A Compendium of English Orthography

Items in blue are hyperlinks to the appropriate sections of the compendium and to files elsewhere on and off this site. One easy way to return to the location of the original hyperlink is to use the page thumbnails, which can be revealed by pressing F4.

Verbs: active and passive
Verbs: regular and irregular
Verbs: transitive and intransitive
Vikings
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Vowel sounds
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Wear, ware, where; were, we're
Webster, Noah
Wessex and the West Saxon dialect
Your, you're, yore

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Further sources: The sources of further information are limited for the most part to three: (i) David Crystal's *An Encyclopedic Dictionary of Language and Languages* (Blackwell, 1992) (hereafter *EDLL*), (ii) *The Oxford Companion to the English Language*, ed. Tom McArthur (Oxford, 1992) (*OCEL*), and (iii) my *American English Spelling* (Johns Hopkins, 1988) (*AES*). *EDLL* and *OCEL* are arranged alphabetically with headings the same as or close to those here. All three often contain references to sources of further information.

Symbols Used: Letters and spellings are enclosed in arrowhead brackets: <a>, <cat>. Sounds and pronunciations are enclosed in square brackets: [ă], [kăt]. Definitions are enclosed in double quotes. Prefixes are marked with a left parenthesis and trailing hyphen: (*pre*-, (*non*-; suffixes with a leading hyphen and a right parenthesis: -*ing*)1, -*ed*)1. The unstressed, reduced sound schwa is represented with [ə]. The analyses, or explications, of written words are underlined, with element boundaries marked with plus signs: *catfish* cat1+fish1 and deletions marked with an overstruck diagonal: academ∉+ic)1. In phonetic respellings primary word stress is indicated with a following high vertical, secondary with a low vertical, and syllable boundaries that have no stress marks are indicated with mid dots: [flāˈmĭng], [bigˌhedˈid], [əˑbŭvˈ]. The index numbers on some prefixes, bases, suffixes, and particles – for instance, (*in*2-, -*ed*)1, *ag*5 – identify members of sets of homographs. To determine which element or particle is being referred to, consult the Prefixes, Bases, Suffixes, or Particles datatable in the Lexis database. Misspellings are marked with a leading asterisk – *mispellings.

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A, an; the. *A* and *an* are indefinite articles, normally used to refer to something being mentioned for the first time, while the definite article *the* is

normally used to refer to things that were mentioned earlier or that can be assumed. *A* is used before nouns that start with a consonant sound, and *an* is used before nouns that start with a vowel sound – *a banana* but *an orange*. The important thing is the first sound of the noun, not necessarily the first letter – thus, it's *an hour* (with the initial silent <h>), not **a hour,* and *a unit* (with the initial [y] sound), not **an unit*. See <h> and <u>.

Ablaut, umlaut. In German *laut* means "sound" and is related to our word *loud*; the German *ab* means "off" and *um* means "alteration." *Ablaut* means a change in vowel sound, often to indicate a change in grammatical function. It occurs in several Indo-European languages, including English, as in *man, men; goose, geese; mouse, mice; sing, sang, sung.* See Strong verbs and Plural nouns. *Umlaut* has two senses: (i) a modification in a vowel sound, and (ii) a mark, sometimes called *dieresis* or *diæresis*, consisting of two dots placed above a vowel to show that modification, as in German singular *mann* "man" vs. its plural *männer* "men", reflected in English *man* vs. *men*. An umlaut, or dieresis, is also sometimes used to indicate that a vowel is not silent, as in the surname *Brontë* or to announce its foreign origin, as in the French *naïve*.

***-able*), *-ible*).** Since these two synonymous suffixes are homophones, it can be hard to know which one to use. Although there are no reliable rules for knowing when to pick one over the other, these three observations can help: (i) The suffix *-able*) is about six times more common than *-ible*), so when in doubt, choose *-able*). (ii) Verbs that end with *-ate*)1 and/or form nouns with *-ation*) take *-able*) – *imitate, imitable*; *civilize, civilization, civilizable*. And (iii) since *-able*) and *-ible*) come late in their words, the correct spelling is easy to find in a dictionary. Two other points, though neither raises any problems for spellers: A small, and shrinking, number of words can take either *-able*) or *-ible*) – as in *ascendable, ascendible*. And a very small number of words with *-able*) have forms with and without final <e> deletion: *likeable, likable; liveable, livable; moveable, movable; sizeable, sizable.* This confusion is probably due to <able> sometimes being seen not as the suffix *-able*) but as the etymologically unrelated word *able*. With *able* the word formed would be a compound, and compounds don't require final <e> deletion.

Accent. *Accent* has two senses important to us: The first is a characteristic or typical pronunciation, as in "a Brooklyn accent" or "a Spanish accent." The second is stress.

***Accent, assent, ascent*.** The stress on the first syllable and the [ks] spelled <cc> in *accent* set it apart, but *assent* "Permission, agreement" and *ascent* "A rising or moving up" are homophones. *Assent* explicates to [ad1+s+sent2, the base *sent2* meaning "head for, go, go mentally, sense": Other *sent2* words are *consent, dissent, sentence, sententious, sentient, resent.* (*Resent* and *recent* differ in stress and pronunciation: [rĭ•zĕnt'] vs.

[rē'sənt]. Remember that though <c> often spells [s], it never spells [z], but <s> often does.) *Ascent* explicates to (a3+scent2 . The only other word with *scent2* "to leap, climb" is the antonym *descent,* which is a homophone of *dissent.* For the digraph <sc> see Digraphs and trigraphs and Ctrl-F <sc>.

Accent explicates to (ad+c+cent2; *cent2* comes from an ancient base that meant "sing, song" and is related to *cant2* as in *cantata, canticle, canto, cantor, descant, incantation, recant*. The only other common *cent2* word is *incentive.*

Adapt, adopt. The prefix (*ad-* carries the sense "to, toward." The base *apt*1 means "to fit" and the base *opt*2 means "to choose." So *adapt* (ad+apt1 means "to fit something to something else," and *adopt* (ad+opt2 means "to choose something."

Addict, edict. In spite of their differences in meaning, these two words are surprisingly close etymologically. They both contain the base *dict1* "to show, to pronounce solemnly; to say." Other words with *dict1* are *benediction, contradict, dictator, dictionary, dictum, indict, interdict, predict, valedictorian, verdict, vindictive.* (For the pronunciation of *indict*, see Latinization.) The earliest English sense of the verb *addict* was "to say formally, as in the sentence of a judge," which naturally took on the sense of "to bind" – and we still speak of binding over a person charged in court. The evolution of *addict* to the sense of "one bound by or addicted to drugs" is natural enough.

Edict (ex+dict1 has the sense "to speak out, pronounce." And there's a telltale difference in pronunciation and spelling: The initial short <a> in *addict*, the initial long <e> in *edict*.

Addition, edition. The prefix (*ad-* carries the sense "to, toward." The prefix (*e-*, a contraction of (*ex-,* carries the sense "away, out." The base *dit*1 means "give, put, bring." The suffix *-ion*)1 forms nouns. *Addition* (ad+dit1+ion)1 thus means something like "a giving to," and *edition* (e+dit1+ion)1 means "a putting or bringing out."

Adjectives, regular and nonregular. Adjectives are usually defined as words that modify a noun. Another kind of definition is "Any word that does not end in *-'s*) but will fit into this blank: **The _____ thing seemed okay.**"

Regular adjectives can take the comparative and superlative inflectional suffixes *-er, -est* – as in *dark, darker, darkest.* But in many, or all, cases the comparative and superlative can also be shown periphrastically with *more* and *most* – *more dark, most dark*. There are three kinds of **nonregular** adjectives:

• those that show comparative and superlative only periphrastically, as in *admirable, more admirable, most admirable* but not *admirabler, *admirablest;

• those that have comparative and superlative forms with bases

different from the positive form, as *good, better, best*; *bad, worse, worst; far, further, furthest;* and

• those that only rarely or never have comparative or superlative forms – for instance, ordinals like *eighteenth*; possessive adjectives like *her, his, your, my, our*; and certain absolutes like *every, subsequent, prior*.

Admirable, admiral. *Admirable* explicates to (ad+mire2+able), The base *mire2* comes from Latin and means "laugh, smile; wonder at, wonderful." It occurs only in *admire* and its derivatives. Its nonterminative co-form *mir4* occurs in *miracle, miraculous,* and *mirage*, and is closely related to *marvel*.

Admiral is the English reworking of an Arabic word, probably either *amīr-al-mā* "commander of the water" or *amīr-al-bahr* "commander of the sea." The OED lists over 20 different English spellings, including the very Arabic *amyrayl* and the more English *amiral*. Eventually it became confused with *admire* and the spelling and pronunciation changed accordingly. The Arabic base *amir* "commander" is the source of our modern *emir, amir*:

Adoptions and adaptions. With words, I prefer the notion of adopting rather than borrowing, since when you borrow something, you intend to return it, but when you adopt something, you intend to keep it, as we do when we adopt words from other languages. Many words are adopted without any change in spelling – *poi, kangaroo, scaloppini, soufflé*, and the like. But usually we make changes, often minor, sometimes major, in spelling These I call adaptions. A small sample of the tens of thousands in English, with the language from which each was adapted:

block < French *bloc*
buckaroo < Spanish *vaquero*
budget < Old French *bougette*
cashew < Portuguese *acajú*
cream < Old French *cresme*
hoosegow < Spanish *juzgado*
jerky < Spanish *charqui*
jolly < Old French *jolif*
ransack < Old Norse *rannsaka*

See Evolution and *AES,* pp. 17-20.

Adverbs. Adverbs come in different shapes and have several different functions. They can modify

• verbs: He spoke **loudly**.
• adjectives: He is **extremely** loud.
• other adverbs: He spoke **very** loudly.
• an entire clause or sentence: **Truthfully**, he's a loudmouth.

When they modify adjectives or adverbs, adverbs are usually intensifiers, like *extremely*. Most adverbs end with the derivational suffix *-ly*)1 which turns adjectives into adverbs, as in *loudly, extremely,* and

truthfully. Like adjectives, most one-syllable adverbs form their comparative and superlative with *-er*)02 and *-est*)1: *slow, slower, slowest.* But adverbs two or more syllables long form their comparative and superlative periphrastically with *more* and *most*: *loudly, more loudly, most loudly.*

***Advise, advice*.** The prefix (*ad-* means "to, toward." The bases *vice*3, which forms nouns, and *vise*2, which forms verbs, originally meant "see, look," but in Latin they developed a meaning like "my view or opinion is" – an equivalent to our "As I see it." Remember that <s> often spells the sound [z] as it does in *advise*, but <c> always spells [s] before <e> as it does in *advice*.

Affect, effect. These two homophones (and near homographs) are found on most lists of spelling demons. Usually *affect* is a verb – as in "Caffeine affects a lot of people." And usually *effect* is a noun – as in "Caffeine doesn't have much of an effect on me." To affect is to cause while an effect is the result. There may be some help in remembering that there's an <a> and an <e> in both *affect* and *cause*. However, an affect "feeling, emotion" is also a noun – as in "The defendant revealed no affect to the jury's verdict"; and *effect* can be a verb – as in "The new owner will effect a total change in the company." Mercifully, these final two uses are quite rare: *affect* as a noun occurs mainly in the psychological register, and *effect* as a verb tends to be rather formal.

***All* and Its Compounds.** The bound base *al*05 is a contraction of *all*1 "all, entire" – as in *almighty, alone, also, although, almost, wherewithal.* But some words with *al*05 have partners with *all*1, which can lead to spelling problems. For instance, we have *always* "invariably, forever" – as in "She's always late" and *all ways* "in each and every way" – as in "I've tested it in all ways." Other examples: *already* "by this time, so soon" vs. *all ready* "each and every one is prepared"; the adverb *altogether* "entirely" vs. the adjective phrase *all together* "in a single group." And this more sneaky pair: the adjective phrase *all right* vs. the common but still nonstandard *alright. See *Excel, excellent* and *Already, all ready*.

Affixes. Affixes are bound elements that can be added to stems to change their function or sense. In English the two kinds of affixes are prefixes and suffixes.

Affricate sounds. Affricates are consonant sounds that begin with a stop and end with a fricative – for example, the affricates [j] = [dzh], [ch] = [tsh], as in *judge* and *church*.

Alfred the Great. From 871-899 Alfred was the Christian king of Wessex, one of the seven kingdoms of early England, located south and west of the Thames River. He lived from 849-899. While king he reorganized military

strategy and directed the defeat of the early Viking raiders. The dialect of Wessex was West Saxon, and Alfred established a school in his court that taught both Latin and the West Saxon dialect of Old English. To further education in his kingdom, he had several important works translated from Latin into West Saxon, he himself translating some. His emphasis on translation into English helped make West Saxon very important in the development of and our understanding of early English.

***Alley, ally*.** These two words are near homographs though different in pronunciation – [ăl' ē] and [ăl' ī] respectively. *Alley* explicates to all4+ey)2. The base *all*4 means "go, walk" and the suffix *-ey*)2 forms nouns. So an alley is where one walks or goes to some place. *Ally* explicates to (ad+l+ly2. The prefix (*ad-* means "to, toward," and the base *ly*2 means "bind, join," so an ally is one to whom you are bound or joined.

Alliteration. Alliteration is the repetition of sounds – usually consonant sounds – at the beginning of words and in stressed syllables. Alliteration is very common in poetry (as in Wallace Stevens' "**W**inding across **w**ide **w**ater, **w**ithout sound./ The day is like **w**ide **w**ater, **w**ithout sound." It was the basis of Old English poetry, as in Beowulf. It is also common in popular phrases like "dead as a doornail."

Already, all ready; altogether, all together; anyway, any way; awhile, a while. These and similar pairs of open and closed spellings can be tricky. The two terms in each of the first three of these pairs actually have quite different meanings:

Already means "prior to a given time, so soon" and *all ready* means "fully prepared." – as in "She left already" vs. "The cookies are all ready."

Altogether means "wholly, completely, in total" and *all together* means "as a group, in the same place." – as in "He is altogether crazy" vs. "The family members are gathered all together in the dining room."

Anyway means "regardless, anyhow" and *any way* means "in any fashion or direcion" – as in "She left anyway" vs. "Any way you look at it, he's crazy."

However*, awhile* and *a while* mean pretty much the same thing, "for some time, for a short time," and experts don't always agree on when to pick which. Usage is divided and changing. But *awhile* is technically an adverb, and *a while* is a noun phrase, and since the objects of prepositions are nouns not adverbs, it's probably better to use *a while* after prepositions, as in "Let's stay for a while."

Alveolar sounds. Alveolars, or dentals, are consonant sounds articulated with the front of the tongue near or touching the alveolar ridge behind the upper teeth – [d, t, z, s, n, l, r].

American Sign Language (ASL). ASL is a visual language used by probably 250,000 to 500,000 people – people who are hard of hearing or totally deaf, or live or work with people who are. ASL was developed at the

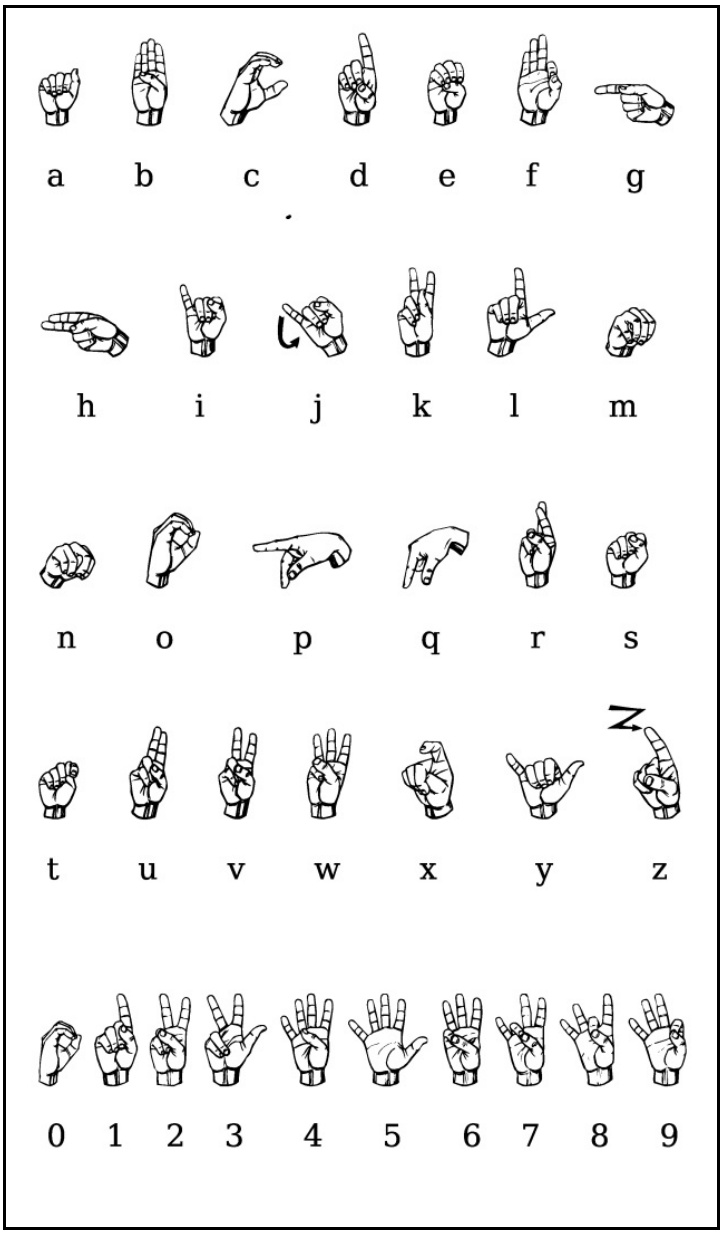
American School for the Deaf in the early 19th century by Thomas Gaulladet. While in France at the national institute in Paris, Gaulladet had studied French methods for instructing the deaf. He returned to the United States with Laurent Clerc from the French institute, and together they developed ASL, basing it on the French model, together with signing practices from local American families and communities.

One estimate is that ASL involves an astonishing 360,000 physical signs, involving mostly the hands but also facial expressions and body movements. These signs can be described using five parameters: (i) the shape of the hands, (ii) their movement, (iii) the orientation of the palms, (iv) the hands' location, plus (v) non-manual markers involving the eyebrows, the cheeks, the nose, the head, the torso, the mouth and lips, and the eyes.

ASL is a natural language with its own grammar and syntax. Its signs function like the phonemes and morphemes of a spoken language. It has different dialects, and even within a dialect signers have their own idiosyncratic styles. As ASL has gained recognition as a natural language, more and more colleges have come to accept it for foreign language credit.

ASL is not a universal sign language. For instance, America, Britain, and Australia, three English-speaking nations, have three different sign languages that are not mutually intelligible – just as in Middle English the spelling of speakers of northern British dialects was often quite unintelligible to readers from the south, and the way that today the varieties of spoken English from different parts of the world can be difficult and even unintelligible to native speakers of American English.

One of the features of ASL is **fingerspelling**, used to spell out words for which there is no known sign. Fingerspelling involves manual signs for the 26 letters of the alphabet and the ten numerals:



Several websites provide videos and explanations of many of ASL's signs – for instance, American Sign Language University at http://www.lifeprint.com/.

Anagrams. An anagram is a word or phrase that is created by rearranging the letters of another word or phrase. In one version each original letter can be used only once; in another version letters can be repeated. Thus, *listen* is an anagram of *silent; rats* and *tart* and *starts* are anagrams of *star*, and *elegant man* is an anagram of *a gentleman*. Anagrams have a long history, going back to ancient Latin and Greek, and they have often been treated as the source of secret, even mystical, knowledge. Today they are essentially recreational word games – like the daily "Spelling Bee" in the *New York Times*. In the classroom they can also be recreational – for instance, having students find anagrams in a word-of-the-day – perhaps an impending holiday: "How many words can you make out of the letters in *Thanksgiving*?" (One on-line anagram solver comes up with 540, though with a rather generous notion of what constitutes a word.) Other possible sources for words-of-the-day are days of the week, months of the year,

important words from current lessons, or just plain random words, perhaps suggested by the students.

Beyond recreation, searching for anagrams gives the students a chance to look at words in ways they usually don't – that is, as things that can be taken apart and rearranged. It can make students more sensitive to more or less likely combinations of letters and sounds. To add more educational punch you can restrict the anagrams to words that contain a certain word element. For instance, *Thanksgiving* contains <ing> leading to the possible question "How many words can you find in *Thanksgiving* that end with the suffix *-ing*)? Lexis lists a surprising 200. For examples of one rather challenging anagrams game go to Anagrams Plus One .

Analogy. In the most general sense, analogy is the perception of similarity in the midst of difference. Analogy is perhaps the most important way in which the mind searches for unity in the din and roar of experience, linguistic and otherwise. It underlies metaphor. In spelling and vocabulary it leads to users changing the sound or spelling or both of a word to make it more similar to a more regular or more familiar form—as when French *carriole* "a small covered carriage" is changed by folk etymology to *carryall* or when Middle English *couthe*, *coude* is respelled to *could*, making it more similar to the parallel forms *should* and *would* (which in Middle English were *scholde* and *wolde*). (*EDLL*, *OCEL*, *AES*, pp. 10-12)

-ance), -ence); -ant), -ent). The suffixes *-ance*) and *-ence*) can create problems because they are homophones pronounced [əns] and both form nouns, usually abstract. There are no simple rules for knowing when to use one and when the other, but these two hints may help some:

• If you can add [enshəl] (spelled <ential>) to the stem and get a recognizable word, the [əns] is *-ence*). For instance, if you can't decide between <confidence> and <confidance>, and you replace the [əns] with [enshəl], the result is *confidential*, and the stressed [ĕ] sound tells you that the [əns] suffix is *-ence*).

• Nouns that end in *-ence*) or *-ance*) very often have partner adjectives that end in either *-ent*) or *-ant*) – as in *confidence* and *confident*. If a noun ends in *-ence*) its partner adjective will aways end in *-ent*). If a noun ends in *-ance*), its partner adjective will end in *-ant*) – as in *defiance* and *defiant*.

Angel, angle. With these two the main question is where to put that <e>, and the answer is straightforward: In *angel* that <e> has to come right after the <g> to make it a soft <g>, [ānˈjəl], but in *angle* the <g> is hard, [ăngˈgəl], so the <e> cannot come right after it.

Angles, Saxons, Jutes, and Frisians were Germanic tribes from northern Europe that invaded Britain in the 5th and 6th centuries. They were all from the Jutland peninsula, roughly modern Denmark, and nearby coastal lands and islands. The Jutes were from northernmost Jutland, the Angles from

just south of them. The Saxons and Frisians were south of the Angles, with the Frisians primarily occupying the low coastal areas of the North Sea, essentially modern Belgium and Holland, while the Saxons were primarily on the coast of the western Baltic Sea and areas south in present day Germany. After the departure of the Romans, the Britons invited the Saxons and others to come as mercenaries, to help fight against attacking tribes from the north and the Irish from the west. Thereafter it became more of a full-fledged migration.

The name *Angles* is the source of the name *England*; *Angle* and *Saxon* the source of *Anglo-Saxon.* The language of the Frisians is the language closest to Old English.

Annual, annul. *Annual* explicates to ann1+ual) with the base *ann1*, which originally meant "Go," and came to mean "the period gone through in a year, a year." Other *ann1* words: *annuity, annum, anno* (as in the Latin *anno Domini*, "Year of our Lord, A.D."

Annul explicates to [a(1+n1+nul. Other *nul* "No; not, none" words: *annulment, disannul, disannulment*. *Nul* is a contraction of *null1*, as in *null, nullification, nullify, nullity*. *Nul* and *null1* are closely related to *nil* "Zero score in soccer" and several prefixes and other bases with [n] and <n> from the ancient base *ne* "Not":

Prefixes	**Example Words**
(an01	anaerobic, anaesthetic, anonymous, anorexia
(en4	enemy, entire "whole, unbroken"
(in1	inability, incongruity, insignificant, invalid
(n	naughty, nay, neither, never, none, nor, nought
(ne	necessary "not yielding", nefarious, neutral "not either", neutrino
(non	nonaddictive, nonchalant, nonfiction, nonsmoker
(un1	unacceptable, uncontrolled, unforgiving, unnecessary

Bases	**Example Words**
na3	natheless, nathless
nae	nae
ne'er	ne'er
neg	negative, neglect, negligée, negligent, negotiate
nege	renege
nihil	nihilism, annihilate, nihilist
nimby	nimbies
nit3	nitwit
nix	nix, nixed, nixie, nixy
nope	nope
n't	ain't, aren't, couldn't, didn't, haven't, isn't, wasn't
ny1	deny, deniable, undeniably

Apostrophe. Apostrophes are part of spelling and they have quite specific

uses:

• First, most of the times they work with <s> to turn nouns into possessive adjectives, as in *Jack's dog.* But there are no apostrophes in possessive pronouns: *The dog wagged his tail* and *the dog wagged its tail*. And the same is true of the other possessive pronouns *hers, ours, theirs,* and *yours.*

• Second, apostrophes are used in contractions like *don't*, *we're,* and *couldn't*. Notice that in the homonyms *its* and *it's*, *its* is a possessive pronoun with no apostrophe, while *it's* is a contraction with one. (A mnemonic: "There's no apostrophe in the possessives *his* and *its*.)

• Third, and quite rarely, apostrophes are used to form plurals of letters and numbers: *three c's*, *five 4's*.

In Greek and Latin an apostrophe was a turning away, and today we use the word *apostrophe* to refer to the act of speaking directly to an absent or imaginary listener.

Arctic has two accepted and equally correct pronunciations – [ärk′tĭk] and [är′tĭk] – but only one correct spelling, <arctic>. In the 14th century it was adapted from French *artique* and was spelled <artik, artyk> for two or three hundred years. Then the <c> was introduced to reflect the earlier Latin word *Arctus* "the Great Bear, Big Dipper, the North Star" and in time the [ärk′tĭk] pronunciation became a standard and is today the more common. Much the same history holds for *Antarctic*. See also Latinization.

***Artificial, beneficial, beneficiary, deficit, efficient, efficiency, office, officer, official* -- and others.** Each of these nine CommonWords contains a base that means "to make, do" – sometimes spelled *fic1*, sometimes *fice1*:

artificial = arti+fice1+ial)
beneficial = bene+fic1+ial)
deficit = (de+fic1+it)2
efficiency = (ex+f1+fic1+iency)
efficient = (ex+f+fic1+ient)
office = of2+fice1
sacrifice = sacri+fice1
sufficient = (sub+f+fice1+ient)

In *artificial* the base *arti* means "skill, craft"; in *beneficial bene* means "good, well"; in *office of2* means "work, produce"; and in *sacrifice sacri* means "sanctify, make sacred." In *deficit* the prefix (*de-* carries the sense "reversal, negation"; (*ex-* has the older meaning "out, beyond" but in *efficient* and *efficiency* it's an intensifier meaning "thoroughly, beyond the usual"; (*sub-* has an older meaning of "below, under" but in *sufficient* and *sufficiently* it carries the sense "nearly, barely."

CommonWords also contains the following four related *fic1* or *fice1* words: *beneficiary*, *efficiency*, *officer*, and *official*. The larger Lexis database contains 118 words with *fic1* or *fice1*, including *aficionado, artifice, benefice, coefficient, deficient, edifice, efficacious,*

immunodeficiency, officious, officiate, orifice, proficient, superficial.

