Conclusions

Old-Fashioned Spelling? Problems and Different Histories

A key result which arises from my investigation is that treating old-fashioned spelling as a single category is not a particularly useful approach. More nuance is required, since the history, development and survival or loss of individual spelling rules and individual lexemes are highly varied and depend on a number of factors.

A good example of the complexities that arise with the concept of old-fashioned spelling is the use of the digraph <xs> for /ks/ (Chapter 14). The methods I have used to decide whether a spelling is old-fashioned (pp. 10–15) give different results: it seems always to have been less commonly used than <x> from its creation in the third or early second century BC until the fourth century AD, so we cannot talk about an absolute change in frequency; and the writers on language deprecate it without suggesting, as they do for other spellings, that they consider it old-fashioned. The major change seems to have been in register and/or social or educational background, with <xs> first appearing in Latin epigraphy in the *SC de Bacchanalibus* of 186 BC, but largely falling out of use in official texts by the first century BC. However, it appears to be part of the training of the scribes of the Caecilius Jucundus archive, is the majority usage in the tablets from London and continues to be used into the second century in texts (perhaps especially letters?) at Vindolanda, and into the fourth century in the curse tablets.

Similarly problematic is the case of the variation between <u> and <i> between /l/ and a labial plosive, and before a labial consonant in non-initial syllables (Chapter 6), where the move to the <i> spelling, and hence the old-fashionedness, varies

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according to individual lexemes and morphological categories. For example, the <i> spelling is utterly dominant in the root *lub-* from the first century AD onwards, while *clupeus* competes with *clipeus* into the second century AD. In the first to fourth centuries AD, superlatives in *-issimus* massively favoured <i>, while *proximus* and *optimus* used <u> respectively 10% and 9% of the time, and *postumus* had <u> 96% of the time. Of the ordinals, *septimus* has <u> 5% of the time, but *decimus* 19%.

When a move from an older to a more innovative spelling occurs due to phonological change, sometimes the new spelling quickly becomes standard and apparently almost entirely replaces the older spelling. An example of this is the change from <uo> to <ue> before a coronal obstruent or syllable-final /r/ (Chapter 7): the newer spelling is not found until the final quarter of the second century BC, but is already dominant in the first century BC, and is almost never found after that except in highly archaising verse inscriptions, in the word *diuortia*, and in the divine name *Vortumnus*. Some spellings are found infrequently or not at all in the corpora, for example preservation of <oe> (/ɔi/ > /uː/) in the fourth century BC; see p. 40), <ai> (/ai/ > /ae̯/ in the second century BC; Chapter 2), <o> for /u/ (various sound changes in the third and second centuries BC; Chapter 5), <c> for /g/ (invention of <g> in the third century BC; Chapter 10), and the use of double writing of vowels to represent length, which came into use in the mid-second century BC but fell out of use fairly quickly (Chapter 9).

In other cases, the older spelling is maintained much longer, both in elite and sub-elite contexts. An example of this is the use of <uo> for /wu/ (Chapter 8). In part this reflects the later occurrence of the sound change /wɔ/ > /wu/ which led to the innovatory spelling <uu>, since this probably did not take place until the mid-first century BC; in part it also reflects the fact that the <uo> spelling allowed the maintenance of a useful distinction between two different phonological sequences, whereby /wu/, spelt <uo>, could be kept separate from /uu/, spelt <uu>. This spelling rule is found over a large geographical range (Pompeii, Vindolanda, Egypt), and was maintained at least until the early second century in my corpora; at Vindolanda it was shared by the equestrian prefect

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Cerialis, scribes, and substandard spellers. The <uo> spelling for /wu/ is attested epigraphically as late as the fourth century AD, including fairly robustly into the second century AD in 'official' inscriptions.

Unlike sound change, spelling does not change in a way that is either regular or exceptionless. Certain lexemes may favour or resist innovatory spellings. I have already mentioned the lexical variation in the <u> / <i> interchange. Another example is the use of double <ll> in *millia* 'thousands', which was maintained as the standard spelling well into the first century AD, both in the epigraphic record generally and in the sub-elite corpora examined here, despite the fact that the phonological change to single /l/ had taken place by the mid-first century BC, and other words, such as *ūīlicus*, are usually spelt with a single <l>. This can also compare with the similar reduction of /ss/ to /s/ after a long vowel or diphthong, which took place about the same time (Chapter 15). The tablets of the Sulpicii, which massively favour the <ll> spelling in *millia*, *millibus*, also heavily prefer <s> to <ss> in most words, although *caussa* may be preferred to *causa*. Nonetheless, use of <ss> also shows signs of survival for a long time, with several examples in curse tablets from Britain in the third and fourth centuries AD.

Another spelling whose survival was closely connected to particular lexemes was the use of <qu> to represent /k/ before a back vowel (Chapter 13). Original /k^w/ had lost its labiality in the third century BC, but <qu> was preserved in the corpora into the first century or early second century AD in *quom* for *cum* 'when' and *quur* for *cūr* 'why', and it is identified in these words by the writers on language into the fourth century AD (who, however, recommend the artificial *quum* for *cum*).

Not all changes in spelling rest on phonological changes. In addition to <xs>, mentioned above, the use of <ii> for intervocalic /jj/ (Chapter 11) was apparently an innovation of the first century BC, to more accurately represent the geminate consonant. While the writers on language are sometimes enthusiastic about this spelling, particularly since it is useful for scansion, their discussions imply that it is not part of the standard, and it is very

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uncommon in the corpora. The use of <k> before /a(:)/ and <q> before /u(:)/ was a holdover from the adoption of the Etruscan alphabet; the former in particular was perhaps the longest-lasting old-fashioned spelling, although it underwent interesting mutations in usage over the course of the millennium or so in use to the end of the Roman empire.

