Abstract

Until now, Philip Grierson’s tentative dating of Charlemagne’s monetary reform to 793/4 has been generally accepted. His dating was meanwhile based not only on numismatic evidence but also on his attempt to set this event in the context of Charlemagne’s activities from 792 to 794. This traditional date of the reform does not, however, take into account evidence provided by Codex Sangallensis 731, where the scribe Wandalgarius drew the image of a post-reform coin around mid-October 793.

Based on this evidence as well as the historical contextualization of Charlemagne’s stay in Regensburg in 791–93, this paper attributes the introduction of the novi denarii to the period between the autumn of 792 and the early autumn of 793, when his court was located in Regensburg.

De denariis autem certissime sciatis nostrum edictum, quod in omni loco, in omni civitate et in omni empturio similiter vadant isti novi denarii et accipiantur ab omnibus. Si autem nominis nostri nomisma habent et mero sunt argento, pleniter pensantes […]

As for the deniers, you shall most certainly know our edict that these new deniers should circulate in every place, in every city, and in every market in the same way and should be accepted by everyone, provided that they have the monogram of our name and are made of pure silver and of full weight […] ¹

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¹ Capitularia regum Francorum, ed. A. Boretius and V. Krause, 2 vols, MGH, Legum Sectio II (Hanover, 1883), I, p. 74. My translation.
This well-known chapter on novi denarii recorded in the decisions of the Frankfurt Council (June 794) is the main textual evidence providing the terminus ante quem for Charlemagne’s monetary reform that introduced his heavier, monogram coinage. Back in 1965, Philip Grierson used this evidence in his study of Charlemagne’s coinage that among other things offered a persuasive numismatic argument for the dating of this reform to the period between the summer of 792 and the summer of 794. Based on the historical context of Charlemagne’s activities in those two years, Grierson suggested that the reform more likely took place in the winter of 793/4, and it is this later date that has since been accepted by the vast majority of numismatists and Carolingian scholars, including myself. The date has entered, so to speak, the academic canon of Carolingian history despite the fact that it was based on rather circumstantial historical evidence. There exists, meanwhile, independent manuscript evidence (St Gall, Stiftsbibliothek, Cod. 731) that indicates that the novi denarii of Charlemagne were already in circulation as early as September 793. This new evidence allows a more precise dating of their introduction to the time of his stay in Regensburg in 792/3. The new dating makes Charlemagne’s reform more-or-less contemporaneous with a similar reform of the Mercian king Offa.

1. **THE NOVI DENARII: Numismatic Evidence**

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Let me, first, briefly summarize numismatic evidence presented by Grierson almost half a century ago. One post-reform coin of Charlemagne issued in Pavia was found along with thirty-seven pre-reform coins in the Ilanz hoard on the Lukmanier Pass north-west of Bellinzona, which means the hoard was placed in the earth around the time the new deniers were introduced and remained quite rare. The Ilanz hoard also contained among other things a number of Lombard and Carolingian gold tremisses issued in northern Italy, two pre-reform coins of Offa (Group II), and a Muslim dirhem issued at Tunis in A.H. 173 (789/90). The latter is the latest securely dated coin in this hoard, which implies that it was deposited some months or a few years after that dirhem was struck to allow it to reach the purse of a traveller on his northbound voyage from Italy.\(^4\) This person must have acquired the newly struck post-reform denier just on his way to the north of the Alps. It was this evidence of the Ilanz hoard that established a \textit{terminus post quem} for Charlemagne’s reform of c. 790.\(^5\)

In addition, there is indirect numismatic evidence that Grierson employed in his interpretation, namely, the introduction of new heavier pennies by King Offa in 792/3. Following Christopher Blunt’s study of Offa’s coinage, Grierson dated that event to the summer of 792. This date was based on one unique coin issued by Archbishop Ælfric of Canterbury that was described by Blunt as ‘transitional’ to the new type of Offa’s heavier coins. Also, all the coins of his successor Archbishop Æthelheard belonged to the new type and/or weight. Hence, Blunt and Grierson thought that the new coinage of