Notice that in *fic1* and *fice1* the <c> spells the alveolar fricative sound [s] before <e, i, y> if there is no vowel following the <e, i, y>, as in *office* or *officer.* But it spells the palatal fricative [sh] if there is an unstressed vowel immediately after the <e, i, y>, as in *official*.

Assimilation. Assimilation is a historical process that simplifies pronunciation by changing one of two adjacent sounds to make it more similar to the other. The spelling often changes to agree with the changed pronunciation. The base *simil* "together, alike" in *assimilate* is also in *facsimile, similar, simile, verisimilitude*.

In English, assimilation is particularly common in consonants at the ends of Latin prefixes. In **full assimilation** the two sounds merge into one, though the spelling does not always change: The full assimilation is reflected in the changed spelling of *affair* (ad+f+fair, but though the pronunciation is simplified, there is no change in the spelling of *adjust* (ad+just pronounced [ə·jŭstˈ].

A prefix can have different patterns of assimilation in different settings. For instance, the bilabial sound [m] and its spelling <m> in the prefix (*com-* do not change in front of the bilabial sounds [b], [m], and [p]: the prefix and stem join via simple addition – *combine*, *commit*, and *compel*. But the [m] and <m> assimilate fully before [l], [n], and [r]: *collect*, (com+l1+lect5; *connect*, (com+n1+nect; *correct*, com+r1+rect. And most of the time the sound and spelling in (*com-* undergo **partial assimilation**, with [m] and <m> changing only partially, to [n] and <n> as in *concept*, (com+n1+cept and in *condemn*, *confess*, *congest*, *conjure*, etc. The partial assimilation of (*com-* to (*con-* eases pronunciation by moving the points of articulation closer together for the final sound of the prefix and the first sound of the stem. While the [m] at the end of (*com-* is a bilabial sound pronounced out at the two lips, the sounds spelled by the letters <c>, <d>, <f>, <g>, <j>, <q>, <s>, <t>, and <v> are all pronounced in places in the mouth closer to where the alveolar sound [n] is pronounced.

Assimilation is still with us: If you listen carefully, the word *input* is often pronounced not [inˈpu̇t̬] but rather [imˈpu̇t̬], with assimilation of [n] to [m] before [p]. The *OED* and *Webster's 3rd Unabridged* even list the variant spelling *imput*. (*EDLL*, *OCEL*, *AES*, pp. 177-98, and *The Basic Speller* and *Spelling for Learning* elsewhere on this website.)

Assure, ensure, insure. These three words have very similar senses. All have *sure* as their base – (ad+s1+sure, (en1+sure, (in3+sure – and all carry the older sense of *sure*: "free from danger or harm." *Insure* and *ensure* are essentially interchangeable, though *insure* is more common in American English, especially in the business sense. *Assure* carries the base *sure*'s more modern sense of "certain, confident." These three stem words can take on a number of affixes to form verbs, nouns, adjectives, and adverbs – for instance, *assurance, assuredly, coinsurance, ensurer,*

ensuring, insurability, insurable, insurance, insuror, reassurance, reassure, reinsure, underinsured, uninsurable, unreassuringly.

The stem word *sure* also has several different inflected and derived forms and compounds: *cocksure, surefooted, surely, sureness, surest, surety, unsure*.

Attack, attach. These two near homographs are very close historically. Both are from the Indo-European root *steg1 "pole, stick," and thus both are related to words like *stack, stagger, stake* and *stockade.*

Attack comes from French *attaquer,* which is from Italian *attacare* "to attack." Originally English spelled *attack* with the French <qu>. *Attach* comes from French *attachier* also meaning "to attack." *Attack, counterattack*, and their inflections are the only Lexis words that contain the base *tack2*.

The original English sense of *attach* was "to arrest, seize," echoed in today's legal sense of *attachment*. *Attach* is related to *attaché, detach, detachment*.

The digraph <ch> usually spells the affricate [ch], as in *church*. It spells [k] in words from Greek. The only CommonWords with word-final <ch>=[k] are *hi-tech*, *monarch*, and *stomach.* On the other hand, <ck> is the most common spelling of word-final [k] after a short vowel. For a list of 64 examples search the CommonWords database for Sound-to-Spelling Correspondence **[k]=<ck>** and Word Ends With **ck**.

Auxiliary (or Helping) Verbs. The word *auxiliary* comes from a Latin word that meant "helping," and auxiliaries help their main verbs by carrying the inflections for time and number. They help three kinds of main verbs: present and past participles, and infinitives. Most helping verbs are some form of *to be* or *to have.*

She is singing.	She has sung.	She was to sing at noon.
She was singing.	She had sung.	She had to sing earlier.
They were singing.	They have sung.	They have to sing now.
I am singing.	I have sung.	We have sung already.

Some helping verbs are called *modals* because they show the user's attitude, or mood, toward what is being said – for instance, how likely or factual it is. The main modals are *can, could, may, might, must, ought, shall, should, will,* and *would.* Notice the shifts in modality in these examples:

He can go.	He ought to go.
He could go.	He shall go.
He may go.	He should go.
He might go.	He will go.
He must go.	He would go.

English verb phrases can get quite complicated in order to show finely tuned ways of talking about time and modalities:

She has to have sung already.
He could have had to go yesterday.
They may have had to sing in the morning show.
She should have been singing by now.
They would have had to have arrested you.

A colleague once told me that his very young son, after his older brother had eaten the last cookie on the plate, was asked why he burst out crying and said, unassisted, "Well, I would have liked to have eaten it," which says much about how we learn our native tongue simply by listening and copying.

Back formation. Back formation is the formation of a new word by taking away part of an older, longer word. For instance, the recent word *lase* "to operate a laser" is a back formation from *laser*, which is itself an acronym contracting ***"l**ight **a**mplification by **s**timulated **e**mission of **r**adiation."* An exact parallel is *tase* from *Taser*, a contraction of *"**T**homas **A**. **S**wift's **E**lectric **R**ifle*," after Tom Swift, the hero of youth fiction. English actually has many back formations: the on-line *OED* lists 810, including *automate* from *automated* or *automation*, *burgle* from *burglar*, *gruntled* from *disgruntled*, and *pea* from *pease.*

Bases. A word's base is the element that contains its core of content and can have prefixes and suffixes added to it. In the word *uncounted* the base is *count* (un+count+ed). Bases like *count* that can stand free as words are called **free bases**. Bases that cannot stand free as words, like *+fect* in *affect, confection, defective, effective*, etc., are called **bound bases**. (*OCEL*, *AES*, pp. 32-39).

***Believe, belief*.** The bases *lieve* and *lief* "care, love, faith" are variants of one another. The prefix (*be-* is an intensifier. This is the same *lief* that is the old-fashioned word *lief* "dear, willing." Notice other <f> and <v> pairs like *half, halves; wolf, wolves, elf, elves; shelf, shelves*. In Old English the letter <f> spelled the sound [v] when it came between two voiced sounds, such as vowels, and it spelled [f] everywhere else. *Believe* and *belief* are good examples of <I> before <E>.

***Beowulf*.** *Beowulf* is the most celebrated literary work of the Old English period, probably written sometime in the 5th or 6th century. It is an epic poem in alliterative verse – notice the alliteration of <g>'s and <d>'s in the first line of the sample below. Blending fiction and fact, the poem tells of the feats of Beowulf, a Geat hero from southern Sweden who comes to the aid of Hrothgar the king of the Danes, and fights and kills the monster Grendel and his dam. Later Beowulf becomes king of the Geats and dies in a fight with a fire dragon. The language of *Beowulf* is so different from Modern English as to be for modern readers essentially a foreign language. These are the opening lines:

Hwæt! Wé Gárdena in géardagum
þéodcyninga þrym gefrúnon
hú ðá æþelingas ellen fremedon.

(Listen! We of the Spear-Danes in the days of yore,
of those clan-kings heard of their glory
how those nobles performed courageous deeds.)

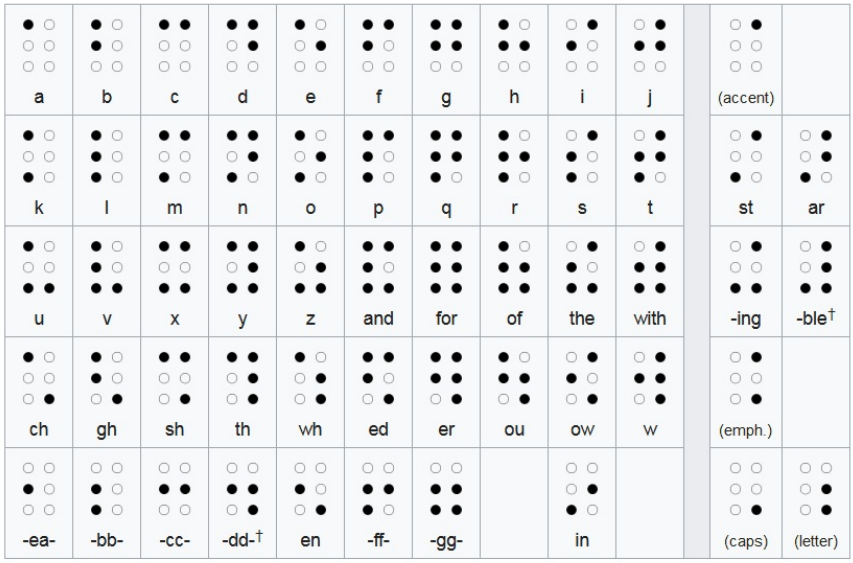
Bilabial sounds. Bilabials are consonant sounds articulated by pressing the two lips together – [b, p, m], as in *bob, pop, mom*.

Blends. Blends are strings of two or three consonant letters that spell two or more consonant sounds in the same syllable. Some blends are word-initial, more are word-final, a few are both:

<bl> = [bl] as in *blue*
<chr> = [kr] as in *chronicle*
<cl> = [kl] as in *clue*
<cr> = [kr] as in *crew*
<ct> = [kt] as in *act*
<dr> = [dr] as in *draw*
<fl> = [fl] as in *flaw*
<fr> = [fr] as in *from*
<ft> = [ft] as in *soft*
<gl> = [gl] as in *gloom*
<gr> = [gr] as in *groom*
<ld> = [ld] as in *sold*
<lf> = [lf] as in *shelf*
<lt> = [lt] as in *belt*
<mp> = [mp] as in *camp*
<nch> = [nch] as in *branch*
<nd> = [nd] as in *brand*
<nk> = [ŋk] as in *sank*
<nt> = [nt] as in *sent*
<nth> = [nth] as in *tenth*
<pl> = [pl] as in *place*
<pr> = [pr] as in *price*
<pt> = [pt] as in *slept*
<qu> = [kw] as in *quarter*
<rch> = [rch] as in *march*
<rd> = [rd] as in *hard*
<rk> = [rk] as in *mark*
<rl> = [rl] as in *girl*
<rm> = [rm] as in *arm*
<rn> = [rn] as in *barn*
<rt> = [rt] as in *short*
<rth> = [rth] as in *birth*
<sc> = [sk] as in *scale*
<sch> = [sk] as in *school*
<scr> = [skr] as in *scrape*
<shr> = [shr] as in *shrill*
<sk> = [sk] as in *ask*
<sl> = [sl] as in *sled*
<sm> = [sm] as in *small*
<sn> = [sn] as in *sneak*
<sp> = [sp] as in *spoke*
<sph> = [sf] as in *sphere*
<spl> = [spl] as in *splash*
<spr> = [spr] as in *spring*
<squ> = [skw] as in *squeak*
<st> = [st] as in *last*
<str> = [str] as in *straw*
<sw> = [sw] as in *swell*
<thr> = [thr] as in *throw*
<tr> = [tr] as in *true*
<tw> = [tw] as in *twin*
<tz> = [ts] as in *quartz*

Braille. Braille is a system for converting written text into a tactile form for readers and writers who are partially or completely blind. It is named after its French creator, Louis Braille, who produced his first version of the system at age 15. It consists of raised dots embossed on paper sheets, though today users can also read and write Braille directly from and to their computer screens.

Braille consists of dots that are organized in two-by-three blocks. In the simplified sample below each block of dots represents a letter or digraph, a very common word or suffix, or a formatting mark:



Another hundred or so blocks represent numerals, punctuation, more formatting marks, and more letter combinations and contractions.

In time Braille will almost certainly be replaced by text-to-speech programs that can 'read' written texts and synthesize them into speech, thus allowing visually impaired people to listen to text on a computer.

British and American spelling. What we call British spelling was

essentially defined by Samuel Johnson in his *A Dictionary of the English Language* (1755), and American spelling was essentially defined by Noah Webster in his *An American Dictionary of the English Language* (1828). Johnson looked to tradition and etymology for his judgements of correct spelling; Webster looked more to his sense of pattern and economy. Three differences between the two spelling systems often cited are (1) the British -*our*) vs. the American -*or*), as in *humour*, *humor*; (2) the British -*re*) vs. American -*er*), as in *centre*, *center*; and (3) the British tendency to twin final unstressed consonants that American leaves untwinned, as in *traveller*, *traveler*. However, there is considerable lack of agreement among dictionaries, experts, and general readers and writers whether these three distinctions – and all the others often cited in word lists – are strictly British or American. The British and American spelling systems have evolved and coevolved over the centuries to the point that the distinction between them is fuzzy and elusive. For a list of British and American spellings see List of Spelling Variants. For more on this distinction, see my "The Evolution of British and American Spelling" in *The Routledge Handbook of the English Writing System* (V. Cook and D. Ryan, eds.) London & New York: Routledge, 2016. pp. 275-292).

Capital and lowercase letters. Capital letters are called capital in the sense of "chief, most important." Lowercase letters are so called because back in the days of lead type, type setters in print shops stored them in the more convenient lower case or rack, as compared with the uppercase, or capital, letters. The use of capital letters in English is quite complicated; the index to the 13th edition of the *Chicago Manual of Style* lists over three dozen references to it. What follows is a simplification. Capital letters are used at the beginning of:

- Sentences: *The rain was pouring down.*
- Proper names: *Lou Gehrig, New York, Grand Canyon, Broadway.*
- Names of deities: *God, Jesus, Jehovah, Allah, Buddha, Zeus*.
- Names of days of the week and months of the year: *Monday, April.*
- Lines of verse, if the poet capitalized them:

  Just as my fingers on these keys
  Make music, so the selfsame sounds
  On my spirit make a music, too.
- Most words in the titles of articles and books: *Pride and Prejudice*.
- The first person singular pronoun *I*.
- *President* when it refers to the President of the United States.

***Capital, capitol*.** The base in both of these words is *capit* "head, chief." In *capital* the suffix -*al*)1 forms adjectives which are often converted to serve as nouns, so the adjective *capital* "main, important" led to the noun *capital* "money." *Capitol* "the building of the legislature" is from *Capitoline*, the highest of the seven hills of ancient Rome, on which the temple of Jupiter was located. Unlike *capital, capitol* is not used as an adjective. A useful mnemonic: "The capitol has a dome," with the <o> in *dome* helping with the

<o> in *capitol*.

Cardinal and ordinal numbers. Cardinal numbers are the ones with which we count: 1, 2, 3, 4, etc. – or *one, two, three, four*. Ordinal numbers indicate places in a numerical order: 1st, 2nd, 3rd, 4th, etc. – or *first, second, third, fourth. Cardinal* comes from a Latin word that meant "principal, most important." *Ordinal* is related to the word *order*.

Case. Different cases show how a given word relates to other words in a sentence. Modern English has a quite simple case system, relying more on word order and prepositions to show these relationships. In English only nouns and pronouns have different cases. Except for adding -*'s*) to indicate the possessive, or genitive, nouns do not change form to show case. The changes in form for pronouns are more complicated. Unchanged nouns can serve these four cases:

(1) the **nominative**, or subjective – that is, the case of the subject of the verb, as in *My **aunt** sang my uncle a song* – and

(2 and 3) the two **objective** cases – that is, the cases of the two objects of the verb: The **accusative**, the case of the direct object – the direct recipient or product of the action of the verb: *My aunt sang my uncle **a song***; and the **dative**, the case of the indirect object – the person or thing indirectly affected by the action of the verb: *My aunt sang **my uncle** a song.* Direct objects answer the question "What?" of the verb: Sang what? Sang a song. Indirect objects answer "To whom or what?" Sang to whom? Sang to my uncle.

(4) the **possessive** or genitive case, which, broadly, shows possession and is usually marked with the addition of the suffix -*'s*), as in *My **aunt's** voice* or periphrastically – that is, by the use of a function word like the preposition *of* in *The voice **of my aunt***.

The changes in form to show pronoun cases are more complicated:

Nominative	Accusative	Dative	Genitive
I	*me*	*me*	*my*
you (singular)	*you* (singular)	*you* (singular)	*your* (singular)
he, she, it	*him, her, it*	*him, her, it*	*his, her, its*
we	*us*	*us*	*our*
you (plural)	*you* (plural)	*you* (plural)	*your* (plural)
they	*them*	*them*	*their*
who	*whom*	*whom*	*whose, of whom*
which	*which*	*which*	*whose, of which*
that	*that*	*that*	*of that*
those	*those*	*those*	*of those*

Casual, causal. Despite the differences in pronunciation, getting that <u> into the right place can be a problem. *Casual* explicates to casu+al)1 Other words with *casu* "fall; fall, event, case" are *casually, casualty, casuistic*. The adjective *casuistic* refers to arguments that are seen as overly subtle or specious or hair-splitting. *Casu* is related to the noun *case1* and the base *cas3* as in *occasion*.

Causal explicates to cause(1+al)1, and *cause1* means "Reason, purpose" as in *because, causality, causally, causative, cause.*
Just as the <u> in *casual* and *causal* can be a problem, so too can it be in the noun pair *casualty, causality* and the adverb pairs *casually causally*.

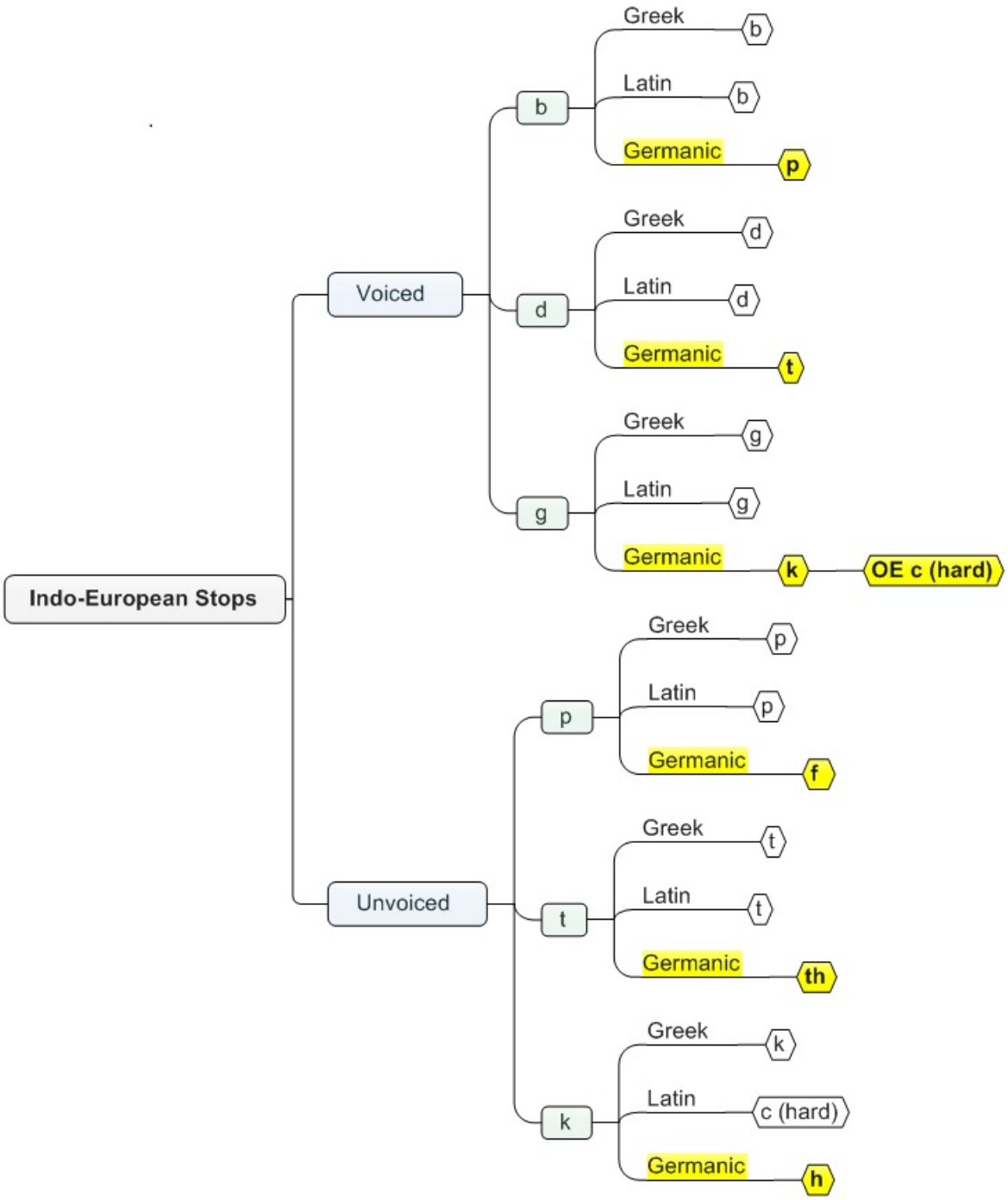
Cavalry, Calvary. *Cavalry* explicates to caval+ry). The base *caval* "horse" also occurs in *cavalier, cavalcade,* and is closely related to *caballero* from Spanish , and *chivalry, chevalier* from French. The rare *chevalet* "workman's support" parallels our word *horse*, as in *sawhorse.*

Calvary "bald, skull" is the name of the hill taken to be the site of Jesus' crucifixion. Closely related are the rare and technical nouns *calvaria* and *calvarium*" "roof of the skull."

Caxton, William. In 1476 William Caxton established the first printing press in Britain and produced his first book, an edition of Chaucer's *The Canterbury Tales*. During the 15 or so years of his career, he printed over a hundred books, mostly works in foreign languages that he and others translated into English. His work was part of the development of Standard Written English and the growing separation between the spoken and written word. It is likely that his tendency to use French words in his translations added to the heavy influence of French on Early Modern English. See French influence.

Changes in Some Indo-European Sounds. As the speakers of Proto-Indo-European (PIE) spread to the east, west, north, and south, they encountered, settled among, and intermarried with speakers of other languages. This mixing of languages and separation from other PIE speakers changed the languages they spoke. Thus the Indo-European family of languages was born and over the millennia has evolved.

There are several patterned sound and spelling differences among IE languages, which was evidence crucial to the reconstruction of PIE. A very few of these changes are highlighted in yellow in the map below. All of the highlighted changes were in the Germanic branch of the family, which includes English:



The results of these changes are exemplified below, concentrating on initial stops and comparing Latin with English:

PIE **b** → Germanic **p**, thus Latin *bullire* but English *poach* “cook in liquid”
PIE **d** → Germanic **t**, thus Latin *decem* but English *ten*
PIE **g** → Germanic **k,c**, thus Latin *gelidus* but English *cold* with hard <c>
PIE **p** → Germanic **f,** thus Latin *ped* but English *foot*
PIE **t** → Germanic **th**, thus Latin *tres* but English *three*
PIE **k** → Germanic **h**, thus Latin *centum* (with hard <c>) but English *hundred*

In short, voiced PIE stops all became their unvoiced counterparts in Germanic, while unvoiced PIE stops all became unvoiced fricatives. It was the recognition of patterns like these that, many times over, enabled

scholars over the centuries to reconstruct much of how the PIE language must have sounded. A more complete and detailed table of such changes is reprinted on pp. 148-49 of Calvert Watkins' *The American Heritage Dictionary of Indo-European Roots* and in the Indo-European appendices in the *American Heritage Dictionary*.

Changing <y> to <i> and <i> to <y>. You may be familiar with the old jingle that ends "change the <y> to <i> and add <es>." But the procedure is broader than that: When we add any suffix that starts with a vowel to a stem that ends in the letter <y> immediately following a consonant, we change the <y> to <i> and add the suffix – for instance, *merry* + *er*)02 = merry+er)02 = merry/+i2+er)02 = *merrier*.

The replacement does not take place if the <y> is preceded by a vowel because in such cases the <y> is part of a vowel digraph, and digraphs are routinely exempted from such rules: *buy* + *er*)01 = buy+er)01 = *buyer*.

One complication: We add an inflectional suffix that starts with an <i> to a stem that ends in a <y> via simple addition: *try+ing)1* = *trying*. But when the suffix does not start with <i>, and the <y> has a consonant right in front of it, we again change the <y> to <i>: try/+i+ed)1 = *tried*.

Just the reverse of this procedure is also true: When we add a suffix that starts with the letter <i> to a stem that ends <ie>, we change the <i> to <y> and delete the <e>: *die* plus -*ing*) = die/+y4+ing)1 = *dying*. But when we add a suffix that starts with any other vowel, we just delete the final <e>: *die* + *ed*) = die/+ed)1 = *died*.

Chaucer, Geoffrey. Geoffrey Chaucer (1340?-1400) was the greatest poet of the Middle English period. His work has had an immense influence on the development of English poetry – especially his use of vernacular English and of various poetic forms and rhythms, some of which he developed. His most famous work is the *Canterbury Tales*, a series of short verse stories told by a group of pilgrims traveling to the cathedral in Canterbury "the hooly blisful martir for to seke." His language is more accessible to modern readers than is Old English due to the evolution of the language during the intervening centuries. The "General Prologue" opens:

> Whan that Aprill with his shoures soote
> The droghte of March hath perced to the roote,
> And bathed every veyne in swich licour
> Of which vertu engendred is the flour . . . .
>
> (When that April with his sweet showers
> The drought of March has pierced to the root
> And bathed each vein in such liquor
> Of whose power engendered is the flower . . . .)

Clauses and Sentences. A clause is a string of words that contains a

subject and a **predicate**. Clauses come in a somewhat bewildering array of types, but in the most basic sense we can say that the subject of a clause is a noun phrase that refers to the actor – the doer of an action – and the predicate contains a verb phrase that refers to that action. Thus in the clause "The neighbor's dog barked all night" the subject is the noun phrase "the neighbor's dog" built around the noun *dog*, and the predicate is the verb phrase "barked all night" built around the verb *barked*. A **main**, or **independent**, **clause** can stand free as a sentence; a **subordinate**, or **dependent clause** cannot. Subordinate clauses acting as adverbs are usually introduced by a subordinating conjuntion: "**because he wanted in out of the rain.**" Subordinate clauses can also act as nouns ("He said **that he wanted to go home**) or as adjectives ("The man **who is sitting in the back row** is her father.")

Clauses can combine to form several kinds of sentences:

- A single main clause forms a **simple sentence:** "The neighbor's dog barked all night"
- Two or more main clauses form a **compound sentence:** "The neighbor's dog barked all night, and I didn't sleep a wink."
- A main clause and a subordinate clause form a **complex sentence**: "The neighbor's dog barked all night because he wanted in out of the rain."
- Two or more main clauses and one or more subordinate clauses form a **compound-complex sentence**: "The neighbor's dog barked all night because he wanted in out of the rain and I didn't sleep a wink." *OCEL*.

Closed syllables. Closed syllables end with a consonant sound. See Syllables.

