi* (DNHLVDVVICVSIMPAVG/MVNVSDIVINVM).

1. MEC 1.750 (mounted).
2. MEC 1.751.

Class II, with mint-name in field; all the deniers bear the obverse legend HLVDVVICVSIMP.

1. Dorestad (DOR-ESTA-TVS), pellet in fourth quadrant of cross. KPK.
2. Lyon (LVGD-VNVM). MEC 1.772.
3. Melle (META-LLVM). MEC 1.775.
4. Pavia (PAPIA). MEC 1.788.
5. Obol, Melle (LVDO-VVIC/METALLVM). MEC 1.777.
6. Obol, Toulouse (HIVDOVV.CVSIP/TOIO-SACIVI-TAS), pelleted cross. MEC 1.784.

Plate II

Class III (HLVDVVICVSIMP/XPISTIANARELIGIO).

Group A: Quentovic. Note the three pellets in one quadrant of the obverse cross and the pellets either side of and beneath the temple. All four coins are from the Pilligerheck hoard and now in Trier.

Group B: Dorestad. No. 4 has a bar beneath the temple. All four coins in KPK.

Group C: Trier. No pellets in the obverse cross; no. 2 has a cross on each side of the temple and no. 4 a circle below the temple steps. All four coins are from Pilligerheck and now in Trier.

Plate III

Group E: Orléans.

1. BN 1028.
2. BN 1029.
3. BN 1027.
4. Note triangle beneath temple steps. BN 1025.

Group F: Milan.

1. BN 1000.
2. BN 1001.
3. BN 1032m.
4. Note HL ligature. BN 1032q.

Group G: Venice.

1. Mint-signed Venetian issue, reading DSCVVSERVAROMANOMP on the obverse (*Deus conserva Romanorum imperium*) and XPESA~~V~~AVENECIAS on the reverse (*Christe salva Venecias*). BN 920g.
2. BN 1032l.
3. BN Côte 568.
4. Note pellets either side of temple and circle beneath. BN 998.

Plate IV

Group H: Verdun. All four coins are from Pilligerheck and now in Trier.

Group J: Dax.

1. BN 991.
2. Note balls in angles of roof. BN 994.
3. Note balls in angles of roof. Pilligerheck hoard, now in Trier.
4. Pilligerheck hoard, now in Trier.

Portrait coinage of Lothar I.

1. Palace mint, Aachen? Obverse legend: LOHARIVSRE+AGVSTVS; note capitals on temple steps. Pilligerheck hoard, now in Trier.
2. Pavia. HLOTHARIVSIMPAV. BN 1050.
3. Mint uncertain. HLOTHARIVSAGS; note ball in temple roof. Kölner Münzkabinett sale 41, 7 April 1986, no. 574.
4. Mint uncertain. HLVTHARIVSAGVS; mounted. BN 1048.