For all these reasons, I will return from here on in to calling these spellings as a class 'optional' rather than 'old-fashioned'. It will be recalled from the Introduction (pp. 15–18), that optional spellings are not (necessarily) the standard spelling for a given sound or sequences of sound, but are not substandard, and are non-intuitive, so that they will not be produced by a writer who has simply learned a basic mapping of individual letters to sounds. Optional spellings are a wider class than old-fashioned spellings (including, for example, the types of spelling mentioned on p. 22), and whether or not one of these spellings is in fact old-fashioned at a given time, register, social context etc. requires in-depth investigation. However, for the question of what use of optional spellings tells us about sub-elite education, it is the optionality rather than the old-fashionedness which is of particular importance, because it gives us an insight into a skill which is by necessity the result of a particular type of education.

Not all of the spellings discussed here are – as it turns out – even optional, still less old-fashioned: the use of <ll> in *millia* and *millibus*, for instance, is simply the standard spelling, at least until the end of the first century AD. Use of <xs> for /ks/ is an interesting case: it may be old-fashioned in the sense that it used to be used in legal inscriptions (into the first century AD, with one outlier from the early second century); on the basis of what the (presumably) second century AD writer Caesellius Vindex says, it is non-standard. It is however, non-intuitive (since either <x> or <cs>, which is occasionally found, are what one would expect given a relatively low level of orthographic education). As we shall see below, this may be a case where an optional spelling remains a part of a somewhat independent sub-elite spelling tradition after it has dropped out of use in the elite-defined standard.

Optional Spellings and Sub-elite Education

A primary result of the investigations carried out in this book is to bring to the surface how use (but not necessarily correct use) of the optional spellings which I have discussed is not restricted to those with a high level of education, at least as far as this can be deduced from other aspects of orthography, or occasionally external evidence of the writer's social position. This will have become clear throughout the book, but here I collect many of the texts found in the corpora which exhibit both optional and substandard spelling.

- P. Alfenus Varus (tablets of Caecilius Jucundus, CIL 4.3340.45): <q> for /k/ before <u> in *Iuqundo* for *Iucundō*. Substandard spelling: *Augussti* for *Augustī*, *acepisse* for *accēpisse*, *Pollionnis* for *Polliōnis*, *acctum* for *actum*; *noue* for *nouem*; *Nucherina* for *Nūcerīna*.
- Privatus, slave of the colony of Pompeii (tablets of Caecilius Jucundus, CIL 4.3340.142, 143, 144, 145, 146, 150, 151): <uo> for /wu/ and for /uu/ in *seruos* for *seruus*, *duomuiris* for *duomuirīs*. Substandard spelling: *Hupsaei*, *Hupsaeo* for *Hypsaeī*, *Hypsaeō*, *pasquam* for *pascuam*, *pasqua* for *pascuā*.
- Salvius the slave (tablets of Caecilius Jucundus, CIL 4.3340.6): <uo> for /wu/ in *seruo[s]* for *seruus*. Substandard spelling: *noue* for *nouem*, *auctione* for *auctiōnem*, *stipulatu* for *stipulātum*, *minutati* for *minūtātim*.
- C. Novius Eunus (tablets of the Sulpicii, TPSulp. 51, 52, 67, 68): <ss> for /s/ from old /ss/ in *promissi* for *promīsī*, including hypercorrect examples *Cessaris*, *Hessucus*, *Hessco*, *Assinio*, *possitus*; <e> in first syllable of *spepodi* for *spopondī*; *puplicis* for *pūblicīs*; perhaps <e> for /iː/ < /eː/ < /ɛi/ in *dede* for *dedī*. Substandard spelling includes *Cessaris* for *Caesaris*, *Iobe* for *Ioue*, *sesterta* for *setertia*, *quator* for *quattuor* etc. (for full details, see Adams 1990 or Zair in press: 331–2).
- L. Faenius Eumenes (tablets of the Sulpicii, TPSulp. 27): <ss> for etymological /ss/ > /s/ after a long vowel or diphthong in *caussa*, * c̦aussa̦* for *causa*; <e> for <o> in first syllable of *spepondi* for *spopondī*. Substandard spelling: *Putiollis* for *Puteolīs*.
- L. Marius Jucundus, freedman of Dida (tablets of the Sulpicii, TPSulp. 53): <e> for <o> in first syllable of *spependì* for *spopondī*. Substandard spelling: *Putiol(is)* for *Puteolīs*.
- Octavius (Vindolanda, Tab. Vindol. 343): <xs> for <x> in *uexsar̦e*; <k> before <a> in *karrum*, *k̦arro* for *carrum*, -*ō*; unetymological <ss> for /s/ in *nissi* for *nisi*. Substandard spelling: *illec* for *illaec*, *arre* for *arrae*, *que* for *quae*, *male* for *malae*, *m̦ae* for *mē*, *necessari* for *necessāriī*.

