

To be in Meletis et al., *Handbook of Germanic Writing Systems*

The Evolution of Written English

Geoffrey Sampson

The system has to be looked at historically, because one of its characteristics is inertia.

— Michael Stubbs, “The synchronic organization of English spelling”

1 The first written English

The earliest writing in Old English (the term used for English up to the eleventh century – sometimes called “Anglo-Saxon”) was in the runic script which Germanic-speakers developed near the beginning of the Christian Era, by adapting the letter-shapes of the Roman alphabet (or one of its now-obsolete congeners in the Northern Italy–Alps region) to the technique of scratching with a knife on the material most convenient for forest-dwellers, namely wood.¹ Thus runes changed curves to straight lines, and replaced horizontals (which would not show up, being parallel to the grain) with slant lines: O became , and T became ; and some new shapes were created for sounds having no Roman letters of their own, for instance the velar nasal /ŋ/ was written as  or . Wood is too perishable for English inscriptions using it to have survived, but we have plenty of runic inscriptions in Old English on stone and metal (Page 1999). Direction of writing was not consistent, but the left-to-right direction was commoner than the converse.

(On theories about the origin of the runes, see e.g. references in Salomon 2021.)

Identifying very early inscriptions as examples of “English” is difficult. The earliest inscriptions are quite short, perhaps just a maker’s or owner’s name on a precious object, and it is only in a limited sense that personal names can be said to belong to a particular language; and the earliest candidates as examples of written

1 I thank John Hines of Cardiff University, and Alessia Bauer of the Ecole Pratique des Hautes Etudes, Paris, for comments on drafts of this chapter.

English date from a period when the English language was only beginning to diverge from sister languages such as Dutch, as a consequence of the migration of Germanic-speakers into Britain around the end of the Roman period.² (Roman occupation of Britain ended in A.D. 410.) One possibility as oldest extant Germanic inscription in England comprising more than one word is a gold “bracteate” (medallion) found in 1981 at Undley Common in Suffolk and thought to date from as early as 450–480, bearing runes spelling (from right to left, and transliterated here in terms of the known later values of the runes) *mægæ medu*, meaning “reward for a kinsman”, preceded by a form *gægogæ*, interpreted variously as a magic incantation, a war-cry, or a word meaning “mover, goer” – “... a departing kinsman”, perhaps? One rune shape reflects a version of that alphabet which came to be seen as characteristic of England and Frisia, though this perhaps does not imply that the words written in those runes are “English” rather than general West Germanic; John Hines (1990: 441) argues that the object was probably imported from the Continent and could have been inscribed there. Hines’s own candidate (2006) as “first early inscription with an undisputed readable sentence” is a gold brooch found in 1990 at Harford Farm, Caistor St Edmund, Norfolk, dating from 630–80 and bearing runes on its silver backplate which spell *luda : gībætæsīgīlæ*. Hines translates this as “Lud[d]a repaired the brooch” (the brooch had been repaired), though Alfred Bammesberger (2003) argues on philological grounds for a different interpretation, “may Luda make amends by means of the brooch”.

It would be unprofitable to pursue the question about “earliest inscription in English”. It is more interesting to consider when English-speakers began producing longer written documents in their own language. The earliest such text known (though we have it only in a copy made in the twelfth century) was the law code of Æthelberht, king of Kent, who died in 616 (hence the original must have predated the Harford Farm Brooch). A possible candidate as the oldest inscription still physically extant is a section of a poem in the Germanic alliterative metre usual in Old English poetry, “The Dream of the Rood” (known from other sources), carved in runes on the Ruthwell Cross, a stone monument attributed to the early eighth century (though the inscription may have been added later), located originally in the churchyard and

2 I ignore here the theory that English descends from a language already spoken in Britain before the Roman period, put forward by Stephen Oppenheimer (2006). Although Oppenheimer’s idea has attracted considerable public interest, and even support from some academics lacking linguistic expertise, competent linguists do not take it seriously, for reasons discussed in my web page <www.grsampson.net/QOppenheimer.html>.

today within the church at Ruthwell, Dumfries-shire (now in Scotland but then within the kingdom of Northumbria).

The Christianization of England over the decades following Augustine's mission from Pope Gregory in 597 introduced not only the Roman alphabet, which gradually displaced the use of runes, but, perhaps more significant, parchment and vellum (made from animal skins) as writing surfaces – manufacture of which requires considerable investment in expertise and equipment, unlike writing on wood or stone, but which make it practical to create long documents. Although the original of Æthelberht's law-code has not survived, such a complex document can only have been written on these materials (and it will undoubtedly have used the Roman alphabet, like its surviving copy). Paper arrived much later; the earliest known papermaking in England began late in the fifteenth century, about the same time as the introduction of printing, though some paper was imported from the Continent earlier – the British Museum holds a manuscript written on paper in England as early as 1049.

2 Old English orthography

Old English writing, whether in runes or Roman letters, was broadly phonetic, in the sense of obeying the principle “one sound one symbol”, though not precisely so – it was not a system that might have been designed by a scientific linguist working with a blank slate. As Richard Hogg (1992b: 83) put it, “the Old English scribal tradition paid rather less attention to the sound system of the language than linguists would have liked”, and although Hogg's “scribal” referred to writing in Roman script, he added “There is little reason to suppose that the rune-makers were any more sensitive in such matters”.

It is difficult to be exact about how far Old English orthography departed from the phonetic principle. Apart from the fact that we have no access to the detailed pronunciation of Old English, there were large differences between regional dialects in a country that was divided into separate kingdoms; and over the period between the coming of Germanic-speakers to Britain and the eleventh century, the language naturally underwent changes.

On one hand new runes and new Roman letter-usages were created where the respective alphabets failed to provide symbols for Old English sounds. The  rune originally represented /o/, but English acquired a sound-law which fronted /o/ in a stressed syllable to /œ/ when the following syllable contained /i/ or /j/: /oli/ ‘oil’

became /œli/. Correspondingly, the 𐌶 rune changed its value from /o/ to /œ/ and a new rune 𐌷 was created to stand for /o/ (even though, despite my use of solidi to enclose the phonetic symbols, it does not seem that the [o ~ œ] contrast was ever phonemic). As it happens, in its new use the 𐌶 rune became redundant, because a later sound-change turned /œ/ into /e/: in the eventual standard Old English, ‘oil’ was *ele*.³ But there were further cases where new runes were created for new sounds. Another phonological innovation in Old English was that the stops /k g/ developed distinctive allophones before front vowels; new runes were created for the back allophones, while the original /k g/ runes were used for the new fronted allophones.⁴ The new runes were not widely adopted – one could hardly expect cultural innovations to spread overnight across the separate kingdoms of an early-mediaeval nation, where communication was primitive and dialect differences meant that phonological developments cannot have proceeded in lockstep England-wide. But script innovations like these and others are enough to show that writing at this period was seen (consciously or unconsciously) as essentially phonetic transcription, as is commonly so with newly-written languages.

There was even an element of regularizing linguistically-anomalous aspects of Roman script. The letter Q existed because, in the original Semitic alphabet from which the Roman and all other alphabets descend, it had stood for a consonant quite distinct from the velar stop /k/. But mediaeval-Latin < qu > represented nothing different from the ordinary phoneme-pair /kw/. When Old English was first written in Roman letters, that sequence was sometimes written < qu >, but later it was regularly written < cw >: the word for ‘queen’ was spelled *cwen*.