\(^5\) Based on this evidence, some numismatists including the early Grierson dated the monetary reform to c.790: Ph. Grierson, ‘Cronologia delle riforme monetarie di Carolo Magno’, \textit{Rivista italiana di numismatico} 56 (1954), pp. 65–79; Stanislaw Suchodolski, \textit{Moneta i obrót pieniężny w Europie Zachodniej} (Wroclaw, 1982), pp. 192–201, who argues that this reform was undertaken in 790.
Offa was introduced shortly before Iænberht’s death on 12 August 792. But the weight and size of the coin in question (no. 132 in Blunt’s catalogue and no. 151 in Derek Chick’s catalogue) are still within the parameters of Offa’s pre-reform light coinage (Group II). Æthelheard’s coinage thus becomes crucial for the dating of Offa’s reform. It is known that he was elected in 792 and consecrated on 21 July 793, which means that Offa’s reform took place in 792/3 in the time frame between Iænberht’s death and Æthelheard’s installation at the seat of Canterbury. These new coins of Offa visually ‘correspond in their basic pattern’, as Grierson put it, to Charlemagne’s pre-reform coins, which suggests that the former were introduced before the Carolingian novi denarii arrived in England. Hence, the latter must have been introduced between 792 and 794. ‘792 is scarcely possible, since the Avar war was still not over, and 793 or the early months of 794 are the dates with which one is left’. Grierson thought that the winter of 793/4 when Charlemagne celebrated Christmas in Würzburg and Easter in Frankfurt should be preferred to the preceding months of 793 when Charlemagne was allegedly too busy building a canal in the Frankish eastern border zone and campaigning against the Avars and Saxons.

2. WANDALGARIUS: Manuscript Evidence

Numismatists rarely glance through the pages of medieval manuscripts; neither are manuscript scholars particularly interested in medieval monetary history. As a result of such rigid academic division, one relevant codex has not until now been brought into

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the discussion of Charlemagne’s monetary reform and its date in particular. The
manuscript in question is *Codex Sangallensis 731* (St. Gallen, Stiftsbibliothek).\(^\text{10}\)

The entire manuscript was written as one piece by the notary Wandalgarius, who
identified himself on pages 234 and 342, and it consists of an impressive law collection:
the *Lex Romana Visigothorum*, also known as the *Breviary of Alaric*, the *Salic Law*, and
the *Law of the Alamans*. In addition, it includes two short texts: the *Liber generationis*
(Matthew I.1–16) and a list of Frankish kings from Dagobert to Pippin the Short. The
manuscript’s place of origin is less certain. Bernhard Bischoff thought that it was
produced somewhere in Burgundy, most likely in the *Westschweiz*.\(^\text{11}\) Some German
scholars have identified this scribe as Wandalgarius mentioned in a *liber memoriale* in
Reichenau as a canon of St Paul in Lyon.\(^\text{12}\) But the name is not uncommon enough to
put too much weight on such an identification. The scribe Wandalgarius must have been
quite familiar with concurrent notarial practices since he finished this manuscript not
only by signing it with his own name and by providing the exact date of its completion
on page 342, but also by drawing a *subscripsi* sign at the bottom of the page—a practice
typical of notaries.\(^\text{13}\) Also, his inhabited initials prominently feature men as well as
separate arms holding writing tools. Based on his extensive experience with the charters


\(^{13}\) For more details on the use of such signs in the Carolingian chancery, see P. Worm, *Karolingische Rekognitionszeichen: Die Kanzlerzeile und ihre graphische Ausgestaltung auf den Herrscherurkunden des achten und neunten Jahrhunderts*, 2 vols, Elementa diplomatica 10 (Marburg an der Lahn, 2004).
of St Gall, Bernhard Zeller has classified this subscription as the work of a professional lay notary; and Rosamond McKitterick has earlier suggested that the notary Wandalgarius may have prepared this codex ‘in a count’s writing office for use by an official serving in a region whose mixed population lived under Roman, Alemannic and Salic law’.

The same scribe drew numerous decorated initials with the same inks, black and red, that were used in transcribing the text. In 1875, Gustav Scherrer described two of these initials, accompanying the text of the Breviary of Alaric on pages 111 and 113, as representing the seal of Charlemagne. The initial O on page 113 (fig. 1) does indeed represent a seal of Charlemagne identified by his cruciform monogram. The seal-shaped initial O fits the addressees of the chapter Ad legem Iuliam repetundarum (Breviary of Alaric, Book 9, c. 21), namely, the judges that maliciously seize others’ property. Charlemagne’s seal with his monogram makes this chapter look like a small royal charter addressed to the officials in question.