Code and Performance. Code is the slowly changing system of abstract categories, distinctions, and relationships that structure the English language – including its spelling. It is the current set of rules governing the game of English. **Performance** is the game itself, as people use code in concrete and particular acts of speaking and listening, writing and reading. Actually code exists in two ways: First, it is the universal, highly abstract, and as yet rather mysterious, set of rules and patterns that inform our language. Second, in addition to this highly abstract and objective code, there are the particular and subjective versions of the code in the minds of the individual users of English. These individual codes reflect the amount of the universal abstract code that individuals have been able to internalize from their particular experiences with the language, its users, and the world. The interaction between the abstract and objective code and the concrete and subjective individual codes in acts of performance drives the evolution of the language. For more on "Code and Performance" see Orthography as an Evolving Complex System on this website.

College, collage contrast in pronunciation, including stress, but they can still cause confusion. *College* explicates to (com+l1+lege2. The base *lege2* means "collect, speak," and a college is a body of people who speak and study together. *Lege2* occurs only in *college; its nonterminative co-form leg3* occurs in *delegate* and *relegate*.

Collage explicates to coll1+age). The base *coll1* means "glue" and occurs in the technical nouns *collagen* and *colloid*. Its pronunciation, with the stressed final [äzh], is due to its French origin.

Comma, coma are examples of the VCCV vs. VCV contrast**.** *Comma,* with VCCV and a short <o>*,* explicates to comm2+a)2. The base *comm2* means "beat, strike; piece cut off, short part of a sentence" and occurs only in *comma*. Coma, with VCV and a long <o>*,* explicates to com3+a)2. The base *com3* means "to be tired, to tire" and occurs only in *coma* and *semicoma*.

Compliment, complement**.** *Compliment* "praise" is related to *compliant*, "to act according to another's wish", which used to mean "polite" – a reminder of that <i> in *compliment*. *Complement* means "to complete", a reminder of that first <e>.

Compound words. A compound word is a word that contains two or more stems. The most easily recognized compounds contain two or more words, or free stems, such as *popcorn,* pop+corn; *blackbird,* black+bird; *congressman*, (com+n+gress+man; *notwithstanding*, not+with+stand+ing). This type of compound occurs in three spellings: closed (*firecracker, fireman),* open (*fire station, firing squad*), and, less commonly, hyphenated (*fire-eater* and the adjective *fire-and-brimstone*). There are several generalizations for suggesting when to choose which one of these three spellings, but so far none are very useful, and the best advice is to check a reputable dictionary.

A second type of compound contains one or more bound bases plus one or more free stems: *biofeedback,* bio2+feed+back1*; electromagnet,* electro+magnet*; hydroelectric,* hydro+electric*; gasohol,* gas1+ohol*; ionosphere,* iono+sphere*; monoxide,* mon3+oxide*; petrochemical,* petro+chemical*; thermodynamics,* thermo+dynamics. Special cases are compounds that contain a free base plus a contraction: *can't, 'twas, he'd, she'll*.

A third type contains two or more bound bases and no free base: *moped,* mo2+ped6*; equilibrium,* equi1+libr1+ium)2*; centrifuge,* centri+fuge*; hydrogen,* hydro1+gen6*; isotope,* iso+tope1*; litmus,* lit3+mus2*; positron,* posi2+tron1*; telemetry,* tele1+metr1+y)3; *gastroenterologist,* gastro+enter2+olog+ist)1. Such compounds with bound bases are most common in the technical and scientific registers.

Concatenation. *Concatenation* means a linking together. It comes from Latin, with the earlier meanings "bind, chain." In orthography

concatenation has to do with how sounds and letters link together, as into blends, doublets, doublet equivalents, digraphs, trigraphs, and simplifications, and with things that occur when elements concatenate: simple addition, twinning, silent final <e> deletion, assimilation, changing <y> to <i> and <i> to <y>.

Concatenations. Some concatenations of sounds and letters can pose special problems for spellers. They can look weird and be hard to pronounce, so sounds and letters in the middle of them can be easily lost – or at least misplaced. This is a case where explication can help by unfolding the word. The following are some examples of more complex concatenations and how they can be unfolded via explication:

<tchb>: Notice that <tch> tends to follow a short vowel:

hatchback	hatch1 + back1
matchbook	match2 + book
matchbox	match2 + box1
pitchblende	pitch2 + blende
sketchbook	sketch + book
switchback	switch + back1
switchblade	switch + blade
switchboard	switch + board
watchband	watch + band1

<ghtw>: Notice that <gh> and <ght> tend to follow a long vowel:

flightworthy	flight + wor1+th)2+y)1
lightweight	light2 + weigh+t)2
nightwear	night + wear1
rightward	right + ward]
straightway	straight1 + way1
tightwad	tight + wad

<ndst>: Notice how that [d] tends to get lost.

bandstand	band2 + stand
grandstanding	grand + stand+ing)1
grindstone	grind + stone
handstand	hand + stand
sandstone	sand1 + stone
sandstorm	sand1 + storm
soundstage	sound1 + stage
standstill	stand + still1
windstorm	wind1 + storm

Concrete vs. Abstract, and Specific vs. General. People often treat *concrete* and *specific* as synonyms, as they do with *abstract* and *general*. But *concrete* means perceptible by the senses – by sight, sound, smell, taste, touch; and *abstract* means not perceptible by the senses, immaterial, conceptual. *Specific* means dealing with a single or a very limited set of things; and *general* means dealing with a larger, even infinite, set.

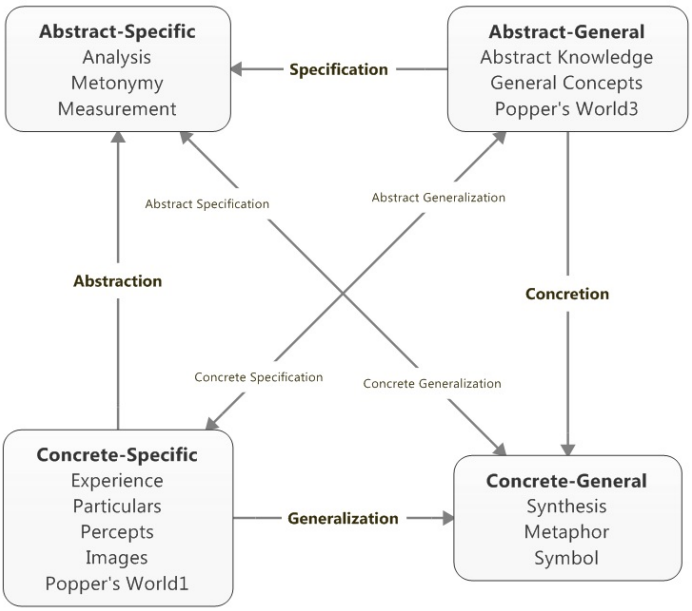
If we treat the concrete-abstract contrast as a vertical axis, and

specific-general as a horizontal, we can identify a cognitive space with four realms:

Abstract-Specific	Abstract-General
Concrete-Specific	Concrete-General

Concrete-specific is the realm of experience and its particulars; abstract-specific is the realm of logic and measurement. Concrete-general is the realm of analogy and metaphor; abstract-general is the realm of universals.

We can also identify lines of thought through this cognitive space with some representative items and modes of thinking in each realm:



The philosopher Karl Popper argues that human reality consists of three worlds – Worlds 1, 2, and 3. His World 1 is the physical world – the outer world of physical objects and their events. It provides the substrate for our concrete-specific cogntive realm. World 2 is the inner world of psychological states and responses, of feelings, volitions, perceptions, the world within the individual human mind. World 2 is represented by our concrete-specific, concrete-general, and abstract-specific realms. World 3 is the symbolic world of abstract general values, principles, and laws, the product of the human mind. (See, for instance, Popper's *In Search of a Better World: Lectures and Essays from Thirty Years.* London and New York: Routledge, 1984, 1992, pp. 7-26.)

Confident, confidant. Both *confident* and *confidant* come from a Latin word that meant "to rely on." The adjective *confident* is discussed at -ance), -ence); -ant), -ent). The noun *confidant* is pronounced [cŏn¸fĭ·dănt'],

with a short <a> in <dant> where *confident* has a schwa in <dent> and with a different stress pattern. *Confidant* is often pronounced with an [ä] rather than an [ă], and is spelled *confidante* when referring to a woman or girl.

Conjunctions. In grammar there are two types of conjunctions, or joiners: coordinating and subordinating. **Coordinating conjunctions** join together two things that are being treated as equals, or coordinate – for instance, the adjectives *blue* and *white* in the phrase "the blue **and** white orchids," or the two nouns in the phrase "dogs **and** cats," or the two main clauses in the compound sentence "She said she'd be here **and** she usually keeps her word." Other coordinating conjunctions are *but, or, so*, and *nor*.

Subordinating conjunctions combine two unequal clauses and mark the subordinate clause, whether it comes before or after the main clause: "**If** it rains, we're not going" (with a comma between the clauses) and "We're not going **if** it rains" – usually with no comma. There are many subordinating conjunctions but common ones are *after, although, as, because, before, if, since, that, though, unless, until, while.* Subordinate clauses usually cannot stand free as sentences. The relation between main and subordinate clauses is much like that between free and bound stems or free and bound bases.

Connotation and Denotation. The denotation of a word is its central, logical sense, the core of its dictionary definition. The connotation is the set of more emotional associations that are aroused by the word. For instance, the words *slender* and *skinny* both denote a small amount of flesh and fat on one's body, but *slender* has quite positive connotations while *skinny* has more negative ones. Connotatively *svelte* is even more positive, *scrawny* more negative.

In terms of Content and Meaning denotation is at the core of a word's content while connotation is more a matter of its meaning. Different registers have different levels of connotation. For instance, scientific and technical registers tend to minimize it, while literary and political registers tend to rely on it much more, often considerably more than on denotation.

Connotation can be a powerful driver of change in a word's sense – sometimes so much so that connotation becomes denotation. For instance, (staying with the theme of body shape) the word *buxom* originally denoted something easily bowed or bent; it was related to *bow* as in "bow and arrow." By the 12th century it had developed the sense "obedient, submissive, obliging." By the 16th century it meant "jolly, lively" and by late in the 16th century "healthy, plump, full-bosomed." (A colleague once suggested that *buxom's* later meaning arose because 16th century city boys found country girls to be jolly and obliging, and since they had been raised on eggs and milk and good British mutton, they also tended to be plump – and full-bosomed.) Today in the *American Heritage Dictionary* the sense of "plump, full-bosomed" is *buxom's* first definition, its denotation, while "lively, vivacioous" is labeled "Archaic" and "yielding, pliant" is labeled "Obsolete."

Conscious, conscience. The base of these two words is *sci*1, which originally meant "to cut or split" and acquired the later sense of "to separate one thing from the other" and finally in Latin came to mean "knowledge, understanding." *Sci*1 also occurs in the words *science, scientist, scientific, omniscient,* etc. The suffix in *conscious* is *-ous*), which forms adjectives that can be converted to nouns. The suffix in *conscience* is *-ence*), which forms nouns but not adjectives. Paying special attention to the pronunciation of the end of these two can help. And a possible mnemonic: *Co**n**scie**n**ce* has two <n>'s, just like ***n**ou**n***.

Consonant letters and the sounds they spell. These are the 22 consonant letters:

<b> <c> <d> <f> <g> <h> <j> <k> <l> <m> <n>

<p> <q> <r> <s> <t> <u> <v> <w> <x> <y> <z>

<b> and [b]. The letter <b> and its doublet <bb> regularly spell the sound [b], as in *bib* and *babble,* accounting for 99.9% of the spellings of [b] in CommonWords. The <bb> doublet is rarely due to simple addition (*dumbbell, subbranch*), sometimes due to assimilation (*abbreviate*), is more often due to twinning (*chubby, dubbing, flabby, jobber, robbery, rubber, shrubbery, stubby*), or to the VCV/VCCV contrast (*abbey, cabbage, hobby, jabber* ('talk"), *rabbit, ribbon, rubbish*) or the VCle/VCCle contrast (*bubble, pebble, rabble*). The sound [b] is also spelled with the simplifications <mb> (*bomb, comb, lamb,* etc.) and <pb> in *cupboard*. See Silent Letters. *AES*, pp. 328-33.

<c> and [k] and [s]. For <c>=[k] see <k> and [k]. The letter <c> spells [s] only when it's immediately followed by <e>, <i>, or <y> – as in *ice, icing, icy*. In CommonWords [s] is spelled <c> about 20% of the time; <s> about 75% of the time. See also Soft and hard <c> and <g>. *AES*, pp. 405-06.

<d> and [d]. In CommonWords the sound [d] is spelled <d> or its doublet <dd> about 99.5% of the time, as in *dad* and *riddle* . The <dd> doublet is due to assimilation only in *sudden*, sometimes due to simple addition (*addict, address, adduce, midday*), more often due to twinning (*bidden, daddy, goddess, muddy, reddest, riddance, sadden, wedding*), and to the VCV/VCCV contrast (*bladder, eddy, ladder, shudder, udder*) and the VCVle/VCCle contrast (*fiddle, huddle, middle, paddle, riddle, saddle*). The sound [d] is also spelled with the simplification <ld> in *could, would, should,* and *solder.* And the letter <d> also is used in the two doublet equivalents <dg> and <dj> to spell the sound [j], as in *bridge, edge, judge, knowledge,* and *adjective, adjoin, adjourn, adjust.* When we add the past suffix *-ed*) to any verb that ends with a voiced sound other than [d], the <ed> spells the sound [d]: *boomed, filed, freed, starred, sighed, sinned*. *AES*, pp. 337-42.

<f> and [f]. In CommonWords about 86% of the time the letter <f>

and its doublet <ff> spell the sound [f], as in *fluff*. But <f> is very rare at the end of words after a vowel: The only known cases are *if* and *of*, and in *of* <f> spells [v], the only known instance of <f> = [v]. Usually word-final [f] after a vowel is spelled <ff>: *cliff, fluff, gruff, off, scoff, sniff, staff, stuff, whiff*. The <ff> doublet is also often due to simple addition (*griefful, safflower, shelfful, soffit, traffic*), more often due to assimilation (*affection, afford, differ, difficult, effect, effort, offend, offer, office, suffocate*), rarely to twinning *(iffier, iffy, reffed, reffing*), more often to the VCV/VCCV contrast (*buffalo, caffeine, coffee, daffodil, muffin, off, tiffany*) and the VCle/VCCle contrast (*ruffle, waffle)* . The sound [f] is also spelled with the simplifications <ft> and <lf>, as in *often, soften* and *calf, behalf, half*. The sound [f] is spelled <gh> in *cough, enough, laugh, laughter, rough, tough.* And it is spelled <ph> and <pph> in *phone, photograph, prophet, sphere, triumph, typhoon* and *sapphire.* For <gh> and <ph> see Digraphs <ch, gh, ph, rh, sh, th, wh>. *AES*, pp. 377-84.

<g> and [g]. The letter <g> accounts for 99% of the spellings of [g] in CommonWords and for 67% of the spellings of [j]. See Soft and hard <c> and <g>. The letter <g> regularly spells the sound [g] before the vowel letters <a, o, u> or any consonants, as in *gate, glove, got, great, gut*. Sometimes in the <gu> spelling the <u> is a silent insulator used to separate the <g> from an <e, i, y>, which would spell the sound [j] rather than [g]: *disguise, fatigue, guess, guide, guilt, guy, vague*. The <gg> doublet is due to simple addition (*doggone*, only known case), assimilation (*aggrandize, aggravation, aggression, aggrieve*), twinning (*baggy, beggar, druggist, logging, luggage, wagged*), or the VCV/VCCV contrast (*dagger, maggot, toboggan, trigger*), or the VCle/VCCle string (*goggles, squiggle, struggle, wiggle*). The digraph <gh> spells [g] in *ghastly, ghoul, ghost, sorghum,* and *spaghetti*. Due to simplification the sound [g] is spelled <tg> in *mortgage* mort1+gage1 and <ckg> in *blackguard* black+guard. *AES, pp. 350-55.*

<h> and [h]. In CommonWords about 97% of the time, the sound [h] is spelled <h>, as in *hat, house, hungry*. The letter <h> also occurs in these digraphs and trigraphs:

- <ah> to spell [ə] and [ä] as in *Allah, hurrah, Jehovah, messiah*
- <aoh> to spell [ō] as in *pharaoh*
- <ch> to spell [ch] as in *church* and [k] as in *school* and *stomach;*
- <sh> to spell [sh] as in *shush*;
- <th> to spell [th] as in *thin*, [th] as in *then*, and [t] as in *Thomas*;
- <rh> to spell [r], as in rhinoceros, rhubarb, rhythm;
- <rrh> to spell [r], as in *diarrhea, hemorrhage, myrrh;*
- <wh> to spell [h], as in *who, whole, whom, whose*, or to spell [^{h}w] or [w], as in *whale, while, whether;*

The letter <h> occurs as a true silent letter in *heir, honest, honor, hour* and after <x>, as in *exhaust, exhibit, exhilarate, exhort, exhume. AES*, pp. 386-90.

<j> and [j]. The letter <j> regularly spells the sound [j], nearly always at the head of bases, as in, *joke, junior, project, rejoice,* but accounting for

only 24% of the spellings of [j] in CommonWords. The sound [j] is spelled <g> before <e, i, y> – as in *cage, caging, cagy*, accounting for 67% of the spellings of [j]. See Soft and hard <c> and <g>. The sound [j] is spelled with the doublet <gg> only in *exaggerate*. After short vowels it is often spelled with the doublet equivalent <dg> as in *abridgment, badge, fledgling, judgment, ridge, lodger, fudging*. It is less often spelled with the doublet equivalent <dj> as in *adjective, adjoin, adjourn, adjust.* And it is spelled with a palatalized <d> usually followed by <u>, as in *fraudulent, gradual, graduate, individual, procedure, schedule*. The letter <j> spells [y] in the Norwegian adoption *fjord*. It spells [h] in the Spanish adoption *junta*, and due to simplification <ju> spells [w] in *marijuana*. *AES*, pp. 417-21.

<k> and [k]. The sound [k] has the most complicated spellings of all the consonants. The letter <k> regularly spells [k], but that is just the beginning, and all that follows is still a simplification. The complications arise because the sound [k] has five major spellings (<c>, <ch>, <k>, <q>, <qu>) and four doublets or doublet equivalent spellings (<cc>, <ck>, <cq>, <kk>). The numbers in parentheses below show the number of words in CommonWords with each spelling. The sound [k] is spelled

- <c> before <a, o, u>, as in *cat, cot, cut* (1412)
- <ch> as in *chaos, chemistry, chlorophyll, echo, schedule, school, stomach* – and *ache* (87)
- <k> before <e,i,y>, as in *shake, shaking, shaky* (309)
- <q> as in *equal, frequent, quack, quarrel, queen, request, squeak, squirrel* (91)
- <qu> as in *antique, clique, croquet, grotesque, mosque, mosquito, opaque, queue* (10)

The sound [k] is also spelled

- <cc> due to assimilation, as in *account, accurate, occasion, occur,* and due to twinning in *sicced* (31)
- <ck> in a VCC string, as in *back, chicken, lucky, package, tackle* (118)
- <cq> due to assimilation, as in *acquaint, acquire, acquittal* (4)
- <kk> rarely, due to twinning, as in *trekked, trekkie, yakking* (0)

Other minor spellings include <cch> in *saccharine, zucchini* (0)*;* <kh> in *khaki* (0); <lk> in *talk, walk* (10)*;* <sc> in *viscount* (0)*;* <x> in *excel, excite* (13). *AES*, pp. 355-72.

<l> and [l]. The letter <l> regularly spells the sound [l], and the sound [l] is spelled either <l> or <ll> over 99% of the time in CommonWords. The contrast between the <l> and <ll> spellings is less clear-cut than it is for most other consonants. But the <ll> doublet is often due to simple addition (*actually, soulless*), assimilation (*allege, alloy, collapse, collect, illogical, illusion*), twinning (*compelling, controller, patrolling, propellant, rebellion*), or the VCV/VCCV contrast (*ballad, collar, lullaby, silly, valley, yellow*). The only other spelling of [l] is the simplification <sl> in *aisle, isle, island*. *AES*, pp. 439-47.

<m> and [m]. The letter <m> regularly spells the sound [m], and the sound [m] is nearly always spelled <m> or <mm>, more than 98% of the

time in CommonWords. The <mm> doublet is always due to simple addition (*command, commercial, commit, communal*), assimilation (*immature, immediate, immortal, symmetry*), twinning (*dammed, dimmest, drummer, humming, slimmer*), or the VCV/VCCV contrast (*comma, dilemma, hammer, mummy, simmer*). There are four minor spellings of [m], all simplifications and usually at the end of words:

- <mb> as in *bomb, climb, comb, dumb, lamb, tomb, womb;*
- <lm> as in the most common pronunciation of *alms, calm, palm, psalm, qualm;*
- <mn> as in *autumn, column, condemn, damn, hymn, solemn;*
- <gm> as in *diaphragm, paradigm, phlegm, syntagm. AES,* pp. 423-29.

<n> and [n]. The letter <n> regularly spells the sound [n], and about 99% of the time the sound [n] is spelled either <n> or <nn>. As usual the <nn> doublet is always due to simple addition (*innate, innocent, innuendo, leanness, thinness*), assimilation (*announce, connect, connotation*), twinning (*beginning, funny, inner, thinnest*), or the VCV/VCCV contrast (*cannibal, channel, minnow, penny, tennis, tunnel*). In four simplifications the sound [n] is also spelled

- <kn> as in *knead, knee, knew, knife, knight, knot*, *knuckle*;
- <gn> as in *gnarl, gnash, gnat, gnaw, gnome;*
- <pn> as in *pneumatic, pneumonia, pneumococcus;*
- <mn> as in *mnemonic. AES*, pp. 429-35.

<p> and [p]. The letter <p> and its doublet <pp> regularly spell the sound [p], more than 99% of time in CommonWords – <p> at any position in a word, <pp> never at the beginning or end. The <pp> doublet is rarely due to simple addition (one pronunciation of *lamppost, stepparent*), often due to assimilation (*appeal, approach, approve, oppress, supply, support, suppose*), more often due to twinning (*clipping, happy, slipper, upper, zipper*), the VCV/VCCV contrast (*copper, hippopotamus, kipper, pepper, poppy*) and the VC*le*/VCC*le* contrast (*apple, cripple, grapple, ripple, supple, topple*). *AES*, pp. 335-37.

<q> and [k]. See <k> and [k].

<r> and [r]. The letter <r> and its doublet <rr> regularly spell the sound [r], and account for more than 98% of the spellings of [r] in CommonWords. But the consonant sounds [l] and [r] are classified as liquids, and with both liquids the VCV/VCCV distinction is less useful than with other consonants – consider, for instance, the effect of [r] on a preceding vowel, as in *fate* or *fame* or *faze* vs. *fare*. However, <r> spells [r] in any position in the word: *acre, cheer, circle, direction, miracle, orange, player, rabbit, ruin, theory*. The doublet <rr> sometimes spells [r] at the end of words: *bizarre, burr, err*. Often the <rr> is due to twinning: *deterrent, furry, occurred, recurrent, starry, stirring, warrior*. Fairly often it is due to assimilation: *arrive, correct, corrupt, irradiate, irresponsible, irrigate, surrogate* or to simple addition: *earring, interrogate, interrupt, surreal, surrender, surround*. The <rr> also can occur in a VCC string, though it can be hard to identify a short vowel at the head of it: *current, horrible, marry, merry, worry, sorry, squirrel, stirrup, warrior*. For more on these

disappearing vowel sounds before [r], see “The /ur/ Convergence,” *AES*, pp. 321-26.

Three minor spellings of [r] are the simplification <*wr*> (*wrap, wreck, wrench, wrinkle, write, wry*), and the Greek digraph and trigraph <rh> and <rrh> (*rheostat, rhinoceros, rhubarb, rhythm; diarrhea, hemorrhage, myrrh*). In *corps* [kôr] we apparently must say that [r] is spelled <rps> via simpification. *AES*, pp. 447-55.

<s> and [s]. In CommonWords 83% of time [s] is spelled <s> or <ss>, as in *sassy* and *sissy*. The letter <s> spells [s] anywhere in a word: *solid, dense, radius*. The doublet <ss> is rarely due to twinning (*busses, gassed, plusses, yesses, sissy*), sometimes due to simple addition (*dissatisfied, dissect, dissipated, misspeak*), often due to assimilation (*assault, assembly, assets, assignment, assimilation, assist, assorted*), sometimes due to the VCCV/VCV contrast (*blossom, casserole, opossum pessimism, vessel*), and rarely due to the VC*le*/VC*le* contrast (*hassle, tussle*).

However, things get much more complicated: First, the sound [s] is often spelled <c> before <e, i, y>: *lace, lacing, lacy*. See Soft and hard <c> and <g>.

A second complication is that very often the letter <s> spells the sound [z], more often than does the letter <z> (*capitalism, dogs, has, observe, visit, dismal*), while <ss> also sometimes spells [z], as in (*dessert, dissolve, possessive, scissors*). Further, <s> often spells [zh], as in *aphasia, casual, decision, exposure, measure*.

A third complication is that <s> appears in several simplifications that spell [s]: <ps> (*psychic, psychology*), <sc> (*scene, scientist*), <st> (*listen, whistle*), <sth> (*isthmus*), <sw> (*sword*).

And finally <s> appears in spellings of sounds other than [s]: <tsch> = [ch] in *putsch,* <sl> = [l1] in *aisle, isle, island*, and four spellings of [sh]: <s> in *dimension, insurance, sugar, surely*; <sc> in *conscience, conscious, crescendo, fascism*; <sh> in *short, bishop, blush*; <ss> in *issue, mission, passion, session, tissue*.

In a word-final base that would otherwise end with a single <s>, if there is a consonant or vowel digraph preceding the <s>, a silent final <e> is added as an insulator to keep the word from looking like a plural: *browse, curse, dense, else, hearse, lapse, goose, moose, please, sparse* – and by extension *clause, house, noise*, etc. *AES*, pp. 394-405, 407-12, 422.

<t> and [t]. About 97% of time in CommonWords the sound [t] is spelled <t> or <tt>. The letter <t> spells [t] at the beginning, middle, or end of a word: *testament, thermostat, treatment*. The doublet <tt> is often due to twinning (*admittance, flattest, knitting, rebuttal, rotten, shutter*), to simple addition in some pronunciations (*cattail, outtake, rattrap*), to assimilation (*attack, attend, attention, attire, attribute*), to the VCC/VCV contrast (*attic, butter, cotton, glitter, jetty, lettuce, motto, utter*), or to the VC*Cle/VCle* contrast (*battle, bottle, brittle, cattle, kettle, scuttle, shuttle, throttle*). But after this ruly start there are several unruly spellings of [t] – usually quite

rare, sometimes simplifications involving the letter <t>, sometimes Latinizations:

- <ed> or <d>= [t] in the past tense of verbs that end with one of the voiceless sounds [ch, f, k, p, s, sh] (*perched*, *miffed, hooked, stopped, kissed, fished*) – depending on whether we treat the <e> as silent, making <d>=[t] (25 instances in CommonWords)
- <ght> = [t] (*bought, caught, eight, freight, height, sight, weight*) (76)
- <bt>=[t] in some Latinizations (*doubt, debt, subtle*) (7)
- <pt>=[t] (*pterodactyl, ptomaine, receipt*) (1)
- <th>=[t] (*Thomas, thyme*) and one pronunciation of *posthumous* (2)
- <tw> = [t] in *two* (1)
- <cht> = [t] in *yacht* (1)
- <ct> = [t] in the Latinization *indict* (1)
- <dt> = [t] in the Dutch veldt (0)

In one pronunciation of *eighth* [āttth] there is apparently an "invisible [t]," the reverse of a silent letter. *AES*, pp. 342-49.