On the other hand, some phonemic contrasts were ignored, whether Old English was written in runes or Roman letters. The language had an important contrast between long and short vowels; examples in modern transcription would be *metan* ‘to measure’ v. *mētan* ‘to meet’, *hara* ‘hare’ v. *hāra* ‘hoary’, and so on. But neither script developed any equivalent of the macron which present-day Anglicists use to mark the difference.

And in some ways Old English orthographic practice when using Roman script was less phonetically precise than runic orthography. The contrast between front and back allophones of /k g/ became a very salient sound difference: the fronted /k/

3 Modern “oil” is a borrowing from French; it does not descend from the Old English word.

4 John Robertson (2011) claims that this pattern of representing an innovative linguistic form by the symbol for the form from which it developed, while assigning a new symbol to that original form, is an example of a general linguistic law formulated in 1949 by Jerzy Kuryłowicz.

became [tʃ], the fronted /g/ became [j], and what began as a merely allophonic difference eventually became a phonemic contrast. Yet no new letters or diacritics were added to the Roman alphabet to mark this contrast: /k/ and /tʃ/ were both written < c >, e.g. *ceald* ‘cold’ versus *ceaster* ‘city’ (as in the place-names Chester, Manchester, etc.). The letter K was redundant vis-à-vis Old English; if its speakers had been concerned only to produce an efficient script for their own language they might have decided to use K for /tʃ/, which would have worked fine. Or they could have created some new letter-shape. But these developments would perhaps have been seen as unwarranted interference with a cultural inheritance which had come to Germanic-speakers from a civilization remembered as more advanced than their own, and with the authority of the Church behind it.

The steps that were taken to adapt the Roman alphabet to Old English were less radical. Old English had a phonemic contrast between low vowels, front /a/ versus back /ɑ/, while the Roman alphabet offered only the single letter A for a low vowel; so the front phoneme was written as a digraph, AE (it is reasonable to think of [a] as phonetically intermediate between [ɑ] and [ɛ]), and this began to be written as a single ligatured letter, Æ; by 800 the ligatured letter was the standard form. The Roman alphabet also lacked letters for consonants /w/ and /θ/ (there was no letter W in the Old English period); the runic alphabet did have such letters, respectively Þ and þ, so scribes used these runes in documents otherwise written in Roman script. (Using pen and ink, they had no reason to maintain the angularity of runes, so the letters developed curved shapes, p and þ.) Where I transcribe Old English words such as *cwen* using < w >, this means that the original used þ.

A feature of Old English which made it relatively easy for script to approximate to the phonetic principle is that the language was rather “pure”, that is, it used few words borrowed from other languages. Loanwords often complicate the phonological structure of the borrowing language and hence create difficulties for phonetic writing. Many Old English speakers were in contact with other vernaculars (Welsh in the west, Norse after the Viking invasions in the east), but the only language containing numerous novel concepts which educated English-speakers needed to express, once the nation had converted to Christianity, was Latin. However, Latin-derived forms were not freely incorporated into Old English, as they were into later stages of English. Consider Jesus’s answer to the man who asked “Good Master, what shall I do that I may inherit eternal life?” in chapter 10 of St Mark’s Gospel. In the Authorized Version, published in 1611 (that is, within the Early Modern period), it

runs, with spelling modernized:

Thou knowest the Commandments, Do not commit adultery, Do not kill, Do not steal, Do not bear false witness, Defraud not, Honour thy father, and mother.

Five words, *commandment*, *commit*, *adultery*, *defraud*, *honour*, are from Latin (in the first and last cases they came to English via French, the other words were borrowed directly from Latin), even though these are basic concepts: a religion will not want to define the border between virtue and sin in terms that uneducated people might not understand. On the other hand, towards the year 1000, in the Old English period, an interlinear translation into Northumbrian English was added to the Latin of the Lindisfarne Gospels. In that translation, every word of the passage was native Germanic, as follows:

commandment: *bebod*, with a root related to modern English “bid”
 commit adultery: *dernelicgan*, from roots meaning ‘secret/evil’ and ‘lie (down)’
 defraud: *fācen dōn*, literally ‘do treachery’
 honour: *ārweorþian*, with a root related to modern “worth”.

Even before Christianity, some words had been borrowed from Latin by Germanic-speakers who came to Britain and became English-speakers – but not many. Dieter Kastovsky (1992: 300ff.) quotes estimates of about 170 words before the migration across the North Sea, and perhaps 112 words after that migration and before about A.D. 650. Kastovsky points out that these loans reached English or pre-English mainly through speech rather than writing, which suggests that they were thoroughly assimilated to Old English phonology and hence posed no special orthographic problems. These early loans often reflect sound-changes which applied either during the evolution of spoken Vulgar Latin from Classical Latin, or in Old English after the borrowing occurred. (An example of the former is *peru*, modern “pear”, from Classical Latin *pirum*, where the vowel lowering had occurred in Vulgar Latin in the third century; an example of the latter is *cyse*, modern “cheese”, with fronted /k/ becoming /tʃ/, from Latin *caseus*.)

The conversion of England meant that from the seventh century onwards the language acquired a very large number of new concepts related to religion and scholarship; and now many (though not all) of these concepts entered English

through the written medium and were more visibly alien, e.g. *biblioþece* ‘library’ from *bibliotheca*, *crisma* ‘chrism’ from *chrisma*, and indeed the name *Christ*, “the Anointed One”, itself. (All these words are obviously Greek in origin, but they came to Old English via Latin.) But although the rate of borrowing did rise, the increase was less than one might suppose, because of the propensity of Old English to use its own roots to form calques of Latin terms. *Trinitas*, ‘Trinity’, became Old English *þrines* (“Three-ness”); ‘Pharisee’ was *sundorhālg*, “special-holy”; *discipulus* ‘disciple’, from Latin *disco*, ‘learn’, could be *discipul* in Old English but was alternatively rendered as *leorningcniht*, literally “learning-attendant” or “learning-youth” (*cniht* is the root which becomes “knight” in modern English). Until the eleventh century English remained a relatively pure language with an uncomplicated, essentially phonetic orthography.

3 The status of written Old English

Written Old English had higher prestige than other European vernaculars had in their respective homelands. We have seen that a Kentish king used English for his law-code, at a period when no other vernacular language in Western Europe was regarded as fit for such a high purpose.⁵ Elsewhere, it went without saying that any serious documentation used Latin; but, according to Marcia Colish (1997: 104),

the Anglo-Saxons went farther than any other early medieval people in using the vernacular in public documents such as law codes, writs, wills, charters, treaties, and monastic chronicles as well as in vernacularizing Christian and classical texts.

This had to do with the fact that, for much of the Old English period, the British Isles although geographically peripheral were central to the scholarly and intellectual life of Western Europe. That was true of Ireland (where English was not spoken) before it was true of England. Colish (p. 62) tells us that between the fifth and seventh centuries Irish monks “internalized the Christian and classical legacies more successfully than any of the [other] newly converted peoples”. Irish monasteries functioned as artistic and educational centres, with their members acquiring “Greek and some Hebrew as well as Latin”; as missionaries they took their version of

5 In the present context, “Western Europe” means the section of Europe which adopted Catholic Christianity and wrote Latin, as opposed to Orthodox Europe, where the Church language was Greek.