The inhabited initial Q on page 111 is, meanwhile, quite different (fig. 2). It introduces the chapter De falsa moneta (Book 9, c. 17), which guarantees a reward to whoever reveals coin forgers and threatens the latter with punishment by fire. The reward is shown by the inhabited initial: a man, identified by a letter Q (quicumque/whoever) stuck behind his belt, holds high above his head a round object

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14 Personal comment. I am grateful to David Ganz for passing over this comment as well as for discussing this manuscript with me.
18 ‘Omnes iudicis sciant quod, quidquid male rapuerent, se [instead of si] ipsi non redederent, ad [instead of a] suis heredis esse redendo’. As a result of such unintelligent copying, a number of legal passages in this manuscript are ‘hair-raisingly misleading’, McKitterick, The Carolingians and the Written Word, p. 43.
20 ‘[Praemium accipiat] Quicumque adulterum monedario prodidit, et his qui proditus est, se [instead of si] de monida adulteracione fuerit adprobatus, ignibus concremetur’.
strikingly similar to Charlemagne’s post-reform silver coin (fig. 3). The coin is presented with its obverse bearing Charlemagne’s monogram at the middle and his circular name legend (+Carolus rex + Francor[um]) in the field. The man’s body flanks the next chapter (Book 9, c. 18\(^2\)) promising capital punishment to forgers of fake coins. We know from other surviving manuscripts that, in its full form, this chapter also warns against clipping, that is, threatens those people who chip off precious metal from coin edges. Beading, a raised dot border along the rim of a coin, was specifically used to counter this recurrent problem, and this form of protection is clearly visible along the edge of the depicted coin. Finally, in imitation of a real coin, many letters in the title legend written in this initial are written with majuscule characters. Thus, the inhabited initial accompanying the two chapters of the *Breviary of Alaric* targeting people tempering with official coinage represents the obverse of Charlemagne’s post-reform coinage. The only feature that makes this image different from actual coins is that the final word *Francorum* in the name legend is indicated not with the two initial letters FR as on original coins but is spelled out almost entirely. After all, Wandalgarius was more familiar with notarial practices than with the craft of a moneyer.

Codex Sangallensis 731 is quite unique in itself by presenting a faithful image of an early medieval coin. But what makes this codex even more remarkable from a numismatic point of view is the date of its completion that Wandalgarius proudly stated on the final page after he had completed transcribing the three books of law (p. 342).

EXPLETO LIBRO TERTIO\(^{22}\) DIE UENERIS KL. NOUEMBRIS ANNO XXVI RIGNI DOMNO NOSTRO CAROLO REGI, deus dominem tu ho qui legis hunc

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\(^2\).lex Romana Visigothorum, ed. Hänel, pp. 190–2.

\(^{22}\) Murdek, *Biblioteca capitularium*, p. 674, argues that tertio should be translated with die as referring to the third working day of Wandalgarius that started on Wednesday, when according to his note on page 237 he started transcribing the *Salic Law*. Yet in the texts of laws written between these two notes, there is an explicit line after the *Salic Law* (page 297), but no such line at the end of the *Law of the Alamans*, the third law book in the manuscript.
librum istum uel hanc pagina ora in pro uandalgario scriptore quia nimium peccabilis sum. UANDALGARIUS (a subscripsi sign).

The third book has been completed on Friday, November 1st, in the 26th year of the reign of Our Lord, King Charles. You ho23, who is reading here, that book or this page, pray to Lord God for the scribe Vandalgarius, because I am a great sinner. Vandalgarius.

Considering that Charlemagne was elevated to kingship on 9 October 768, the twenty-sixth year of Charlemagne’s reign can therefore be identified as the period from 9 October 793 to 8 October 794, which means that Wandalgarius completed his manuscript on 1 November 793. Also, in the Julian calendar, that day was indeed Friday. The other closest years when November 1st falls on Friday are 787 and 799.

The manuscript’s size is 21.5 × 13 cm, and each page usually has twenty-one lines of text. This means that there are c. 4851 lines written between page 111 with the image of Charlemagne’s coin and page 342 with the concluding note. It has been suggested by Michael Gullick that a few centuries later a normal productivity of a scribe was about 300 lines of text a day.24 If Wandalgarius wrote as fast as the Romanesque scribes, it would have taken him sixteen days to complete the text after page 111. Apparently, due to his notarial skills, his productivity was higher since he states on page 237 that he started copying the text of the Salic Law on Wednesday just before 1 November 793.