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- The writer of Tab. Vindol. 180, 181, and 344: <ss> for etymological /ss/ > /s/ after a long vowel or diphthong in *ussus* for *ūsūs*, *comississem* for *comīsissem*; <xs> for <x> in *u̯exṣi̯llari* for *uexillārī*. Substandard spelling: *bubulcaris* for *bubulcāriīs*, *turṭas* for *tortās*, *emtis* for *emptīs*, *balniatore* for *balneātōre*, and *Ingenus* for *Ingenuus*.
- The writer of Tab. Vindol. 597: <k> before /a(:)/ in *kanum* for *canum*. Substandard spelling: *laṃṇis* for *laminis* and *pestlus* and *peṣṭḷ[us]* for *pessulus*.
- The writer of a letter from Maior to Maritimus (Tab. Vindol. 645): <ss> for etymological /ss/ > /s/ after a long vowel or diphthong in *fussá* for *fūsā*; perhaps <ii> for /jj/ in *Coceiió*. Substandard spelling: *Vindolande* for *Vindolandae* and *resscribere* for *rescrībere*.
- Aemilius Aemilianus (O. BuNjem 76–79): <xs> for <x> in *sexsagi[nta* for *sexaginta* (on his non–old-fashioned use of <k>, see p. 153). Substandard spelling: *tṛiḍiçi, tridici, trid[ici* (76, 77, 78, 79) for *trītīcī*,[1] *septe* (76) for *septem* 'seven', *Febrarias* (76, 77) for *Februāriās*, *noue* (77) for *nouem*, *caṃeḷarius* for *camellārius* (77).
- The writer of P. Mich. VIII 467/CEL 141: <uo> for /wu/ (beside <uu> for /uu/) in *saluom* for *saluum*, *no]uom* for *nouum*, *fugitiuom* for *fugitīuum*, *tuum* (twice); <k> before /a(:)/ in *Kalaḅ[el]*, *kasus* for *cāsus*. Substandard spelling: *co[lym]bade [un]a et uṇ[a] ṇigra* for *colymbadem ūnam et ūnam nigram*, *ana]ḅoḷadum* for *anaboladium*, *postae* for *positae* etc.[2]
- The writer of P. Mich. VIII 468/CEL 142 and CEL 143; <q> before /u(:)/ in *sequrum* for *sēcūrum*. Substandard spelling: *speraba* for *sperābam*, *unu* for *ūnum*, *abes* for *habēs*, *pulbiṇo* for *puluīnō*, *aceperis* for *accēperis* etc.
- The writer of P. Mich. VIII 469/CEL 144: <uo> for /wu/ in *bolt* for *uult* 'wants'; <q> before /u(:)/ in *qumqupibit* for *cumcupībit*, *sequndu* for *secundum*; *reṣçṛeibae* for *rescrībe*. Substandard spelling: *bolt* for *uult*, *iṃbeniṛe* for *inuenīre*, *epistula* for *epistulam*, *reṣçṛeibae* for *rescrībe* etc.
- The writer of P. Mich. VIII 470/CEL 145 and P. Mich. VIII 471/CEL 146: <q> before /u(:)/ in *sequrus* for *sēcūrus*, *aequm* for *aequum*, *tequm* for *tēcum*, *qurauit* for *cūrāuit*, *pauqum* for *paucum*. Substandard spelling: *benio* for *ueniō*, *Alexandriẹ* for *Alexandriae*, *açu* for *acum*, *inç* for *hinc* etc.
- The writer of a letter from Karanis (CEL 225): hypercorrect <qu> for /k/ before a back vowel in *laqu̯onecoru* for *lacōnicōrum* 'steam baths'. Substandard spelling: *laqu̯onecoru* for *lacōnicōrum*, *domni* for *dominī*.

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[1] For some reason this lexeme seems to have developed a voiced internal stop in speech (see Adams 1994: 108).

[2] For full examples of substandard spellings in this and the other letters from the Claudius Tiberianus archive, see Halla-aho (2003: 247–9).

- The writer of a curse tablet from Arretium (Kropp 1.1.1/1): <uo> for /wu/ in *uoltis* for *uultis*; perhaps <uo> for /we/ before a coronal in *uostrum* for *uestrum*. Substandard spelling: *interemates* for *interimātis* and *interficiates* for *interficiātis*, *nimfas* for *nymphās*.
- The writer of a curse tablet from Saguntum (Kropp 2.1.3/3): <q> before /u(ː)/ in *pequnia* and *pequniam* for *pecūniam*. Substandard spelling: *Cr[y]se* for *Chrysē*, *pequnia* for *pecūniam*, *uius* for *huius*, *o[c]elus* for *ocellus*, *onori* for *honōrī*, *senus* for *sinus*.
- The writer of a curse tablet from Bath (Kropp 3.2/24): <xs> for <x> in *paxsa* for *pexam*; hypercorrect <ss> in *nissi* (twice) for *nisi*. Substandard spelling: *Minerue* for *Mineruae*, *paxsa* for *pexam*, *[pal]leum* and *p]aluleum* for *pallium*.
- The writer of a curse tablet from Uley (Kropp 3.22/3): <xs> for <x> in *exsigat* (twice) for *exigat*; hypercorrect <ss> in *nissi* for *nisi*. Substandard spelling: *lintiamine* for *linteāmine*.
- The writer of a curse tablet from Caerleon (Kropp 3.6/1): hypercorrect <ei> for /iː/ in *sanguinei* for *sanguinī*. Substandard spelling: *domna* for *domina* and hypercorrect *palleum* for *pallium*.
- The writer of a curse tablet from Carthage (Kropp 11.1.1/26): <o> for /uː/ in *iodicauerunt* for *iūdicāuĕrunt*. Substandard spelling: *a]nime*, *anime* for *animae*, *Metrete* for *Metrētae*, *demoniorum* for *daemoniōrum*, *uite* for *uītae*, *ec* for *haec*, *uius* for *huius*, *is* for *hīs*, *os* for *hōs*, *interitu* for *interitum*, *coggens* for *cōgēns*.
- The writer of a funerary inscription from the Isola Sacra (IS 312): <xs> for <x> in *Felixs* for *Fēlix*. Substandard spelling: *comparaberunt* for *comparāuĕrunt*.
- The writer of a note from London recording a loan taken out by Atticus (WT 55): <ss> for etymological /ss/ > /s/ after a long vowel or diphthong in *u]ssuras* for *ūsūrās*, *promissit* for *promīsit*; <xs> for <x> in *dixsit* for *dīxit*. Substandard spelling: *abere* for *habēre*.
- The writer of a legal document from London (WT 67): <xs> for <x> in *Seẋsti* for *Sextī*. Substandard spelling: *Masueti* for *Mansuētī*.
- The writer of a letter from London (WT 29): <ss> for etymological /ss/ > /s/ after a long vowel or diphthong in *[o]ccassionem* for *occāsiōnem* and hypercorrect *messibus* for *mēnsibus*. Substandard spelling: *salute* for *salūtem* (if not due to lack of space at the end of a line), *conpedia* for *compendia*, *messibus* for *mēnsibus*.