Christianity to Britain and the Continent – the famous monasteries of Lindisfarne and Iona (and others) were founded by an Irishman in the sixth century, and those of Corbie (France) and Bobbio (northern Italy), among others, by another Irishman around 600. The case of Bobbio, Colish remarks (p. 63)

indicates how dramatically cultural leadership had shifted from south to north. In all these monastic centers, the Irish provided bilingual education in Greek and Latin and produced a substantial secular as well as Christian literature ...

The role of Irish churchmen in kick-starting scholarship in England tends to be obscured, today, by the fact that technical and (as we might think) inessential issues, notably how to calculate the date of Easter, differed between Irish and Roman Catholic Christianity, and England was forced to choose, opting in 664 at the Synod of Whitby for Rome. But, after receiving the scholarly baton from the Irish, the English ran with it. By the eighth century Colish (p. 64) describes Anglo-Saxon England as having “replaced Ireland at the cutting edge of Latin Christian culture”. In the next century Alfred, king of Wessex (south-west England) from 871 to 899 and leader of English resistance to Viking invasions, set about raising English educational standards by assembling scholars at his court and encouraging them to translate works of history, philosophy, and the like into English, in pursuance of an explicit plan of educational reform which he published in a letter to the various English bishops. (See e.g. Morris 2021: 231ff., Hogg 1992a: 12ff.) During Alfred’s reign and perhaps at his instigation, a history of England was compiled in English, the “Anglo-Saxon Chronicle”, with copies held and independently updated at various English monasteries. Alfred required his officials to be literate in English. One consequence was an evolution towards a national standard written language, based on the Wessex dialect.

4 Letter-shapes, punctuation, etc.

There is more to orthography than word spellings. Other matters include: the use or non-use of word-spacing; the range of punctuation marks used, and how they are used; the deployment (or not) of contrasts between capitals and lower case, roman and italics; and paragraph divisions and the like. But there is little call to discuss these topics at length in a chapter on “English”, since their history is largely common to Western Europe as a whole, with few special features applicable to individual

languages – though, in the modern period, it seems that English-language books from the late sixteenth century onwards pioneered the systematic indication of direct quotation (Parkes 1992: 59–60, 93–6). The main historical trend in punctuation practice was from understanding various marks as having essentially phonetic values, indicating speech pauses of different lengths to be used when a passage was read aloud, towards using the marks as devices for clarifying the logic of phrases and sentences, having no necessary connexion with features of speech. M.B. Parkes (*op. cit.*: 69–70) suggested that punctuation was being used in the latter way as early as the eleventh century, though he was not discussing English in particular.

The letter-shapes used to write English, after Roman took over from runes, were the rounded characters developed by Irish monks and introduced by them to England – the script is called “Insular” after the British Isles. (The Irish used it for their own language until the 1960s.) A few letters have unexpected shapes, e.g. *g* for *g*, *r* for *s*, but the script is not too different from modern print. It has been claimed that the Carolingian minuscule script which came to be used very widely in Western Europe was itself a development of Insular script, created by Alcuin of York (ca 735–804) after Charlemagne appointed him to head his court school – but this claim is debated.

5 Middle English

A large discontinuity for the English language (and for English life) occurred in the eleventh century. The one historical date that every Englishman knows is 1066, when Duke William of Normandy invaded and conquered England; William became king, and proceeded to dispossess the entire English ruling class – their lands were distributed to William’s Norman henchmen, and leaders of the Church were replaced by Norman clerics. From the linguistic point of view what mattered about the Conquest was that the Normans spoke a dialect of French. (Ironically, not very long before, the Normans had been Germanic speakers, having immigrated into what is now Normandy from Scandinavia over the eighth to tenth centuries; but despite still bearing Germanic names such as William or Henry, by the eleventh century the Normans spoke exclusively French.) What had been the highest-status vernacular language in Western Europe suddenly turned into the lingo of an oppressed subject race. The new rulers did not discourage the use of English (according to the eleventh–twelfth century monk Orderic Vitalis, King William tried to learn the language, though he failed); but they themselves continued to use their own French dialect, and

for ambitious Englishmen French became a key to “getting on”.

Writing in English did not cease altogether. The new archbishops and other Church leaders may have been French-speakers, but the general run of clerics were still English natives, and the monks of Peterborough were adding new English-language entries to the Anglo-Saxon Chronicle until 1154; a long poem, *Layamon's Brut*, was written some time about 1200. After that, there was little writing in English until the fourteenth and fifteenth centuries – though Norman Blake (1992: 7) mentioned that a tradition of homiletic literature in English continued, which may have been intended chiefly for a female readership (women would doubtless have been less likely to read Latin).⁶

The language of the period from the Norman Conquest to the beginning of the modern age (which in England is conventionally identified as 1485, when the Tudor dynasty came to power after the Wars of the Roses had ended) is known as “Middle English”.

For the most part, after the Conquest scribes in England were people who did not write English and knew little or nothing about the orthographic conventions which had evolved for the language. When they needed to write English words, for instance proper names, they used spelling conventions of their own language, so for instance they spelled /tʃ/ as < ch >. (A French word with < ch >, for instance *vache* ‘cow’, today pronounced [vaʃ], would at this period have been roughly [vatʃə].) The phoneme pair /kw/ was written < qu > rather than < cw >.

Even if literate English natives had retained some knowledge of Old English orthographic norms, that might have been limited help towards writing the language in the Middle English period. We have seen that the Old English norms were based on the speech of Wessex; but as regional dialects began to converge during the Middle English centuries towards a new national spoken standard in a unitary kingdom, the centre of political activity had shifted eastwards from Winchester in Wessex to London, and the new spoken standard was based mainly on the speech of regions adjacent to London – an area where, so far as we can tell from the surviving evidence,

6 As late as the fourteenth century the famous long poems *Piers Ploughman* and *Sir Gawain and the Green Knight* were written not merely in English but in alliterative metre; Blake (*loc. cit.*) wondered how that tradition managed to survive a long gap when, so far as we know, scarcely any English poetry was written. (However, see Hanna 1999, Cornelius 2017.) Some scholars believe that earlier literary traditions were less affected by the Conquest in northern and western England than in the south – *Piers Ploughman* was written near Malvern.

little writing occurred in the Old English period.

The spoken language itself was heavily affected by the Conquest, with new vocabulary flooding in from Norman French. The cases that everyone knows about are the words for meat: while English peasants continued to call their farm animals by English names such as “cow” and “sheep”, their Norman overlords used their French names when they were served up at table, so modern English has separate meat-words such as “beef”, “mutton”, corresponding to (modern) French *bœuf*, *mouton*. But vast numbers of other words came in from Norman French or, later, from metropolitan French – some for new institutions such as *duke*, *assize*, but many others were new words for old ideas: *finish*, *reward*, *custom*, *miracle*, ...