INCIPIUNT CAPITULA LEGIS salice diae mercoris proximo ante kl. nouembris in anno XXVI regni domno nostro gloriosissimo carolo rege.

23 A widely accepted opinion is that ho stands here as an abbreviation for homo (man), Murdek, Biblioteca capitularium, p. 673. At the same time, an interjection ho came to Middle English from Old French, so it is possible that the interjection had an older history in Romance dialects.
This means that he wrote about 35 pages or c. 720 lines a day. With such a speed he might have completed the manuscript within a week after he drew the image of the coin. Such a haste would also explain many misspellings and errors in his transcription. Yet to complete the manuscript must have taken longer since Waldalgarius not only wrote its text but also drew numerous decorated initials, tens of inhabited initials and one full-page illumination in the text of the *Breviary of Alaric* preceding the *Salic Law*. These decorations are embedded in the text to such an extent that indicates that each of them was drawn not only with the same inks but also at the same time as the lines of text on corresponding pages. Considering that it is very unlikely that he kept working on the manuscript without any break—at least Sundays must have been out of question—one can loosely estimate that the image of Charlemagne’s coin was drawn in mid-October 793 at the latest. Also, some time must have passed before the *novi denarii* reached the scribe’s hands and eventually compelled him to use them as a blueprint for the initial that embellished legal chapters on coinage. After all, as the passage of the Frankfurt Council on *novi denarii* demonstrates, in the first months or year after the monetary reform the post-reform coins hardly dominated monetary exchange in the Frankish lands, and as late as 796 Alcuin still needed to differentiate these *novi denarii* from the pre-reform coins. All in all, one may safely conclude that the new coins began to circulate some time before October 793. Thus, the manuscript and numismatic evidence combined indicate that post-reform coinage was introduced in the period from the early fall of 792 to the early fall of 793.

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3. REGENSBURG: A Historical Context

As mentioned earlier in this paper, Philip Grierson argued that the historical context of 792/3 makes those months unlikely time for Charlemagne’s monetary reform; the latter was allegedly too busy waging wars and digging ditches. This argument hardly holds water: King Charlemagne was always a busy man and the period between August 792 and October 793 was hardly any different from the rest of his reign. Anyways, all the practical work must have been done by his advisors and assistants at the court. More productive, therefore, is to consider whether or not a monetary reform fits in with other important events that took place in 792/3. To start with, a famine was ravaging both England and Francia in these two years 792–93, which might have encouraged both Offa and Charlemagne to look for additional sources of revenue. As pointed by Rory Naismith, an increase in the weight of coins would have augmented ‘the intrinsic value of any payment made to the king and other members of the elite at a fixed numerical quantity’.

A monetary reform also implied reminting older coins at royal mints, which might have provided another source of revenue for the king. Thus, a relevant chapter in a capitulary of Pippin the Short (754/5) informs us that a moneyer (mint) was entitled to one out of twenty-two solidi (one pound) brought in for minting. Stanislaw Suchodolski thought that after Charlemagne’s reform the *novi denarii* were exchanged to the pre-reform coins at a rate higher than their intrinsic value, with the difference (Suchodolski guesstimates it as thirteen per cent) going to the royal fisc. This might have caused an initial avoidance of the post-reform deniers; the chapter on the

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compulsory acceptance of novi denarii in the Frankfurt capitulary might have been a royal response to such an attitude among coin users.28

Another urgent fiscal incentive for a monetary reform in 792/3 might have been the planning of a large construction project that took place in the fall of 793, namely, a canal connecting tributaries of the Rhine and the Danube. As emphasized by Jinty Nelson, this was a grandiose undertaking relying on early medieval expertise in hydraulic engineering deriving from Late Antiquity, and a recent dendrochronological analysis of its remains confirms the dates provided by our annals.29 According to annalistic evidence, the canal was planned to be 2000 paces (c. 10000 feet) long and 300 feet wide. Our literary sources indicate that this plan failed. A new study of relevant geophysical data more-or-less confirms its length (at least 2300 meters) but suggests that the Carolingian builders only managed to create a much more narrow and shallow canal with a width of c. 5–6 meters and a depth of at least 60 to 80 cm.30 This depth was sufficient to drag ships through the unfinished canal from an affluent of the Danube to a tributary of the Rhine on the royal voyage from Regensburg to Frankfurt in the early winter of 793/4, as described by a local narrator in the Annales Guelferbytani.31

