

## **A IS FOR ALPHABET... ROMAN LETTERS AND THEIR USE IN WRITTEN ENGLISH**

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**Abstract:** The Roman alphabet is so omnipresent we hardly notice it. Yet it is one of man's greatest inventions. Where did its peculiar shapes come from? Why are they arranged with uppercase and lowercase letters distributed left to right on a horizontal line with spaces and punctuation marks? This article traces the 4000-year-old history of the alphabet to its current manifestation in English writing. We also address this question: How do these shapes do their job of representing language? Answer: With more regularity than we often appreciate. Particularly for learners of English, the regularities may offer some valuable insights into the principled ways we use the alphabet; order is everywhere. Furthermore, by learning how the oddities in our spelling arose, we may come to view them less as bothersome idiosyncrasies and more as interesting historical markers left by the amazing trek our alphabet has taken across time, space and through a myriad languages.

**Abstrak:** Abjad Rumi terdapat di mana-mana sehingga kewujudannya tidak dirasai. Namun, ia merupakan satu ciptaan manusia yang hebat. Dari mana bentuk pelik ini berasal? Mengapa disusun dengan huruf besar dan huruf kecil? Artikel ini mengimbas 4,000 tahun sejarah abjad sehingga ia dimanifestasi dalam penulisan bahasa Inggeris hari ini. Soalan yang ditanya ialah: Bagaimana bentuk-bentuk ini mewakili sesuatu bahasa? Jawapannya ialah: Dengan kekerapan yang tidak begitu dihargai. Khusus kepada pelajar bahasa Inggeris, kekerapan memberi gambaran terhadap prinsip-prinsip abjad yang diguna apabila wujud keseragaman di mana-mana. Tambahan pula, dengan mempelajari kelainan dalam ejaan, dapatlah kita melihat bahasa itu sebagai sesuatu yang kurang menyusahkan dan lebih sebagai penanda sejarah yang ditinggalkan oleh abjad setelah melalui masa, ruang dan bahasa yang tidak terkira banyaknya.

### **INTRODUCTION**

The alphabet is so ubiquitous in our lives that we hardly ever pause to consider it for its own sake. It is most often a means to an end: To write the words of our language; to "alphabetize" our books, our files, the words in a dictionary; to grade quality, as when we say, "He got a C" or "It was a B-movie" or "Those are AAA bonds"; to stand for whole words as in initials like ESL, DVD, UFO.<sup>1</sup> This article takes the time to put the Roman alphabet itself in center stage where we can marvel at its antiquity and its flexibility, and perhaps come to a greater

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<sup>1</sup> English as a second language; digital video disc; unidentified flying object.

appreciation of what it is, what it does, and how it does it. After all, its deepest roots influenced nearly every alphabetic writing system on Earth.

The topic of the alphabet is much more ambitious than any mere article can do justice to. Moreover, there are so many different approaches to the study of the alphabet that we are obliged to pick and choose (Carney, 1994). What I propose to do in these pages is to pursue three interests. The first is historical, namely, to sketch the development of the English alphabet and what ultimately made it uniquely English. It is interesting to know where the alphabet came from, who gave us our vowel letters, and how we ultimately ended up with the 26 we have. A second interest is to trace the history of everyday orthographic conventions. For example, who decided that we should write from left to right? When did we start putting spaces between words? Where did uppercase and lowercase letters originate? A third interest is functional: How do the symbols represent the significant sounds in a language? Do we need anything more than the symbol to make a good judgment about what it stands for? These questions concern decoding the written language. Is there a useful link between symbols and sounds? This is a question that readers, particularly learners of English, may like to know about.

### **Semitic Origins of the Consonant Alphabet**

From an exciting archeological find in 1999, we now have evidence that the inventors of the alphabet were speakers of a Semitic language living in Egypt (Darnell et al., 2005). It has long been known that our alphabetic shapes and the alphabetic principle of using a single symbol to stand for a single significant sound (phoneme) originated in the hieroglyphic writing of ancient Egypt. Hieroglyphs or "sacred carvings" date back to 3000 BC. Out of about 600 hieroglyphs used by Egyptian scribes at the height of their activity, around two dozen stood for single consonant sounds, usually the first sound of the hieroglyph's name. It was unknown until recently who extracted from the hieroglyphic system just those pictures representing single sounds, strung enough of them together to match the consonant phonemes in their language, and began using them to write words. While we have no examples of the first alphabet, we do have samples of writing that date from near the beginning of the alphabet. They were found chiseled into a limestone cliff along a lost section of the Egyptian road system discovered in 1999. The messages were in a non-Egyptian, but Semitic language, probably written by mercenaries in service to the pharaoh

around 1850 BC. The Semitic originators of the alphabet probably did their creative work several generations earlier, perhaps around 2000 BC.<sup>2</sup>

For the next 1,000 years, the alphabet spread to other Semitic groups living in the Sinai and north to the eastern shore of the Mediterranean. By about 1650 BC it had reached the Canaanites, known from biblical literature. The letters changed form slightly during transmission, being written forward and backward, upward and downward, until just before 1000 BC when they were adopted by the seafaring descendants of the Canaanites, the Phoenicians, whose language was similar to ancient Hebrew.<sup>3</sup> The Phoenicians, living in what is now Lebanon, provided an important way-station for the alphabet. They standardized the right-to-left writing direction, established the order of letters, and associated the name of a common object with each letter so that the first consonant sound of the name was the phonemic value of the letter (Ogg, 1961). Amazingly, the order and sound values of 19 of their 22 symbols have direct counterparts in the order and values of 19 letters in our own 21<sup>st</sup> century alphabet!

### **Greeks Contribute Vowels Letters**

Most importantly, the Phoenicians had a way to disseminate this invention to the known world – international trade. They sailed throughout the Mediterranean region, spreading their goods, technologies, and their alphabet. This latter product attracted the interest of ambitious but illiterate Greeks traders whose language was not Semitic but Indo-European. By 800 BC the Greeks had appropriated the consonant-only alphabet and the name of each letter, although not its original meaning. Aleph became Alpha, Beth became Beta, Gimel became Gamma, Dalet became Delta and so on. For several hundred years the Greeks wrote from left to right then, on the next line, from right to left. Around 700 BC they settled on the left-to-right writing direction as their standard, whence our standard.