And the twelfth century saw what Norman Blake (1992: 6) called a “Renaissance of Latin learning”. In the new political and social circumstances no-one would have thought of turning newly-imported Latin vocabulary into English calques, akin to *leorningcniht* for *discipulus*. Latin words were borrowed as Latin, in Classical Latin spellings – which must have further reduced the sense that writing was a matter of turning phonemes in a predictable one-for-one fashion into letters. Different scribal conventions developed in different places, and as these gradually converged in the fourteenth and fifteenth centuries towards a new national written standard, this standard, as Blake (p. 14) puts it, “was divorced from the immediate phonetic environment so that sound and spelling were becoming two separate, if parallel, systems”. The language had started down the road leading to the situation, today, where a literate English-speaker who learns a new word by hearing it will not assume that he or she knows how to spell it.

Meanwhile, leadership in Western European intellectual life had passed from England to Charlemagne’s Rhineland, and later to Italy and France. Richard Hogg (1992a: 17) notes that in the period following the Conquest, apart from the work on the Anglo-Saxon Chronicle, the main activity in English scriptoria seems “to have been copying rather than the production of original work.”

The outward appearance of script changed greatly. What we now call black-letter or gothic writing, with narrow letters, heavy contrast between “thicks” and “thins”, and few curves except in capitals – **black-letter** – developed in northern France and the Low Countries in the twelfth century and replaced the earlier Insular and Carolingian hands. Black-letter is said to have been favoured as economical of space on expensive writing surfaces, and quick to write. But this change, of course, was not peculiar to English or to England: it was Western-Europe-wide.

The low status of English did not last. When a small elite speaking language A comes to live in and rule a country speaking language B, commonly language B ends up eliminating language A, and that is what happened in this case. England being larger and wealthier than Normandy, even nobles who held lands on both sides of the Channel soon saw their English estates as their principal possessions; and by 1204 the French king had conquered the previously semi-independent Duchy of Normandy, so there was no longer much reason for the ruling class in England to think of themselves as having one foot in Continental civilization. Already King Henry III gave his sons (born 1239 and 1245) distinctively English names, Edward and Edmund. In 1362 the language of the law-courts was switched to English. Henry IV, born 1367 and reigned 1399–1413, is believed to have had English as his mother tongue. By the end of the Middle English period, England was a thoroughly English-speaking country; and English was again a language fit for writing at the highest level, as illustrated notably by the poetry and the philosophical and scientific writings of Geoffrey Chaucer (ca 1340–1400). Metrically and in other respects, Chaucer's poetry is influenced by French and Italian models. Chaucer knew of the Germanic alliterative tradition (at one point in the *Canterbury Tales* he has his Parson make fun of it: "... I am a Southren man,/ I can nat geste – rum, ram, ruf – by lettre"), but his own writing owes nothing to Germanic precedents.

6 Modern English orthography

The modern period saw two major developments in written English, the first of which was a phonological event, though one with great significance for orthography: the Great Vowel Shift (see e.g. Lass 1999: sec. 3.3). This was the sound-change, running its course over roughly the period 1400–1700, which caused vowels in certain morphological environments to acquire phonetic values sharply different from the values they retained in other environments (and from the values of the same vowel-letters in other European languages): e.g. *metrical* with /ɛ/ but *metre* with /i:/, *depravity* with /æ/ but *deprave* with /ei/, and so on.

For orthography, the problem created by the Great Vowel Shift was not that some sounds had changed, but that numerous roots now had allomorphs – alternative pronunciations in different environments. If the allomorphy had occurred mainly in Germanic roots, which English had inherited from an unwritten proto-language, perhaps readers and writers would have been happy to reflect the allomorphy by introducing new spellings for one member of pairs such as /ɛ ~ i:/, /æ ~ ei/, etc. But

in fact few native words are affected by the vowel alternations; there are cases such as *rise* ~ *risen*, but overwhelmingly the alternations occur in words borrowed from the Classical languages. That means that writing the roots differently depending on their pronunciation would not only conflict with the fact that they are manifestly the same roots, but also fly in the face of their Classical etymologies. Educated English-speakers were well aware that *metre* and *metrical* both derive from the Greek root μέτρ- and that Greek epsilon is conventionally transliterated as < e > not < i >, *deprave* and *depravity* both come from forms spelled with < -prav- > in Latin, and so forth. To anyone with enough education to have influence on English orthography, writing *metre* other than with < e > or *deprave* other than with < a > would have been simply “wrong” and ignorant.

The reasons to conform to the Latin spellings of Latin-derived words were not limited to respect for the authority of Roman civilization. From the 1580s onwards a number of what we would now call linguists (at the time they were called “grammarians”) recognized that there would be advantages in settling on consistent, standard spellings for words, if only people could be brought to agree on which spellings to use (cf. Salmon 1999: 32–6): Latin offered a known, ready-made standard in the case of the many words which derived from Latin.

Consequently the Great Vowel Shift ended any realistic prospect of evolving spelling conventions much closer to a one-sound-one-symbol system. If literacy acquisition involves learning that both /æ/ and /ei/ are commonly spelled < a >, both /ε/ and /i:/ are commonly spelled < e >, that < u > can spell either /ʌ/ or /ju:/, and so forth, then the acquisition process will scarcely teach learners to think of the phonetic principle as natural. And if that principle is not felt to be natural, then there is no reason to be surprised by spelling anomalies less systematic than those produced by the Great Vowel Shift, such as the silent consonants in *reign* or *write*, the < y > rather than < i > in *lynch*, etc. etc. Some seventeenth-century grammarians put forward radical schemes for rationalizing spelling, but these achieved no traction.

The second major development was a new concept of orthographic correctness. In the Middle Ages there had been no concept of “spelling mistakes”. Words were written to be read, which implied writing them more or less as others did, but the constraint on choice of spellings was no tighter than that. A scribe might spell the same word in slightly different ways within a single document. But during the seventeenth century the idea took hold that there should ideally be just one correct way to spell a given word, and that failing to spell correctly makes one an inferior

person. The publications of dictionary-makers and grammarians led to convergence on unique spellings for many words by about 1660. These ideas about correctness came to be accepted (as they still are) at a period when English spelling happened to have moved very far away from a rational one-sound-one-symbol system, and they ensured that the language was never likely to move back towards such a system.

A third development near the beginning of the modern period was the introduction of printing. This arrived in England rather late by comparison with Germany and Italy: William Caxton, who had been practising the art at Bruges, set up the first press in England in 1476. (On the history of printing in England see Clair 1976: chapter 9.) Without printing, achieving agreement on standard spellings for words might not have been possible, or might have taken longer than it did. But printing was not a force which consistently operated in favour of standardizing orthography. An easy way for compositors to justify the lines of type they set by hand was to insert a few extra letters, tending to multiply alternative spellings rather than standardize them. And although Caxton was an Englishman, the printers he brought with him from Bruges were Flemings accustomed to the spelling conventions of Dutch, which sometimes influenced their English spellings – the < gh > of *ghost* is often cited as a Dutch-influenced spelling.

One trend unrelated to spelling that developed towards the end of the seventeenth century was greater use of capital letters; there was a tendency to capitalize all nouns, as in modern German. But in the mid-eighteenth century this trend reversed (Salmon 1999: 50–1).