There are two possible ways of looking at this laborious project. On the one hand, it can be compared to similar royal undertakings like Offa’s Dyke or the Danish Danevirke; the ability to undertake such projects seems to have become ‘one of the true

marks of authority’ during the ‘long’ eighth century.32 On the other hand, such a great investment of energy must have had some practical reasons. For about two years, from the fall of 791 to the summer of 793, Charlemagne more-or-less permanently resided in Regensburg, formerly the place of the Bavarian duke Tassilo’s court.33 After Tassilo’s deposition in 788, Charlemagne made a good use of the palace that once belonged to the Agilolfings.34 His wife Fastrada and the royal court resided there even longer while Charlemagne was campaigning against the Avars. Thus, in a letter to Fastrada dated 8 September 791, he asked her to perform three-day litanies and fasts at Regensburg. Such a long period of residence at one place was unheard of before the 790s and needs some explanation.35

There was of course an advantage in staying there and keeping a close eye on Bavaria and on the Avars, the main military opponent of the Franks at that moment. Yet as his prolonged stay in Worms in 789–91 and in Aachen in the following years suggests, in the 790s Charlemagne seems to have been looking for more permanent headquarters for his court and growing family. In this perspective, Regensburg was conveniently located between Italy, Aquitaine, and Francia. Could there have been an intention to make Regensburg a more permanent residence for the royal couple? Narrative sources make this suggestion possible: for example, Charlemagne did not

participate in any military expedition in 792 (eodem anno nullum iter exercitale factum est) but continued to reside in Regensburg and presided a church council convened there in summer.\(^{36}\) Here, he staged an important royal ceremonials: the investment of his teenage son Louis with a sword. Also, in the absence of Charlemagne, Louis spent many months in Regensburg under the close eye of Queen Fastrada.\(^{37}\) Furthermore, it was from Regensburg, according to the *Annales Guelferbytani*, that he dispatched his sons, King Pippin of Italy and King Louis of Aquitaine, with armed forces to Benevento.\(^{38}\)

The long royal absence from Francia was, meanwhile, precarious for the efficacy of royal power revolving around familial household and based on personal day-to-day interactions with members of ruling elite. In summer 792 (according to Frankish annals) or in winter months, probably of 792/3 (according to Einhard), Charlemagne experienced one of the strongest political crises in his reign, namely, the conspiracy of his son Pippin the Hunchback, which, unlike the one in 785/6, was supported by some prominent Frankish nobles (*primoribus Francorum*).\(^{39}\) It seems that the anger of conspirators was specifically addressed against Fastrada, which suggests that some Frankish nobles—the identified ones were located in Northern France—might have felt marginalized by the new networks of royal favour and patronage being created around the queen and the royal palace in Regensburg, and they might have seen a potential royal court of Pippin the Hunchback in Francia as a more desirable alternative.\(^{40}\) The


\(^{38}\) *Annales Quaferbytani*, s.a. 791 and 792, in Garipzanov, ‘*Annales Guelferbytani*’, p. 119.


\(^{40}\) See Nelson, ‘The Siting of the Council at Frankfurt’, pp. 160–1; *eadem*, ‘Charlemagne – pater optimus?’, pp. 277–8; *eadem*, *Opposition to Charlemagne*, Annual Lecture (London: German Historical
conspiracy was ruthlessly suppressed, but it must have exposed a need for faster, waterborne connection with the Frankish heartlands along the Rhine. The proposal of certain experts (*qui id sibi compertum esse dicebant*) to build a canal connecting the upper Danube, where Regensburg is located, with the Rhine came just in time and such an artificial waterway might have been seen as answer to this logistic problem worth of vast investment of resources.

Such a project that might have been carried out by 6000 men in the course of three months needed thorough logistical preparation. The construction probably heavily relied on manual corvée labour. Still, it must have required some cash payments for special equipment and to some people with special skills such as the above-mentioned ‘experts’. After all, modern research has shown ‘an extraordinary advanced construction level’ for this artificial waterway. A monetary reform might have been viewed as a means to provide additional financial resources needed for this construction project. If this interpretation is correct, the spring and summer of 793 would have been the most appropriate time for such a reform.