The Greek contributions to the alphabet and its spread are an important part of the story. They used most of the Phoenician consonant letters for their own language. The consonant letters not needed for Greek were assigned to vowel phonemes A (Alpha), E (Epsilon "naked E"), I (Iota), O (Omicron "little O"), and Y (Upsilon "naked U") – essentially our five vowel letters A, E, I, O, U. Later on they created H (Eta) and Ω (Omega "big O"). They named their new

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<sup>2</sup> To put this discovery in context, see the following Wikipedia entry that discusses the discovery: [http://en.wikipedia.org/wiki/Middle\\_Bronze\\_Age\\_alphabets](http://en.wikipedia.org/wiki/Middle_Bronze_Age_alphabets). Other good articles about the discovery are, <http://www.yaledailynews.com/article.asp?AID=2886> and <http://www.library.cornell.edu/colldev/mideast/alphorg.htm>.

<sup>3</sup> Hebrew speakers copied their alphabet from the Phoenicians around 950 BC, appropriating all 22 letters and mimicking their right-to-left writing direction. The oldest extant Hebrew writing dates from about 900 BC (Sacks, 2003).

vowel letters like the consonants had been named; the first sound of the letter name was the sound of the symbol, giving our alphabet its first vowel letters.

While the standardization of letter shapes and writing direction were important steps, major gaps in writing practice still existed. There were no spaces between words, no punctuation, no lower-case letters and no concept of the paragraph. These conventions of orthography (ortho- "correct" -graphy "writing") were yet to come. However, the Greeks did give us the word, *alphabet*, from the first two letters, *alpha* and *beta*, in the letter string.

### **The Etruscans: Linking Greeks and Romans**

The Greeks had trading outposts and colonies all over the Mediterranean, including on the island of Sicily and along the western coast of the Italian peninsula. The residents native to these areas were the Etruscans who spoke a language that was neither Semitic nor Indo-European. Yet they, too, saw value in symbolic communication, and by 700 BC were using the five-vowel, Greek alphabet to write their own language, separating words with periods (*punctus*, 'points', from which we derive our word *punctuation*) (Parkes, 1993). The Etruscans, in turn, transmitted the alphabet to various Latin-speaking tribes, including one living in a settlement on the Tiber River, called Roma. By 600 BC the Romans had made the alphabet their own and continued to refine it for several hundred years more.

As in every new application of the alphabet to another language, the letters were adjusted to fit the new host. The first three stop consonants of the Phoenician alphabet were B, G and D. Those three, in that order, continue to survive in Greek to this day. But when the Etruscans appropriated the alphabet from the Greeks, they needed no G. So they turned this letter into C for one of their /k/ sounds. (Their other /k/ sounds were represented by K and Q, from which we get our own trio – C, K, Q.) It was a G-less alphabet that the Romans borrowed, which is the reason our alphabet goes B, C and D. For a while the Romans used C for both /k/ and /g/. Some 350 years later, they took the seventh Etruscan letter they did not need and turned it into G (Sacks, 2003). The similar appearance of G to C was likely no accident.

Over the long period of Roman ownership, the letters evolved into the shapes we recognize today as our capital letters. The final Roman alphabet had 23 letters. The letter, Z, borrowed originally from the Greeks, fell into disuse, its seventh place taken by G. But by 100 BC, Z was reintroduced into the Roman alphabet at the end to spell Greek borrowings flooding into Latin. X and Y were imported around AD 100 directly from Greek for the same reason. From our point of view, this alphabet was still missing the letters J, U and W.

## **The Complete Latin Alphabet**

A B C D E F G H I K L M N O P Q R S T V X Y Z

The esthetic value that the Roman scribes added to the alphabet is undeniable. They also began leaving a space between words so that texts could be read more easily. For 900 years there was only one style of alphabet; all letters were capitals, of uniform height, sitting on the writing line. But by AD 300 a handwriting style developed, adapted for penmanship, in which the letters could be formed easily and clearly. For the first time, there were ascenders (as in *b, d, h, l, t*) and descenders (as in *g, p, q, y*). The style was called "uncial" and became the premier book hand for the next 500 years. There were still no true uppercase and lowercase letters.

The Romans, like the Phoenicians, also had a means of spreading the alphabet; theirs was territorial conquest. The alphabet went and flourished everywhere that Roman soldiers and functionaries moved in their quest to expand the Roman Empire – even to England around the turn of the new millennium.

## **An Alphabet for the English**

Between AD 450 and AD 500, the Anglo, Saxon and Jutes, Germanic tribes from the continent, invaded England and routed the Roman British population which had built up from successive Roman forays into England starting in 55 BC. Fleeing the island or scattering to remote Wales, they left a linguistic vacuum that the new occupants filled with what we know as Old English. These fresh arrivals brought with them a form of writing based, some conjecture, on the Etruscan alphabet adapted in the AD 300s by tribes in the northern Italian peninsula and disseminated to northern Europe (Sacks, 2003). This alphabet of 24 squared-off letters, known as runes, was developed to be carved into wood, etched into stone markers and monuments, and hammered into steel helmets, blades, and shields. These shapes were not ordered like the Roman alphabet; instead the runic alphabet began: *f, u, þ, o, r, k*, giving the alphabet its name – "fupork". By the time it was first used in England, it had already been adapted on the continent for the special sounds of Old English, through the introduction of letters for the first sounds of "think", "went" and "apple", namely, "thorn" (*þ*), "wyn" (*ƿ*), and "ash" (*ᚱ*).

Writing with the "fupork" was never widely promoted; surviving writing samples are few. Literacy began in earnest only with the arrival of Christian missionaries from the continent around AD 600. This early uncial alphabet for English lacked J, Q, V and Z as separate letters. Scribes writing English used I and J interchangeably for consonant and vowel sounds. Similarly, they made no

distinction between U and V, using each for writing a vowel sound and a consonant sound.<sup>4</sup> They used *th* for /> / and *uu* for /w/. However, influenced by the runic alphabet, monks gradually adopted two runes, thorn (*þ*) and wyn (*ƿ*), in place of the *th* and *uu*, replaced the runic ash with *æ*, and used a home-grown symbol yogh (ȝ) sometimes for /y/ and sometimes for /g/. They also used two versions of *s*, one inside words, which looked like an *f* except that the cross bar does not cross the upright stroke to the right, and *s* for final positions. In some areas of the country, eth (*ð*), another local creation based on the uncial *d*, was also being used instead of thorn.