This is not to say that successful education in standard orthography is opposed to the use of optional spelling (except perhaps in the case of <xs>; see below pp. 268–9). An example of this is the prefect Cerialis at Vindolanda, who uses <ss> for etymological /ss/ > /s/ after a long vowel or diphthong, as well as <uo> for /wu/. And either Justinus, a prefect, or his scribe, use <u> rather than <i> in

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lubentissime (260), and either Ascanius, a *comes Augusti*, or his scribe use <e> for /iː/ in *amęcos* (Tab. Vindol. 605), although based outside Vindolanda. Further down the social scale, at least some of the scribes at Vindolanda combine largely standard spelling with <ss>, <xs> for /x/, <uo> for /wu/, occasional <k> before <a>, and even <qu> for /k/ before a back vowel (even if it is not clear that these optional spellings are as widespread among the scribes of Vindolanda as Adams might have thought; see pp. 273–5).

On the basis of the cases above, and the other evidence gathered in this book, it is reasonable to conclude that optional spellings were maintained in at least some educational traditions accessible by the sub-elite, both among those for whom writing was a profession and among others. As we have seen, this type of spelling cannot be used as a proxy for quality of education or of social class: it is equally found in the writing of prefects, scribes, and non-scribes whose spelling is otherwise non-standard at Vindolanda, and scribes, slaves, and members of the praetorian guard at Pompeii. Clearly, use of optional spelling is not restricted to the better educated, although those who make mistakes in their standard spelling may make mistakes in this area too.

There is even some evidence for the existence of particular traditions within the more general survival of optional spellings. As already noted, some spellings were more successful at surviving than others: notably <xs> for /ks/, <k> before <a>, and <uo> for /wu/, while others died off sooner. As stressed earlier, this suggests that optional spellings were not treated as a unified whole, but rather that individual spellings underwent their own history. However, there are cases whereby certain spellings seem to co-occur fairly often, implying the existence of a tradition in which they were taught together. The most notable instance of this is at Vindolanda, where <uo> for /wu/, <xs> for /ks/, and <ss> after long vowels and diphthongs are found several times in the same texts:

> <uo> and <ss>: Tab. Vindol. 225; 256
> <ss> and <xs>: Tab. Vindol. 309; writer of 180, 181, and 344
> <ss> and <xs> and <ka>: Tab. Vindol. 343

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These correlations occur in texts by writers from across the social scale: Cerialis (225), probable or possible civilians with substand-ard spelling (343, writer of 180, 181, 344) and, presumably, scribes (256, 309), although 309 is a letter from the civilian Metto, so the scribe is not necessarily from Vindolanda. The possibility that <ss> and <xs> travelled together, as it were, is also supported by the London tablets; although there is only one text in which both appear (WT 55), both spellings are – most unusually – in the majority in these tablets compared to <s> and <x> respectively. And <ss> and <xs> also co-exist in two curse tablets from Britain (Kropp 3.2/24, 3.22/3).

Use of <ss> is also interesting in terms of the development of orthographic traditions in several further ways. Firstly, it may have ended up being characteristic of British Latin spelling: as we have seen, it is found frequently in the Vindolanda and London tablets (much more so than in the tablets from Pompeii and Herculaneum, for instance), and is found in no other corpora other than the curse tablets in Britain from the second to the fourth century AD.[3] This distribution is remarkable – if it is not merely chance, the only explanation I can suggest was that the army had a reasonably centralised education system that acted as the basis for a somewhat independent British orthographic tradition.[4] Depending on how many people were involved in the initial creation and propagation of such a system, it is possible that the British orthographic tradition could reflect the preferences of even a single teacher.

The second interesting feature of <ss> is the extent to which it appears in texts which otherwise give evidence of unsuccessful learning of standard spelling, such as in the texts written by C. Novius Eunus in Pompeii in the first century AD, some writers at Vindolanda (Octavius, Tab. Vindol 344; the writer of 180, 181 and 344; the writer of 892) at the end of that century, in curse tablets in the third and fourth centuries AD (Kropp 3.2/24, 3.2/79, 3.18/1, 3.22/3, 3.22/5, 3.22/29, 3.22/32) and a London tablet (WT

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[3] Smith (1983: 918) gives some examples of <ss> from British inscriptions, but gives no idea of their frequency.

[4] Cf. Mullen and Bowman (2021: 61): 'we might speculate that the military may be involved in the origins and reasons for the changes in style and practice in writing which can be observed over the centuries'.

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29). It seems as though <ss> was perhaps the optional spelling which had been best preserved in not only sub-elite but also substandard education.

The third is how often <ss> is used 'incorrectly', that is after a short vowel or in words which never had a geminate /ss/. Substandard spellers often simply write <ss> for any intervocalic /s/, of whatever origin: Eunus spells *Caesar* as *Cessar* (TPSulp. 51, 52, 67, 68), *Hesychus* as *Hessucus* (51, 52, 68), *positus* as *possitus* (51, 52) and *Asinius* as *Assinius* (67), Octavius (Tab. Vindol. 343), and sundry curse writers (Kropp 3.2/24, 3.2/79, 3.18/1, 3.22/2, 3.22/3, 3.22/5, 3.22/29, 3.22/32) have *nissi* (or *nessi*) for *nisi*, and one curse tablet contains *missericordia* (Kropp 3.22/34). It is possible that these learners simply failed to understand when to use <ss> for /s/ (unsurprisingly, since it was synchronically somewhat arbitrary), but it is also possible that in the educational tradition which they had experienced the rule had at some point been changed (again, reducing the arbitrariness with which it was applied), and was then passed down by teachers within that tradition.

Notwithstanding these tendencies, and the possible British tradition of using <ss>, it is clear that there was very little uniformity in the sub-elite educational experience, as far as optional spelling goes. Thus, for example, use of <xs> and <uo> are nearly non-existent in the tablets of the Sulpicii, but are common in the tablets of Caecilius Jucundus, despite the fact that these texts belong to the same genre, and are from much the same place at much the same time. The army texts from Vindolanda, Vindonissa, Bu Njem, and Dura Europos do not show a consistent military educational tradition of optional spelling, with the latter having no instances of <ss>, <xs> or <uo>. Although the letters of Claudius Tiberinus, presumed to be written by military scribes, do feature a number of optional spellings, the letters differ wildly between themselves as to use of <q> before <u>, <k> before <a>, <ei> for /iː/ etc. (as well as the extent to which their spelling approaches the standard).