After the three autumn months, the construction project had failed to achieve its stated goal. In this situation, Charlemagne had to abandon his canal project and to relocate his court to Francia where the mechanisms of social power clearly needed royal presence. In 794, he arrived in Frankfurt where Fastrada and her retinue came ahead of him and celebrated Christmas in 793. Jinty Nelson has suggested that Frankfurt might

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Institute, 2009); and *eadem*, ‘Hussies, Matrons, and Others in Carolingian Chronicles’, in J. Dresvina and N. Sparks (eds), *Authority and Gender in Medieval and Renaissance Chronicles* (Newcastle upon Tyne, 2012), pp. 5–31, at p. 15.

41 *Annales q. d. Einhardi*, s.a. 793, p. 93.

42 For more details and relevant references, see Nelson, ‘Evidence in Question’.


44 For a strong argument for an important role of monetary exchange in the early Middle Ages, see R. Naismith, ‘The Social Significance of Monetization in the Early Middle Age’, *Past & Present* 223 (2014), pp. 3–39.

45 Zielhofer *et al.*, ‘Charlemagne’s Summit Canal’, p. 18.
have been in the area where her father, Count Radulf of an East Frankish origin, came from, and that for this reason the royal couple might have considered this city in those months as another option for a permanent *sedes regia*. In Frankfurt, Charlemagne spent many months attending to various urgent social and religious matters, and on 20 July his residence there was for the first time identified in a royal charter as a palace. The death of his wife Fastrada on 10 August 794 must have aborted the plan of turning Frankfurt into a more permanent location for the royal court. Similar to Regensburg at the end of 793, Frankfurt ceased to be viewed as a potential *sedes regia*, the role that later on was successfully taken by Aachen.

Finally, in addition to socioeconomic and fiscal reasons, there might have been a strong political incentive to undertake a monetary reform in 792/3. The support that conspiracy of Pippin the Hunchback received from some nobles in the Frankish heartlands must also have been viewed at Charlemagne’s court as questioning his legitimacy as the leader of the Franks, and the introduction of a new coin type (fig. 3) that propagated him, first and foremost, as king of the Franks and presented his royal monogram to every coin user in the Carolingian realm could have been a propagandistic response to this perceived legitimacy crisis. One should remember that Charlemagne’s full title at that time included such elements as ‘King of the Lombards and Patrician of the Romans’. Yet in the political situation of 792/3, it seems that the title ‘King of the Franks’ mattered much more. As the image of the ‘royal side’ of such a coin in *Codex Sangallensis 731* shows, the royal message was received by coin users such as the notary Wandalgarius who saw them as a token of royal authority worthy of being

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47 For more details and references, see Garipzanov, *Symbolic Language of Authority*, pp. 274–6.
depicted, along with Charlemagne’s seal, on the pages of a law book for use in his regnum.

To conclude, the new iconographic evidence from Codex Sangallensis 731 makes untenable the date of Charlemagne’s monetary reform, 793/4, that Grierson advanced in 1967 and that the majority of scholars have accepted ever since. Furthermore, contrary to Grierson’s suggestion, the introduction of the novi denarii in the period between the fall of 792 and the early fall of 793 makes a perfect sense in the specific socioeconomic, fiscal, and political circumstances that the Carolingian king found himself in while residing in Regensburg. This correction of the date of Charlemagne’s monetary reform to 792/3 makes it much closer in time to the monetary reform of the Anglo-Saxon king Offa and thus gives more weight to a general assumption that the two events were somehow linked, with one inspiring the other. It is quite symbolic that there is an eighteenth-century report mentioning a find of a penny of Offa in the grounds of St. Emmeram’s abbey in Regensburg and dating this find—highly unusual in the Carolingian realm—to the time of Charlemagne.48 But as Rory Naismith warns us, one must be very careful in defining the precise nature of the connection between the two reforms.49 The new coins across the Channel looked and weighed differently, and each king, after all, might have had his own particular reasons for a monetary reform.

Fig. 1. St. Gallen, Stiftsbibliothek, Cod. Sang. 731, p. 113, fragment – Lex Romana Visigothorum, Lex Salica, Lex Alamannorum (http://www.e-codices.unifr.ch/en/csg/0731/111)
Fig. 2. St. Gallen, Stiftsbibliothek, Cod. Sang. 731, p. 111, fragment – Lex Romana Visigothorum, Lex Salica, Lex Alamannorum (http://www.e-codices.unifr.ch/en/csg/0731/113)
Fig. 3. The obverse of a post-reform coin of Charlemagne (Mainz, 792/3–813)