Another important milestone in the development of our alphabet happened on the continent in AD 789. The Frankish King Charlemagne commissioned an English cleric, Alcuin, to create a style of handwriting that could be written clearly, compactly, and most importantly, quickly, and to train a corps of scribes to copy old manuscripts before they disintegrated entirely. Alcuin set up a school in Tours, France, and trained scribes to write in the new script, now known as Carolingian minuscules – "Carolingian" in honor of Charlemagne, "minuscules" because of they were smaller than the dominant uncial script. The shapes of these letters were uniquely different from Roman capitals, being free of frills and traceable with a single pen stroke. Although smaller in size, the letters were still regarded as equivalent to capitals.

Alcuin established other conventions as well. He began sentences with larger versions of his letters offset into the left margin, which hinted at the uppercase and lowercase distinction yet to come. He also systematized punctuation and the division of thoughts into sentences and paragraphs (Parkes, 1993). His school, as a major center of production, became famous as a center of learning and spread the Carolingian alphabet and the new conventions throughout Europe and England.

By the time of the Norman Conquest in AD 1066, Alcuin's innovations were already part of Old English, a variety of English that was to undergo a profound transformation at the hands of the conquerors. The deluge of French words mixing with Old English words created something quite new, known as Middle English. With the new words came French spelling preferences still in use today.

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<sup>4</sup> Old English had no initial [v] words. It appeared only as an allophone of /f/ in certain positions. A separate /v/ phoneme developed in Middle English with the assimilation of vast numbers of French words where /v/ was phonemic, e.g., *very*, *voice*, *visit*.

## **The Influence of French Monks**

Christian monks were the educators of the day, controlling what was taught and how it was taught. Under the guidance of the Norman clergy, the English alphabet lost four letters, refined a fifth, and added a sixth. Where they had the greatest influence was in the matter of spelling conventions. The most significant of these changes are noted here.

### *The Middle-English Alphabet*

To bring English spelling in line with preferred French practice, French monks purged the last remnants of the runic alphabet (*p*, *b*) and English-origin symbols (*ð*, *ƿ*) and marginalized another (*æ*). By the 1300s, *wyn* (*p*) had been replaced by the Norman *uu*, later to become our *w* and be incorporated into the alphabet in the late 1500s. *Eth* (*ð*) was the first symbol for */ > /* to drop out. Then *thorn* (*þ*) was replaced by *th* in all except common function words like *þe*, *þen*, *þey*, *þat*. By the 1400s, *yogh* (*ȝ*) had been completely replaced with *y* in some words and *g* in others. *Ash* (*æ*) was discontinued except in a handful of esoteric words. *Thorn* and *ash* entirely dropped out of use in the late 1800s.

While *ash* was never part of the alphabet, the Old English alphabet that superseded *futhork* did contain *wyn*, *thorn*, *eth*, and *yogh*. The loss of those letters marked a change in the emerging, Middle-English alphabet. Other changes refined and restored several letters.

The newly adopted Carolingian script, while being economical with writing materials, was still going through growing pains. In particular, the letter *i* which still had no dot above it (as in Latin and still in Greek) often got lost amid the many other upright strokes on a line of script. Several efforts to improve its legibility were tried (Sacks, 2003). By AD 1000, some scribes began topping the *i* with a small slanting mark. Others made the *i* with a descender, on the order of a *j* but without the mark on top. That is how our *j* began its life. Still others substituted the much more legible *y* for the *i*, writing *him* as *hym*, for example. Although all these efforts are still with us in one form or another, the winning idea was the mark above the *i*. This refinement was standardized by printers in the 1400s as the economical dot.

Finally, Norman scholars who thoroughly disliked the *cw* spelling found in *cween*, *cwaint*, systematically replaced all *cw* spellings in English with *qu*. The result was that *queen*, *quaint* looked more like French imports, and the English alphabet gained the missing Q.

The "cleaned up" Middle English alphabet had 23 letters. It would have to wait until the Modern English era to gain the remaining three, J, V, and W, which were in use but not yet accepted as separate letters.

### *Norman Spelling Practices*

By the time the French monks finished with the Middle English spelling system, English letters were farther than ever from having a direct relationship to English sounds. In most cases, a relationship still exists, but it is indirect. That is, the reader has to consider more than the letter itself to judge its sound; other variables like neighboring letters, word stress, and endings are also essential.<sup>5</sup> A sample of decoding rules is given in this section to illustrate the indirect, but nevertheless quite regular, connection between spelling and sound. The following are the major ways that Norman clerics impacted English orthography.

- i. Consonant + *h* spellings: *th*, *ch*, *sh*, *wh*, *gh*. By 1066, Christian missionaries from the continent had already won the day for *th*. While thorn or eth would have served well, being single letters for /θ/, the *th* spelling did hearken back to the way the Romans spelled borrowed Greek /θ/ words hundreds of years earlier. Still, the *th* spelling stood for both [θ] and [ð], the choice of which was controlled entirely by position in a word.<sup>6</sup> Unfortunately, the scribes also inserted *h* after *t* where it did not belong, as in *theater*, *thesis*, *author*, and many proper names which were also originally pronounced with /t/: *Katherine*, *Anthony*, *Elizabeth*, *Arthur*, *Dorothy*. The true identity of the consonant is captured in their nicknames: *Kate*, *Tony*, *Betty*, *Art*, *Dot*. *Thomas*, *Theresa* and *Thames* continue to be pronounced properly with /t/ despite the respelling (Kottmeyer, 1988).

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<sup>5</sup> Technically we say that English orthography has a "morphophonemic" basis, not "phonemic" basis. That is, we must consider the environment around the letter – in the word (or morpheme) – in order to make a judgment about how the letter corresponds with a phoneme. A "phoneme-based" alphabet has a direct symbol-to-phoneme correspondence.