<u> and [w]. The letter <u> usually spells vowel sounds, but it sometimes spells the consonant sound [w], and whether it spells [w] or not, it is a consonant whenever it follows <q>. See <k> and [k]. The letter <u> sometimes spells [w] after <g>: *anguish, extinguish, iguana, jaguar, language, linguist, penguin*. It rarely spells [w] after <s>: *assuage, persuade, suave, suede, suite.* It spells [w] after <j> only in *marijuana* and after <p> only in *pueblo*. In words like *use, utility* and *uniform* <u> spells the complex [yū] sound, which some linguists treat as a consonant-vowel sequence. *AES*, pp. 457.

<v> and [v]. Although it took centuries for <u>, <f>, and <v> to sort themselves out in our alphabet, things are quite simple now for the letter <v>: It and its very rare doublet <vv> regularly spell [v], as in *verve* and *revved*. The <v> spelling can occur anywhere in a word although at the end of words <v> is usually covered by the insulator <e>: *advise, alive, shove, silver, valve, verdict, wolves*. The <vv> doublet is very rare and restricted to new and rather peripheral words: *chivvy* ("vex, harass"), *flivver*, *divvy*, (probably formed from *divide*), *navvy* ("laborer," formed from *navigator*) , *revving, savvy, skivvies* ("underwear"). The two minor spellings of [v] are <lv>, as in *calve, halve, salve*, and <f>, only in *of*. *AES*, pp. 373-77.

<w> and [w]. The letter <w> regularly spells the consonant sound [w], as in *award, sweet, swift, swoop, waitress, wisdom, wonder, wooden*. A second common spelling of [w] is <wh> in such words as *awhile, overwhelm, whale, wheel, when, where, whisper, white, why*. Most words with <wh> were spelled <hw> in Old English and pronounced [hw]. The Norman scribes inverted the spelling, bringing it into line with other consonant digraphs ending in <h>: <ch, gh, sh, th>. Today the pronunciation of <wh> varies from [w] through [^{h}w] to [hw]. The sound [w] has an unusual spelling in *one, once* – where apparently we have to say either that [wŭ] is spelled <o> or we have an "invisible" [w]. The letter <w> appears as a vowel letter in the digraphs <aw, ew, ow>: *maw, mew, mow*.

See <u> and [w]. *AES*, pp. 456-59.

<x> and its sounds. At the beginning of words <x> usually spells the sound [z]: *xenon, xenophobia, xylophone, xerox.* But in words where the <x> is treated as an initial, it spells [ĕks] – as in *x-ray* and the verb *x*, as in *x'd out,* x'ing *out*. Often, and especially in final position, <x> spells the voiceless [ks]: *climax, dexterity, exclaim, express, external, fox, index, next, paradox, textile, wax.* In the middle of words it spells [ks]'s voiced counterpart [gz] when it precedes a stressed vowel: *exam, exasperate, executive, exempt, exhaust, exhibit, exist, exuberant*. In English the doublet <xx> does not occur, probably because most of the time it is a one-letter sound cluster, [ks] or [gz]. See *AES*, pp. 352, 371.

<y> and [y]. The letter <y> usually spells vowel sounds. But at the beginning of elements and syllables it regularly spells the consonant sound [y]: *beyond, farmyard, yacht, yawn, yellow, yesterday, youth, yule.* In one pronunciation of *llano* "grassy plain" [y] is spelled <ll>. *AES,* pp. 459-60.

<z> and [z]. In spelling the sound [z] <s> is actually more common than <z> (nearly 8:1), and the <s>, <z>, <ss>, and <zz> spellings of [z] can be a bit of a tangle. The sound [z] is spelled in the following ways:

- <z> at the beginning, middle or end of words: *breeze, citizen, frenzy, ooze, quiz, sneeze, topaz, zebra, zigzag, zinc, zone, zoo (*83 instances in CommonWords)
- <zz> due to twinning: *quizzed, whizzing, fezzes*
- <zz> in VCC strings: *blizzard, buzz, buzzard, dizzy, fizz, fuzz, gizzard, jazz*;
- <zz> in VCC*le* strings: *drizzle, embezzle, puzzle, sizzle* (all 3 <zz> spellings total only 7 instances in CommonWords)
- <s> in the middle or at the end of words when it is preceded or followed by a voiced sound: *closet, cosmic, dogs, has, lunches, observe, pose, was, wisdom* – and words with the suffix *-ism*) (*capitalism, socialism*, etc.) and when the suffixes -*es*)1 and -*es*)2 are pronounced [ĭz] when added to 3rd person present verbs and nouns that end with [s, z, sh, ch] (621 instances in CommonWords)
- <ss> via simple addition: *dessert, dissolve, possess*;
- <ss> in a VCC string in scissors. (both <ss>'s add up to only 6)

The sound [z] has these minor spellings: <x> in initial position (*xenon, xylophone*); in the three variants <cz> in *czar*, <ts> in *tsar*, and <tz> in *tzar*; and <sth> in *asthma*. Silent final <e> is sometimes used to insulate otherwise final <s> and <z>, especially after consonants or vowel digraphs: *fez, quiz, topaz* but *bronze, gauze, squeeze, wheeze;* and *as, lens* but *applause, disease, noise*. See *AES,* pp. 391-97.

Consonant sounds. English consonant sounds are usually categorized by place and manner of articulation, as in the chart below. Columns indicate places of articulation in the mouth; rows indicate manner of articulation. In the chart below, in cases where a single set of square brackets contains two sounds, the first of the two is voiced, the second

unvoiced, or voiceless. See Voiced vs. voicless (unvoiced) sounds. Characters in diagonals are from the International Phonetic Alphabet:

	Front			Mid	Back		
	Bilabial	**Labio-dental**	**Inter-dental**	**Alveolar**	**Palatal**	**Velar**	**Glottal**
Stops and affricates	[b, p] *bob, pop* /b, p/			[d, t] *dad, tat* /d, t/	[j, ch] *judge, church* /dʒ, tʃ /	[g, k] *gig, kick* /g, k/	
Fricatives		[v, f] *vie, fie* /v, f/	[th, th] *then, thin* /ð, θ/	[z, s] *zip, sip* /z, s/	[zh, sh] *azure, ashes* / ʒ, ʃ /		[h] *hag* /h/
Nasals	[m] *mom* /m/			[n] *nun* /n/		[ng] *rang* /ŋ/	
Liquids				[l], [r] *lull, roar* /l/, /r/			
Semivowels					[y] *you* /j/	[w] *woo* /w/	

Bilabials are articulated at the two lips; labiodentals at the lower lip and upper teeth; interdentals with the tip of the tongue between the upper and lower teeth. Alveolars are articulated with the front of the tongue near or touching the alveolar ridge behind the upper teeth. Palatals are articulated with the tongue against the palate, or roof of the mouth; velars are articulated with the back of the tongue at or near the soft palate at the rear of the mouth; glottals are articulated at the glottis further back and above the vocal cords.

Stops are articulated by stopping the flow of air and releasing it suddenly. Some linguists call them plosives. Fricatives are articulated with enough closure to produce friction. Affricates begin with a stop and end with a fricative: [j] = [dzh], [ch] = [tsh]. Nasals are articulated through the nose. Nasals, liquids, and semivowels are articulated smoothly, with no friction. (*EDLL, OCEL, AES,* pp. 201-06*,* 209-12)

Consonant and vowel letters. In general we treat a letter as a consonant letter when it spells a consonant sound and as a vowel letter when it spells a vowel sound. The three letters <y, u, w> sometimes spell consonant sounds, sometimes vowel sounds, so they can be either consonant or vowel letters:

The letter <y> is a consonant only at the beginning of syllables when it spells the consonant [y] sound that it spells in *yell*; everyplace else it is a vowel.

The letter <u> is a vowel when it spells vowel sounds such as [ŭ] in *buck*, [ů] in *bull*, [ū] in *include,* [yū] in *butte*, and in the vowel

digraphs <au> as in *author*, <eu> as in *neutron*, <ui> as in *build*, <ou> as in *out*. It is a consonant in only two situations: (i) when it spells the consonant sound [w], as in *language* and *pueblo*; and (ii) when it follows the letter <q>, whether it spells [w], as in *quit*, or does not, as in *mosquito* and *plaque*.

The letter <w> is usually a consonant, including in the consonant digraphs <wh> and <wr>. It is a vowel only in the vowel digraphs <aw>, <ew>, and <ow>, as in *craw, crew*, and *crow*. (In some mercifully rare Welsh adoptions it spells long <u>, as in *cwm* [kūm] "a mountain hollow.")

The following four are always vowel letters: <a, e, i, o>. And the following nineteen are always consonant letters: <b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, x, z>. *AES*, pp. 207-12. For more on consonant and vowel letters see Sometimes a Vowel Is Not a Vowel, and Sometimes a Consonant Is and On Vowels and Consonants – All You Ever Wanted to Know, But . . . in Short Articles.

Content and meaning. Content is what words have; meaning is what people make of that content. In spite of the way we commonly use the words *mean* and *meaning* (including in this compendium), words don't actually mean; people do. Words and elements have at least two kinds of content: (i) **Semiotic content**, an agreed-upon range of senses that people can draw from to formulate and communicate their own meanings. And (ii) **morphological** or **syntactic content**, information about the function of the word in sentences. For instance, the suffix -*s*)2 indicates that the word is a 3rd person singular verb – as in *she sings* sing1+s)2, and -*s*)3 indicates that the word *fits* is a plural noun – as in *the fits* fit4+s)3.

The study of content is **semiotics**; the study of meaning is **semantics.** Although the distinction between content and meaning is very important, it is usually ignored, and *meaning* is often used when what is actually being referred to is content. *AES*, p. 35. For more on this distinction see "Content and Meaning" in Orthography as an Evolving Complex System.

Content is what dictionaries try to describe in their definitions. And content is always multiple – for instance, in the *American Heritage Dictionary* the relatively straightforward word *sight* has over a dozen main senses, which are then divided into several subparts. But when we use the word *sight*, we don't use all those senses. So there's a conundrum: A word always contains more than it is used to mean. But also it is always used to mean more than it contains, because all of the particulars of our use of the word – the time, the place, our intentions, our relationship to the reader, what has been said before, all of those things and more are part of the meaning we create with that word, but none of it is in the word's content. There is always a mismatch. There is always meaning left over, often in the form of personal connotations, and it is that surplus of meaning that causes the content over time to change.

Contraction. The most easily recognized contractions are those that contain apostrophes – like *doesn't* and *o'clock*, which contract – or abbreviate – *does not* and *of the clock*. Other examples:

Full form	Contraction	Examples
let us	let's	"Let's do this."
I am	I'm	"I'm here."
are	-'re	"We're going to be late."
does	-'s	"What's he do there every day?"
is	-'s	"He's driving right now."
has	-'s	"She's been here before."
have	-'ve	"I've got two left."
had	-'d	"He'd already left."
did	-'d	"Where'd she go?"
would	-'d	"We'd like to go."
will	-'ll	"They'll call you later."
shall	-'ll	"I'll call you later."
it	't-	"'Twas the night before Christmas"
them	'em	"I forgot to bring'em."
you	y'-	"I'll miss y'all."

In earlier English there was a construction known as the *his*-possessive – as in Shakespeare's "And art thou not Poines, his brother?" – meaning "the brother of Poines." Though the issue is not completely clear, it seems likely that our possessive -*'s*)1 suffix contracts that earlier use of *his*. Or it may simply contract the Middle English possessive suffix -*es*).

But not all contractions in English spelling are marked with apostrophes: CommonWords lists 60 bases, 28 prefixes, and 13 suffixes as instances of contraction: Among bases *wel* as in *welcome* is a contraction of the free base *well* "good"; *yup* as in *yuppie* contracts *young urban professional*; and *syn* as in *synfuels* contracts *synthetic*, a kind of contraction particularly common in the scientific and technical registers – for instance, *ket1* as in *phenylketonuria* contracts *ketone* "a chemical compound."

Conversions. Conversion is the process by which a word of one part of speech is converted for use as a different part of speech. Since English does not use many inflections to indicate parts of speech, conversion is very easy, productive – and ancient – in English. The conversion of nouns to verbs, and vice versa, is probably the most common: CommonWords lists 2,523 words tagged as both regular noun and regular verb: *age, jump, kiss, lodge, milk, neglect, outrage,* etc. Even more creative conversions are possible – for instance, the conjunction-to-verb-and-noun nonce conversion in "But me no buts." Odd but understandable. Conversion is one of the things that can make studying parts of speech difficult for students.

Also, CommonWords lists 57 cases where affixes are converted for

use as bases. For instance, in the informal *ref,* which contracts *referee* (re1+fer+ee)1, the prefix (*re1-* is converted to part of the new base *ref*.

***Council, counsel, consul, consult*.** These four words have a lot in common: They all contain a prefix meaning "with, together"; (*coun-* is just a variant of (*con-*, which is an assimilated form of (*com-*. The base *cil*1 in *council* and the base *sel*1 in *counsel* both descend from a root that originally meant "to shout." Both *council* and *counsel* came by way of the Latin word *consilium*, which meant among other things "a deliberative or advisory body" and "advice." So neither etymology nor word structure are much help in trying to sort out these two. About all we can say is that usually *council* is a noun, referring to an advisory group and its advice, while *counsel* can be a verb meaning to offer advice or a noun referring to the person offering it.

Consul and *consult* are also tightly bound together: Both contain the assimilated prefix (*con-* "with, together." The bases *sul* and *sult*2 both came from a root that meant "to take, grasp, gather." Both words came by way of Latin words that related to the idea of taking council. *Consul* is a noun referring to the official representative of a nation; *consult* is almost always a verb "to seek or give advice," and when it is a noun, it usually involves doctors and medicine.

***Decent, descent, dissent*.** The adjective *decent* explicates to dec2+ent), the noun *descent* to (de+scent2, and the noun and verb *dissent* explicates to (dis+sent2. The earliest meaning of *dec*2 was "take, accept," which in time became "to be fitting, acceptable." The base *scent*2 means "leap, climb," the prefix (*de-* means "down, lower." *Descent*, a noun, refers to the result of the verb *descend.* With different prefixes, *ascent* and *ascend* and *extent*, *extend* have that same noun/verb relationship.

In *dissent* the base *sent*2 means "head for, go" which is negated by the prefix (*dis-.* Notice that unlike *decent*, both *descent* and *dissent* have stress on the second syllable.

Deference, difference both contain the base *fer1* "carry, bear" and the noun-forming suffix -*ence*). The only difference in spelling is in their prefixes, (*de-* and the assimilated (*dis+f-*. The base *fer1* occurs in 197 Lexis words, including *afferent, circumference, conference, efferent, infer, offer, prefer, proffer, reference, referendum, suffer, transfer*. For suggestions on teaching words with the base *fer1*, see "Words and Some of Their Ways".

Defer was originally a variant spelling of *differ*. Over time their meanings diverged: *differ* coming to be the intransitive verb meaning "to be unlike" and *defer* coming to be the transitive verb meaning "to delay or postpone." For more on transitive and intransitive verbs, go to Subjects vs. Objects, Direct and Indirect.

Dental sounds. Dentals are consonant sounds pronounced with the

tongue against or near the upper dental ridge – [d, t, z, s, n, l, r]. Also called **alveolar** sounds.

Derivation, derived forms. Derivation is the process by which words are derived, or formed, by adding suffixes (and less often prefixes) to stems. See Derivational Suffixes.

***Desert, dessert, deserts*.** These three can be quite a tangle. *Desert* can be either a noun "a barren place" with stress on the first vowel, or a verb "to abandon, strand" with stress on the second vowel. As a verb it is a homophone of *dessert* "the final course of a meal," though in meaning and history they are not at all related. The nouns *desserts* and *deserts* – as in *He got his just deserts* – are also homophones unrelated in meaning and history.

Desert explicates to (*de-* "off, away" plus the base *sert*1 "line up, attach" – and thus the sense "unattached, abandoned."

Dessert explicates to (des2+sert2. The prefix (*des*2- is a French form of (*de-.* The base *sert*2 originally meant "slave" but came to mean "serve" – so *dessert* originally meant "the removal of that that was served."

Deserts explicates to (de+sert2+s)3 and is related to the word *deserve*.

The major spelling problem is remembering that <ss> in *dessert*. A mnemonic can help: "De**ss**ert tonight is **S**trawberry **S**hortcake."

***Device, devise*.** The noun *device* explicates to (de+vice4. The verb *devise* explicates to (de+vise3. The bases *vice4* and *vise3* both come from an ancient base that meant "divide, separate." Starting around the 15th century, the two spellings <c> and <s> competed. In time the <c> became usual for the noun, <s> for the verb. For a similar noun/verb pair see Advise, advice.

Diacritic marks. *Diacritic* (dia+crit+ic)2 comes from a Greek word meaning "to separate or distinguish." Diacritic marks in modern English spelling are all holdovers from their foreign source words, especially Romance and German, where they served to distinguish various aspects of pronunciation. In modern English they have usually lost their original diacritic function, no longer distinguishing sounds. With four limited exceptions today they serve only an etymological function: identifying the words in which they occur as noteworthily foreign and usually part of what might be thought of as the "high class" register.

The four diacritics still used in English to distinquish sounds are

- the **acute accent** used in Romance words to indicate that the final <e> is pronounced, as in *abbé, appliqué, attaché, sauté, touché*;
- the **cedilla <¸>** used in Romance words like *façade*, *garçon*, *curaçao,* and *soupçon* to indicate a soft <c>;

- the **umlaut** or **diaresis <¨>** sometimes used to indicate that a vowel is pronounced, as in *Brontë, naïve*, *noël* – or was umlauted in German, as in *fräulein*;
- the **tilde <˜>** used over <n> in Spanish adoptions to indicate that the <n> is pronounced [ny], as *mañana*, *piñata, piñon,* and *señor*;

The **breve <˘>, macron <¯>, overdot <˙>**, and **diaresis <¨>** are diacritics used in phonetic spellings – as in [păn] *pan*, [pān] *pain*, [kȯt] *caught* and [fäthər] *father*. See Vowel Sounds and IPA.

Today several words have more common variant spellings without their original diacritic marks – for instance:

boutonnière or boutonniere
canapé or *canape*
château or chateau
cliché or *cliche*
cortège or cortege
coupé or *coup*
crêpe or crepe
discothèque or discotheque
entrée or *entree*
façade or *facade*
fiancée or *fiancee*
garçon or *garcon*
ingénue or *ingenue*
matinée or *matinee*
naïve or *naive*
naïveté or *naivete*
negligée or *negligee*
noël or *noel*
protégé or *protege*
suède or suede

Over centuries of evolution English has come to use context, or letter order, diacritically to distinguish certain vowel and consonant sounds. For instance, in Modern English silent final <e> is used to indicate the sounds spelled by preceding letters. It marks

- long vowels as in *mate, mete, mite, mote, mute*,
- soft <c>'s and <g>'s as in *lice* and *rage*, and
- voiced <th> as in the verbs *breathe* and *teethe*.

The letters <i> and <y> are also used diacritically to mark soft <c> or <g> – as in *lacing* and *lacy*, and in *digit* and *elegy*. For some diacritic complications with silent final <e> see [r]-Colored Vowels.

In the same vein VCC, VCV, and other strings are also broadly diacritic, as is a procedure like twinning used to maintain those strings.

Dialects in America. Though written American English is quite standardized, there are several dialects of the spoken language that are marked by differences in pronunciation, vocabulary, and to a lesser extent word and sentence structure. Dialects are defined by the areas from which speakers come and thus are not the same as registers, which are defined by the social uses of language and can cross dialect boundaries.

American English pronunciation is still changing and evolving. A minor instance of this change is spelling pronunciation where the pronunciation of words is changed to bring it more in line with their spelling – as in *often* with a [t] sound. More generally there is a relentless leveling

and blurring of dialect differences as American English speakers move from one geographical area to another. Blurring and leveling is also encouraged by the effects of mass communication.

Consequently dialect boundaries are fluid and hard to define, so much so that it is a real question as to how many American dialects there actually are. Some scholars speak of these basic four dialect areas:

- **North**, the northern third of the country from the Atlantic to the Pacific
- **Coastal South**, the coastal regions of Virginia, Georgia, the Carolinas, Alabama, Mississippi, Louisiana, and eastern Texas
- **West**, the western eleven states
- **Midland**, roughly everywhere else

But within these four large dialect areas more localized ones are often described, such as:

- Eastern New England
- Inland Northern
- Mid-Atlantic
- New York City
- North Central
- Southern
- Western Pennsylvania

Other dialects often described include African-American, Cajun, Chicano, and Hawaiian, and several more local dialect areas such as Appalachia, Boston, California, the Outer Banks, Maine, New Mexico, New Orleans, the Pacific Northwest, Philadelphia and Baltimore, Rhode Island, Texas, and the Upper Peninsula.

Dialects should not create many problems for teachers of spelling unless the differences in pronunciation are great enough to produce something like **dialect spelling,** or **eye dialect,** in which words are spelled so as to imitate the speller's dialect. Intentional dialect spelling is common in literature and comic strips – thus, Li'l Abner's Appalachian *ah'll* (*I'll*), *yo* (*you*), and *whar's* (*where's*), and Pogo's *yassuh* (*yes sir*) and *gone* (*going to*) from his swamplands of the Coastal South. (For more on problems for students with strong dialects, see "Teaching English Spelling to Spanish Speaking Students" at "Orthographic Odds and Ends" in the Short Articles venue. For more on American dialects in general see "Dialect" and "Dialect in America," *OCEL*, 289-296.)

Dictionaries. I have not had enough experience with elementary and secondary school dictionaries to offer much solid advice. My one general suggestion would be to choose dictionaries that have clear and systematic treatments of etymology. The *American Heritage Student Dictionary* meets that criterion. And of course so does the college *American Heritage Dictionary,* the one abridged dictionary I have used the most and would rate the highest. The free on-line *Wiktionary* is a thorough and accessible work, though its etymolgies can be rather terse – at Wiktionary.com. See also the *Oxford English Dictionary* and On Dictionaries and Other Helps for

Teaching Vocabulary and Spelling.

Digraphs and trigraphs. Digraphs and trigraphs are strings of two or three letters that spell a single vowel or consonant sound. Some are very rare; several are doublets, doublet equivalents, or simplifications of earlier spellings. Some spell many different sounds; many deal with various pronunciations of [r]:

Vowel Digraphs:
<ae> *larvae*, *anaerobic*
<ah> *hurrah*, *messiah*
<ai> *sail*, *said, bargain, aisle, villain*
<au> *taught*, *laugh, gauge, chauvinism, glaucoma, authority*
<aw> *saw*
<ay> *pay*, *says*, *aye*
<ea> *bread, bead, break*
<ee> *see*, *been, Beethoven*
<ei> *height*, *veil, neither, foreign, foreigner*
<eo> *leopard, people*, *yeoman, pigeon*
<eu> *eureka*, *neutral, neurosis, pasteurized*
<ew> *new*, *sew, few*
<ey> *key*, *prey, geyser*
<ia> *carriage, parliament, pneumonia*
<ie> *achieve, die*, *friend, patience*
<io> *fraction*, *ratio*
<iu> *Belgium*
<oa> *foam*, *broad*
<oe> *toe, amoeba*, *does*
<oh> *John, ohm*
<oo> *school*, *Roosevelt, flood, wood*
<ou> *out*, *poultry, thought, rough, routine, could, courteous*
<ow> *cow*, *knowledge, rainbow*
<oy> *toy*
<ue> *blue*
<ui> *build*, *suit*
<uu> *vacuum*
<uy> *buy*

Vowel Trigraphs:
<aoh> *pharaoh*
<eau> *bureaucracy, bureau, bureaucrat*
<eou> *gorgeous*
<ieu> *lieutenant, adieu*
<iew> *view*
<iou> *religious*
<uoy> *buoyancy*

Consonant Digraphs:

<ar> *tariff, rare, dictionary, hard, reward, coward*
<bb> *cabbage*
<bp> *subpoena*
<bt> *doubt*
<cc> *accuse*
<ch> *church, school, chutzpah*
<ck> *attack*
<cq> *acquaint*
<cz> *czar*
<dd> *ladder*
<dg> *grudge*
<dj> *adjective*
<er> *wherever, sheriff, era, sergeant, term, customer*
<ff> *offense*
<ft> *soften*
<gg> *struggle, exaggerate*
<gh> *laugh, ghost, neighbor*
<gm> *paradigm*
<gn> *sign*
<ir> *desirable, circle, admiral*
<kn> *know*
<ld> *should*
<lf> *calf*
<lk> *chalk*
<ll> *yellow*
<lm> *calm*
<ln> *Lincoln*
<mb> *bomb*
<mm> *comma*
<mn> *column*
<ng> *sing*
<nn> *connect*
 colonel
<or> *scorn, word, creditor*
<pb> *cupboard*
<ph> *phone, shepherd*
<pp> *happy*
<ps> *psychology*
<pt> *receipt*
<qu> *conquer*
<rh> *rhythm*
<ro> *iron*
<rr> *sorry*
<sc> *scene, conscious*
<sh> *shoe*
<sl> *island*

<ss> *miss, issue, possess*
<st> *fasten*
<sw> *sword*
<tg> *mortgage*
<th> *thin, this, Thomas*
<ts> *tsar*
<tt> *kitten*
<tw> *two*
<ur> *bury, fur, during, injury, curiosity*
<wh> *who, why*
<wr> *write*
<yr> *martyr*
<zz> *buzz*

Consonant Trigraphs:

<ahr>	*Fahrenheit*
<air>	*pair*
<arr>	*carriage, starred, warrant*
<aur>	*dinosaur*
<cht>	*yacht*
<ear>	*wear, dear, heart, earl*
<eer>	*deer*
<eir>	*heir, weird*
<eor>	*George*
<err>	*strawberry, err*
<eur>	*entrepreneur, amateur, pasteurization*
<ght>	*flight*
<ier>	*pier, fiery, soldier*
<irr>	*irritate, squirrel*
<oar>	*roar, cupboard*
<oor>	*floor, poor*
<orr>	*worry*
<our>	*source, courage, tour*
<rrh>	*cirrhosis*
<sth>	*isthmus*
<tch>	*hatch*
<uar>	*guarantee*
<uor>	*fluorocarbon*
<urr>	*burrow*

For more on vowel and consonant di- and trigraphs, see the Spellings to Sounds data table in the CommonWords database.

Digraphs <ch, gh, ph, rh, sh, th, wh>. The digraph **<ch>** was used by the Romans to transliterate the Greek chi, <χ>, spelling the sound [k], which it still does in some words like *scholar* and *Christmas*. The <ch> was seldom used in Old English to spell [ch], which was usually spelled <ce>. The use of <ch> to spell [ch] was introduced by the Norman scribes.

See Palatal sounds and their spellings. *AES*, pp. 356-58, 412-15.

<gh>. The digraph <gh> has a complicated history. The Norman scribes introduced it to spell the velar and palatal fricatives – that is, fricative sounds pronounced far back in the mouth, much like the sounds in the Scottish pronunciation of *loch* and the German pronunciation of *Bach*. In Old English these sounds were spelled with the rune yogh,<ȝ>, or with <g> or <h>. In time these fricative sounds fell out of spoken English, but their spellings remained.

Then the complications begin: Over time these fricatives either changed to other sounds or fell silent. As they did so, the vowels preceding them tended to lengthen or become diphthongs. As a result today the <gh>'s that descend from Old English usually follow a long <i> or another long vowel or diphthong spelled <ai> or <ei>, or <ou>:

- *flight, high, knight, light, night, right, sigh, sight, thigh*;
- *straight; eight, freight, neighbor, sleigh, weigh, height*;
- *dough, though, thorough; through; bough, plough*.