However, given the relative frequency with which optional spellings have been found in the corpora considered here, is it possible that in the imperial period optional spellings actually became more commonly used by sub-elite writers than by the

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elite? Posed in this way the question is probably not susceptible to an answer, partly because, as we have seen, optional spelling is not really a single category: instead we should think of each spelling as having its own history, development and profile; and partly because it is hard to think of a principled way of dealing with the problems that would arise given the data we have available.

Nonetheless, there are hints that certain spellings could, as it were, move down the food chain (and in fact this was implied in one of my methods for identifying old-fashioned spelling on p. 14). Mancini (2019) has identified a movement away from the use of <xs> in 'official' inscriptions in the first and early second century AD, but it continues as an alternative for much longer in other contexts (Chapter 14). Likewise, Nikitina (2015: 10–48) and Adams (in press) demonstrate a tendency for 'official' but non-legal inscriptions in the first century AD to use <i> rather than <u> spellings in front of a labial in non-initial syllables (in words in which this spelling varies), while the older spellings are very occasionally preserved in sub-elite contexts. Perhaps the most striking case is that of the use of <q> before /u(:)/, which is extremely uncommon in the first four centuries AD other than in the word *pecūnia* 'money', but is used in other lexemes in five of the Claudius Tiberianus letters in Egypt in the early second century AD (as well as once by P. Alfenus Varus in the tablets of Caecilius Jucundus from Pompeii).

However, we must be careful in applying a purely sociolinguistic approach to this kind of change: issues of genre and register may also be relevant. Let us return to <xs>, and Mancini's (2019: 28) view of it as 'informale e cancelleresco'.[5] Mancini is operating with a very narrow definition of formal writing, i.e. that found in official and legal inscriptions as opposed to the type of 'everyday' documents that we have been considering, but this is still a surprising combination, since one might not expect bureaucratic writing to share characteristics with informal rather than formal texts. Is the difference between use of <xs> and <x> really one of register as implied by Mancini's use of the term 'informale'? Or is

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[5] It is not clear to me what exactly is encompassed by the term 'cancelleresco': I suppose that the modern English equivalent would be 'bureaucratic', but Mancini does not expand on what counts for him as bureaucratic in the ancient world.

it more a question of elite vs sub-elite writers? It is not always easy to disentangle these ideas: for example, consider the copy of an official letter of *probatio* sent from the *praefectus Aegypti* to the *praefectus* of the *cohors III Ituraeorum* (CEL 140). Assuming that the <xs> spelling was in the original (the copy itself was made by a scribe belonging to the cohort), is this an example of formal or bureaucratic writing? In the tablets of Caecilius Jucundus, <xs> seems to have been characteristic of a particular contractual formula in scribal hands: is this informal because belonging to a non-official genre, or formal because of the legal nature of the text? Or do the scribes count as having bureaucratic spelling? And what are we to make of the fact that the generically very similar tablets of the Sulpicii, and those from Herculaneum, almost entirely eschew <xs>? At Vindolanda it is possible (but by no means certain) that <xs> is more characteristic of civilian than military writers; this would be borne out by the near absence of <xs> in the Bu Njem ostraca and the Claudius Tiberianus letters, possibly written by military scribes. If this is correct, is the relevant distinction a sociolinguistic one of civilian vs military? Or of bureaucratic (if the scribes can be considered part of a bureaucracy) vs non-bureaucratic (in which case this causes problems for Mancini's definition)?

Whatever the solution, it is clearly not impossible for a change in orthography to take place at the level of genre or register rather than of class/social background. This is well recognised within the category of 'official' inscriptions, where we find the continuation of certain spellings longer in legal texts than in other kinds (on spelling in legal texts, see Decorte 2015: 154–77). It is possible, therefore, that a situation could have emerged whereby some old-fashioned spellings were found more often at both ends of the formal–informal spectrum, say in legal texts and personal letters, than in texts in between.

The evidence of <k> also suggests ways that what we would consider a single spelling might have a highly nuanced usage in sociolinguistic and/or register terms (Chapter 12). In the word *cārus*, and particularly its superlative *cārissimus*, <k> seems to be more or less standard: in the letters from Vindolanda and elsewhere it is used as the majority spelling for these words, and

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is especially characteristic of the brief messages at the end of letters written by non-scribes. These include Rustius Barbarus, whose spelling is otherwise highly substandard, but also several writers of equestrian rank. It is also common in the funereal context of the Isola Sacra, in inscriptions with perfectly standard spelling. In other lexemes, <k> can have an archaising, high-register force, going by its use in *karina* in a hexametric funeral inscription from the Isola Sacra (IS 223), which also includes a very late <u> spelling in *lubens* (Chapter 6). But <k> is also found amongst writers whose substandard spelling suggests sub-elite education: at Vindolanda in the letters of Octavius (Tab. Vindol. 343), and in an account (presumably) by a scribe (Tab. Vindol. 597); and in the Isola Sacra inscriptions IS 27, 34 and 319.

Even if the preservation and promulgation of optional spellings was not greater among sub-elite writers, we have seen plenty of evidence that they were learnt by sub-elite writers across a wide geographical and chronological range. This might fit well into the 'competition' model of ancient education espoused by Morgan (1998: 74–89). According to Morgan, education was bound up in a competition to be recognised as belonging to a particular cultural group, and the members of the dominant group in different areas and local contexts could define the criteria for entrance to this group at their own level. In Morgan's discussion, the competition is one for 'Greekness', and based around the Greek literary texts that formed the 'periphery' of the educational curriculum. Thus, she argues, pupils and teachers would have the freedom – but also the concomitant anxiety – of choosing what texts to read with the aim of impressing the cultural group which the pupil aspired to, with success leading to increased status and more pupils for the teacher. Those with lower social status might be more inclined to play safe and read the authors who are most prominently found in schooltext papyri, and perhaps seen as more canonical, such as Euripides, Sophocles and Aeschylus, while those who read more 'exotic' authors come from those at a higher level. It is possible that, particularly among the sub-elite, a similar type of competitive approach may have characterised even the core training around reading and writing. Perhaps the use of optional spellings provided a similar marker that the learner had reached a higher level of

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education that was appropriate for relatively secure and remunerative roles such as that of a scribe.