<sup>6</sup> If the *th* came before a vowel letter in a function word, the *th* would be voiced [ð], as in *the*, *then*, *they*, *thy*, *thus*, *them*, *there*. If the *th* was right before a stem-final *er*, as in *other*, *mother*, *either*, *bothered*, *withering*, the *th* would also be voiced [ð]. When *th* came after a vowel and before a vowel-initial ending, as in *breathing*, *bathed*, *seethe*, the *th* would be spoken as voiced [ð], too. Everywhere else, *th* would be pronounced as voiceless [θ]. Even the advent of many /θ/ borrowings from Greek hundreds of years later did not disrupt the predictability of the sounds. We note these rules because, even after /θ/ and /ð/ became distinct phonemes in English, we never gave the new, voiced phoneme a different spelling. The way we know how to pronounce *th* to this day is through the ancient rules that governed the Old English allophones. The rules cover the entire set of about 800*th* words in English with a 98% accuracy rate; among the 15 or so exceptions, *ether*, *smooth*, *mouth* (verb) are the most common.



Old English was already using /±/ in words like *child*, *cheap*, *chest* but spelled them with only *c*, e.g., *cild*. Norman scribes respelled all these words with *ch* because they had other uses for *c*, as noted below. Furthermore, they imported their own *ch* words, like *cheval*, *chaise*, and *moustache*, pronounced with /•/. Later, when Greek borrowings entered the language through Latin, their *ch* spellings were pronounced /k/, as in *chorus*, *ache*, *monarch*. Interpreting *ch* became triply problematic. If the origin of the word is known, the pronunciation is predictable; otherwise, it is now nearly impossible to guess the sound of *ch* correctly in modern usage.

The Norman introduction of *sh* for Old English words spelled *sc* was more soundly motivated. Old English *sc*, originally pronounced /sk/ came, through a sound change, to be pronounced more like /•/.

When the Norman scribes saw the native English words, *hwere*, *hwen*, *hweel*, *hwyl*, they knew the *h* was on the wrong side of the *w*. To "fix" the problem, they set about systematically switching the two letters around to give us *where*, *when*, *wheel*, *why*.

The regrettable *gh* spellings are discussed below.

- ii. No stroke of genius. The "dot" solution for the little *i*, hiding among other upright strokes, was actually very clever. A comparably clever solution did not occur to the Norman monks when they became frustrated over the illegibility of *u* in the neighborhood of other upright strokes, namely, *m*, *n*, *w*. In the 1200s, many of those producing manuscripts decided that the *o* shape was easier to read next to *m*, *n*, *w*, than the *u* shape, and so they closed in a great many such *u* letters. *Munk* became *monk*; *wunder* became *wonder*; *shuvel* became *shovel*. Unfortunately, when printing later made each letter visibly distinct, the *u*'s remained *o*'s. Dozens of such irregularly spelled words continue to this day.

The words *who*, *whom*, *whose* were similarly affected because at the time, they were spelled *hwu*, *hwum*, *hwuse*. French monks creatively rendered them as *hwo*, *hwom*, *hwose*. However, after they next reversed the *h* and *w*, giving us *who*, *whom*, *whose*, the motivation for using an *o* instead of a *u* in these words no longer existed. Unfortunately, the monks did not return the *o* spellings to their original *u* shape, leaving us with more spelling exceptions.

- iii. The monks took other Old English *u* spellings and respelled them as *ou*, as in *house*. The spellings may have looked more French, and before the Great Vowel Shift (GVS) of AD 1350–AD 1550, they sounded like French. But after

the GVS, which affected native words and not French words, the native *ou* spelling no longer sounded like French. While English *ou* sounded like /aw/, French *ou* sounded like /u/: *sound - soup, mouth - moulage*.<sup>7</sup>

- iv. New phonemes for English. Through French borrowings the French introduced into English two new phonemes – /<sup>®</sup>/, written as *I* (the consonant use of *I*) and as the "soft" *g*, and /v/, written with the consonant version of *U*. Until then, phonetic [v] had been part of English but only as an allophone of /f/ (and still preserved in the word *of*). Both of these phonemes created pressure on the young English alphabet to make room for new shapes and associated values. That would not happen until well into the Modern English era when *j* and *v* were finally incorporated into the alphabet.

As noted above, it was a native sound change in late OE that introduced /<sup>•</sup>/. Old English /sk/ words, like *scip* (*ship*), *scot* (*shot*), became /<sup>•</sup>/. The French systematically respelled *sc* as *sh* to represent the new phoneme in English instead of giving it its own letter.

The voiced counterpart of /<sup>•</sup>/, /<sup>¥</sup>/, however, was not native to English even as an allophone; it came from French, too. Borrowings of French vocabulary introduced the /<sup>¥</sup>/ as in *garage, rouge, beige*. Interestingly, this phoneme (like the voiced and voiceless *th*, the voiceless *sh* /<sup>•</sup>/ and *ch* /<sup>±</sup>/) never gained a special status in the English alphabet.

- v. French rules for English words. Old English used *c* and *g* as in Latin, namely, to represent /k/ and /g/ (although some *c* spellings had come to be pronounced as /<sup>±</sup>/, as noted above). In Middle English, however, the Norman scribes imported with their words a medieval French sound change which left *c* words to be pronounced as /s/ before the vowel letters *e, i, y*, and as /k/ elsewhere. Imposed upon English, that rule gives us *cent, city, mercy; case,*

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<sup>7</sup> Could readers tell the difference between the /aw/ words and the /uw/ words both spelled *ou*? As it turns out, English and French words are so different from each other that the *ou* spellings ended up in different places in the two kinds of words. For example, *ou* appears only before *p* in French words, so that *oup* is a good clue to /uw/. And *ou* comes only before *n* in English words, so that *oun* is a fine clue for /aw/. Furthermore, other *ou* spellings pronounced /aw/ almost always have one or two following consonant letters at the end of a word e.g. *out, mouth*, while other *ou* words pronounced /uw/ are almost always found in all other places in a word, e.g., *you, boutique, acoustic*. Even though these guidelines are only 98% accurate, they are the kinds of clues that readers come to depend on to make guesses about how to sort out the confusion that the Norman scribes introduced into spelling (Dickerson, 1989).

*cozy, cut*. English, however, was not French; it still needed /k/ before *e, i, y*. If it could not use *c*, then it used *k*: *kettle, kitchen, spooky*.<sup>8</sup>

And *k* also came in handy where a *c* would lead to a wrong prediction. Words like *traffic, shellac, panic* could not readily take an *i* or *e* ending without violating the French *ce/i/y = /s/* rule. Hence the extra *k* in *trafficking, shellacked, panicky*.