In a few cases the <gh> follows the low back vowel [ȯ] spelled <au> or <ou>:

- *caught, daughter, haughty, naughty, slaughter, taught;*
- *bought, brought*, *fought*, *ought, sought, thought*.

And in a few cases <gh> spells [f] after <au> spelling [ă] or <ou> spelling [ŭ]: *draught, laugh, laughter; enough, rough, slough* "discard", *tough*.

Other than the native *burgh*, none of the <gh> spellings of [g] descend from the Old English fricatives. *Ghost* is probably a Flemish-influenced respelling of earlier *gost* by the first English printer William Caxton, and *aghast* and *ghastly* are probably respellings via analogy with *ghost*. The remainder are foreign adoptions — *afghan, dinghy, ghetto, ghoul, sorghum, spaghetti, yoghurt*, etc. (*AES*, pp. 209-10, 237-38, 379-80, and passim).

<ph>. The Romans used <ph> to transliterate the Greek phi, <φ>, which spelled a sound close to the Roman [f]. In time the two sounds became confused. There are a few reminders of that earlier confusion in variants like *sulfur, sulphur* and in historically related groups of words like *fantastic, fantasy; phantasm, phantom.* Most English words with <ph> are from Greek: *alphabet, apostrophe, atmosphere, biography, chlorophyll, elephant, emphasize, geography, hyphen, metaphor, orphan, paragraph, philosophy, phone, physical, prophet, sphere, triumph. AES,* pp. 378-79.

<rh>. The Romans used <rh> to transliterate the Greek rho, <ρ>, which spelled a sound close to the Latin [r]. In time the Greek and Latin sounds converged to [r]. The digraph <rh> is fairly common in the scientific-technical register: *rhapsody, rheostat, rhetoric, rheumatic, rhinoceros, rhomboid, rhododendron, rhubarb, rhythm.* Double rho was transliterated as <rrh>, as in *arrhythmia, catarrh, diarrhea, gonorrhea, hemorrhage, myrrh*. *AES*, pp. 448-49.

<sh>. The Norman scribes introduced the <sh> spelling of [sh] to replace the Old English <sc>. Since they were not familiar with the [sh]

sound, they tried several ways of spelling it, and <sh> was finally settled upon in the 15th century. See Palatal sounds and their spellings. *AES*, pp. 409-09.

<th>. In Old English the runes edh, <ð>, and thorn, <þ>, spelled both voiceless [th] as in *thin* and voiced [th] as in *then*. In late Old English or early Middle English edh dropped out, and thorn was used to spell both [th] and [th]. Then in the late 14th and early 15th centuries the Norman scribes gradually replaced thorn with <th>, again to spell both sounds. *AES*, pp. 384-86.

<wh>. In Old English <hw>, spelling [hw], appeared in several words: *hwæl* "whale," *hwæt* "what," *hwēol* "wheel" – and about 200 others with initial <hw> in J. Hall's *A Concise Anglo-Saxon Dictionary* (Cambridge: 1975). The Norman scribes inverted the spelling, perhaps via analogy with <ch>, <sh>, <th>. Today we have modern words with <wh> with their earlier pronunciations with [hw], sometimes reduced to [ʰw], and often reduced further to [w]. In a few words <wh> has come to spell [h]: *who, whole, wholly, whom, whose,* for instance. *AES*, pp. 387-89, 458-59.

Diphthongs. The word *diphthong* combines two Greek elements: *di-* "two" and *phthong* "sound." A diphthong runs together two vowel sounds. Our analysis recognizes only two modern English diphthongs: [oi] spelled <oy> and <oi> as in *coy* and *coil*, and [ou] spelled <ow> and <ou> as in *how* and *house* (in IPA /ɔɪ/ and /au/ respectively). The [oi] diphthong is spelled <oi> about 2:1 over <oy>, which almost always occurs at the end of free stems. The diphthong [ou] is spelled <ou> about 70% of the time, <ow> about 30%. It is rarely spelled <au>, as in *glaucoma,* one pronunciation of *trauma* – and *Schnauzer*.

Although our analysis recognizes only two diphthongs, different speakers – especially those for whom English is a second language – often diphthongize our [ī] to /aɪ/ and to a lesser extent our [ā] to /eɪ/ and [ō] to /əʊ/ or /oʊ/.

Disease, decease. *Disease* explicates to (dis+ease pronounced [dĭ·zēz′] and meaning roughly "lack of ease or comfort. The base *ease* is of obscure origin, and the few other *ease* words include *easement, heartsease "*a wild flower*," speakeasy, uneasy*.

Decease explicates to (de+cease1 pronounced [dĭ sēs′] with an original sense something like "go,withdraw, yield." The base *cease* occurs only in the word *cease* and its 19 derivatives. The important point here is the contrast between [z] and [s] and remembering that <s> often spells <z> while <c> never does.

Doublets and doublet equivalents are consonant digraphs (and the trigraph <tch>) that spell a single consonant sound, usually after a short vowel, and usually in word-medial position due to the twinning of a final consonant when adding a suffix as in *twinning* twin+n+ing)1 or the assimilation of final consonants in prefixes as in *announce* (ad+n+nounce

and *acquire* (ad1+c+quire:

<bb> = [b] as in *robber*
<cc> = [k] as in *accurate*
<ck> = [k] as in *rock*
<cq> = [k] as in *acquire*
<dd> = [d] as in *reddest* or *odd*
<dg> = [j] as in *bridge*
<dj> = [j] as in *adjourn*
<ff> = [f] as in *offer* or *off*
<gg> = [g] as in *bigger* or *egg*
<ll> = [l] as in *allow* and *tell*
<mm> = [m] as in *hammer*
<nn> = [n] as in *dinner* or *inn*
<pp> = [p] as in *happy*
<rr> = [r] as in *carry*
<ss> = [s] as in *missing* or *kiss*
<tch> = [ch] as in *catch*
<tt> = [t] as in *cotton*
<zz> = [z] as in *dizzy* or *fuzz*

Doublets Misspelled. That old standby *Mississippi* has three doublets, which is pretty unusual. But several words contain two doublets, and it can be hard to remember them both. Explication can usually show where those doublets come from and why they're there – which is nearly always due to either assimilation, twinning, simple addition, or the VCC pattern:

- *accommodate* (ad1+c1+(com+mod4+ate)1
- *aggression* (ad1+g1+gress+ion)1
- *embarrass* (em1+m2+barr3+ass) The suffix -*ass*) marks French verbs.
- *goddess* god1+d2+ess)1
- *Halloween* hall2+ow)+een The base *een* contracts *evening.*
- *misspell* (mis+spell1
- *occurred* (ob1+c1+cur1+r2+ed)1
- *possession* pos1+sess+ion)1 "the act of sitting as master"
- *successful* (sub1+c1+cess1+ful)

Some words contain a doublet and a singleton, and it can be hard to remember which is which:

- *Caribbean* Carib+b+ean)
- *disappear* (dis+(ad1+p1+pear2
- *disappoint* (dis+(ad1+p1+point
- *harass* har1+ass)
- *necessary* (ne+cess1+ary)1
- *occasion* (ob1+c1+cas3+ion)1
- *staccato* stacc+ato) "Detached, separate."
- *tobacco* tobacc+o)2
- *Tyrannosaurus* tyranno+saur1+us)1 "Tyrant lizard"
- *tomorrow* to1+morr1+ow)

Sometimes it can be hard to remember that you need a doublet:

- *finally* fin4+al)1+ly)1
- *interrupt* (inter+rupt
- *preferred* (pre+fer1+r2+ed)1
- *really* re1+al)1+ly)1
- *referred* (re+fer1+r2+ed)1

Nearly all instances of the doublet <ss> occur in just four bound bases – *gress* (in 98 words in Lexis), *miss*3 (128 words), *sess* (76), and *cess*1 (165) and in common free bases like *class*1 (83), *cross* (93), *pass*1

(95), *press* (240).

Early Modern English. Early Modern English is English as it was spoken and written from roughly 1450 to 1700. It is the English of Caxton, Shakespeare, Mulcaster, Jonson, Marlowe, Spenser, Donne, Milton, and Dryden. It was the period during which English spelling became increasingly standardized as part of a Standard Written English.

Elements. Elements are the written counterpart of the morphemes of the spoken language. They are the smallest parts of written words that have the following two features:

(i) In words in which they occur, they contribute the same or closely related content.

(ii) They are spelled consistently from word to word – that is, spelled either the same or with variants that can be rationalized, as with the <aesth> and <esth> variant spellings in *aesthetics* and *esthetics.*

There are four kinds of elements: free bases like *plant* and *car*; bound bases like *fect* and *fer* as in *perfect* (per1+fect and *defer* (de+fer1; and prefixes and suffixes, like (*re-* and *-ed*)*1* in *replanted* (re+plant+ed)1.

Elements often come in **sets** of two or more variants – for instance,+*arter* and its expansions +*arteri* and +*arterio* "windpipe, artery"*,* as in *artery, arterial, arteriosclerosis*. Elements also occur in what I call **co-sets**: pairs, or rarely triplets, of elements that are related, but not necessarily equivalent, semiotically and that operate as a team in different parts of speech – for instance, the co-set {+ceed, +cess} as in the verb *succeed* and its noun of result *success*. Another example is the triplet set {+tain1, tent2, ten2}, as in

- *abstain* (abs+tain1, *abstention* (abs+tent2+ion)1;
- *contain* (con/n+n1+tain1, *contents* (con/n+n1+tent2+s)8;
- *detains* (de+tain1+s)2, *detention* (de+tent2+ion)1;
- *maintain* main2+tain1, *maintenance* main2+ten2+ance);
- *retain* (re+tain1, *retentive* (re+tent2+ive); and
- *sustain* (sub/b+s1+tain1, *sustenance* (sub/b+s1+ten2+ance). *AES*, pp. 39-47

Emerge, immerge. *Emerge* explicates to (ex/+merge with the prefix meaning "out, out of." *Immerge* explicates to (in/n2+m1+merge with the prefix meaning "in, into." The base *merge* means "plunge, dip, dive." For more on the single <m> in *emerge* and the double <mm> in *immerge*, see Eminent, imminent.

Eminent, imminent. Both of these words contain the base *min*2 "to project, jut, threaten." The differences are in the prefixes: (ex/+min2+ent) and (in/n+m+min2+ent). The (*ex/-* is an assimilated form of (*ex-* "out, outside": Something that is *eminent* juts out or shows – above others. The prefix (*in*2- means "in, within": Something that is *imminent* is hidden but can soon project itself or jut out.

The different treatment of (*ex-* and (*in2-* occurs in several pairs of words

starting and <imm>: *emigrate, immigrate; emigrant, immigrant; emerge, immerge; emersion, immersion*.

***Envelope, envelop*.** *Envelope* is the common noun referring to the paper cover you put mail into; *envelop* is the less common verb meaning "to wrap or enclose." They are the same word with slightly different spellings and pronunciations to mark the difference in part of speech. Notice that the spelling of the final syllable of *envelope* is an example of the VCV pattern with the long <o>.

Eponym. An eponym is a word formed from a real or fictional person's name – for instance, *ohm* "unit of electrical resistance" from the physicist George Ohm; *Altzheimer's* from the neurologist Alois Altzheimer, and *quixotic* from Don Quixote, the hero of Cervantes' novel. For extensive examples see Lists of Eponyms

***-er*)*01, -or*)*2*.** These two agent suffixes form nouns that refer to persons or things that perform actions: A teacher teaches and a director directs. There is no reliable way to tell when to choose one and when the other. One hint is that *-er*)01 is five times more common in Lexis than is *-or*)2. In CommonWords it is only about twice as common. When in doubt, a good dictionary is your best bet.

***Essay, assay*.** *Essay* explicates to (ex~~'~~+s1+say2, and *assay* explicates to (as2+say2 . Historically they are the same word, whose spellings and pronunciations have shifted back and forth over the centuries, and have settled down so that *essay* as both noun and verb has the sense of a try or trial, including that try that leads to piece of short expository prose. *Assay* is pretty much restricted to the evaluation of metals. The prefix (*as*2- alters (*ex*- "out, away," and the base *say*2 originally meant "drive, draw, move" – but in Latin meant "to weigh."

Etymology. Etymology is the study of the origins of words and the routes they took getting into English. The etymological information in a good desk dictionary like the *American Heritage Dictionary* or the *American Heritage Student Dictionary* can help composition students think of things to say about their topics as they find unifying connections among what at first may have seemed to be unrelated words and ideas. It can help them keep their minds on their topics, see useful analogies, and create pertinent metaphors. And it can help them develop their reasoning skills, as they sort, discriminate, and link the ideas and forms they find in their words' histories.

Working with etymology can also help spelling students see some of the connections that hold our spelling system together. These connections can help increase a sense of ruliness and order in our spelling – and thus ease and strengthen learning. For more on etymology and its uses in the classroom go to "Some Uses of the Sources Field" in Introduction to

CommonWords, also Lineages from Indo-European Roots and Why Study Indo-European Roots.

Evolution. Back in the Middle Ages English spelling was a tangle of variant spellings, driven primarily by wide differences in dialects and pronunciation. For instance, the *OED* lists about 50 different early spellings of the relatively simple word *harbor*. But as the language evolved from Old to Middle to Early Modern English, that variation gave way to a high degree of standardization – enough so that by 1600 nearly every English word had one and only one standard spelling. See Standardization in Early English Orthography. The following is an example of word endings evolving to be more similar to one another in order to highlight their parallel functions: Old English *mōdor*, *brōthor*, *fæder*, and Old Norse *systir* evolve to *mother, brother, father, sister* – all with the common [ər] ending spelled <er>.

That evolution to regularity continues as foreign adoptions are adapted to fit the English spelling system – see, for instance, foreign noun plurals – and as nonregular native spellings are rendered more regular. For instance, verbs that traditionally indicate the past tense with -*t*)1 often acquire a variant with the regular -*ed*)1: *burn, burnt, burned; dwell, dwelt, dwelled; kneel, knelt, kneeled; spell, spelt, spelled*. British spelling tends to be more conservative than American towards such changes, consistent with the differences in attitude between Samuel Johnson and Noah Webster. See British and American spelling and Metaphor.

Excel, excellent. From the modern point of view the major question here is "Why the <ll> in *excellent*? Though the <cel> is stressed in *excel*, in *excellent* it is not. Thus, *excellent* would appear to be a holdout to the Twinning Rule, which would require stressed <cel> in both words. From the historical point of view a better question would be why isn't *excel* spelled <excell>? Both *excel* and *excellent* come from Latin by way of French, and both languages had <cell>. In fact, *excel* was regularly spelled *excell* up through the 17th century. The *OED*'s earliest citation of *excel* is in the 18th century.

Actually, the contraction of <ll> to <l> has been quite common in English, especially in stressed final syllables. For instance, the variants *fulfill* and *fulfil* are from *full* plus *fill*. In the more common spelling, *fulfill,* the first <ll> is contracted, and in the variant *fulfil* both are. Similarly the more or less archaic *withal* "besides, likewise, therewith" and its compound *wherewithal* are from *with* plus *all* and were often spelled with <ll>. See *All* and Its Compounds. Similar contractions have occurred in, among others, *compel, Brazil, parallel, cartel*, *rebel* and *until* (vs. *till*) – all of which had earlier <ll>. See *AES*, pp. 440-41.

Except, accept. These two words are close enough in structure and pronunciation to create problems for spellers. They both contain the base *cept* "grasp, take, seize." The prefixes tell the story: *Accept* contains the

prefix (*ac*1-, an assimilated form of (*ad*- "to, toward." And when you accept something, you do take it toward you. *Except* contains the prefix (*ex*- "out, away." And when you except something, you take it away or leave it out.

There are other pairs of words that have some form of the prefixes (*ad*- and (*ex*-: with the same base:

- ***access*** (ad+c+cess1 vs. ***excess*** (ex+cess1 and ***accede*** (ad+c+cede vs. ***exceed*** (ex+ceed: The bases *cess*1, *cede*, and *cede'*s rare variant *ceed* mean "go, yield, come." When you access something, you basically go to it or come to it, but an excess is a going away, in the sense of going beyond some limit. To accede means to come to, while to exceed is basically to go beyond. Choosing between the <ceed> and <cede> spellings can be helped by this little mnemonic: "If you **proceed** and do not **exceed**, you will **succeed**," which lists the three instances of <ceed>.
- **accuse** (ad+c+cuse vs. **excuse** (ex+cuse: The base *cuse* means "reason, purpose." To accuse someone of something is to assign a certain reason or purpose to him, while to excuse someone of someone is to take that reason or purpose away from him.
- **affluent** (ad+f+flu1+ent) vs. **effluent** (ex+f+flu1+ent): The base *flu1* means "flow, swell." The adjective and noun *affluent* have the sense of flowing toward or swelling, while *effluent* means something that is flowing away.

Expensive, expansive contrast only in that middle vowel – short <e> in *expensive*, short <a> in *expansive. Expensive* explicates to (ex+pense+ive). The base *pense* means "to stretch, hang, weigh in a balance scale, pay" and occurs in *dispense, recompense, suspense*.

Expansive explicates to (ex+panse+ive). The base *panse* means "to spread" and appears only in *expanse* and its derivatives. Cf. the co-forms *expend* and *expand*.

Explication. Explication is an analysis meant to unfold information in written words, information that is not just useful to describing and understanding written English, but also to teaching and learning it. Explication attempts to do so by identifying the basic units in written words – that is, the elements and particles. It also shows the historical processes – such as assimilation and palatalization – and the procedures that are followed when the elements concatenate – such as simple addition, final <e> deletion, and twinning. To find information about the elements and particles in an explication, including those with index numbers, you can check the CommonWords and Lexis databases on this website. For more on explication see "The Explication of Written Words" (*AES*, pp. 32-66) and On Explication.

Faze, phase. Though they are completely unrelated in etymology and meaning, spelling these two homophones can be confusing. *Faze* means "to disturb, frighten" and there's possible help in a mnemonic like "There

are <f>'s in *frighten* and in *faze*." *Phase* means "an appearance, aspect" – as in a phase of the moon – and is from an ancient Greek word meaning "to bring to light, cause to appear, show." Words with bases related to *phase* include *phantasm, phantom, phenomenon; diaphanous, emphasis, epiphany, hierophant, sycophant*.

Fiery. The expected regular spelling of *fiery* would be <firy> as in *inquiry, miry, wiry*; today's accepted spelling <fiery> is due to a 16th century confusion with a Middle English spelling of *fire.* <fier>.

Finely, finally, finale. *Finely* explicates to fine1+ly)1; *finally* explicates to fin4+al)1+ly)1. Sometimes they are pronounced as if they were homophones, but *finely* has only two syllables, [fīn'lē], while *finally* has three, [fīn'ə·lē]. listen for that schwa and its <a> in *finally* – and remember the two <l>'s: one in the -*al*) and one in the -*ly*). The base *fine1* and its non-terminative co-form *fin4* come from a Latin word that meant "limit, boundary" and have come to mean "excellent, best." Other words with *fine1* are *finery, finest, refine, refinery*. Others with *fin4*: *final, finalist, finality, finalize, finals, finial, finis, finish, refinish*, *finale. Finale* is pronounced [fĭ·nă´lē] with stress on the [nă] and the final <e> pronounced.

Folk etymology. See Metaphor.

***Forth*, *fourth* (*forty*).** *Forth* is a base related to the *furth* in *further* and meaning "forward." It occurs in *forthcoming, forthright, forthwith, henceforth, thenceforth. Fourth* is an ordinal number derived from the cardinal *four*: four1+th)1. *Forty* is a recent spelling that used to be the more regular <fourty>. The *OED* lists more than 20 spellings, with <four> appearing from the 12th through 18th centuries, but although the <for> spelling did not appear until the 16th century, it came to dominate.

Fossils. In English spelling one type of fossil is a letter that earlier served a function but no longer serves that function and has not acquired a new one. Most fossils are silent final <e>'s that are in their words only for etymological reasons. Most fossils are in words from French; fewer are in native words. In French words final <e> marked feminine gender, and since English does not inflect words to distinguish gender, that function was lost but even in words in which the now silent final <e> has no new function it continues in the spelling: *avalanche, brassiere, cigarette, clientele, finesse, impasse, medicine, troupe*. Some native English words contain fossil final <e>'s: *come, done, forbade, gone, none, some*. In some suffixes there are fossil silent final <e>'s when the suffix is unstressed: In the verb *approximate* the suffix -*ate*) is stressed with long [ā], but in the adjective *approximate* -*ate*) is unstressed with short [ĭ]. Also with -*ate*) are words like *certificate* and *immediate.* Similar cases involve the suffixes-*ite*)2, -*ure*), and those spelled <ine>: *composite, definite,*

favorite, infinite; capture, culture, failure, pleasure; discipline, feminine, masculine.

It would be possible treat as fossils certain letters in simplifications. For instance, in the simplification <mb> as in *limb*, one could treat the <b> as a fossil, a letter that has lost its earlier function of spelling [b]. I have chosen not to follow that line of analysis, which seems to me to get more complicated. *AES*, pp. 148-54.

French influence. In 1066 England was conquered by the Normans, Vikings who had settled in northern France roughly a century earlier. Over time the Normans (or "North Men") had adopted their version of French, and after the Norman Conquest, Norman-French became the language of power and education in England. Over the centuries, due largely to its interaction with English, the language of the common people, and with Latin, the language of the church, Norman-French evolved into the dialect known as Anglo-Norman. Although adoptions and adaptions from French go on today, a huge number of them came through Norman-French during the Middle Ages, many of them replacing native English words. Some scholars estimate that about 45% of all English words are from French. See Caxton and Norman scribes.

French Lemon (Stress Frontshift) Rule. Words In French carried stress on the final syllable unless that syllable was a weak <e>, in which case stress fell on the next to final syllable. As French adoptions were integrated into English, the stress shifted forward, especially in nouns and in line with the native English pattern of stressing the first syllable of the base. But before the stress frontshifting occurred, French adoptions would have been pronounced with the first vowel weakly stressed and either reduced or short. Then, when the stress moved forward in the word, these vowels, now stressed, would be unlikely to lengthen. As a result there are in English hundreds of French adaptions that have short stressed vowels in patterns that would lead us to expect long vowels. This stress frontshifting preempts the more general VCV vs. VCC pattern, which stipulates that a stressed vowel letter followed by a single consonant which is in turn followed by another vowel letter will be orthographically long, as in a words like *demon* and *dame*.

However, in a French adaption like *damage,* although the stress is on the first vowel, which heads a VCV string, that head vowel is short, [ă]. And the spelling is with single <m> rather than <mm>, not *dammage, with the VCC pattern normal for medial short stressed vowels. This preemption of the VCV vs. VCC pattern is perfectly regular in French adaptions. Some examples of the non-French and French contrast: *demon* vs. *lemon; yodel, model; molar, scholar; driver, river; specious, precious; navel, gravel.* For more on the Stress Frontshift Rule see *AES*, pp. 127-30 and Standardization in Early English Orthography.

Frequentatives. A frequentative is a word that indicates repeated action.

The suffixes -*el*)2, -*l*)1,-*le*)1, and -*er*)03 mark frequentatives – as in the verbs *drivel, snivel; drawl, snarl; babble, crumble, jiggle; bicker, clatter, flutter*. Frequentative verbs are often converted to frequentative nouns – *drivel, drawl, snarl, clatter*. A few frequentative verbs are formed by reduplication of a monosyllable – as in *coo-cooing* or *bob-bob-bobbing*. And a few frequentative nouns can be formed by combining two different vowel sounds in the same word – as in *teeter-totter, pitter-patter, chitchat*.

Fricative sounds. Fricatives are consonant sounds articulated with enough closure of the vocal tract to produce friction – [v] as in *verve*, [f] as in *fluff*, [th] as in *thin*, [th] as in *then*, [z] as in *zebras*, [s] as in *sass*, [zh] as in *azure*, [sh] as in *shush*, [h] as in *hurt*.

Fulfil* and *fulfill. Both spellings are correct, though *fulfill* is more common in the United States. See also Excel, excellent.

Further, farther both mean "at a greater distance," and in general are interchangeabe. In the United States *farther* is more often used to refer to physical distances, as in "It's farther from Seattle to Los Angeles than it is from Seattle to San Francisco," while *further* more often refers to figurative and nonphysical distances, as in "I wanted to discuss it further, but I got outvoted."

Further also has senses that *farther* does not have. As an adjective it means "additional" as in "I have no further questions." As an adverb it means "additionally" as in "The witness said he didn't know the victim, and stated further that he had never even heard of her." And as a verb it means "to advance something" as in "The lawyer worked hard to further his case."

Fury, furry. *Fury* explicates to fur4+y)3 pronounced [fyŭr′ē)2. The base *fur4* means "rage, be mad" and occurs in *furious*, *furor*, *furibund* "tending to be irate," *Furies* "the Greek goddesses of vengeance," *furioso* "(in music) passionately." *Furry* explicates to fur1+r2+y)1 pronounced [fŭr′ē)2. You should beware of that [y] sound in *fury*. Other <ur> words with that [y]: *bureaucrat, cure, curious, endure, failure, mural, obscure, procure, pure, Puritan, security*.

Futhorc. The futhorc was the runic alphabet used by the Anglo-Saxons. See Runes.

Genitives. See Possessives.

Germanic languages. Germanic is one of the 15 or so branches of languages in the Indo-European language super-family. The Germanic branch is traditionally divided into three: North Germanic, which includes Icelandic, Faroese (spoken in the Faroe Islands of the north Atlantic), Norwegian, Swedish, and Danish; West Germanic, which includes English,

Frisian (spoken in the Frisian Islands of the North Sea, the language closest to English), Flemish (the Dutch language as spoken in Belgium), Dutch, Afrikaans (spoken in South Africa), German, Yiddish; and East Germanic, which includes only the now extinct Gothic. There is no Southern Germanic branch. See Norse and Anglo-Norse and "The Indo-European Family" in the Lineages from Indo-European Roots venue in this website.

Gerunds. A present participle used as a noun.

Glides. A glide is the transitional sound created when moving from one sound to another. One such glide is usually spelled <i>, rarely <y> or <e> – as in *azal**e**a, can**y**on, civil**i**an, mill**i**on, on**i**on, sav**i**or, span**i**el.*

Glottal sounds. Glottals are consonant sounds produced well back in the mouth with closure at the glottis at the top of the vocal cords. The only modern English glottal sound is [h].

***Granted, granite*.** Several years ago a colleague came into my office chuckling about a student theme with the phrase "she took me for granite," a confusion that shows up every now and then. Though the two words are not related in etymology or meaning, "to take for granite" can make much the same kind of sense as the original "to take for granted." *Granted* explicates to grant+ed)1in which the base *grant* means "believe, entrust." *Granite* explicates to gran1+ite)1; *gran1,* a co-form of *grain,* occurs in *granary, granola, granular, granule* – and *pomegranate*, a fruit with many small seeds.