The Italian “humanist” movement of the fifteenth century and later aimed to bypass the Church and revive the intellectual outlook of Classical Antiquity, and as one symbol of this they rejected black-letter script in favour of a writing style which they believed to be modelled on the script of ancient Rome – in practice, “roman” lettering evolved from Carolingian minuscules. This script style quickly spread to other European nations, with the first book printed in England entirely in roman published in 1509; by the late seventeenth century, roman (essentially the serified script we use today) had altogether displaced black-letter in England except in specialized uses. (Black-letter survived longer in Scandinavia, and in Germany, where it remained usual until the 1940s.)

7 Other standard orthographies

Although in the modern period a national standard written language developed in

England (and a national standard spoken language emerged which people in higher social ranks were increasingly expected to use, wherever they hailed from), the English standard had no authority in the independent kingdom of Scotland, which developed its own standard, “Scots”. Scots differed greatly from standard English with respect to vocabulary and phonology, and to a limited extent with respect to grammar; Manfred Görlach (1991: 22, 1999: 468–9) discussed whether sixteenth-century Scots should rank as a separate language rather than a dialect.

Scots had its own orthographic norms, for instance < ui > represented the sound [ø] or [y] occurring in words which in standard English have /u:/; < ch > represented the sound /x/, which in Scottish speech occurs in words like *right*, spelled with < gh > in standard English, and in words borrowed into Scots from Gaelic; and (for complex historical reasons) the letter < z > was used for /j/, and for a sound in loans from Old Norse which speakers of standard English equated with their /ʃ/ phoneme, for instance the name of the Shetland Isles was spelled < Zetland >. After political union with England in 1707, Scots lost what claim it had to rank as a “separate language”; Scots orthography is encountered today mainly in representations of Scottish speech in fiction, though one occasionally sees more “official” reminders of it – the Shetland postcode is ZE.

The other English-speaking country with independent orthographic norms is of course the USA. Distinctively American spellings were largely accepted through the influence of dictionaries compiled by Noah Webster and published in 1806 and 1828 (Venezky 2001: 344–57). But although many individual words are spelled differently in the two countries today, the differences do not represent radically different systems. In many cases Britain and the USA have merely made different choices from a range of alternatives that were all acceptable in the nineteenth century, when spelling remained less standardized than it is today.

8 An anarchic language

Part of the reason why English orthography never adapted in response to the Great Vowel Shift is that no institution has ever been in a position to impose adaptation. The English-speaking world has not traditionally seen language (or culture in general) as an aspect of life over which States have authority. Britain has had a government department with “Culture” in its title only since 1997. Before a National Curriculum was imposed on State-maintained schools in 1988, what was taught in a British school was entirely at the discretion of those who ran that particular school (as is still the

case in the independent school sector), the sole exception being a legal requirement to include religious instruction.

So far as language is concerned, the position is best understood through contrast with other European languages. France has had the Académie Française since 1635, founded by Louis XIII with the explicit mission of “giving exact rules to our language, to render it capable of treating the arts and sciences”. All Frenchmen know and respect the Académie, whether or not they follow its linguistic ordinances. In Britain, the natural sciences have had the Royal Society since 1663, and the letters FRS (Fellow of the Royal Society) after someone’s name are widely recognized as marking the pinnacle of intellectual achievement; but a British Academy for the humanities was founded only in 1902, and while it does valuable work in providing research grants, publishing, hosting international events, and the like, its existence is little known other than by professional academics. It certainly does not attempt to lay down rules about English usage.

German in the twentieth century had an orthography which by English standards looked close to perfectly phonetic, yet in 1995 the provinces of the German Federal Republic jointly promulgated a set of reforms to spelling and punctuation, which in 1996 the Austrian and Swiss governments also agreed to adopt. As well as changing various spellings and punctuation rules, the reforms laid down precisely how schoolteachers were to mark down pupils’ failures to conform to the new standards; in principle a child could even be held down a year in school for such mistakes. In the present context what is most interesting is what happened in response to the German-language reforms (as documented by Sally Johnson 2005). Dozens of court cases were brought by individuals who disliked the reforms, and in at least one German province the issue was put to a referendum; in that province, Schleswig-Holstein, legally correct orthography changed three times over the 1998–99 period.

In the English-speaking world comparable developments would be unthinkable. Law-courts and voting have no relevance to orthography. The secondary school I attended in England in the 1950s was highly academic and put much effort into teaching boys to write well, but it did not give us formal rules for using punctuation marks: there are no formal rules. Plenty of publishers produce English usage guides, but the advice in them is couched more as suggestions than commands, they do not always agree with one another, and in any case they are not widely read. Teaching such matters proceeded (in my experience) by way of exposure

to good prose models and detailed critiques of pupils' own writing, rather than by stating explicit rules. While most words by now have unique "correct" spellings, the incidence of words with alternative spellings both accepted in Britain as correct (e.g. *grey* ~ *gray*, *loth* ~ *loath*, *fuse* ~ *fuze*, *connection* ~ *connexion*, alternative spellings *-ize* or *-ise* of a verbalizing suffix) feels higher than for other European languages, though I know of no statistics; and as we have seen, there are differences between British and American norms. British/American differences relate not only to word spellings but to other matters too – for instance Americans treat a colon, like a full stop or question mark, as a sentence boundary to be followed by a capital, but for British writers a colon is comparable to a semi-colon, and is not followed by capitalization.

In the early twentieth century a number of individuals wanted to rationalize spelling, and a Simplified Spelling Society was founded in Britain in 1902. But, for the public at large, an interest in spelling reform ranked as a harmless eccentricity, on a par with naturism or Esperanto, and was not taken seriously. (Now that there is constant communication in writing between many independent English-speaking countries, radical change in any one country would seem counterproductive, and securing international agreement on such reform practically impossible.)

Against this social background, it is inevitable that English orthography has developed in ways which display many elements of system but also very many irrational features and exceptions to partial regularities. (On the history of English spelling see Scragg 1974.) English orthography has evolved as a leading example of the category of cultural phenomena identified by the social theorist Friedrich Hayek (1967), in a phrase borrowed from the eighteenth-century philosopher Adam Ferguson, as "the results of human action but not of human design".

One way of thinking about this is in terms of the typological contrast between "phonographic" and "logographic" scripts (Sampson 2015: 24–5): a phonographic script (what I have colloquially been calling a phonetic script) being one whose symbols represent phonemes or other phonological elements of a language, while the symbols of a logographic script such as Chinese writing represent meaningful units of the language – words, or morphemes. These categories are ideal types, and probably no real script is a pure example of either with no features of the other type. But, more than most alphabetic scripts, modern English spelling has moved some distance away from the phonographic pole towards logography. From the synchronic viewpoint, which is that of the vast majority of English speakers who have no knowledge of the history of the words, the P and L of a word like *psalm*, or the B of *debt*, have nothing to

do with any aspect of pronunciation. They serve purely to contribute to the visual identity of the respective words. The spelling contrast between *seem* and *seam* does not correspond to any difference in sound – the words are perfect homophones, though they sounded different once; but the contrasting spellings distinguish what are separate words with unrelated meanings. I do not want to exaggerate. If one asked whether English script today is closer to the phonographic or to the logographic ideal, impressionistically the answer would undoubtedly be phonographic (though I am not sure how the issue could be quantified). But most alphabetic scripts I know of are more phonographic than English.