The same French sound change also affected words with *g* before *e, i, y*. As a consequence, English *g* ended up with two pronunciations, /<sup>®</sup>/ and /g/, the former before *e, i, y*, as in *general, register, gym*, and the latter before *a, o, u*, as in *game, gone, gun*. As with the *c* case, English still needed to signal /g/ before *e, i, y*. Since no alternate letter was available, we are left with our exceptional Old English spellings, *give, girl, gill, get, forget, target*.

The *ge/i/y = /<sup>®</sup>/* rule from Medieval French complicated another relatively simple Old English spelling: *ng*. Of the three nasal phonemes in English, /m/, /n/, and /ŋ/, only /ŋ/ has no dedicated alphabetic letter. Old English reasonably adopted the *ng* spelling for the velar nasal /ŋ/ because the sound developed out of an /n/+g/ sequence in which the alveolar /n/ assimilated to the velar position yielding /ŋg/. In time, the /g/ in final position was lost, leaving simply /ŋ/ and giving us two ways to pronounce native English words spelled *ng*, as /ŋ/ and as /ŋg/. There was no reason to spell these two usages differently because, as elsewhere, the different pronunciations appeared in distinct environments (# means "end of word"): *ng# = /ŋ/* as in *long, string, bang*, and *ng<sub>ew</sub> = /ŋg/* as in *Anglo, angry, kangaroo, bingo, language*.

The problem with *ng* spellings arose when we imported into Middle English a large number of Norman French words like *strange, binge, angel, ginger*. Suddenly, instead of simply /ŋ/ or /ŋg/ renderings of *ng*, we now had an /n<sup>®</sup>/ pronunciation. How could readers sort out *banging (bang)* from *ranging (range)*, *singer (sing)* from *binger (binge)*? As with *th* noted above, the solution for pronouncing *ng* is straightforward: The Old English rules

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<sup>8</sup> The rules, still in effect in English spelling, are these: *ce/i/y = /s/*; *c<sub>ew</sub> = /k/* (*ew* means "elsewhere"). A later rule of palatalization precedes these two: *c+iV = /ç/* (*special, Grecian, appreciate*). The *+iV* represents endings like *ial, ian, iate*, that begin with an *i* and continue with another vowel letter.

remained and the newcomers fell into a single class of "elsewhere" cases, all pronounced alike. This solution leaves only a few exceptions to be learned.<sup>9</sup>

Among the huge influx of French borrowings were many spelled with *s* but pronounced variously as /•/, /ʒ/, /±/ as well as /s/ and /z/. The relatively uncomplicated Old English *s* suddenly came to represent the entire range of sibilants. Interestingly, nearly all these various pronunciations are predictably by taking into account the environment of *s*.<sup>10</sup>

- vi. Mischief with *gh*. The Normans liked the letter *g* and added it to words like *light*, *night*, *might*, *enough*, *rough*, replacing yogh in some places with *gh*. The result is a set of *gh* spellings that are either completely predictable or completely unpredictable today. On the predictable side: After *ei* and *i* vowel spellings, *gh* is silent, as in *sleigh*, *weigh(t)*; *nigh(t)*, *sigh(t)*. After *au* and *ou* spellings, *gh* is also silent in *ght*; we pronounce only the consonant after the silent *gh*: *aught*, *bought*. A tantalizing correlation runs through the unpredictable side: You can judge the sound of *gh* if you know the tenseness of the vowel before *g*. That is, if the vowel is tense, then *gh* is silent - *dough*, *though*, *borough*, *thorough*, *thigh*, *sigh*, *bough*, *slough* /sluw/; if the vowel is lax, then *gh* is /f/ - *rough*, *tough*, *enough*, *slough* /sl f/, *cough*, *trough*, *laugh*. Since there is no independent way to judge vowel tenseness in these words, the pronunciation of *gh* is also unpredictable. Initial *gh* spellings are rare but uniformly represent /g/ and could just as well be spelled *g*: *ghost*, *ghoul*. But in *ghetto*, the *h* blocks the application of the *ge/i/y* = /®/ rule.
- vii. Three vowel clues get their start. The paucity of vowel letters led writers of Middle English to look for other ways to tell readers how to pronounce vowels in spelled words. One way was to double vowel letters to mark vowel differences, e.g., *ea*, *ee*. Most of these instances survived into Modern English.

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<sup>9</sup> The first Old English rule,  $ng\# = /ō/$  still stands. The second ( $ng_{ew} = /ōg/$ ) had to be refined to  $ngl/r/a/o/u = /ōg/$ . (See the examples above.) Once we are aware of the special nature of *l* and *r* in the previous rule, we need to notice that any other consonant after *ng* is a clue to just /ō/ ( $ngC = /ō/$ ) as in *angma*, *youngster*, *gingham*. Next we have to recognize the common, monosyllabic Anglo-Saxon vocabulary which can end with *-ing*, *-ed*, *-er*, words like *swinging*, *banged*, *singer*. These stand-alone words (fs means "free stem"), when followed by an *i* or *e* ending (+E) yield this rule:  $ng\#fs+E = /ō/$ . After these three ordered rules, all other *ng* spellings are pronounced as /n®/ or  $ng_{ew} = /n®/$ . The exceptions to be learned are few: *anger*, *linger*, *finger*, *hunger*, *stronger*, *strongest*, *longer*, *longest*, *younger*, *youngest* – all pronounced as /ōg/ when we might expect /n®/ (the first three) or simply /ō/ (the last six).

<sup>10</sup> English <s>: Cracking a Symbol-Sound Code by W. Dickerson (1990) presents the full picture.

Doubled consonant letters, which originally pointed to a lengthened consonant sound, came to mark a short preceding vowel. In this way, *dinner* was distinguished from *diner*.

Furthermore, the beginnings of "silent" *e* were in Middle English except that the *e* was not silent; it was a brief, unstressed vowel. Even when spoken, the final *e* pointed to a lengthened preceding vowel, as in *name*, *fine*, *tune*.

At the close of Middle English its alphabet had 23 letters. Although *w* was being widely used in Middle English, and *j* and *v* had also been around for centuries, none of these three had yet received an official place in the alphabet. All three of the missing letters needed a boost from the printing press that marked the beginning of Modern English.