A final question raised by the corpora is whether there was a change in the use of optional spellings over time. Looking across the corpora, many optional spellings seem to be preserved relatively well at the sub-elite level into the second century AD, with a falling-off thereafter. To some extent this may be an artefact of the available corpora: most of the texts I have used have come from before the third century AD, with only the Dura Europos texts, the Bu Njem ostraca, some of the Paedagogium graffiti, some of the letters, some of the curses, and a handful of the Isola Sacra inscriptions, coming from a later period. Looking at the whole epigraphic evidence suggests that spellings like <xs> for <x>, <ei> for /i:/, <k> before <a>, and <uo> for /wu/ did last (although not necessarily in great numbers).[6] The contexts in which these spellings did survive into and after the third century AD are worthy of further study.

The Education of Scribes and Stonemasons

The corpora provide evidence that groups of scribes used orthographic conventions which marked them out from other writers at the same time and place – in addition to the fact that their spelling was on the whole consistently close to the standard (sometimes significantly more so than non-scribal writers in the same corpora). This is particularly clear in the case of the tablets of the Sulpicii and those of Caecilius Jucundus.

Use of *apices* in the tablets of the Sulpicii is almost exclusively restricted to scribes (only one non-scribal writer uses them in the whole corpus). They also seem to have developed their own habit with regard to the use of *i-longa* : they share with the non-scribal writers the expected use of *i-longa* to represent long /i:/ and, to a lesser extent, /j/, but also use it frequently to represent short /i/, which is both unexpected and different from the usage of the other writers (but not from the stonemasons in the Isola Sacra; see

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[6] And even use of <o> for /u/ in a number of curse tablets – but for doubts on the reliability of these spellings, see pp. 67–71.

below). They are, however, extremely restrained in their use of other optional spellings, for example using <x> almost uniformly rather than <xs>, preferring <s> to etymological <ss> after a long vowel or diphthong, avoiding use of <k> and <q> for /k/. The consistent use of <ll> in *millia* and *millibus* is still standard in the first half of the first century AD, while their preference of <uu> for /wu/ is, if anything, rather innovatory. Individualism – and even substandardism – in spelling is not entirely stamped out: there are single instances of <xs> and <cs> for /ks/, <uo> for /wu/, and the idiosyncratic spelling of *cui* as *cuoì, [c]u̯[o]i*. But the scribes of the Sulpicii as a body seem to be well-educated to the contemporary standard. This consistency need not be the result of special training, but is certainly not incompatible with it. Use of the geminate in the impersonal use of *parret* (TPSulp. 31) seems to be a characteristic of legal or contractual spelling – as opposed to the spelling *paret* in other contexts. Consequently, it is quite possible that this formed part of the training received by the scribe specifically for this purpose.

In the tablets of Caecilius Jucundus, it is the use of <xs> that marks out the spelling of the scribes. They use this digraph significantly more often than other writers, and even more so in the verb *dīcō* which forms part of a formula *habēre* (or *accēpisse*) *sē dīxit* (or *dīxĕrunt*). This greater use by the scribes, and its particular localisation in the formulaic language of finance, may suggest that use of <xs> would be seen as somewhat formal, or at least bureaucratic, at this time and place, which would support Adams' view of it as old-fashioned rather than Mancini's argument that it was a marker of informal texts (although the tablets are still presumably to be categorised as less formal than the legal texts from which <xs> is being lost at this time).

All this suggests that the scribes had undergone at least part of their education as a group, specifically for their work as scribes. We cannot say whether, for example, they were slaves or freedmen earmarked to be scribes and hence educated appropriately early in life, or whether they received additional training later in life, although the partly substandard, partly optional spelling of the scribe who has *cuoì* and *[c]u̯[o]i* (TPSulp. 48) suggests that he may have had a somewhat different education from the others. On

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similar lines, there may be signs of a different educational tradition being received by the scribe of the earliest Caecilius Jucundus tablet (CIL 4.3340.1), since he is one of two to use <x> rather than <xs> in the *habēre sē dīxit* formula, and he is also the only scribe to use <q> before <u> in *pecūnia*. In this case, of course, the difference in date can explain the difference in education.

The other context in which information about scribal training may be available is the Vindolanda tablets. Adams (1995; 2003) has already drawn attention to this question, observing that the scribal output was both remarkably standard orthographically (and morphologically), as compared with texts probably written by non-scribal military personnel, notably the *renuntium* reports perhaps written by the *optiones* themselves (Adams 1995: 102–3, 130–1), and featured optional spelling: '[t]here was an educated secretariat at Vindolanda' (Adams 1995: 130). This statement is less straightforward than it might seem. In fact, the use of optional spellings is not particularly a marker of scribal education at Vindolanda: instead we find it in the work of a number of writers, scribes and non-scribes, military and (probably) civilian, in those who produce standard and substandard spelling.