Great Vowel Shift. The Great Vowel Shift was a huge shift that occurred in the pronunciation of English vowel sounds, especially long vowels. It started around 1350 and was for the most part finished by 1600, though changes do continue. It is a complicated affair and not entirely understood, but we can make two general points:

First, in Middle English long vowels had Continental values – that is, the sounds we hear today in Italian and Spanish. For instance, the long <i> in Middle English was pronounced [ē] as it does in, say, *burrito*; the long <a> was pronounced [ä] as it is in *sonata.* Today due to the shift, long <i> in English is pronounced [ī] as in *bite*, and long <a> is pronounced [ā] as in *bait*. These and similar shifts account for much of the very different sound of English as compared with other European languages. Here is a much simplified sample of the shifts five vowels underwent:

Middle English	**became**	**Modern English**
Low back long <a> as in *nama* [näˈmə]	➜	Mid front [ā] as in *name*
Mid front long <e> as in *feet* [fāt]	➜	High front [ē] as in *feet*
High front long <i> as in *ride* [rēˈdə]	➜	High front [ī] as in *ride*
Mid back long <o> as in *boot* [bōt]	➜	High back [ū] as in *boot*

Second, since the spoken language changes much faster than the written, and since English spelling was becoming standardized in late Middle and Early Modern English (see Standard Written English), modern spelling in some respects does a better job of spelling earlier English than the English of today. See *OCEL*.

Holdouts. For two reasons I prefer the word *holdout* to the overused, and usually pejorative, *exception*. First, *exception* has acquired a bad reputation in English spelling, and is often used in the argument that our spelling system is ramshackle and essentially hopeless, which it is not. Folks tend to be too quick to label some spelling as an exception. Second, *holdout* does a better job of suggesting that in time we may learn enough about English spelling that this spelling can be treated as regular. And *holdout* better fits the step-by-step strategy that I advocate for dealing with spellings and whose goal is to make any spelling as rational and systematic as possible:

Step one: Try to include it within a pattern, procedure, or process that is universal and ruly in the system. For instance, to explain the <tt> spelling of [t] in, say, *lettuce*, treat it as an instance of the tactical contrast VCV vs. VCCV .

Step two: Failing step one, include the spelling in a more localized subpattern or subprocess, which can preempt a more general rule. For instance, to explain the <ck> spelling of [k] in *picnicking,* treat it as an instance of the doublet equivalent <ck> used when adding *-ing*)1 to *picnic*, since normal twinning would lead to *picniccer, pronounced with [ks], not [k]. See Soft and hard <c> .

Step three: Find a historical reason for the spelling – for instance, treat the final <b> in the word *bomb* as a simplification. And notice, too, that sometimes you can still hear the final <b> in *bomb* – for instance, in *bombadier* or *bombard*.

Step four: Failing steps one, two, and three, list the spelling, describing its irregularity and relating it to larger, more rational patterns and rules within the system – for instance, the <or> spelling in *forty*, as contrasted with *four, fourteen, fourth*. Historical note: Before the 15th century the spelling was commonly <our>. *Forty* appeared in the 15th century and dominated thereafter. Why *four* went one way and *forty* another is not clear, but it may have something to do with the fact that each spelling is a simplification of the Old English *fēower* “four” and *fēowertig* “forty.”

Homonyms, homophones, homographs. Basically the words *homonym* “same name” and *homophone* “same sound” refer to two or more words that have the same sound, sometimes the same spelling, but different senses – for instance, *bear1* “to carry” and *bear2* “large mammal,” or *bear1, bear2,* and *bare*. *Homograph* “same letters” refers to two or more words that have the same spelling but different sounds and senses: *wind1*

“moving air” pronounced [wĭnd] and *wind2* “to wrap” pronounced [wīnd]. Homonyms and homophones pose problems for spellers – pairs like *alter, altar* and *council, counsel* can be tough. And CommonWords lists 747 words that have homophones. See also Synonyms, antonyms, pseudonyms, heteronyms, acronyms

Hyphen. A hundred or so years ago I took a course in grammar from Porter Perrin, a delightful, pipe-smoking, gentle man. One day a distraught student asked him about the use of hyphens. Dr. Perrin turned and stared out the window, took a few puffs on his pipe, and said, wistfully, “Anyone who takes the hyphen seriously shall surely go mad,” a paraphrase from the Oxford University style book. A look at the three-and-a-half page discussion of the hyphen in Dr. Perrin’s *Writer’s Guide and Index to English* (Scott, Foresman: 1950) confirms that judgement. But the following may help some. Use a hyphen:

- to mark the division of words at the end of a line
- after prefixes that end with the same vowel letter with which the stem begins: *re-elect*
- to avoid confusion with other words: *re-cover* “cover again” vs. *recover* “get back,” *re-sign* “sign again” vs. *resign* “quit”
- in written-out numbers from *twenty-one* to *ninety-nine*
- in names of *in-law* family relationships: *mother-in-law*, *sister-in-law*
- in some other compound words: *manic-depressive, so-called, well-known*

In general modern English uses fewer hyphens than it did in the past. So the best advice here remains “Check a current dictionary.”

Iambs and Other Feet. Though most commonly used in poetry, metrical feet can be handy in dealing with some issues in spelling. Here are some examples of the four most common feet in English poetry: Far and away the most common foot is the **iamb**, two-syllabes with a weak syllable followed by a strong, tu-dum, as in the iambic dimeter of Robert Frost’s “Dust of Snow”:

The way a crow
Shook down on me
The dust of snow
From a hemlock tree

Or in Emily Dickinson’s "The Only News I Know" in iambic trimeter (that is, with three feet per line):

The only news I know
Is bulletins all day

Or in Lord Byron’s "She Walks in Beauty" in iambic tetrameter, with four feet:

She walks in beauty, like the night
Of cloudless climes and starry skies

Or in Frost’s “Stopping by Woods”, also in tetrameter:

Whose woods these are I think I know.

His house is in the village though

Most English poetry is written in iambic pentameter – rimed as in sonnets like Tychborne's "Elegy: On the Evening of his Execution":

My prime of youth is but a frost of cares,
My feast of joy is but a dish of pain,
My crop of corn is but a field of tares,
And all my good is but vain hope of gain;

Or as heroic couplets as in Pope's "Essay on Man":

Superior beings, when of late they saw
A mortal Man unfold all Nature's law,
Admir'd such wisdom in an earthly shape,
And showed a Newton as we shew an Ape.

Or as unrimed blank verse as in Wordsworth's "Tintern Abbey":

But oft, in lonely rooms, and 'mid the din
Of towns and cities, I have owed to them,
In hours of weariness, sensations sweet,
Felt in the blood, and felt along the heart

Or in odes as in Keats' "Ode On a Grecian Urn":

Thou still unravish'd bride of quietness,
Thou foster-child of silence and slow time,
Sylvan historian, who canst thus express
A flowery tale more sweetly than our rhyme:

The word *iamb* apparently came from the name of an earlier form of satiric verse.

The second most common foot is the **trochee** "running, tripping," two syllables, the reverse of an iamb. Trochees appear in nursery rimes like"Peter, Peter pumpkin eater" all the way to Shakespeare's "Double, double, toil and trouble" in *Macbeth*.

Less common is the three-syllable **anapest** with two weak syllables followed by a strong, as in Moore's "A Visit from St. Nicholas":

"Twas the night before Christmas when all through the house
Not a creature was stirring, not even a mouse"

And even less common is the **dactyl**, a strong syllable followed by two short as in Longfellow's "Evangeline"

"This is the forest primeval. The murmuring pines and the hemlocks"

Trochees, anapests, dactyls, and spondees (two strong syllables) are used sometimes to provide variety in an otherwise iambic line, as illustrated in some of the excerpts above.

The iambic rhythm mimicks the tuh-dum, tuh-dum rhythm of the human heartbeat and actually dominates not only in English poetry but also in English prose, though in a less tidy and organized way. For instance, most two-syllable verbs are iambs and they usually pair up with trochaic nouns to form stress pairs like the iambic verb *convict* and the trochaic noun *convict*. Putting the stress on the final syllable of the verb maintains the

tuh-dum rhythm by setting up for the almost always unstressed inflectional suffixes -*ed*) and -*ing*). There are many such verb-noun pairs in English – for example,

accent	construct	digest	increase	refuse
access	consult	discard	insert	reject
addict	contact	discharge	insult	research
address	contest	discourse	object	segment
affect	contract	escort	present	subject
ally	contrast	essay	produce	suspect
combat	converse	exploit	progress	torment
combine	convert	export	project	transfer
compact	convict	extract	prospect	transport
compound	decrease	finance	protest	uplift
conduct	defect	fragment	rebel	upset
conflict	detail	incline	record	

Notice that in the iambic verb the first vowel sound is nearly always schwa, perhaps the greatest Spelling Demon of them all. By recognizing the trochaic noun form, in which you can hear the full first vowel sound, you have a good clue to the spelling of that schwa in the verb. This process is similar to the stress-shifting described in "The Elusive Schwa" (pp. 87-90) in *Spelling for Learning*.

•●• •●• •●• •●• •●• •●•

Beyond iambs, trochees, anapests, and dactyls there are nearly two dozen other metrical feet, mostly very rare leftovers from Greek and Latin prosody. Here are some examples. The small dot "•" equals "weak syllable", and "●" equals "strong syllable":

Name	Shape	Syllables	Meaning of the Name
dibrach	• •	2 dimeter	Two short
spondee	●●		Two long
tribrach	• • •	3 trimeter	Three short
amphibrach	•●•		Short on both ends
bacchius	•●●		Of the god Bacchus
cretic	●•●		Of the island of Crete
antibacchius	●●•		Opposite of a bacchius
molossus	●●●		Of the region of Molossia

Name	Shape	Syllables	Meaning of the Name
tetrabrach	⏑ ⏑ ⏑ ⏑	4 tetrameter	Four shorts
first paeon	– ⏑ ⏑ ⏑		First hymn
second paeon	⏑ – ⏑ ⏑		Second hymn
third paeon	⏑ ⏑ – ⏑		Third hymn
fourth paeon	⏑ ⏑ ⏑ –		Fourth hymn
major ionic	– – ⏑ ⏑		Of the region of Ionia
minor ionic	⏑ ⏑ – –		
ditrochee	– ⏑ – ⏑		Two running feet
diamb	⏑ – ⏑ –		Two iambs
choriamb	– ⏑ ⏑ –		A dancing iamb
antispast	⏑ – – ⏑		Pulling in contrary directions
first epitrite	⏑ – – –		One more than three
second epitrite	– ⏑ – –		
third epitrite	– – ⏑ –		
fourth epitrite	– – – ⏑		
dispondee	– – – –		Two spondees

<I> before <E>. Perhaps the best known mnemonic device for English spelling is "It's <i> before <e> except after <c> or when sounded [ā] as in *neighbor* or *weigh*." And it's a useful jingle: When spelling [ē], it is regularly <i> before <e> except after <c>. Thus it is <ie> in *belief, grieve, hygiene, piece, shriek*, but <ei> in *ceiling, deceit*, *perceive, receive.* The only known holdouts with [ē] spelled <ei> after something other than <c> are *protein, seize, weir, weird* – and *either, neither, leisure,* the last three of which have variant pronunciations without [ē].

The jingle also says that it is <ei> rather than <ie> when you are spelling [ā], a generalization with no known holdouts: *eight, neighbor, reign, vein, weigh*.

Expanding on the jingle somewhat, when you are spelling [ī], it is <ie> in final position (*die, hie, lie, pie, tie, vie*), but <ei> in initial and medial position (*eiderdown, height, kaleidoscope, poltergeist, seismic, sleight, stein*. The only known holdouts are *fiery* and *hierarchy*, with <ie> in medial position.

So far as spelling short vowels is concerned, the jingle holds quite well, the only known holdouts being *counterfeit, foreign, forfeit, heifer, sovereign, surfeit*—all of which have <ei> after something other than <c> (and three of which contain the same bound base, +*feit*). The number of holdouts is quite modest in view of the hundreds of words that are covered by the jingle, especially if it is expanded to cover long <i>.

***Illusion, allusion*.** The base of these two near homophones is *lus*1, which originally meant "to play, jest." It is related to the *lud(e)* in *ludicrous*, *interlude,* and *prelude*. *Allusion* came to us by way of a Latin word which kept that original sense, but *illusion* comes from a Latin word with a more pejorative sense, "to mock." You have to pay special attention to the first vowel in each word: <i> pronounced [ĭ] in *illusion*; <a> pronounced [ə] in *allusion*.

Imitative. In Lexis and CommonWords *imitative* is used to refer to what is sometimes called onomatopoeic (Greek "to make names") or echoic words. An imitative word sounds like the thing it refers to: *beep, click, hum*, etc. There are 83 imitative words listed in CommonWords, in Lexis 454. With some imitative words it is hard to say what exactly is being imitated: *boudoir, gallimaufry, obstreperous.*

Imitative language is a mainstay in poetry, even though the individual words may themselves not be particularly imitative – as in these lines from Mathew Arnold's "Dover Beach" describing the sound of the waves washing up on the shore of southern England:

> Listen! you hear the grating roar
> Of pebbles which the waves draw back, and fling,
> At their return, up the high strand,
> Begin, and cease, and then again begin,
> With tremulous cadence slow, and bring
> The eternal note of sadness in.

The notion that all language originated in the imitation of natural sounds – the so-called bow-wow theory – is now mostly discredited, but surely natural sounds are the source of several of our words.

Individual Spelling Demons. Each of the following has a brief discussion in this *Compendium*:

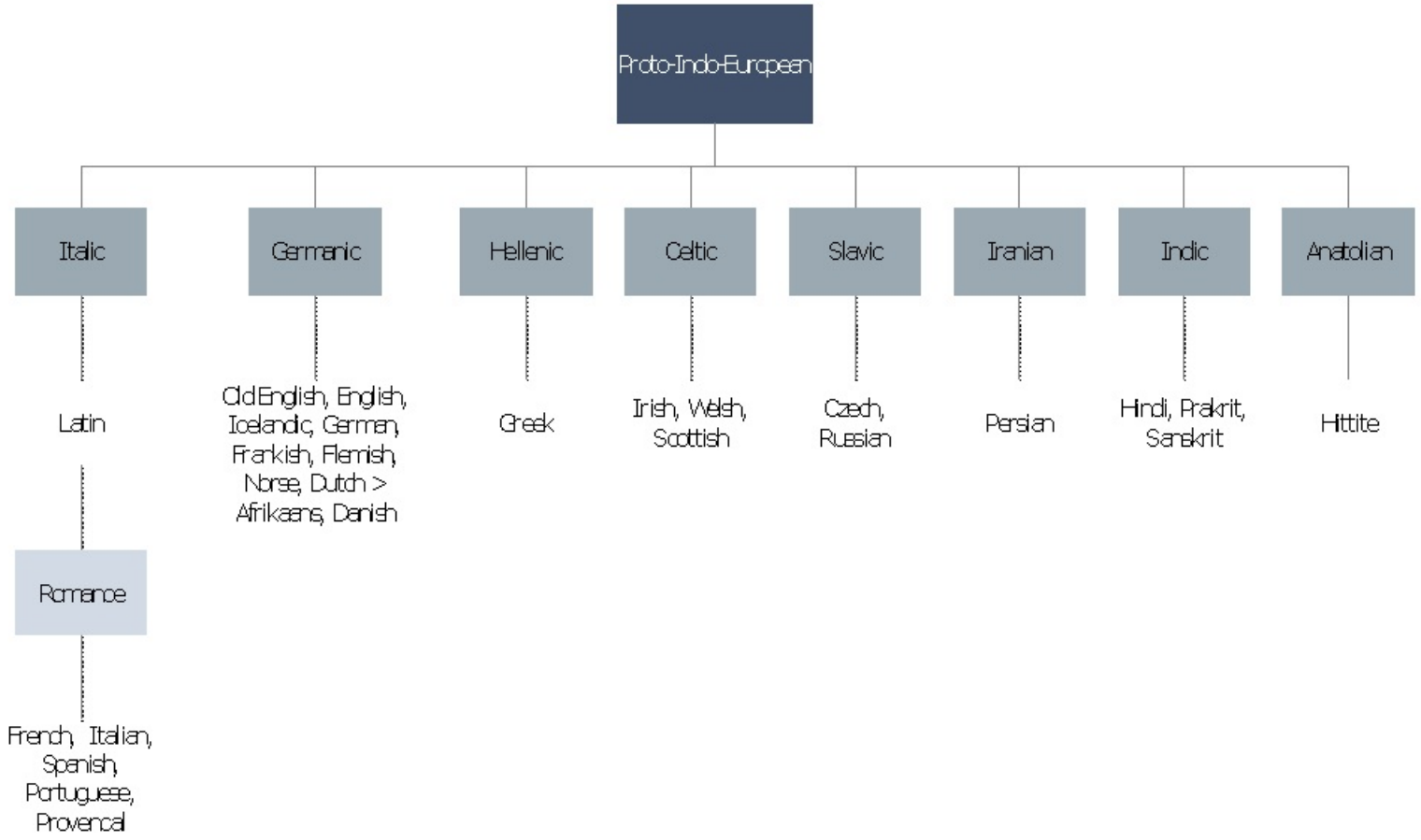
-able), -ible)
Accede, exceed, proceed, succeed
Accent, assent, ascent
Access, excess
Accuse, excuse
Adapt, adopt
Addict, edict
Addition, edition
Admirable, admiral
Advise, advice
Affect, effect
Affluent, effluent
All and its compounds
Alley, ally
Already, all ready; altogether, all together; anyway, any way; awhile, a while
-ance), -ence); -ant), -ent)
Angel, angle
Annual, annul
Arctic
Artificial
Assure, ensure, insure
Attack, attach
Believe, belief
Beneficial, beneficiary
Capital, capitol
Casual, causal
Cavalry, Calvary
College, collage
Comma, coma
Compliment, complement
Confident, confidant
Conscious, conscience

Council, counsel, consul, consult
Decent, descent, dissent
Deference, difference
Deficit
Desert, dessert, deserts
Device, devise
Disease, decease
Efficient, efficiency
Emerge, immerge
Eminent, imminent
Envelope, envelop
-er)01, -or)2
Essay, assay
Excel, excellent
Except, accept
Expensive, expansive
Faze, phase
Fiery
Finely, finally, finale
Forth, fourth (forty)
Fulfil and *fulfill*
Further, farther
Lie, lay
Lightning, lightening1, lightening2
Lose, loose
Medal, metal, mettle, meddle
Office, officer, official
Pastor, pasture
(Per-, (pre-
Personal, personnel
Picture, pitcher
Poor, pour, pore
Principle, principal
Quite, quiet, quit
Recent, resent
Shudder, shutter
Suppose, supposed
Tenant, tenet
Through, thorough
Use, used
Vacuum
Wear, ware, where; were, we're
Your, you're, yore

See also Spelling Demons.

Indo-European languages. English is one of several hundred languages in the Indo-European super-family, which descends from Proto-Indo-European and includes languages in the Slavic, Germanic, Celtic, Italic, Hellenic, Anatolian, and Indic families, and several others not represented in CommonWords. Today more than 40% of the people of the world speak an Indo-European language as their native tongue. Proto-Indo-European, the mother tongue of the Indo-European super-family, is thought to have been spoken around 5000 B.C. in the area north of the Black and Caspian Seas. Over the millennia the Indo-Europeans spread east to India and central Asia, west to modern Greece, Italy, France, Spain, south to Iran, Pakistan and Afghanistan, and north to Germany, Britain, and Scandinavia. The spread continues today, especially as English becomes an increasingly international language.

In the chart below languages appear unboxed, the Romance sub-family in a very light gray box, families in darker grey, the Indo-European super-family in darkest gray.)



See also The Indo-European Family.

Indo-European Roots. Indo-European roots are meaningful units, or morphemes, that have been reconstructed from the Proto-Indo-European language (PIE), which we believe was spoken north of the Black and Caspian seas more than 7,000 years ago. PIE is the source of the Indo-European family of hundreds of languages, including English and the more than 400 that are still spoken today.

PIE was not a written language, so all we know of it has been reconstructed over more than two hundred years of study of sound patterns and senses among its descendant languages. The reconstruction of these roots – so far, well over a thousand – and identifying their descendant words is one of the great linguistic detective stories. Some examples:

Root	Sense	Words
*beu	"To swell"	*boast, bosom, puff, pocket*
*bheu(ə)	"To be, exist, grow"	*be, bond, husband, physics*
*dwo	"Two"	*balance, between, twelve, two*
*genə	"To give birth, beget"	*general, genetics, kin, kind, naive*
*gnō	"To know"	*could, know, notion, recognize*
*kaput	"Head"	*cabbage, capital, captain, head*
*kwetwer	"Four"	*forty, four, quarantine, quart*
*pelə1	"Fill, abundance, multitude"	*complete, folk, full, plenty*
*reg1	"Move in a straight line"	*rake, reckon, rich, right, rule*
*weid	"To see"	*disguise, history, idea, wise, wit*

For more on these and other bases go to Roots.

An accessible and highly thorough treatment of Indo-European roots as they are reflected in the modern English lexicon is that of Calvert Watkins and his group. Their work can be found as the appendices of the 1st, 3rd, 4th and 5th editions of the *American Heritage Dictionary* and in the three editions of his paperback *The American Heritage Dictionary of Indo-European Roots* (1985, 2000, 2011), both of which have changed from one edition to the next to reflect new editorial work.

Watkins' work like that of all students of Indo-European roots relies on Julius Pokorny's magisterial study *The Indogermanisches etymologisches Wörterbuch* (*Indo-European Etymological Dictionary*) (1957, 2005), several different versions of which are available in print and on the Internet. There are also several on-line versions of Indo-European roots.

For an annotated map of the Indo-European family, together with examples of some of the roots, the thousands of modern English words that descend from them, and some reasons for having students work with roots, see Lineages from Indo-European Roots.

Infinitive Verbs. *Infinitive* means "that which is not limited" and in grammar refers to a verb form that is not inflected to show tense or singular or plural number. Infinitives are the base forms used in dictionaries as the entry word for verbs, with the inflections and derivations coming later in the entry.

Infinitives have two forms: **bare infinitives** and ***to*-infinitives** like *dance* and *to dance* in "She can help you dance" and "She can teach you to dance." Infinitives have many uses in English, in all of which the auxiliary, or helping, verbs carry the inflection for number and tense. For example:

She does dance.
She could dance.
I like to watch her dance.
They should let her dance.
She loves to dance.
To dance is what she enjoys most.
I want her to dance.
She would rather dance.
She is the best one to get to dance for us.
Personally, I don't know how to dance very well.

Inflection, inflected forms. Inflected forms are words formed by adding inflectional suffixes to nouns, verbs, adjectives, or adverbs.

Ingenious, ingenuous. *Ingenious* "displaying genius" explicates to (in2+geni+ous)*; ingenuous* "naive, unsophisticated, childlike" explicates to (in2+genu1+ous). The bases *geni* and *genu1* are closely related, both coming from the ancient root **genə* "to give birth, beget." Today *geni* has come to mean something like "inborn, innate," and *genu1* something like "natural." Other words with *geni* include *congenial, genial, genii, genius.*

Others with *genu1*: *disingenuous, genuine, ingenue, ingenuity.* For more work with bases and words from the ancient base **genə* see "Base *gen* (Parts 1-5)" at Word Builds, "*gene, geni*" at Word Maps, and **gen* at Lineages from Indo-European Roots.

Innocence, innocents. *Innocence* (in1+noc+ence) refers to the quality of being innocent, its -*ence*) suffix marking it as an abstract noun. The -*ent*) suffix in *innocents* (in1+noc+ent)+s3) forms adjectives and non-abstract nouns. The base *noc* "death, harm, injure" is negated by the prefix (*in*1. So an innocent isn't likely to hurt you. The issue here is to distinguish between the abstract noun on one hand and the homophonic non-abstract plural noun on the other. There are actually a number of -*ence*) and -*ent*) pairs in English – for instance, *adolescence* (ad+ol1+esc)+ence), *adolescents* (ad+ol1+esc)+ent)+s)3; *fluorescence* fluor1+esc*e*)+ence), *fluorescents* fluor1+esc*e*)+ent)+s)3; *magnificence* magni+fic)+ence), *magnificents* magni+fic)+ent)+s)3. But they shouldn't create the problems that *innocence* and *innocents* can, because beyond the three listed above, very few of the pairs have a plural noun ending in <ents>. In fact you have to have a pretty big dictionary to find *magnificents.*

Insulators. There are two letters that routinely serve to cover, or insulate, other letters. The most common is silent final <e>, which insulates <s, z, u, v> at the end of words – as in *lapse, bronze, plague, serve*. See silent final <e> functions and deletion for more details. In some <gu> spellings the <u> insulates a following <e, i, y> to avoid the look of a soft [j] sound: *guest, plaguing, plaguy.* See soft and hard <c> and <g>.

Intensifiers. An intensifier is a word or word part that increases the intensity of the word it modifies. In English the most common intensifier is the word *very*. Here are a few of the several dozen English intensifiers, with example phrases: *awful* "awful rich," *bloody* "bloody amazing," *dead* "dead wrong," *real* "real tall," *really* "really cold," *so* "so stupid," *super* "super hot," *too* "too tense," *wicked* "wicked smart" – plus many -*ly*)1 adverbs like *extremely*. And, of course, various obscenities.

Lexis lists 35 prefixes that are tagged as rarely or sometimes or often intensifiers. But in nearly every case the intensification is hard to discern in modern words – perhaps (*per*-1 in *perfect* and *perceive* and (*be*- in *belief* and *believe* would be instances. Also two suffixes are tagged "intensifier": the quite productive -*ard*)1 as in *blizzard, drunkard*, and the less productive -*ee*)4 as in *whoopee, sirree*. And we use some prepositions after verbs to intensify the action: there's a difference between merely burning something and burning it up or down.

Interdental sounds. Interdentals are consonant sounds pronounced with the tongue between the upper and lower teeth – [th, th] as in *then* and *thin*.

Interjections. Interjections are words – or in some cases near words –

that express feelings with little – or very little – semantic content. At their purest, interjections express strong feelings and little if anything else: *Ouch, Ugh, Yuck, Whew, Phew* – plus a large set of taboo curse words and phrases – mostly Anglo-Saxon, often only four letters long.

Interjections can also be celebratory, carrying a sense of admiration and appreciation: *Cheers, Hooray, Yeah, Wow*. They can also be accusatory, placing blame: *Oops, Uh oh, Shh, Tsk tsk, Tut tut*.

In a less emotional vein, interjections often serve to open or close the act of communication: *Ahem, Psst, Hi, Hello, Goodbye.* Such language is sometimes called *phatic* (from the Greek "to speak"), as with such expressions as *How's it going?, Nice day today; Dear ..., Faithfully, All the best*.

Interjections often blend into intensifiers, again including those taboo words.

International Phonetic Alphabet (IPA). The IPA is a phonetic alphabet designed for transcribing any of the world's spoken languages. It expands the Latin alphabet, with more than one hundred consonant and vowel symbols and seventy or so other marks. In Daniels and Bright's presentation of the 1989 version of the IPA in their *The World's Writing Systems* (Oxford UP, 1996) there are 99 letters (74 consonants and 25 vowels), 31 diacritics, 11 suprasegmentals (which indicate qualities that extend beyond one segment, such as intonation patterns), 12 tone and accent marks, and a group of 18 other symbols for non-English speech sounds. The IPA is used to make both phonemic (or broad) and phonetic (or close, detailed) transcriptions. Phonemic transcriptions are enclosed in diagonals; phonetic transcriptions in square brackets. (NB: On this website the transcription of sounds is essentially phonemic, or broad, though – perversely enough – the sounds are usually enclosed in square brackets.) See consonant sounds, vowel sounds, and diphthongs, where IPA letters are shown in diagonals.