9 More rational than it seems?

Calling present-day English orthography irrational is not entirely uncontroversial. There have been various attempts to argue that English spelling is more systematic than it seems.

One minor consideration here is that the “Received Pronunciation” (RP) which anyone hoping to be taken seriously in English public life has been obliged to adopt (although in the 21st century this social obligation has weakened slightly) happens to be a particularly “advanced” dialect, that is one which has moved further than most away from the pronunciation of earlier centuries. This implies that, in so far as current irrationality of spelling results from an originally phonetic orthography failing to adapt to historical sound-changes, the irrationality is greater with respect to RP than to many other dialects. A notable example relates to “rhotic” versus “non-rhotic” speech. RP is non-rhotic: the phoneme /r/ has very restricted distribution, occurring only immediately before a vowel in the same word. My parents having been Londoners, my own native accent is fairly close to RP. When I learned to read and write, the facts that the pure vowel /ɑ:/ is written < ar >, as in /kɑ:/ *car*, or that < or > represents the same pure vowel /ɔ:/ as < au > and < aw >, as in /pɔ:t/ *port*, /tɔ:n/ *torn*, /tɔ:t/ *taut*, /fɔ:n/ *fawn*, were to me just further oddities of English spelling, like the fact that /tʃ/ is written < ch > though neither < c > nor < h > alone has a value related to /tʃ/. However, many (not all) English dialects other than RP are rhotic: they have an /r/ phoneme in speech wherever < r > occurs in writing (as is true for the great majority of American speakers). For the many English people whose native accent is rhotic (even if they have acquired RP for social purposes), there is nothing irrational about the use of the letter R.

But, while this point is valid as far as it goes, it does little to contradict the idea

that English spelling overall is an unsystematic, irrational phenomenon. Even if, with respect to the use of R, the phonetics of some regional dialect matches conventional spelling better than RP does, there will be plenty of other respects in which the dialect is at odds with the spelling. That is inevitable: we have already seen that the evolution of English spelling has not been a simple matter of a perfectly phonetic original system failing to keep up with historical sound-changes (though that is one important part of the story).

Some linguists have claimed to find other kinds of regularity behind superficial irregularity. Kenneth Albrow (1972) argued that spellings encode not only word-pronunciations but other properties of words, such as their status as grammatical or lexical items. For instance, he postulated a rule whereby lexical words contain at least three letters, while grammatical words contain fewer when that is compatible with their pronunciations, hence the unusual final double G of *egg* (contrast *leg*, *dreg*) and the unusual final single F of *if* (contrast *cliff*, *stiff*). But Albrow's theory, while attractive, is problematic (Sampson 2015: 255–6).

Probably the most extreme, and certainly the most influential, attempt at portraying English orthography as a rational system was the theory of “generative phonology” put forward by Noam Chomsky and Morris Halle in *The Sound Pattern of English* (1968). The essence of this theory was the idea that, when there are regularities in the alternative phonetic forms taken by roots in inflected or derived words, rather than learning the alternative forms case by case, native speakers use these data to infer general rules for deriving surface pronunciations from invariant “underlying” phonetic shapes for roots. For instance, as a result of the Great Vowel Shift, the /ei ~ æ/ alternation between *deprave* and *depravity* in English is paralleled by the same alternation in many other roots, such as *defame* ~ *defamatory*, *urbane* ~ *urbanity*, and so on. Rather than learn each pair of pronunciations separately, it would be more economical – speakers would have fewer facts in total to store in their minds – if they remembered each root with a single pronunciation containing some particular “underlying” vowel, call it | A | (which might be different from both /æ/ and /ei/), together with general rules applying to many roots which ensure, among other things, that | A | appears at the surface as either /ei/ or /æ/ depending on the morphemes surrounding it within a word. The assumption was that when speakers face a trade-off between less information to store and less processing when a word is uttered, they prefer the former (though this point was not argued).

There are cases where this idea may be plausible – though quite speculative, in

our current state of ignorance about just how human brains process language. The fact that many English vowels and diphthongs all merge as shwa in unstressed positions makes it easy to believe that e.g. *defamation* might be stored mentally with /-fæm-/ as its second syllable, and when uttering the word we apply some rule such as “/æ/ → /ə/ in unstressed position” (though alternatively it could be that this looks plausible to literate English-speakers only because they know that the syllable is spelled with < a > in writing, and unless they have studied phonetics they have no concept of “shwa”). However, Chomsky and Halle took the idea to lengths that seem far harder to believe. Identifying the phonetic properties of underlying phonetic forms (e.g. deciding what particular sound lies behind the underlying | A | common to *deprave* and *depravity*) depended on finding the most economical and most general set of rules for deriving surface from underlying forms, and some of Chomsky and Halle’s results were astonishing. *The Sound Pattern of English* argued that the /ai ~ ɪ/ contrast in *righteous* v. *expeditious*, where the same -ous suffix is applied to stems *right* and *expedite* which end identically in /ait/, is most economically explained by postulating that the underlying form of *right* contains a consonant which is deleted before it reaches the surface but which, before it is deleted, prevents the vowel of *righteous* from meeting the conditions on the rule that is responsible for the /ɪ/ vowel of *expeditious*. And the book argued further that this underlying consonant must be the velar nasal /x/, which is always deleted (it never occurs in English).

We know, of course, that the reason why *right* is spelled with < gh > is because at an earlier stage of English it contained an /x/ phoneme, and that in the seventeenth century this phoneme dropped out of standard English (though not out of Scots). But *The Sound Pattern of English* argued in effect that, in speakers’ minds, the phoneme is still there. What changed in the seventeenth century was not *loss* of a phoneme, but *addition* of a new rule preventing that phoneme from being physically realized “at the surface”. Chomsky and Halle (1968: 49) went so far as to write that “conventional orthography is ... a near optimal system for the lexical representation of English words”.

At a common-sense level it might seem incredible that English-speakers, even if they have never learned to read, store the word *right* in their minds (or store any English word) in a form containing the /x/ sound. But generative phonology was taken very seriously by academic linguists for decades, and still is by some. Keith Snider (2014) writes about linguists being “locked into phonological theories that predate the 1970s”.

A theory is not a bad one simply because it is old. But there are obvious objections to the idea that speakers use the clues present in modern speech to reconstruct something resembling an earlier form of the language, together with rules resembling the sequence of sound-changes which turned that state of the language into the current state, and that they store the language in their mind in that earlier form. *Night* rhymes with *right* and is spelled similarly, but the root *night* does not occur in any derived forms parallel to *righteous* that could constitute evidence for an underlying /x/. So does that mean that for native speakers *right* is a natural, easily learnable spelling but *night* is a peculiar, difficult spelling? What evidence is there for that difference? Historically, *meet* and *meat* were spelled differently because at one time they had different vowels, which happened to merge in the Early Modern period; there are no derived forms with either root that could reveal an “underlying” difference, so how can such a spelling contrast belong in a “near optimal system for ... lexical representation”? What is “near optimal” about the spelling *foreign*? – the word is spelled as it is because someone in the past mistakenly thought it was related to *reign*, but it isn’t: the etymologically-justified spelling would be *foran*, which would also be more phonetically rational. One could multiply such questions indefinitely.