As already noted, the writing of the highly educated prefect Flavius Cerialis is characterised by optional spelling: he uses both <uo> for /wu/ and etymological <ss>. Likewise, his fellow prefect Justinus uniquely uses the spelling *luḅenṭiṣsime*. But there is also quite a large cluster of old-fashioned spellings in texts which may have been written by civilians, or at any rate by scribes who were not based at Vindolanda. Of 10 examples of <xs> in the tablets, 5 are in letters from authors who either are or may be civilians (Tab. Vindol. 181, 309, 343), and whose letters were sent to Vindolanda rather than being written there. Even if Octavius, the author of 343, was a soldier, it seems plausible that the letter was not written by a scribe, given its idiosyncratic combination of optional and substandard spelling. Of 22 examples of <ss>, again, 7 are found either in the civilian letters 181, 309 and 343 (in the etymologically incorrect *nissi*), or the one written by Cerialis, and at least 2 others (314, 645) were sent to rather than from Vindolanda (although this does not rule out that they were written by military scribes). Use of <k> is characteristic both of Octavius and scribes: the latter almost

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certainly for *uikario* (879), since it appears in the body of a letter whose closing greeting is written by another hand, and presumably in *karrạ* (583) and *kanum* (597), which are both accounts. Of the two apparent instances of <e> in *ụbe* (642) to represent /i/ < /iː/ and *amẹcos* (650) to represent /iː/, both the author and recipient of the former letter may have been civilians, and the latter was sent to Vindolanda, perhaps by someone of equestrian or senatorial rank (as a *comes Augusti*), and not necessarily using a military scribe. Scribes are likely to be responsible for *quom* (248) for *cum*, and *quụr* (652) for *cūr*. By no means all of the optional types of spelling discussed in this book are found at Vindolanda: there are no cases of <ei> for /iː/, <o> for /u/ or /uː/, or <uo> for /we/, for instance.

In short, the evidence that optional spelling was widespread amongst the scribes is not as strong as might first appear, since we cannot attribute optional features at Vindolanda solely to them: quite a large proportion of the examples come from texts which are likely to have been written by non-scribes. It is perhaps unsurprising that highly educated members of the military community should also show optional spellings, but optional spelling seems to have been remarkably widespread amongst the broader community who interacted with the military at Vindolanda, including among civilians and those whose spelling was substandard.

One possible explanation for this is that the military was a major source of education for both its scribes and its soldiers, and that its scribes were also available for use by non-soldiers as well (at least when they were writing letters to members of the army). Under this picture, therefore, we could imagine a rather conservative orthographic tradition, not dissimilar to that learnt by the prefects Justinus and Cerialis, which was characteristic of the military in (northern?) Britain, and not just at Vindolanda, which also influenced the kind of spelling used by civilian authors on its fringes. But this must remain speculative in the absence of further evidence. At any rate, however, the use of optional spellings was not restricted to the Vindolanda scribes alone.

Nonetheless, Adams has been proved right that the orthography of the Vindolanda documents, even if not restricted to the scribes, is fairly old-fashioned (or, rather, uses optional spellings), when we compare it to most other corpora, and especially those from the

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military camps at Vindonissa, Bu Njem and Dura Europos. The only other corpus from a military context which shows similarly optional features is the letters of Claudius Tiberianus, although the actual orthographical rules being followed are somewhat different: while both Vindolanda and P. Mich. VIII 467/CEL 141 and 469/144 show <uo> for /wu/, 467/141 uses <k> before <a> much more consistently than at Vindolanda, and almost all the letters sometimes use <q> before <u>, which is almost non-existent at Vindolanda, and 469/144 has <ei> for /iː/, which is lacking at Vindolanda. Conversely, the letters do not use <xs> at all, whereas this is fairly common at Vindolanda. And of course, the spelling of the Claudius Tiberianus letters is in general more substandard than that at Vindolanda. All this suggests that there was (perhaps unsurprisingly) no army-wide spelling standardisation, and hence presumably no fixed educational tradition that applied across the empire. The idea that particular divisions of the army could develop their own spelling traditions is somewhat supported by the optional spellings found at Vindolanda (but not only among scribes, or indeed military personnel), and the Tiberianus letters; although the successfulness with which their writers approach the standard varies greatly between these two corpora.

Where the scribes do stand out as recipients of a separate training from other writers in the Vindolanda tablets is in the use of *apices*, which as far as we can tell is restricted to texts produced by scribes. In this regard, the Vindolanda tablets are just like those of the Sulpicii, although the rationale for placement of the *apex* on a word is very different in the two corpora; indeed, the very strong preference for placing an *apex* on word-final /ɔ(ː)/ and /a(ː)/ at Vindolanda marks them out from all the other corpora and inscriptions containing *apices* that we have seen.

The evidence of the Isola Sacra inscriptions is particularly interesting for the light it throws on the practice of another group of professional writers, the stonemasons. We may doubt to what extent some of their practices should properly be considered the result of training in orthography, rather than in design, layout, spacing etc. (for instance the use of *i-longa* in double II sequences). However, there are distinct parallels both in terms of *i-longa* and *apices* with what we find in the tablets of the Sulpicii and at Vindolanda: in

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particular, in the former the use of *i-longa* on short /i/ for purposes of clarity and legibility, and in both the use of *apices* as a means of text structure and/or decoration, without long vowels necessarily being the primary target, but with names as a favoured site.

Optional Spellings: Evidence for Sound Change

Examination of optional spellings provides some interesting data regarding both the dating and the process of various sound changes.

The change of /wɔ/ and /kʷɔ/ to /wu/ and /kʷu/ seems to have taken place later than that of /uɔ/ to /uu/. This is shown by investigation of the relevant inscriptional evidence from the first century BC, which suggests that /uɔ/ to /uu/ had already happened by the first half of the century, while the change to /wu/ and /kʷu/ did not take place before the middle of the century. But it is also backed up by the clear continuation of the distinction between a spelling <uu> for /uu/ and <uo> and <quo> for /wu/ and /kʷu/ for (at least) decades later: most obviously in the Vindolanda tablets, but also in the tablets of Caecilius Jucundus, where /wu/ is always spelt <uo> while /uu/ is usually spelt <uu> (once <uo>), and one of the letters of Tiberianus probably also uses this system.