### **The Printing Press: Modern English Begins**

William Caxton's printing press, brought to England from Holland in 1467 only 15 years after its invention by Johann Gutenberg in Germany, would prove to be a major turning point in the language. The English alphabet would finally gain its full complement of letters. English writing practices – spellings, punctuation, capitalization – would also come to be standardized. These effects of the press, however, were not instantaneous; it took the next 400 years to put the finishing touches on the English alphabet and accompanying writing practices.

#### *The Modern-English Alphabet*

Two main events modernized the Middle English alphabet. The last three letters, *w*, *j*, and *v*, were added, and two official versions of each letter came to be recognized, an uppercase version and a lowercase version.

The doubled U, *uu*, goes back to AD 300 when it was used to represent the /w/ phoneme in Latin at a time when /w/ had all but disappeared from the language. By contrast, the /w/ was gaining prominence in Scandinavian languages and in English, where it was represented with the letter *wyn* (p). The /w/ was also alive and well in Normandy, an area invaded and occupied by the /w/-using Vikings. The Normans represented /w/ with the symbol *w* following the late Latin and Germanic models.<sup>11</sup> After they invaded England in 1066, the Norman clerics bent their effort to banish the use of *wyn* in favor of *w*. By the 1300s *wyn* was history.

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<sup>11</sup> Our name, double-U, reflects the old Latin handwritten form of *u*, with a rounded bottom. The pointed bottom letter found in the Latin capital *u* is commemorated in the name of the French letter, *double vé*. Early on, the two *vs* were sometimes written with a space between, sometimes with no space, and sometimes with overlapping strokes. Norman clerics established the ligatured or overlapping variants as the norm.

With the help of the printing press, *w* gained official acceptance into the alphabet in the 1500s to stand appropriately after *u*.

It was left to Modern English to finally solve a problem that had bothered Middle English, namely, the use of a single letter to represent a consonant sound and a vowel sound as in Latin. In Latin, the letter *I* represented /y/ and /iy/ (*IANUARIUS* – *January*); the letter *U* stood for /w/ and /uw/ (*UENUS* – *Venus*). Latin writers were not bothered by the dual use of each letter because the high vowels /iy/ and /uw/ are only slightly different acoustically from the respective glides /y/ and /w/.<sup>12</sup>

The problem came when, with sound changes, the sounds represented by *I* and *U* were no longer closely related acoustically: Instead of /y/ and /iy/, *I* stood for /ɪ/ and /i/ (as in *Julius*). Instead of /w/ and /uw/, *U* came to represent /v/ and /uv/ (as in *Venusian*). When this happened, as it did with Medieval French, the writing system cried out for separate symbols for the distinctly different sounds. When Medieval French words poured into English which originally had no phonemic /ɪ/ or /v/, English writers also felt the need acutely.

Conveniently, the necessary letter shapes were already available. *J* had been a variant shape for *I* since the Carolingian script of the 800s crowded letters together, creating a need in penmanship for a distinctive stroke for *I*. The letters *U* and *V* had been used interchangeably since the beginning of the Roman alphabet, the rounded bottom letter being used more as the handwritten form, and the pointed bottom, more for stone engravings.

English writers did their best to stick with the Latin solution, writing /iy/ and /ɪ/ with *I*, and /uw/ and /v/ with *U*. Even in Samuel Johnson's famous dictionary of 1755, he cataloged all initial /ɪ/ words under the letter *I* and all initial /v/ words under the letter *U*. It took Noah Webster's influential American dictionary, published in 1828, to finally give *J* and *V* legitimacy both as dictionary categories and as full-fledged members of the alphabet, where they took their places after their birth mothers: *I, J, ..., U, V, W*. At last we had 26 letters in our alphabet.

As a point of interest, we use the most ancient, dotless *I* and *J*, for our capitals, and the later, dotted *i* and *j* for small letters. Being sorted out so late, the letter *i* is universally a vowel letter and the correspondence of *j* with /ɪ/ is nearly perfect.

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<sup>12</sup> We do the same thing in English but with *y* and *w*. Each letter represents a consonant and a vowel. The letter *y* is a consonant letter preceding a vowel letter, *yes*, but a vowel letter when it follows a consonant letter or a vowel letter, *style, toy*. The letter *w* is a consonant letter after a consonant letter and preceding a vowel letter, *twice, will*, and a vowel letter after another vowel letter, *owl, paw, few*. *W* is not pronounced in *answer, two* and *sword* (Dickerson, 1989).

Not so for *u* and *v*. While *v* faithfully marks a /v/, we harbor an Etruscan consonant use for *u* – in *qu* and *gu* spellings. The *u* is pronounced as /w/ after *q* and before a vowel letter, *quail*, *quote*, and after *ng* and before a vowel letter, *language*, *sanguine*. Elsewhere after *q* and *g*, *u* is silent, as in *unique*, *guest*.

A word about X. This letter has led a quiet but unique existence, having passed as /ks/ from Greek, where it was created, through Etruscan into Latin, and on into English. It is the only letter that stands for two different sounds nearly every time it is used. We think of *x* as representing /ks/ exclusively. But as the words *existence* and *example* show, English *x* also stands for /gz/ when the major word stress is on the vowel following *x*. When there is no following vowel or when that vowel is unstressed, as in *fox* and *exercise*, *x* stands for /ks/.

At the start of the Modern English period, true upper- and lowercase letters, as we know them today, were just being formalized. Fifty years before the invention of the printing press in the mid-1400s by the German Johannes Gutenberg, humanist scholars in Florence, Italy developed a style of handwriting that brought together two old traditions they admired. They began to use the ancient Roman capital letters to start each sentence and the uniquely different Carolingian minuscules for the rest of the sentence. This practice of two-tiered writing spread widely, was adopted by printers from the beginning, and spread as printing moved abroad from Germany. In England, Caxton's typesetters drew their different sizes of type from different drawers; the upper drawer contained the capital letters and the lower drawers held the small letters – hence the terms "uppercase" and "lowercase" letters.

Since J, V and W joined the force, and upper- and lowercase letters became standard, no further changes have taken place in the English alphabet. Similarly, by the end of the 1600s, we had our full complement of punctuation marks, although there is still no end to the debate on how to use them properly (Truss, 2003). By contrast, in the area of spelling practice, a number of reforms have been implemented in the modern era.