-ize), -ise)1. These two suffixes usually form verbs – and a very few nouns. In America we prefer *-ize*), while in Britain they prefer *-ise*)1, though they use both. (See British and American spelling.) About the only common American words that always take *-ise*)1 are *advertise, chastise, exercise, exorcise, franchise,* and the noun *merchandise;* the verb *merchandise* can take either. The Lexis database lists 69 words with *-ise*)1, 2,875 with *-ize*). When in doubt, *-ize*) is clearly the better bet.

Jespersen, Otto. Otto Jespersen (1860-1943) was a Danish linguist who studied and wrote extensively about English grammar. His many works include *Growth and Structure of the English Language* (1905), *Language: Its Nature, Development and Origin* (1922), The *Philosophy of Grammar* (1924), and *Modern English Grammar on Historical Principles* (7 vols., 1909–1949), the first volume of which, *Sounds and Spellings*, is particularly useful to students of English spelling.

Johnson, Samuel. Samuel Johnson (1709 – 1784) was an English writer who made lasting contributions to English literature as a poet, essayist, moralist, literary critic, biographer, editor and lexicographer. He is sometimes said to be the most distinguished English man of letters. His 1755 *A Dictionary of the English Language* was the first true English dictionary and set the standard for British English spelling. (See British and American spelling.) At times his sense of humor showed through, as when he defined a network as "any thing reticulated and decussated, at equal distances, with interstices between the intersections," or when he defined oats as "a grain, which in England is usually given to horses, but in Scotland supports the people."

Labiodental sounds. Labiodentals are consonant sounds pronounced with the lower lip close to or touching the upper teeth – [v, f], as in *verve* and *fife*.

Language Families. The figures are uncertain and fluid, but there are 7,000 to 7,500 known languages spoken in the world. Of these only a fraction have fully developed and widely used writing systems. Thousands of languages are spoken and heard; far fewer are written and read.

The uncertainly and fluidity multiplies when linguists try to group these thousands of languages into the 150 or so proposed language families – that is, groups of languages thought to descend from a common mother tongue. These proposed families contain widely different numbers of both languages and native speakers and they cover geographical areas of widely different sizes, as shown in the small sample below:

Family	Geographical Area	Languages	Speakers
Afroasiatic	North Africa and western Asia	360	500 million
Austronesian	Indonesia, Madagascar, Sumatra, the Philippines, and several Pacific islands	1,250	400 million
Indo-European	Western Asia, India, Iran, Europe, the UK, United States – still spreading	444	3.2 billion
Niger–Congo	Sub-Saharan Africa	1,500	430 million
Sino-Tibetan	China and Tibet	457	1.3 billion
Trans-New Guinea	New Guinea and surrounding islands	480	3.5 million

Some scholars have proposed an even larger super family, **Eurasiatic**, which would include Indo-European and several other languages and families, including Finnish, Korean-Japanese and Eskimo-Aleut, with strong ties to American Indian. And there are proposed super families that are even larger – with boundaries even more uncertain and fluid.

For reasons more religious than linguistic, people in the past believed that English (and other modern languages) had descended from Hebrew. Now we know that English is not only not a descendant of Hebrew but that the two languages are not even members of the same language family – English from Indo-European and Hebrew from Afroasiatic.

It seems most likely that spoken language had to be invented many, many times all around the planet. As human groups grew beyond the nuclear family, the social relationships grew more complex and would always be strained by environmental changes. Having a fairly robust medium of communication would provide such an evolutionary advantage that languages almost certainly were invented at several different times and places. As local languages interacted and the speakers learned from one another, the languages would change, grow more complex, reflect certain aspects of one another. In time one language could grow strong enough that, like Proto-Indo-European, it would spread and spawn a language family.

Latin alphabet. By the time of classical Latin, towards the end of the Roman Empire, the Latin (sometimes called Roman) alphabet consisted of 23 letters, with no <j>, <u>, or <w>. In the 7th century Irish and Roman missionaries in England began to replace the runes of the old Germanic runic alphabet with letters from the Latin, and during and after the 11th century the replacement was extended by the Norman scribes. The <j, u, w> that were missing in the classical Latin alphabet were added to the English alphabet through a fairly complex set of distinctions:

In Old English the letter <i> usually spelled a vowel sound but sometimes it spelled the consonant sound [y], which the Norman scribes spelled with continental <j>. By the 17th century writers distinguished <i> and <j>, which was an elaboration of <i>, with the vowel sounds written <i> and the consonant sound [j] written <j>.

Roman <v> could spell either the vowel sounds we spell with <u> or the consonant sound [v]. By the 17th century the letters <u> and <v> were distinguished with <u> as usually vowel, <v> as consonant.

In Old English [w] was spelled <u> and <uu> (thus its modern name "double <u>"), and sometimes double <v>, <vv>. In the 8th century the rune wynn <Þ> was used to spell [w], but later Norman scribes replaced wynn with <w>, the ligature – or joining – of the old <vv> and <uu>.

Latinization. During a brief classical revival in the 16th century some words were respelled to show their Latin sources. For instance, our word *debt* was commonly spelled <dette> in Middle English, but a <b> was introduced, with no change in pronunciation, to show its Latin source *dēbitum*. Other examples include these: Middle English *enditen* became Early Modern *indict* after the Latin *indictare*. Middle English *faute* became Early Modern *fault*, with a change in pronunciation, after Latin *fallita.* Middle English *langage* became *language* after Latin *lingua*. In some cases the motivation may not have been so much an enthusiasm for Latin

as a distaste for French, the Hundred Years' War with France finally ending in the late 15th century. Middle English *columpne*, which came from French, became *column* after Latin *columna*. *Solemn* was the same. See also Arctic.

Library. For a speller the major problem with *library* is remembering that first <r> and thus avoiding spelling the common mispronunciation *libary. That [r] is a little easier to hear in the related word *libretto* "the written text of a musical work like an opera." *Library* explicates to libr2+ary)2, and the base *libr2,* which today means "book," comes from an ancient base that referred to the inner bark of a tree that was used as material to write on. *Libr2* is related to *leaf* – both of a tree and of a book.

Lie, lay. These two verbs have caused trouble for 800 years, and although they are not strictly speaking a spelling problem, they are worth a few words here. *Lie* is an intransitive verb – that is, it does not take a direct object; *lay*, which does require a direct object, is transitive. *Lie* means basically "to recline," as in *I lie on the couch every Sunday until noon." Lay*, on the other hand, means "to place something down, to cause it to lie," as in *I lay the mail on the hall table every afternoon."* Beyond their similarity of meaning, their inflection reveals another source of confusion:

	Lie	**Lay**
1st & 2nd person singular, present tense	*lie*	*lay*
3rd person singular, present tense	*lies*	*lays*
Past tense	*lay*	*laid*
Past participle	*lain*	*laid*
Present participle	*lying*	*laying*

The confusion is aggravated by the fact that the 1st and 2nd person present of *lay* and the past tense of *lie* are homonyms, spelled <lay> and pronounced [lā].

Lightning, lightening1, lightening2. These three are homophones pronounced [līt´nĭŋ] though they come from two different ancient bases: *Lightning* "electric flashes in the sky" and *lightening1* "growing brighter" come from **leuk* "brightness," while *lightening2* "growing less heavy" comes from **leg*^{w}*h* "having little weight."

Lightning explicates to light1+n)5+ing)1, with *-n*)5 a contraction of the verb-forming suffix *-en*)03, *Lightening1* explicates to light1+en)03+ing)1 and *lightening2* explicates to light2+en]03+ing]1. In earlier centuries the spellings with <en> and <n> were pretty much interchangeable, but today <lightening> is considered a misspelling of *lightning*.

Long vowels. In Modern English the long vowels are [ā] as in *bait*, [ē] in *beet*, [ī] in *bite*, [ō] in *boat*, [ū] in *boot* and [yū] in *beaut*. Also see Vowel sounds and Great Vowel Shift.

Lose, loose. These two are not quite homonyms and not quite homographs. They and their present participles, *losing* and *loosing*, can cause problems for spellers. Remember that the past tense of *lose* is *lost*, both with a single <o>. And remembering the old reduplication "loosy-goosy" may help with the <oo> in *loose*.

Lost Sounds and Letters. In relaxed, conversational speech, sounds often get dropped. If students are used to hearing words without these sounds, it can be easy for them to forget the corresponding letters – especially with unstressed sounds, and most especially at the ends of words. Some examples are given below, with the problem sounds and letters highlighted in red:

Front	Middle	End
procope (or apharesis) *about* because [cŭz]	**syncope** *aspirin* *buttoning* *camera* *chocolate* *comparable* *family* *favorite* *February* *library* *memory* *restaurant* vegetable	**apocope** cup of [cŭpə] did you [dĭjə] don't you [dōnchə] don't know [dənō] give me [gĭmē] going to [gŭnə] have to [hăftə] most [mōs] shouldhave [shůda] want to [wŏnə] what are you [wŭchə] would you [wůjə]

For fans of big words the table includes the technical names of the processes involved. The base *cope1* is from a Greek word meaning "strike, cut off." And just for the record, here are the technical terms for the **addition** of sounds at the beginning, middle, and end of words: *prothesis*, epenthesis, *epithesis*. The base *thes1* comes from the Greek and means "set, put."

For suggestions on how to deal with missing sounds and letters, see Misspellings and Individual Spelling Demons.

A historical note: The use of silent final <e> to mark long vowels emerged from a version of apocope: In the evolution to Middle English, Old English inflectional endings reduced and converged to schwa spelled <e>, normally leaving the preceding vowel open and long. In Middle English

when the <e> fell silent, the long vowel remained. See Silent final <e> functions and deletion.

See the related and more general Contraction. For special problems with apocope when teaching English to native speakers of Spanish (and French), see "Teaching English Spelling to Spanish Speaking Students".

Medal, metal, mettle, meddle. *Medal* and *meddle* are homophones, as are *metal* and *mettle.* But because the sound [t] in the middle of words can sound very much like [d], all four of them are near homophones. *Medal* and *meddle* are unrelated in meaning or history, but *mettle* was originally a spelling variant of *metal*, and over the centuries their spelling and meaning have diverged. *Medal* and *metal* are both instances of the French Lemon Rule. *Mettle* and *meddle* both contain VCC*le* strings. The base of *medal* is *med*4 "middle, half," apparently due to an early use of the word to refer to a coin worth half a Roman denarius. The base of *meddle* is *medd1* "mix" and the suffix -*le*)1 marks frequentative verbs.

Metaphor. In metaphor a word or phrase is used to refer to something that is categorically different from, but is perceived as being in some important way similar to, what it normally refers to – as when Keats refers to a Grecian urn as a "foster-child of silence and slow time," encouraging the reader to explore the similarities. But metaphor is not restricted to poetry. It has played a major role in the evolution of English, including English spelling: For instance, it is involved in the often-maligned **folk etymology**, by which users employ analogy, or metaphor, to make an unusual form more similar to some perceived pattern, as in the following:

Original Word	Evolved To	By Analogy With
chaise longue "long chair"	*chaise lounge*	*lounge*
ele, eill "wing of a church"	*aisle*	French *isle* and *aile* "wing"
formest (*form* "first" + *-est*))	*foremost*	*fore* and *most*
igland	*island*	*isle*
pentice	*penthouse*	*house*
rime	*rhyme*	*rhythm*
shame-fast	*shamefaced*	*face*
up so doun "up as if down"	*upside down*	*side*

But at an even deeper level metaphor can be said to structure how we think and talk about a given topic. For instance, the unconscious metaphor "Love is madness" leads to our use of such language as "I'm *crazy* about her. She *drives me out of my mind*. He constantly *raves* about her. He's *gone mad* over her. I'm just *wild* about Harry. I'm *insane* about her." (G. Lakoff and M. Johnson, *Metaphors We Live By* (Chicago and London: U. of Chicago Press, 1980), p. 49. See Analogy and Metonymy, also For more on metaphor go to "Metaphor and Metonymy" in Orthography as an

Evolving Complex System.

Metathesis "placement between" is the transposition of letters or sounds within a word, as in *axe* for *ask.* Metathesis ranges from self-conscious and deliberate reversals to indeliberate articulations. An example of a deliberate metathesis is *mho*, the reversal of *ohm* "unit of electrical resistance," an eponym from the surname of the physicist George Ohm. A mho is equal to the reciprocal of the ohm. Other deliberate metatheses are slang terms like *yob* and *elrig*, from *boy* and *girl.* For more see Back slang and Backslang.

Over the centuries the following indeliberate metatheses, the reversal of [r] with an adjacent vowel, have led to changes in spelling:

brid(d) > bird
cræt > cart
crul > curl
drit > dirt
thridda > third
wyrhta > wright "worker"
pretty > purty (recent respelling, showing the process still at work)

For more on the fate of vowel sounds around [r] and <r>, see [r]-colored vowels, and for even more see *AES* "Vowels Before /r/", pp. 306-27, especially "The /ur/ Convergence," pp. 321-26

Although [r] is the consonant sound most often metathesized, other sounds also can be – for instance, the fricative [s], as in

dox "dusky" > dusk
wæps > wasp
hæpse > hasp
French *chassé > sashay*, with phonetic respelling

Metonymy. Metonymy and metaphor are two basic methods of thought and thinking. In metaphor a word is used to refer to something that is categorically different from, but is taken as being in some way similar to, what the word normally refers to. So metaphoric relationships are based on similarity. Metonymic relationships are not based on similarity but rather on, broadly, contiguity – that is, on the ways things can be associated or brought together – for instance, as part-and-whole, cause-and-effect, more-or-less, first-and-next, thing-and-quality, spatial or temporal adjacency.

The most common metonymy is synecdoche: the identification of a whole thing with one of its parts, as when we speak of several head of cattle or when we speak of the American government as Washington or of a credit card as plastic. In the evolution of a language a common form of metonymy is synecdochic clipping, or abbreviation – as when polysyllables like *gasoline* and *automobile* are clipped to *gas* and *auto*.

For more on metonymy go to "Metaphor and Metonymy" and "Metonymic Variation" in Orthography as an Evolving Complex System.

Middle English. Middle English is English as it was spoken and written

from about 1150 to 1500. It was a period of great change in how the language sounded, how sentences were constructed, and how words were spelled. This change was in large part due to English's interaction with Norman-French and Anglo-French (See Norman scribes, Norman Conquest) and the Anglo-Norse dialects spoken by Vikings and their descendants who settled in eastern England. By the 14th century English had largely replaced Norman French as the official language of England. And by the 15th century Anglo-French had all but disappeared, and Standard Written English had begun to develop.

Minims. In medieval script a minim (Latin, "least") was a small downstroke rather like ∫ used to form letters like <u, n, m, i>. Since the scribes tended to crowd letters and words together, uninterrupted strings of minims could produce problems for readers. For instance the word *minim* itself could become something like ∫∫∫∫∫∫∫∫ – and the <um> in the Old English *cuman* "come" would contain the string "∫∫∫∫." Norman scribes often changed <u>'s to <o>'s to break up problematic strings of minims, thus our modern word *come*. It was this legibility problem that also led to the dot over the <i>, and by extension the <j>.

Missionaries. During and after the 6th century, there were several Christian missions from Ireland to the north of Britain. Over the following centuries the Irish missionaries built abbeys and monasteries throughout Britain, especially in the north. In 597 Pope Gregory sent a mission from Rome to southern England, led by Augustine, who became the first Archbishop of Canterbury. These Gregorian missionaries were much more active in converting the pagan Britons and Anglo-Saxons than were the Irish missionaries in the north.

The Irish missionaries wrote in an Irish version of the Roman alphabet called the Insular hand. Though it was the script used in many Old English manuscripts, it had little if any lasting impact on the development of English spelling. English spelling was much more influenced by the dialect of Wessex and Alfred the Great, which was based on the Latin alphabet as it had been spread in the south of England by the work of the mission of Augustine.

Misspellings. As any teacher well knows, misspellings come in a myriad of shapes and sizes. Some are really wrong (*sufishuntly) and others are heart-breakingly close (*suffitiently). But with our all-or-nothing approach to spelling, both *sufishuntly and *suffitiently are equally incorrect. Alas, we cannot say things like "You're getting better. You spelled this word 85% correctly."

The following are common misspellings taken from A Casebook of Misspellings, with Observations. The misspellings are listed with a leading asterisk:

Some are due to errors in twinning:

- compelling, *compeling

- forgotten, *forgoten
- jarring, *jaring
- patrolling, *patroling
- picnicking, *picnicing The insertion of <k> is a form of twinning.
- shoveling, *shovelling

Some are due to errors in silent final <e> deletion:

- spacing, *spaceing
- spiny, *spiney

Some are due to problems with <i> before <e>:

- freight, *frieght
- receipt, *reciept

Some are due to problems with hard and soft <c> and <g>:

- eligible, *eligable
- intrigue, *intrige
- serviceable, *servicable
- spaghetti, *spagetti

Some are due to over-simplified phonetics, as with the sounds [k] and [n] in

- chrome, *crome
- knack, *nack
- opaque, *opake

Some are due to missing letters and sounds and can be addressed with attention to pronunciation:

***arctic*, *artic:** *Arctic* explicates to arct1+ic)2. It is from Latin *arcticus* "bear." The geographical sense is "of the north, of the constellation Ursa Major (the Great Bear) and the north star." There are accepted pronunciations with and without that first [k], but no variant spellings.

aspirin*, *asprin**: *Aspirin* is a tradename that contracts and merges +a**cety* and ***spir**aeic acid*. aspir+in)03. There are two accepted pronunciations: [ăsˈpər•ĭn] and [ăsˈprĭn], but no variant spellings. So remember that middle vowel.

***government*, *goverment**: *Government* explicates to govern+ment). The [n] is easier to hear in the related *govern, governor,* and *governess*.

library*, *liberry: *Library* explicates to libr2+ary)2, from Latin *liber*. The base *libr2* "book" also occurs in *librarian* and *libretto* "little book, the text of an opera", where the first [r] is easier to hear.

twelfth*, *twelth: *Twelfth* twelf+th)1 is obviously related to *twelve*, with the <f>/<v> pair that we see in words like *shelf, shelves; wife, wives; belief, believe.* That soft fricative [f] is easy to lose right next to the fricative [th].

Many misspellings can be addressed with explication:

accessory*, *accesory: (ad+c1+cess1+ory) with *cess*1 "go, withdraw" as in *concession, excess, predecessor, secession*

amplifier*, *ampliphier: ampl1+ify)+i2+er)01 with *-ify*) as in *dignify, gratify, identify, justify, modify, notify, qualify, terrify, testify*

dismissing*, *dissmissing: (dis+miss3+ing)1 with (*dis-* as in *disagree, disappear, disappoint, discharge, discover, disease*

***maintenance*, *maintainance:** main2+tain1, main2+ten2+ance) with *ten2* "stretch, hold, maintain" as in *countenance, lieutenant, tenant, tenor, tenure, untenable*". See Sets.

***orientation*, *oreintation, *orentation**: ori1+ent)+at)1+ion)1with *ori*1 "rising sun, east, place something to face east" as in *Orient*

***paralyzed*, *paralized:** (para1+lyze+ed)1 with *lyze* "divide, cut apart, untie" as in *analyze*, *dialyze*

***separate*, *seperate**: (se+par03+ate)1 with *par*03 "produce, prepare, equip" as in *apparel, disparate, parade, separation*

***discipline*, *disipline:** *Discipline* explicates to (dis+cip1+le)3+ine)3, showing its close relationship to *disciple* – as well as its wider relationship to such words as *anticipate* (anti2+cip1+ate)1, *municipal* muni1+cip1+al)1, *participant* parti+cip1+ant)1, *principal* prin+cip1+al)1, and *recipe* (re+cip1+e)3. It also shows the need for both the <s> and the <c> in its spelling.

And some misspellings involve just plain odd words: *vacume rather than *vacuum*, *furlow rather than *furlough,**ake rather than *ache* (*AES*, 357), or *tounge and *tunge rather than *tongue*: *Tongue* has been a trouble maker since the 13th century: The OED lists these 16 spellings of it:

	OE		ME			EMnE		MnE	
	11	12	13	14	15	16	17	18	19
tunge	●	●	●	●	●	●			
tunke			●						
tonke			●						
tonge			●	●	●	●	●		
tungge				●					
tongee				●					
tounge			●	●	●	●	●	●	
towng(e)				●					
tung				●	●	●			
toung				●	●	●	●		
tong				●	●	●	●		
tounghe					●				
toong					●	●	●		
toongue						●			
toungue						●	●		
tongue					●	●	●	●	●

Notice that *tongue* was spelled <tunge> and <tounge> for six centuries each, both of which are today considered misspellings. In the 13th century the scribes began replacing <un> with <on> to avoid a string of four minims. It looks as if in the 15th century they replaced *tonge* with *tongue* to insulate the <g> from the <e> to avoid having the final <ge> look like a soft <g>.

For a technical discussion of the kinds of things that went on with early spellings like *tongue*, see Standardization in Early English Orthography.

And finally there are what might be called "Okay, but . . ." spellings, as in "You've spelled a word correctly, but it's not the word you were trying to spell":

***calendar*, *calender:** A calender is a rolling machine used in paper making, from Latin *cylindrus* "roller". Notice the common <er> in *calender* and *roller*. *Calendar* is from Latin *calendārium* "account book", which is from *calends* "first day of the Roman month, when monthly payments were due." Notice the common <ar> in *calendar* and *calendārium*.

***colonel*, *kernel:** *Colonel* alters the earlier *coronel* "the leader of a column", thus converging a later spelling with an earlier pronunciation. *Kernel* is from OE *cyrnel "*seed*".*

***corpse*, *corps:** *Corpse* [kôrps] "a lifeless body" and *corps* [kôr] "a military group" are essentially two spellings of what was once the same word from Latin *corpus* "body". *Corps* comes via French with French's usual silent final consonants; *corpse* comes directly from Latin with the final consonants pronounced and the final <e> insulating the <s> so it doesn't look like a plural.

***dining*, *dinning:** The word spelled <dinning> is the present participle of the verb *din "*noise*"* din+n2+ing)1*; dining* is the present participle of the verb *dine* din~~e~~1+ing)1 – a classic case of the VCV vs VCC distinction.

***perfect*, *prefect:** *Prefect* (pre+fect "a chief administrative officer" is a noun; *perfect* (per1+fect is usually an adjective or verb. Both contain the base *fect* which earlier meant "set, place", but has come commonly to mean "make, do". The prefix (*pre-* means "before, in front", and *prefect* comes from a Latin word meaning "to put at the head of"; the prefix (*per1-* in *perfect* means "thoroughly, completely", so something that is perfect is done thoroughly and well.

***psychic*, *physic:** *Psychic* [sī ˈkĭk] means "not material, mental"; *physic* [fĭ ˈzĭk] comes from a Greek word meaning "to grow" which also gave us *physics*, *physical,* and *physician*, all dealing with very material things. Both come from Greek – thus, the rare <ps> from the Greek letter psi <ψ>and the less rare <ph> from Greek phi <φ>. The simplification <ps> is a rare spelling of [s], initial [ps] not coming easily to the English-speaking tongue, though the *OED* shows two accepted pronunciations of *psychic* one without [p], one with.

***weather*, *wether:** *Wether* "a male sheep or ram" comes from the IE root **wet2* "year" and is related to *veteran* and *veal*. (IE [w] remained [w] in OE but became [v] in Latin.) It occurs in the compound *bellwether* "the lead sheep of a flock, which had a bell around its neck." *Weather* came from IE **wē* "blow" and is related to *wind, window, wing* and via Latin *vent, ventilate.* Notice also the near homophone *whether*, which is one of the <wh>, [ʰw] interrogative group *who, what, where, which, why, when, whether, whither,* and *whence*.

***were*, *where and *where*, *were:** These two near homographs are often

confused. *Where* is part of the interrogative set with <wh> [ʰw] *who, what, where, which, why, when, whether, whither,* and *whence*. *Were* is a past tense form of *is*:

	Singular	Plural
1st Person	I was	we **were**
2nd Person	you **were**	you **were**
3rd Person	he, she, it was	they **were**

***which*, *witch and *witch*, *which:** Remember that *which* is one of that interrogatie <wh> [ʰw] set. *Witch* descends from the IE root **weg* "strong", which also led to our *wicked* and *Wicca* "a pagan religion". The OE *wicce* "female sorcerer" is the direct source of our *witch.*

***whole,* *hole:** PIE [k] regularly became [h] in English so IE **kailo* "whole, uninjured, of good omen" gave us *whole* and the related words *hale, wholesome, health, heal, holy, holiday, Halloween*. On the other hand, *hole* descends from IE **kel1* "to cover, conceal, save," which also led to the variously related *hell, hall, hold "*of a ship"*, hull, hollow, helmet*. And since PIE [k] regularly remained [k] in Latin, **kailo* also led to *clandestine* "secret, concealed", *eucalyptus* (from its well-covered bud), *occult*, and *color* "that which covers" with hard <c> – and to *cell, cellar, conceal* in which the <c> later softened. See also Spelling Demons and Doublets Misspelled.

Mnemonic. (That <mn> is pronounced [n]: [nĭ•mŏnˈĭk].) A mnemonic is a device for helping you remember. Probably the best known mnemonic starts out "Thirty days has September . . . ." And the best known mnemonic in spelling starts out "It's <i> before <e> . . . ." For some other spelling mnemonics see Capital, capitol; desert, dessert, deserts, accede. The word *mnemonic* is related to a large group of words dealing with the mind: *mental, maniac, reminisce, mantra, museum, amnesty.* It is from the name Mnemosyne, the Greek goddess of memory, and mother of the muses.

Modern English. English as it has been spoken and written since roughly 1550 to the present. The evolution from Early Modern English to Modern English was gradual, so various dates given for the two tend to overlap.

Morphemes and Morphophonemics. Morphemes are the smallest content-bearing parts of spoken words. They are the spoken language's equivalents of the written language's elements.

Four or five centuries after the Norman Conquest and with the development of Standard Written English, English orthography had evolved well past its phonetic origins to a system that the Elizabethan Richard Mulcaster described as ruled jointly by sound, custom, and reason. English spelling is not simply phonetic; it doesn't relate spellings just to sounds but also to meaningful elements, overriding sound changes. For instance, in

cats the noun plural suffix -*s*)3 spells the unvoiced [s], but in *dogs* it spells the voiced [z]. If it were not for the morphophonemic feature of English – that is, if English were strictly phonetic – we would have to have two noun plural suffixes – one spelled <s>, the other <z>. Or consider the base *sign*, which shows up with four different pronunciations in *sign* [sīn]*, signal* [sĭg'nəl]*, design* [dĭ·zīn']*, designate* [dĕz'ĭg·nāt¸]. Or consider the different pronunciations of the base *photo* in *photos* [fō'tōz], *photography* [fə·tŏg'rə·fē]*, photographic* [fō¸tə·grăf'ĭk]. Morphophonemics basically deals with the changes in sound that elements undergo in different contexts. For more details, see *EDLL*, *OCEL*, and "Post-Alphabetic Literacy" in Orthography as an Evolving Complex System.

Mulcaster, Richard. In 1561 Richard Mulcaster (ca. 1531-1611) became the headmaster of England's largest school, the Merchant Taylor's School in London. In 1582, when Shakespeare was still in his teens, Mulcaster published his spelling text, *The Elementarie.* He used a political allegory to argue that a mature spelling system has to do more than spell sounds, for sounds are too changeable and diverse. In the beginning, to paraphrase Mulcaster:

> Sound was King, with complete dominion over spelling. But the sounds of speech vary so much from person to person, place to place, and time to time that eventually in the Kingdom of Sound, confusion set in. The unhappy people petitioned their King for relief, and in time they convinced him to have Custom and Reason join him in the rule of spelling. Reluctantly Sound gave up his complete dominion – though he remained the primary member of the triumvirate: Now English spelling would be controlled jointly by "the propriety of Sound," "the smoothing of Custom," and "the consideration of Reason." Sound remains primary, but his vagaries are made more sensitive to convention and word history because of the influence of informed Custom and more regular and ruly because of the influence of orderly Reason.