To my mind the generative phonology theory was exploded (I presume unintentionally) by Chomsky’s wife Carol, who wrote in the *Harvard Educational Review* about an attempt she made to use the theory to help a class of schoolchildren with spelling (C. Chomsky 1970). When she suggested to one pupil that she think about the word *signature* in deciding how to spell *sign*, the pupil’s response was “so what’s one got to do with the other?” Discovering the phonological rules postulated by generative phonology would require speakers to be aware of these relationships between roots and derived forms, yet speakers often lack that knowledge – if there were any doubt about this, Carol Chomsky demonstrated the point in the same article by betraying the fact that she herself took the words *prodigal* and *prodigious* to share a common root. (They don’t.)

10 Hidden virtues of irregularity

Some of the more modest attempts to find non-obvious system in English spelling, such as Albrow’s or Stubbs (1986), may be reasonable. But I have little doubt that the common-sense view of English orthography as irrational and full of unmotivated irregularities is broadly correct. Where I differ from many who have commented on this is in their assumption that the fact has exclusively negative implications. A main

reason why Hayek found it important to identify a category of un-designed cultural institutions was to argue that such institutions are often superior in practice to those produced by rational planning. English spelling may be such a case.

Linguists frequently take it as self-evident that the best orthography is one which conforms fully to the one-sound-one-symbol principle. Remarks like “An ideal alphabetic orthography should contain a set of isomorphic one-to-one grapheme–phoneme (or *spelling–sound*) and phoneme–grapheme (or *sound–spelling*) correspondences” (Caravolas 2006), or “In an ‘ideal’ phonemic orthography, each phoneme of the spoken language would be represented in writing by one grapheme – only one, and always the same one” (Cameron and Panović 2014), are frequent in the linguistic literature. In other words, these linguists assume that pure phonography is the ideal.

But, as Friederike Lüpke (2011) puts it, “Writing and reading are ... cognitive tasks that are very different from speaking and hearing, and rely to a much lesser extent on phonological recoding than orthography developers often believe”. Anyone who holds the superiority of phonographic over logographic script to be self-evident should be asked, for instance, to offer some explanation for why the triennial PISA programme comparing secondary-school pupils’ levels of attainment in basic subjects internationally finds that the few countries which use logographic writing cluster at the top of the PISA league tables (Sampson 2015: 196–7).

There is no question, of course, that an unphonetic orthography like that of modern English creates difficulties for those learning to read. And those difficulties are very visible to any parent or teacher who sees children struggling to master basic literacy. But what makes an orthography good for learners is not necessarily the same as what makes an orthography good for readers who have mastered it. An adult who can read English successfully does not spell words out in his mind phoneme by phoneme; he knows what word is represented by a given sequence of letters, and a “good orthography” from his point of view is one where words are visually distinctive and hence can be recognized rapidly (Perea and Rosa 2000). Words are distinctive if there are relatively few orthographic neighbours – pairs of words differing in only a single letter – and relatively many words containing unusual or unique letter-sequences. Spellings like *debt* or *psalm* are phonetically irrational, but sequences such as < bt >, < ps >, < lm > make words containing them highly distinctive. The difference between efficient and inefficient orthographies in this sense is not visible, as children’s struggles with reading are, but in 21st-century conditions where much of

the adult population spends much of their day absorbing written information, it is surely a significant difference.

Furthermore, we “read by eye but write by ear” (cf. Frith and Frith 1980). Even for those who have mastered an orthography, the phonetic principle is more helpful in the writing mode, where the writer must actively get all details of spelling correct, than in the reading mode, where all that matters is to identify the particular words.

(For references to some of the psycholinguistic research bearing on these issues, see e.g. Davis and Bryant 2006, Sampson 2015: 261–6, 2018.)

Any orthography must be a compromise between the interests of learners and the interests of mature users, and between the interests of readers and those of writers. I do not suggest that we can calculate where the ideal balance of interests lies, but we know in which direction the balance has shifted over history. In the Old English period lives were relatively short; in the 21st century, learning to read happens in primary school and average lifetimes are longer, so the effort of literacy-acquisition is repaid by more years as a skilled reader. Before printing, a scribe’s output – a physical document – could be read by only one person at a time and most documents probably received few readings; today, a single electronic document, written once, can easily be read by many people simultaneously, and may receive thousands of readings – extra effort by the writer can be compensated by a massively greater collective gain in reading efficiency.

Thus for Old English a script close to phonetic was desirable. But an advanced modern society, such as Britain or the USA today, may gain on balance by having a script that is replete with unpredictable irregularities of spelling, even though these make the child learner’s task harder. True, not all spelling oddities contribute to visual distinctiveness, and that is not surprising since modern English orthography is certainly not the outcome of any conscious design process. But the evolution of English orthography, since the language was originally written in the first millennium, may well in broad terms represent an appropriate response to changing social conditions.

11 What of the future?

It is interesting to speculate about how, if at all, the English writing system is likely to evolve in times to come.

One obvious possibility is that American spellings may come to displace British norms more or less completely. At present there is no conscious movement in favour

of this, but various developments suggest that it could happen anyway.

For one thing, British readers are exposed to American writing now in a way that they were not when I was young in the mid-twentieth century. Copyright law made Britain and its Commonwealth a separate market to which American publishers had little access, and British publishers had not yet been taken over by American firms, as most of them were from the 1970s on; so even books originating in the USA were routinely converted to British spelling when published in the UK – nowadays they will sometimes be sold in Britain in their original spelling. We Britons were mostly aware that Americans spelled some words differently, but if we encountered examples they looked peculiar and ugly, and we were not familiar with the details. There was of course no internet making American writing as accessible as British. If nowadays British readers see American spellings almost as often as British, it would be expecting quite a lot to suppose that they will all learn which spellings are which, and by now it is clear that younger people are sometimes hazy about the difference. (For UK university teachers this is often amusingly apparent when written work is handed in by students of technical rather than literary subjects who hope to gain marks by passing off material they have found on the internet as their own. If the true writer was an American, to the teacher marking the work it shouts “plagiarism!”, but evidently the hapless student is unaware of how he is betraying his sin.)

As generations grow up reading American along with British prose, it seems almost inevitable that Americanisms will creep into their writing, until a time comes when everyone accepts that it has become senseless to continue maintaining a separate British standard. That will not happen soon, but I wonder whether separate British norms will survive the 21st century.

One might go further and ask whether either national orthography is destined to remain as standardized as it is today. One could envisage a shift back to something like the mediaeval situation which lacked a concept of “correct spelling”. There are fewer mechanisms today than there once were for maintaining orthographic norms. In the world of journalism, human copy-takers and subeditors, who had expertise in getting English right, have largely been replaced by journalists typing copy directly into computer systems. Journalists are recruited for other skills, and the only orthographic support which desktop publishing can offer them is mechanical spell-checkers, which cannot distinguish between homophones like *seem* and *seam* – even in quality newspapers it is becoming unsurprising to see solecisms like *seems of a garment*. And yet journalists are people whose livelihood is the written word, and who must

surely therefore be somewhat more familiar with orthographic niceties than the average person. Before the internet, except for family letters, notes for the milkman, and the like, the only writing which most people encountered was produced by people who were in some sense professionals. Today any half-educated teenager can publish to the world from his bedroom. How realistic is it to think that norms of correctness can survive if much of what the average person reads is written by individuals with limited mastery of those norms?