### *Modern Spelling Principles*

From the start, the alphabet imposed on English did not fit the language very well. Particularly in the area of vowel symbols, it was impoverished. The alphabet had available only the five original vowel letters developed by the Greeks. By contrast, English had between 15 and 20 different vowel phonemes, depending on the dialect to be represented. This situation provided fertile ground for creative solutions to represent the wide variety of vowel sounds in spelling. And creativity abounded. It is said that there were 37 different ways to spell the

name Shakespeare and 77 different ways to spell the name Raleigh (Menken, 1956).

While experimentation proliferated spelling diversity, three weak pressures worked for spelling consistency (Kottmeyer, 1988). First, after William Caxton introduced the printing press into England, printers now and then would agree on the spelling of certain words.<sup>13</sup> Their agreements, however, were neither binding nor pervasive. Second, publication of Samuel Johnson's dictionary in 1755 had a standardizing influence on the written language. Johnson, however, was not one to innovate, deferring instead to habits of use and familiar forms. While some oddities were ironed out, others were blessed by his authority. Third, certain academics took up the cause of bringing greater order to our spelling system. Among these were William Mulcaster in the late 1500s and Noah Webster in the early 1800s. While some of their proposals were taken up, many were not. Even together these three forces were not enough to prevent our having hundreds of oddly spelled words in our language today.

The principal challenge all along has been how to stretch our five vowel letters to cover minimally a set of tense vowels /iy, ey, ay, uw, ow, aw, ]y/, a set of lax vowels /we, F, , Y, , ]/, and one or two reduced vowels /C, V (not to mention a number of /r/-influenced variants). In the course of the four hundred years following the appearance of the printing press in England, a checkered pattern of usages arose, which, had they been carried out thoroughly, could have been a great boon to spellers and readers alike. The problem is that these strategies were implemented inconsistently. Over time we have made use of the patterning that exists, and we have grown accustomed to the exceptions.

One large area of exceptions developed out of the decision to distinguish tense from lax vowels and to ignore all reduced vowels (those found in unstressed syllables, the majority of all spoken syllables). The consequence of this decision has been that for every good idea for sorting out tense from lax vowels, there is an abundance of syllables with exactly the same spelling pronounced with a reduced vowel. For example, if we like *-ine* as a clue to the tense vowel /ay/ (e.g., *underline*), the same spelling misleads us when used for its reduced-vowel counterpart (e.g., *determine*). Or if we think *-al* is a good indicator of the lax

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<sup>13</sup> For example early typesetters had no thorn (þ) in the type cases they brought from Holland. The nearest shape was the letter y, which they agreed to use instead of þ. Readers recognized *y<sup>e</sup>, y<sup>at</sup>, y<sup>ey</sup>, y<sup>em</sup>* as *þe, þat, þey, þem* and pronounced them /ðə, ðæt, ðey, ðem/. This residue of Old English writing dropped completely out of fashion before it was resurrected in the 20<sup>th</sup> century as a nostalgic throwback to that earlier time. When *ye, yat, yey, yem* reappeared, readers had forgotten the meaning of y in these words and pronounced the first word in the shop sign, Ye Olde Book Shoppe, as /yiy/, something readers a hundred years earlier would never have done. The ignorance and mispronunciation persist to this day (Pyle, 1964).



vowel /æ/ (e.g., *canal*), its value is tempered when we use it for the reduced vowel /ɜ/ (e.g., *signal*).

Even if we continue to ignore the problem of reduced vowels and focus only on patterns for tense and lax vowels, the inconsistent application of these patterns is still troublesome to writers and readers alike. However, since these are the patterns and irregularities we are stuck with, let us summarize the good ideas that came along for using an alphabet and note a few more of the aberrant spellings we have been saddled with. We note these patterns because they are the ones every beginning reader is instructed to learn.

One idea was to **use a single vowel letter (V) at word ends to represent a tense vowel for e, i, o, and u spellings, and a lax vowel for the a spelling**. This usage paralleled the nature of the English language which permits only tense high and mid vowels at word ends, and only a lax vowel in the low position. Hence, *me*; *hi*; *no*; *ma*. Scribes tried to use *hwu* and *twu*, but the forces mentioned above (*u* in the neighborhood of *v*, *m*, *n*, *w*) conspired to scuttle that effort. The pattern was extended to *y*, as in *my*, *fly*. As simple as this usage was, it was not carried out uniformly, as these words show: *ski*, *to*, *do*, *who*, *two*. And unstressed final *y* came to represent /iy/. But this was a start on a usage of vowel letters.

Another good idea was vowel pairing (VV) which is strictly an orthographic device. With so few vowel letters to work with, an early strategy, begun in Middle English, was to **use a pair of vowel letters to signal a tense vowel and a single vowel letter signal a lax vowel**: *met*, *meet*; *ran*, *rain*; *cot*, *coat*. This idea caught on. But scribes used it redundantly with the vowel-final strategy (noted above), unnecessarily doubling up on final tense vowels: *pie*, *tie*; *tree*, *free*; *toe*, *doe*; *true*, *blue*; *dye*, *wye*.

The letters *y* and *w* play a special role in vowel patterns. When *y* joined the English alphabet, one of its functions was to offer a word-final alternate to *i*: *rain*, *ray*; *grain*, *gray*; *join*, *joy*. To avoid the *u/v* problem (Is it a vowel or a consonant?), scribes used a single *u/v* after vowel letters when the vowel pair was inside of words, *au*, *eu*, *ou*, and they doubled *u/v* at word ends: *avv*, *evv*, *ovv*. This accounts for the paucity of *aw*, *ew*, *ow* inside words and *au*, *eu*, *ou* at word ends. The remains of this practice are seen in many pairs today, like *sauce*, *saw*; *feud*, *few*; *house*, *how*. The principle was this: **Use *u* and *i* as the second vowel letter inside words and *w* and *y* as the second vowel letter at word ends.**

How should we interpret such paired vowels? In many cases, the old ditty holds true, "When two vowels go walking, the first one does the talking." For example, in *coat*, the paired vowel tells us we have a tense vowel. Which tense vowel? It is the vowel sound in the name of the first vowel letter: *o*, namely /ow/. This works

quite well for some vowel pairs, like *ai, ay, ei, ee, oa*, but fails in other cases like *au, aw, eu, ew, ou*, and some instances of *ow*.<sup>14</sup>