In initial syllables the spelling variation between <u> and <i> between /l/ and a labial is probably a sound change. On the basis of the *lubēns ~ libēns* interchange, it looks as though /u/ > /i/ could already have happened towards the end of the third century BC, with the <u> spelling continuing for some while as an archaism in a word which occurs often in formulaic contexts, but being seriously out-numbered by <i> from the first century AD onwards. This would fit in with the apparent non-existence of <u> spellings in *liber* 'book'. Alternatively, one could argue for /u/ developing an allophone like [ʉ] or [y], leading to variation in spelling through to the first century BC, with eventual merger with /i/ perhaps not actually taking place until the first century AD at the latest.[7] In either case, it is

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[7] In support of this proposal is the occasional spelling with <y>: *lybens* (AE 1983.541, 1991.878), *lybes* (AE 1978.438), *clypeo* (*Hispania Epigraphica* 1994.404, after AD 217), *clypeum* (*Hispania Epigraphica* 1999.239, third century or later). However, De Martino (1994: 755–6) argues that spellings like these are hypercorrect, and do not reflect pronunciation.

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surprising that the spelling in <u> was so strongly maintained for several hundred years longer in *clupeus* ~ *clipeus* than in *lubēns*. Perhaps instead the allophone of /u/ was very sensitive to phonetic environment such that it merged with /i/ quicker in *liber* than in *libet* and in *libet* quicker than in *clipeus* (apparently not till the third century AD).[8]

The corpora in fact preserve two of the latest instances of *lubēns* (Tab. Vindol. 260, late first century AD; IS 223, first or second quarter of the second century AD), and provide some hints that the <u> spelling is probably old-fashioned rather than being evidence for /u/ at the time. In the case of the Vindolanda example, the single use of <u> by a non-scribe compares with the more common <i> used by scribes (and perhaps others). In the case of IS 223, it is a poetic inscription which also uses <k> before <a>, an arguably old-fashioned feature in a word other than *cārus*.

In non-initial syllables before labials it is even more difficult to pin down the variation between <u> and <i>. In some words or morphological environments, the reflex of a short vowel in this context seems simply to have been /u/ or /i/, and hence is written with <u> (e.g. *occupō*) or <i> (e.g. *-hibeō*) from the earliest evidence available to us (second or first century BC). In other words, the fluctuation between <u> and <i> suggests an allophone which was not consistently identifiable as belonging to either /u/ or /i/. Until the second, and perhaps also the first, century BC, words in which <u> and <i> varied seem to have been more commonly written with <u>. This, combined with Velius Longus' evidence for a change in pronunciation of this sound, suggests to me that the allophone was originally something like [ʉ].[9] In many words, this was then fronted to something like [ɨ] from around the first centuries BC and AD, leading to a preference for spelling with <i> (but not ruling out <u> as a possible representation).

The exact quality of this vowel was very sensitive to fine-grained phonetic contexts, leading to variation in the uptake of the <i> spelling, as shown both in my corpora and the epigraphic

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[8] Although on the face of it *lubet* and *liber* seem like practically identical environments, the stem of *liber* is of course libr- outside the nominative singular, so open vs closed syllable or /ɛ/ vs /r/ following /b/ might have been relevant environments.

[9] See Allen (1978: 57–9); Weiss (2020: 72). Cf. Garcea (2012: 151).

evidence more generally. The very frequent superlatives in -*issimus*, for example, are almost entirely spelt with <i>, and in these forms [ɨ] may have completely fallen together with /i/ in the first century AD. However, in other superlatives like *maximus*, *proximus*, *plurimus* we find more variation, with <i> spellings being much more common, but some <u> spellings appearing in the corpora in the first and second centuries AD, and also in other inscriptional evidence. At what point in these words [ɨ] had become identical to /i/ is hard to tell.

On the other hand, some lexemes apparently maintained the spelling with <u> as standard, notably *postumus*, *monumentum*, and *contubernālis*, although at different rates, going by their use in the epigraphical record as a whole. While *monumentum* might be argued to have retained an old-fashioned <u> spelling due to being a high-register word, the same does not seem to be true of *postumus*, or, in particular, *contubernalis*, so there does not seem a strong reason for why the older spelling should have been retained as standard if the vowel was really /i/. It is also notable that the <u> spelling seems to have been more resistant in official inscriptions in *proximus* than in other superlatives (see p. 88), and that *optimus* maintained a relatively high rate of <u> spelling at 9% in the first four centuries AD (see p. 98). On the other hand, even in *contubernālis*, *monumentum*, and *postumus* <i> spellings are not unknown, suggesting that the vowel in question was not straightforwardly /u/. This suggests to me that the change of [ʉ] towards [ɨ] may have been somewhat retarded when there was an /o/ in the preceding syllable,[10] and apparently especially in *postumus, monumentum*, and *contubernālis*.

It is just possible that by the late first century into the second century AD this effect was starting to wear off, with more of a movement of the vowel towards [ɨ], even though the <u> spelling was on the whole maintained as standard. The Vindolanda tablets show both <u> and <i> spellings in roughly equal amounts for *contubernalis*, in comparison to the general trend in the first to

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[10] It must be admitted, however, that *decimus* has a much higher rate of <u> at 19% than *optimus*, despite not containing /o/ in the first syllable, so this is clearly not the only factor in retention of <u>. An /u/ in the first syllable apparently militated against analysis of the vowel in the second syllable as /u/, going by the rarity of the spelling in *plurimus*.

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fourth centuries AD, which heavily favours the <u> spelling, and the <u> spelling is found in writers who use other optional spellings. In the Isola Sacra inscriptions the <i> spelling of *monumentum* is twice as common as the <u> spelling, precisely the reverse of the situation in the epigraphy as a whole, and it is associated with substandard spelling.

Spelling of word-final /i/ with <e>, as in *sibe* for *sibi*, *ube* for *ubi* etc., is in almost all cases likely to reflect a lowering of /i/ in absolute word-final position to [e] from the first century AD, alongside a similar lowering in final syllables that end with a consonant, rather than being an old-fashioned spelling reflecting the second stage of the development /ɛi/ > /e:/ > /i:/ > /i/. A number of cases of spelling of /u/ with <o> I would count as evidence for some speakers showing lowering of /u/ to [o] even as early as the second century AD, perhaps especially in word-final syllables (although some examples probably are instances of old-fashioned spelling).