On the other hand, one might argue that the information-technology revolution has been training people to become more rather than less careful about written norms. When home computers became common at the turn of the century, something that came as a shock to many computer-naïve users was how precise one's typing had to be. Write a postal address on an envelope, and it matters not a jot whether lines end in commas. One can even mis-spell the odd name, say "Fairham Road" for "Fareham Road", and the postie will deliver the letter just as soon. But make the slightest mistake in one character of a URL and the only result will be an error message, and the same problem occurs in many kinds of interaction with a computer – one has to learn to be exact. So the jury is out on whether IT will be the death of orthographic correctness.

And the future has a habit of surprising us. So perhaps it will be wise not to attempt further predictions.

References

- The abbreviations *CHEL* 1, *CHEL* 2, etc., refer to the six volumes of *The Cambridge History of the English Language*, Cambridge University Press.
- Albrow, K.H. 1972. *The English Writing System: notes towards a description*. Longman for the Schools Council.
- Bammesberger, A. 2003. The *Harford Farm Brooch* runic inscription. *Neophilologus* 87.133–5.
- Blake, N. 1992. Chapter 1 (Introduction) of N. Blake, ed., *CHEL* 2.
- Cameron, Deborah and I. Panović. 2014. *Working with Written Discourse*. Sage.
- Caravolas, Marketa. 2006. Learning to spell in different languages: how orthographic variables might affect early literacy. In R. Malatesha Joshi and P.G. Aaron, eds, *Handbook of Orthography and Literacy*. Lawrence Erlbaum (Mahwah, N.J.).
- Chomsky, A.N. and M. Halle. 1968. *The Sound Pattern of English*. Harper and Row (New

York).

- Chomsky, C. 1970. Reading, writing, and phonology. *Harvard Educational Review* 40.287–310.
- Clair, C. 1976. *A History of European Printing*. Academic Press.
- Colish, Marcia L. 1997. *Medieval Foundations of the Western Intellectual Tradition 400–1400*. Yale University Press.
- Cornelius, I. 2017. *Reconstructing Alliterative Verse: the pursuit of a medieval meter*. Cambridge University Press.
- Davis, Claire and P. Bryant. 2006. Causal connections in the acquisition of an orthographic rule: a test of Uta Frith’s developmental hypothesis. *Journal of Child Psychology and Psychiatry* 47.849–56.
- Frith, Uta and C. Frith. 1980. Relationships between reading and spelling. In J.F. Kavanagh and R.L. Venezky, eds, *Orthography, Reading, and Dyslexia*. University Park Press (Baltimore).
- Görlach, M. 1991. *Introduction to Early Modern English*. Cambridge University Press.
- Görlach, M. 1999. Regional and social variation. Chapter 6 of R. Lass, ed., *CHEL* 3.
- Hanna, R. 1999. Alliterative poetry. Chapter 18 of D. Wallace, ed., *The Cambridge History of Medieval English Literature*. Cambridge University Press.
- Hayek, F.A. 1967. The results of human action but not of human design. Chapter 6 of *Studies in Philosophy, Politics and Economics*, Routledge & Kegan Paul; reprinted as chapter 11 of B. Caldwell, ed., *The Collected Works of F.A. Hayek*, vol. 15, University of Chicago Press, 2014.
- Hines, J. 1990. The runic inscriptions of early Anglo-Saxon England. In A. Bammesberger and A. Wollmann, eds, *Britain 400–600: Language and History*, 437–55. Winter (Heidelberg).
- Hines, J. 2006. The early runic inscriptions from Kent and the problem of legibility. In A. Bammesberger and G. Waxenberger, eds, *Das Fußpark und seine einzelsprachlichen Weiterentwicklungen: Akten der Tagung in Eichstätt vom 20. bis 24. Juli 2003 (Ergänzungsbände zum Reallexicon der Germanischen Altertumskunde, vol. 51)*, 188–208. De Gruyter (Berlin).
- Hogg, R.M. 1992a. Chapter 1 (Introduction) of Hogg, ed., *CHEL* 1.
- Hogg, R.M. 1992b. “Phonology and morphology”. Chapter 3 of Hogg, ed., *CHEL* 1.
- Johnson, Sally. 2005. *Spelling Trouble? Language, ideology and the reform of German orthography*. Multilingual Matters (Clevedon, Som.).
- Kastovsky, D. 1992. Semantics and vocabulary. Chapter 5 of R.M. Hogg, ed., *CHEL* 1.

- Lass, R. 1999. Phonology and morphology. Chapter 3 of Lass, ed., *CHEL* 3.
- Lüpke, Friederike. 2011. Orthography development. In P.K. Austin and Julia Sallabank, eds, *The Cambridge Handbook of Endangered Languages*, 312–36. Cambridge University Press.
- McClure, J.D. 1994. English in Scotland. Chapter 2 of R. Burchfield, ed., *CHEL* 5.
- Morris, M. 2021. *The Anglo-Saxons: a history of the beginnings of England*. Hutchinson.
- Oppenheimer, S. 2006. *The Origins of the British: the new prehistory of Britain*. Constable.
- Page, R.I. 1999. *An Introduction to English Runes*, 2nd edn. Boydell Press (Woodbridge, Suffolk).
- Parkes, M.B. 1992. *Pause and Effect: an introduction to the history of punctuation in the West*. Scolar Press (Aldershot).
- Perea, M. and Eva Rosa. 2000. The effects of orthographic neighborhood in reading and laboratory word identification tasks: a review. *Psicológica* 21.327–40.
- Robertson, J.S. 2011. How the Germanic futhark came from the Roman alphabet. *Futhark: International Journal of Runic Studies* 2.7–25.
- Salmon, Vivian. 1999. Orthography and punctuation. Chapter 2 of R. Lass, ed., *CHEL* 3.
- Salomon, Corinna. 2021. Comparative perspectives on the study of script transfer, and the origin of the runic script. In Y. Haralambous, ed., *Grapholinguistics in the 21st Century—2020*, Part I, 143–99. Fluxus Editions (Brest).
- Sampson, G.R. 2015. *Writing Systems*, 2nd edn. Equinox (Sheffield).
- Sampson, G.R. 2018. From phonemic spelling to distinctive spelling. *Written Language and Literacy* 21.3–25; reprinted as chapter 8 of Sampson, *The Linguistics Delusion*, Equinox (Sheffield), 2017. Online at <www.grsampson.net/AFps.pdf>.
- Scragg, D.G. 1974. *A History of English Spelling*. Manchester University Press.
- Snider, K. 2014. Orthography and phonological depth. In M. Cahill and Keren Rice, eds, *Developing Orthographies for Unwritten Language*. SIL International (Dallas, Tex.).
- Stubbs, M. 1986. The synchronic organization of English spelling. CLIE Working Papers no. 10. Online at <clie.org.uk/wp-content/uploads/2017/06/clie10.doc>.
- Venezky, R.L. 2001. Spelling. Chapter 10 of J. Algeo, ed., *CHEL* 6.