Use neighbor clues. Two clues for lax vowels seemed to work pretty well. One is to **use a single vowel letter (V) followed by a single consonant letter (C) at the end of a word (#) for lax vowels: *hat, sip, rug***. We can abbreviate the pattern as VC#. The other is to **use a vowel letter (V) followed by two (or more) consonant letters (CC) for a lax vowel: *rust, milk, damp, match***. The pattern is VCC. In these two cases, it is not the vowel letter itself but what follows it, either C# or CC, that marks a lax vowel. This pattern holds up pretty well except for two groups of spellings – a vowel letter followed by two consonants made with the tip of the tongue, e.g., *old, find, paste*, and a vowel letter followed by a consonant letter and either *r* or *l*, e.g., *acre, ogre, rifle, bugle*.

An extension of the VCC strategy was to **double a single consonant after a lax vowel when adding a vowel-initial ending like *-ed, -er, -ing* (+E): *hit* became *hitting*, *sum* became *summed***. The doubling rule kept *hopping* from looking like *hoping* and *tapped* from looking like *taped*. As noted above, this spelling practice actually began in Middle English as a residue of spelling lengthened consonants with double consonant letters. The vowels before such lengthened consonants were short. But the general application of the pattern where there were never lengthened consonants happened in Modern English.

The problem with the VC# pattern was that tense vowels were also followed by a single consonant letter: *rɔb, h-t, t-āb, f-ɛn*. In Middle English some tense-vowel words had a pronounced unstressed *e* at the end; it was an ending (+E): *name, wine, save*. In the 1580s, William Mulcaster came up with the clever idea of **adding a final silent *e* after all VC spellings to serve as a clue to a tense vowel: *hɔm* could be written as *home* and *r-t* could be written as *rate***. The idea languished for a hundred years, failing adoption by Samuel Johnson for his popular dictionary, until the 1680s when the VC+E pattern was widely adopted by teachers and the press. The difference between these neighbor clues, C# and C+E, helped to sort out many lax – tense pairs: *rob – robe, hat – hate, tub – tube, fin – fine*.

But the VC+E strategy overlapped with the VV strategy, just as the VV strategy overlapped with the V strategy. This is why we have so many pairs like *pane – pain, lone – loan, mete – meet*. This overlap has been a point of criticism among many, but it can also be seen as an asset because it allows the writer to distinguish visually the word meanings of homophones.

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<sup>14</sup> Even though in *au/aw, eu/ew, ou/ow* spellings "the first vowel *does not* do the talking," there is great regularity in their symbol – sound correspondences. See Dickerson (1989).

By the mid-1800s, English orthography had a variety of spelling patterns in use to sort out vowel tenseness for stressed ( ' ) vowels.<sup>15</sup>

- VC# = lax
- VCC = lax
- V# = tense
- VC+E = tense
- VV = tense

The patterns are functional even if not perfectly applied. Had our alphabet come with a rich assortment of vowel shapes, these competing strategies may not have been necessary. But given the alphabet we were offered and the varied responses to its inadequacies, we have reason to be amazed that there is as much predictability in our spelling as there is. And if the truth be known, there is much more vowel predictability than is captured in these few patterns, as linguistics research has revealed.<sup>16</sup>

## CONCLUSION

The Roman alphabet that once fit English with simplicity and directness, if not always with consistency, in the end has become a battleground of competing spelling systems brought into the language from many foreign sources. To accommodate the inevitable clash and to adjust the letters to the new language, some new letters have been introduced (*q, x, y, z*), some quite serviceable letters have been dropped (*æ, ð, þ, ð*), some have been given new values (*c, g, s*), and some have been subdivided (*i, j, u, v, w*).

Despite these changes, the alphabet was still inadequately staffed with letters for the special needs of English. Users have devised a wide array of strategies to spread a few letters over the many sounds in the English repertoire. These strategies have become increasingly complex with sound changes over the centuries and with each infusion of borrowed words and borrowed sounds. Most

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<sup>15</sup> These patterns give a general indication of tenseness; they do not identify the exact tense or lax vowel in any case. In order to move from a general pattern to a particular vowel sound, a conversion mechanism is required. The choice of mechanism depends on the transcription system used to represent vowels. For example, if tense vowels are represented with macrons and lax vowels without macrons (e.g., *ā, a, ē, e*) as in some dictionaries, then we use the Symbol-Generating Mechanism (Dickerson, 1989).

<sup>16</sup> *Stress in the Speech Stream* (Dickerson, 1989) offers a reanalysis of English vowel decoding in a form palatable for learners of English. Copies are available on CD from the author. Those interested can write the author at [dickrson@uiuc.edu](mailto:dickrson@uiuc.edu) for more information.

of these strategies have involved gleaning information about the sound from what surrounds the target letter – from adjacent letters, endings, stress. That is why, with only six exceptions – *f, j, k, v, q, z* – there is no direct symbol-to-sound (phoneme) correlation in English; the connection is mediated by word-level environments. Still, the result is the same: We start with a letter, and we end with a phoneme. And that is what the alphabet is all about.

What is left of the ancient Semitic alphabet in English? First and foremost we have retained what makes an alphabet an alphabet, a series of symbols that stand for the significant sounds of a language, namely, its phonemes. Second, up through the letter U, the letters are arranged almost exactly in the order they were given to us by the ancient Semite fathers. Third, the consonant values in this string are the very ones used millenia ago. Fourth, with the exception of U, our vowel letters are exactly where the Phoenicians had consonant letters that the Greeks appropriated for vowel letters. Our U is late in the alphabet because it was added late to the Greek alphabet. Fifth, with few exceptions, we have done as the Semites of old did – we gave to each letter a name that contained its sound: fifteen of them start with that sound – a, bee, cee, dee, e, gee, i, jay, kay, o, pee, cue, tee, vee, zee (zed); eight of them end with that sound – ef, el, em, en, ar, ess, u, eks. And three are odd: aitch and wye, whose origins are unknown, and double-U, which describes the shape of the letter. This is an amazing legacy for a 4000-year-old invention.

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