Mulcaster's very Elizabethan allegory is not just quaint. It reflects quite accurately the early history of our language: Originally the spelling of Old and Middle English was quite phonetic, and Sound was sole king. During the proliferation of dialects in the Middle English period and with the spread of literacy, this phonetically-based system led to considerable confusion. By Mulcaster's time the phonetic system was being replaced by one that also took into account the history and meaning of words and the demands for reason and regularity that one finds in any living system. Custom and Reason were given a governing role.

Mulcaster's language is very close to Modern English: In the sample below the accents over <o> and <e> indicate missing <n>'s, a contraction used to help typesetters justify the right margin. The <ſ> was a "long <s>" usual in initial and medial position and with the <sh> digraph. I'm not sure about the accent marks in *direćt*. Beyond these essentially typesetting

differences and with the exception of the relatively minor spelling differences in *waie* (*way*), *ar* (*are*), *diſcriptió* (*description*), *proprietie* (*propriety*), and *joyntlie* (*jointly*), Mulcaster's spelling is quite modern. (He is, of course, more generous than we in his use of commas):

The right writing of our Engliſh therefor by waie of diſcriptió is, a certain reaſonable courſe, to direc̀t the pé by ſuch rules, as ar moſt comformable, to the proprietie of *ſound*, the cóſideration of *reaſon*, & the ſmoothing of *cuſtom* ioyntlie . . . .

See also Standard Written English, Morphemes and Morphophonemics.

Nasal sounds. Nasals are consonant sounds articulated through the nose – [m] as in *mom*, [n] as in *nun*, [ng] as in *song*.

Nonce words. The word *nonce* expands *once* and means something like "this particular occasion." A nonce word is a word made up for a particular, usually temporary, use. Nonce words often make use of established word endings. For instance, the *-nik* in the Russian *sputnik* led to such nonce words as *kaputnik*, *flopnik,* and *stayputnik* to refer to failed attempts to launch. Though most nonce words do not last long – only for the nonce – some do survive and become established in the English lexicon. For instance, Robert Heinlein in *Stranger in a Strange Land* coined *grok* to refer to a certain kind of intuitive knowing, which has caught on. And apparently any number of *-ology* words also started out as nonce words. Many remain so – such as *caneology* "the science of beating someone with a cane" and *dogology* "the science of dogs." Other apparent nonce *-ology* words that have become established are *Egyptology* and *neonatology*. Probably many or all of the thousands of words and meanings that appear for the first time in Shakespeare's writings were intended as nonce words. For more information see the Teacher's Version of the Word Build for *ology*.

Norman Conquest. In October 1066 at the Battle of Hastings in southeastern England, Duke William II of Normandy defeated the army of the English king, Harold II, who, along with his two brothers, was killed. On Christmas day 1066 William, now known as William the Conqueror, was crowned king of England. The Normans were Vikings who had settled in northern France and developed their version of French, Norman-French. For our interests the most important effect of William's conquest was that the Norman-French of the victors became the language of the ruling class in England, replacing Old English. It was the language of government, the schools, and of the Norman elite who replaced English land owners throughout the country. The commoners still spoke English, and Latin was the language of the church. Over time Norman-French evolved into Anglo-Norman, while the English of the mostly uneducated commoners evolved and simplified grammatically to something more like what it is today. By the 13th and 14th centuries French became less of a factor in England, but by

then Old English had evolved into Middle English. See Norman scribes and French influence.

Norman scribes. After the Norman Conquest most of the writing was done by scribes who came from Normandy with their continental writing habits. They introduced a number of changes in English spelling: They replaced some Old English spellings with continental ones, and they introduced some spellings rarely, if ever, used in Old English. They replaced the Old English runes yogh <ȝ>, thorn <þ>, and edh <ð>: They replaced yogh with <gh> in words like *right, brought, through* and with <y> in words like *year, ready, young.* They replaced thorn and edh with <th>. They replaced the usual Old English spelling of [kw], <cw>, with <qu>, and Old English <hw> with <wh>. In several Old English words they changed <u> to <o> especially adjacent to <n> and <m> to avoid strings of minims – for instance, in Old English *cuman*, the source of our word *come*. They used three letters that were rarely if ever used in Old English: <q, v, z>. To spell [ch] they increased the use of <ch> and <cch>, the latter of which in time became <tch>. They introduced the <sch> spelling of [sh], which in time simplified to <sh>. And they used <k> before letters that spelled front vowel sounds – <e, i, y>.

Norse and Anglo-Norse. *Norse* refers to the languages of the Viking invaders and others from ancient Norway, Sweden, and Denmark. Anglo-Norse was the dialect that evolved among the Norse settlers who occupied a large part of eastern England beginning in the 9th century. Since Norse and English are Germanic languages, there are many similarities between them, and their interaction influenced English significantly. Signs of the interaction are still with us – for instance, in the pair *shirt*, which is native Old English, and *skirt* from Norse. The CommonWords database lists 247 other words from Norse sources.

Nouns. Common nouns, such as *dog* and *tree* refer to classes of things and can take the definite article *the*. Proper nouns name specific individuals in a group or class, are capitalized, and normally cannot take the definite article: *Lucille, Thursday, Chicago.*

One clue to identifying nouns is to say that a noun refers to a person, place, or thing – to which we might add *quality* or *act*. It's a good clue, but there can be problems figuring out exactly what a thing is – or a quality. And of course there can be some confusion separating an act (as a noun) and an action (as a verb). See Conversion.

A second clue is "A noun is any word that does not end in -*'s*) and fits into this slot: "**The _____ seemed okay**" – though it can be difficult at times to find a setting where such a sentence makes sense, especially with abstract nouns – as in "The freedom seemed okay."

And a third clue is that several common derivational suffixes regularly form nouns:

-age)	*package*	*-ism*)	*capitalism*
-ance)	*assistance*	*-ist*)1	*violinist*
-ary)2	*secretary*	*-ity*)	*sanity*
-ence)	*repentence*	*-ment*)	*government*
-er)01	*ruler*	*-ness*)	*toughness*
-ience)	*patience*	*-or*)2	*professor*
-ion)1	*solution*	*-th*)2	*growth*

Notice how many of these suffixes form abstract nouns that cannot be perceived by the senses – not seen nor heard nor tasted nor touched: *-ance*), *-ence*), *-ience*), *-ism*), *-ity*), *-ment*), *-ness*).

Number Words. One. All of our number words come from Indo-European (IE) roots. The IE root **oi-no* meant "one", leading to Old English (OE) *an*, which led to today's indefinite articles *an1* and *a*, and to *any*. Over time OE *an* became *on* (sometimes spelled with an initial <w>), leading to our *one*, *once* – and the negative *none* "not one". In Latin the word for "one" was *ūnus*, which led to such words as *union, unity, unanimous, unicorn, unique, universe* "turned into one"*, university.*

Some Unexpected "One" Words. Originally *alone* and *lone* meant "all one". *Eleven* comes from OE *endleofan* "one left over (past ten)". The measurement words *inch* and *ounce* come from Latin words with the sense "one twelfth". *Atone* explicates to at1+one: to atone is to make yourself at one with someone. The negative words *null*, *nullify*, and *annul* come from Latin words meaning "not any, not one." The prefix *non-* in such words as *nonsense*, *nonconformist*, *nonperson*, and *nonviolent* in Latin also had the sense "not one." Finally, and perhaps most surprising of all, *nice* originally meant "ignorant" – that is "not knowing any." (Over the centuries *nice* has gone through an amazing range of meanings: "ignorant; wanton, lascivious; elegant, smart; strange, rare; lazy; effeminate; delicate; over-refined; coy, modest; shy, unwilling; fastidious, hard to please; precise, careful; refined, cultured; hard to apprehend; subtle, small; slender, thin; trivial; full of danger; agreeable, kind.")

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Two. The IE root **dwo* meant "two." PIE [d] consistently became [t] in OE, leadng to our *two*, which up until the 13th century or so was pronounced with [tw]. The root **dwo* also led to other [tw] words with the sense "two": *twin*, *twice*; *between* and *betwixt*; *twelve* and *twelfth* with the sense "two left over"; twenty "twice ten"; and *twain* "two". The Greek word for "two" was *dýo,* thus our base *di1* "two, double" as in *dioxide*, *dilemma* "double premise", *diploma* "paper folded double", and the *du1* in dual. The Latin word for "two" was *duo,* the source of our *double*. In Old Latin <dvi, dui> sometimes changed to <bi>, as in our *bicameral* "two chambers", *bicycle*, *bisexual*, *binary*, and *combine* "two together".

Some Unexpected "Two" Words. Four more words in which <tw> carries the sense "two" are *twig* "forked, split in two", twilight "two lights",

twine “two strands”, and twist “two things turned together”. *Balance* comes from a Latin word with the sense “two pans,” like the scales being held by the statue of Justice. *Biscuit* had the original sense “twice cooked”. In Middle English *doubt* “to be of two minds” was commonly spelled *doute* but the <b> was added in the 16th century in imitation of Latin *dubitāre*. Our word *dozen,* explicates to do3+zen2, in which *do3* means “two” and *zen2* means “ten”.

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Three. The IE root **trei* meant “three”. PIE [t] regularly became [th] in OE, leading to our *three* and other words with the sense “three”: *third*, *thrice* “three times”, *thirteen* “three plus ten”, *thirty* “three times ten”, *triangle* “three angles” (and many other words with *tri-*), together with *tertiary* “of the third rank”.

Some Unexpected “Three” Words. The Latin word *tribus* referred to one of the three ethnic groups of ancient Rome. *Tribus* is the source of our word *tribe* and *tribute* “something paid to a tribe”. It also led to other <tribute> words, such as *attribute*, *contribute*, *distribute*, and *tributary*. The word *travel* comes from *travail* “suffering”, which originally referred to three stakes in an ancient torture machine. The origin of Latin *testis* “witness” is debated, but probaby it meant something like “I stand one of three (between a disputing pair)”. It leads to our *testify* and *testament*. Apparently in time a man’s gonads were taken as witness of his manliness, leading to *testes*, *testicles,* and *testosterone* “male hormone”. See also the Indo-European root *trei “Three” in the “Lineages from Indo-European Roots.”

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Four. The IE root **kweter* “four” was the source of OE *fēower* “four”, though it is not clear how PIE <kw> became OE <f>. Our *four* has the regular expansions *fourteen* “four plus ten” and *fourth* four1+th)1. But it is not clear why *forty* is no longer spelled <fourty>, which it often was from the 13th through 18th centuries. *Fortnight* “fourteen nights” contracts the earlier *fourtene night*. PIE [kw] was often spelled <qu> in Greek, leading to *quart* “a fourth of a gallon”, *quarter,* and *quartet.*

Some Unexpected “Four” Words. How to *quarter* came to mean “to house, especially in the military, is yet another unclear thing about “four” words. Perhaps it was common to house soldiers in a certain quarter, or fourth part, of a town – no one seems to know. *Quarantine* refers to a period of forty days. *Trapeze*, *trapezium*, and *trapezoid* all come from an old Greek word that referred to a four-legged table. They are related to words with the base *tetra* “four”, as in *tetrameter* “four beats” and *tetrapod* “four-footed”. Our word *square* comes from the Latin *exquadrāre* “to square something” and is the source of *squad*, *squadron* – and with more contractions of sound and changes in spelling, *cadre*. It is also the source of *quarry*, apparently because in a quarry stones are cut into squares. See also the Indo-European root *kwetwer “Four.”

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Five. The IE root **penkwe* and its variant form **kwenkwe* meant "five." PIE [p] regularly became [f] in OE – thus, *five, fifty, fifth, fifteen*. The PIE <p> remained <p> in Greek, which gave us *pentagon*, *pentameter*, and *pentathlon*. *Pentecost*, the 7th Sunday after Easter, is the "fiftieth day". In Latin PIE <kw> regularly became <qu>, as in *quintet*, *quintuple* "times five" and *quint2*, short for *quintuplet*. In Great Britain a *quintillion* is the 5th power of a million, but in the United States it is only the 3rd power of a million, defying the etymology – though both are still pretty big numbers. The <quin> meaning "five" occurs in several long and technical words like *quindecennial* "happening every 15 years" quin4+dec1+enn+ial)": *dec*1 "ten" and *enn* "years"; *quinquagenarian* "one who is fifty years old" quinqu+agen)+arian). The suffix -*agen*) means "times ten" and the suffix -*arian*) forms adjectives and nouns.

Some Unexpected "Five" Words. *Finger* earlier had the sense "one of five" and is closely related to *fist*, which by way of the Dutch also gave us *foist,* literally "to take in hand". The name of the game *Keno* refers to the set of five winning numbers. The name of the board game *Parcheesi* is a respelling of a Hindi word meaning "25". The name of the fruity drink *punch* comes from another Hindi word meaning "five", referring to the number of its ingredients.

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Six, *seven*, *eight* and *nine* can be treated more briefly:

Six. IE **s(w)eks* "six' leads to our *six* and its forms and to some rare variations. More or less common unexpected "six" words are *sextant,* a navigational instrument containing an arc that is one-sixth of a circle*; siesta* from a Latin word referring to the sixth hour of the Roman day, noon; and *Sistine,* named for Pope Sixtus IV.

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Seven. IE **septm̥* "seven" leads to our *seven* and to the base *sept "*seven*"* as in *septet*. The name *September* refers to the seventh month of the Roman calendar. IE [s] routinely becomes [h] in Greek – thus the base *hept* as in *heptagon* "a seven-sided figure", *heptahedron* "a seven-sided solid", *heptameter* "a poetic meter of seven feet", *heptarchy* "government by seven persons", *heptastich* "a poetic stanza consisting of seven lines", *heptateuch* "the first seven books of the Old Testament", *heptathlon* "a contest consisting of seven track and field events".

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Eight. IE **oktō(u)* "eight" leads to OE *eahta* via a regular sound change and thus to our *eight* and its normal expansions. It also leads to Latin *octo* "eight" – and thus *octave* "the eighth note above or below a given tone"; *octet*, *octogenarian*, and *octopus* "eight feet". In the old Roman calendar October was the eighth month.

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Nine. IE **newn̥* "nine" leads to our *nine* and its contraction *nin* in *ninth.* It

also leads to the Latin *nov* as in *novena* “nine days of prayer” and *November*, the ninth month of the Roman calendar. Less obviously it leads to *noon* “the ninth hour of the day by Roman reckoning”; and *ennead* “a group of nine”. *Brunch* combines and contracts *breakfast* and *lunch*, the latter of which comes from *noon*.

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Ten. The [d] in IE *dekm̥ “10" became in OE [t], thus leading to our *ten*, *teen1* “plus 10”; *ty1* “times 10"; and *tenth*. PIE [d] remained [d] in Latin, leading to such words as *decimal*, *decade*, *decagon*, and *December*, the tenth month in the old calendar. IE **dekm̥* had a suffixed form **dkm̥-tom* “ten times ten, 100”, which in time contracted to **km̥tom*, and led to Latin’s *centum* “100", originally with a hard <c>. *Centum* led to the following with soft <c>’s: *cent* “100th of a dollar”, *century*, *centennial*, and *percent* “per 100”. By Latin the [k] in **km̥tom* had sometimes changed to [h] and led finally to OE *hundred* hund1+red2, *red2* meaning “count, number”.

Some Unexpected “Ten” Words. *Decimate* originally meant “to kill or destroy one tenth”; a *dime* “a tenth part”; *dicker*, probably comes from an earlier “set of ten”; in *dozen* do3+zen2 the base *zen2* means “ten” (and *do3* means “two”); a *dean* was originally a commander of ten; in *fortnight* the base *fort*3 contracts an earlier *fourteen*; and *tithe* is from an OE word meaning “a tenth”.

Noun plurals. Far and away most nouns form their plurals regularly by adding the suffix -*s*)3: *head, heads; barn, barns; car, cars; tree, trees.* After voiceless sounds, -*s*)3 is pronounced [s] as in *cats*, but after voiced sounds it is pronounced [z] as in *dogs*. Most compound nouns form their plurals regularly: *assistant directors, babysitters. sit-ins*. But, though regular, some can be surprising: *notaries public, commanders-in-chief, passersby.*

Singular nouns that end with a sibilant sound – that is, [s, sh, z, zh, ch] regularly take the suffix -*es*)2, pronounced [ĭz]: *kiss, kisses; fox, foxes; wish, wishes; buzz, buzzes; church, churches; massage, massages* mass2+age]+es]. In nouns like *house* with its plural *houses*, the sound of the first <s> voices from from [s] to [z].

As per the old jingle, singular nouns that end with <y> preceded by a consonant letter, regularly change the <y> to <i> and add -*es*)2: *cry, cries* cry1+i2+es)2. Also *flies, spies, tries*, etc.

Singular nouns that end with an <o> preceded by a consonant vary between -*s*)3 and -*es*)2. Most of them take the regular form, -*s*)3: *pianos, altos, twos, egos*. Many take either -*s*)3 or -*es*)2: *banjos, banjoes; zeros, zeroes; mottos, mottoes; innuendos, innuendoes.* With either of these sets it's always safe to use -*s*)3. But a few nouns that end with <o> preceded by a consonant take only -*es*)2, the most common being *echo, embargo, go, hero, Negro, potato, tomato*, and *veto*. With these eight the plural should be formed with -*es*)2. (When *hero* is used to contract the compound *hero sandwich*, its plural is often spelled *heros*.)

Seven nouns from Germanic form their plurals irregularly via ablaut –

that is, by changing the internal vowel: *foot, feet; goose, geese; louse, lice; man, men; mouse, mice*; *tooth, teeth; woman, women*. Notice that in *woman, women* though the <a> changes to <e> their pronunciation is the same, but the pronunciation of the <o> changes from [ù] in *woman* to [ĭ] in *women.*

Even fewer plural nouns use the Germanic suffix -*en*)05 or its expansion -*ren*): *brethren, menschen, oxen* – and *children*, which blends two Old English plural suffixes -*ru*) and -*en*)05.

A few nouns – *elf, half, self, shelf, wolf* – change the final unvoiced [f] to voiced [v], change the spelling, and add -*es*)2: *elf, elves; half, halves; self, selves; shelf, shelves; wolf, wolves.*

Some foreign nouns retain their foreign plurals: *alga, algae; alumnus, alumni; analysis, analyses; criterion, criteria; larva, larvae; stimulus, stimuli.*

Some foreign nouns have both foreign and regular plurals, the foreign plurals being more common in technical registers: *antenna, antennae, antennas; cherub, cherubim, cherubs; index, indices, indexes; minimum, minima, minimums; tempo, tempi, tempos; vertebra, vertebrae, vertebras.*

Some nouns can be construed as both singular and plural as in “The committee is in session” vs. “The committee are in session.”

Some nouns do not change to show plural: *deer, elk, fish, moose, sheep*. And most abstract nouns do not have plurals. And some nouns

The plurals of letters and numbers use ‘*s*: *three r's and five 4's*. Though the huge majority of nouns take the regular noun suffixes -*s*)3 or -*es*)2, when in doubt, check a good dictionary.

Old English, or Anglo-Saxon. Old English is English as it was spoken and written from roughly the middle of the 5th century until the mid 12th century by which time it had evolved into Middle English. It developed in England among the Anglo-Saxon settlers – mainly the Angles, Saxons, Jutes, and Frisians from northern Europe. It is a Germanic language. Its early evolution was much influenced by the language of the Vikings and other Norse settlers and later by Norman-French, the language of the Norman conquerors. Old English literary works first appear in the 7th century. Old English is the language of *Beowulf* and other poetry and riddles. After the Norman Conquest in 1066 Old English was replaced by Norman-French as the language of power and schooling in England.

Old English was a heavily inflected language. For instance, the Old English version of our definite article *the* had 23 different inflected forms. Singular nouns were inflected for four cases – nominative (subject), accusative (direct object), dative (indirect object), and genitive (possessive). Pronouns were inflected for singular, plural, and dual numbers and for masculine, feminine, and neuter genders. By late Middle English, after centuries of English being the language of the unschooled, this complex system had simplified to basically what we have today, with less reliance on inflections and more on word order and prepositional phrases.

Open and closed syllables. Open syllables end with a vowel sound,

closed syllables with a consonant. Thus, in *open*, the first syllable, [ō], is open; the second syllable, [pən], is closed. See Syllables.

***Oxford English Dictionary* (*OED*).** The *OED* is a multivolume dictionary that describes the history of English words as their senses and spellings changed from Old to Middle to Early Modern to Modern English. Work on it began in 1857, and until the late 1920's it was published as a series of short unbound fascicles. The first complete edition was published in 1928. There have been several supplements published since 1933, including a four-volume supplement published from 1972-1986. The second edition was published in 1989. In 2000 work began on a third edition, which is projected to be published in 2037. In addition to the print versions, the second edition is available on CD-ROM and on-line at oed.com. The on-line version is upgraded every three months with new material prepared for the third edition. In all of its manifestations the *OED* is the essential guide to the lives of English words as they enter and sometimes leave the language and as their senses and spellings change.

Palatal sounds and their spellings. Palatals are consonant sounds articulated with the tongue against the palate, or roof of the mouth – [j, ch, zh, sh, y]:

[j] In CommonWords [j] is spelled either <j> or <g> about 90% of the time, and it is spelled <g> almost three times as often as it is spelled <j>. It is spelled

- <j> usually in element-initial position (*jealous*, *jockey*, *rejoice* (re+joice, *sojourn* (so1+journ), rarely in medial position (*banjo, cajole, pajamas, pejorative*), and in final position only in *raj*;
- <g> only before <e, i, y> (*genuine, magic, clergy, squeegee, origin*);
- <dge> only in final position after short vowels (*badge, fudge, lodge, midge, pledge*);
- <dj> only after (*ad-* (*adjective, adjourn, adjust, adjutant*);
- <gg> only in *exaggerate*;
- <d> only before <u>: *gradual, individual, pendulum, schedule*.

AES, pp. 417-21.

[ch] About two-thirds of the time in CommonWords [ch] is spelled either <ch> or with the doublet equivalent <tch>. It is spelled

- <ch> in any position in the word (*achieve, cheese, church, duchess, launch, merchant, orchard, spinach, treachery*);
- <tch> always after short vowels, usually in word-final position (*batch, etch, hutch, notch, pitch, thatch*), but sometimes word-medial (*kitchen, ratchet, satchel*);
- <c> in Italian adoptions (*cello, vermicelli, concerto*);
- <tsch> in German adoptions (*kitsch, putsch*);
- <t> preceding unstressed <u> or <ion> (*actual, combustion, digestion, fortune, mortuary, suggestion, virtual*). *AES,* pp. 412-17

[sh] In CommonWords [sh] is spelled <sh> or <t> about 85% of the time, and it's spelled <t> almost twice as often as <sh>. The following lists the nine

spellings of [sh] in descending order:
• <t> preceding an unstressed <i> which is followed by a second unstressed vowel letter, commonly <ion> (*abbreviation, description, impatience, initial, notion, ratio*);
• <sh> nearly always in initial or final position (*bashful, fresh, mushroom, nourish, rubbish, shoulder, shush*);
• <c> preceding an unstressed <i> followed by a second unstressed vowel letter (*ancient, commercial, glacier, specialty, species, suspicion*);
• <ss> preceding <ion> or <u> (*assurance, commission, confession, expression, issue, pressure, session*);
• <s> preceding <ion> or <u> (*dimension, expansion, insure, mansion, sugar, sure, suspension*);
• <ch> usually in fairly recent French adoptions (*brochure, chagrin, Chicago, champagne, machine, mustache, parachute*) and *pistachio* (from Italian);
• <sc> especially in the base *sci*1 "know" (*conscience, conscious, omniscience, unconscious*);
• <sch> especially in words from German and Yiddish (*schlemiel, schmo, schnauzer, schnook, schwa*);
• <x> apparently only in *sexual*. *AES*, pp. 407-12

[y] In Old English until the 13th century [y] was spelled with the rune yogh, <ȝ>, then with <y>. It is spelled <y> about half the time:
• <y> in element-initial position (*beyond, yacht, yellow, youth, yule*);
• <j> in *fjord* only;
• <i> about half the time in the [y]-glide, unstressed and followed by a second unstressed vowel (*alien, billion, civilian, companion, dahlia, onion, spaniel*);
• <y> in the [y]-glide, in *lawyer* and *sawyer*. *AES*, pp. 459-60

[zh] In CommonWords [zh] is spelled <s> about 85% of the time; the rest of time it's spelled <g>:
• <s> preceding either unstressed <i> followed by another unstressed vowel letter or <u> (*casual, collision, enclosure, erosion, excursion, leisure, measure, usual, visual*);
• <g> in French adoptions, where it sometimes has a variant pronunciation with [j] (*camouflage, garage, gendarme, mirage, prestige, regime, rouge*);
• <z> preceding <u> in *seizure and azure*;
• <t> in *equation* only. *AES*, pp. 421-22

Palatalization. When a consonant sound is palatalized, it is pronounced back in the roof of the mouth, against the hard palate. For instance, the sound spelled <t> in *native*, [t], is not palatalized; it is an alveolar, pronounced forward in the mouth. But the sound spelled <t> in *nation*, [sh], is palatalized; it is a palatal, pronounced well back against the palate. There is a palatalized spelling when a letter like <t>, which normally spells a nonpalatal sound as it does in *native*, spells one that has been palatalized, as it does in *nation*.

For the several different palatalizations see Palatal sounds and their spellings. For more on palatalization see *AES*, Chapter 30, “The Palatal Sibilants,” pp. 407-22, and “Palatalization” in Spelling for Learning.

Palindromes. A palindrome is a word, phrase, or sentence that reads the same backward as forward. From Greek, the base *palin* means “back, again” and *drome* means “running.” Other words with *drome* are *airdrome, syndrome* – and its short form *drom* occurs in *dromedary* “Running camel.” Most palindromes are read letter by letter, as with palindromic words like *sis, solos, wow, deified, kayak, level, madam, mom, noon, pop, racecar, radar, rotator*.

Some palindromic sentences, also read letter by letter, can be quite thoughtful:

“Are we not drawn onward, we few, drawn onward to new era?”

“Evil I did dwell, lewd did I live.”

“Step on no pets!”

Some can be funny:

“Did I draw Della too tall, Edward? I did?”

“Ed, I saw Harpo Marx ram Oprah W. aside.”

“Go hang a salami, I’m a lasagna hog.”

Some can be pretty obscure:

“On a clover, if alive, erupts a vast pure evil; a fire volcano.”

“May a moody baby doom a yam?”

“Eva can ignite virtuosos out riveting in a cave.”

And some can be quite long:

“Are we not pure? “No, sir!” Panama’s moody Noriega brags. “It is garbage!” Irony dooms a man—a prisoner up to new era.”

“Do good? I? No. Evil anon I deliver. I maim nine more hero-men in Saginaw, sanitary sword a-tuck, Carol, I. Lo! Rack, cut a drowsy rat in Aswan. I gas nine more hero-men in Miami. Reviled, I (Nona) live on. I do, O God.”

Some palindromic sentences are read word by word:

“King, are you glad you are king?”

“You can cage a swallow, can’t you, but you can’t swallow a cage, can you?”

“Is it crazy how saying sentences backwards creates backwards sentences saying how crazy it is?”

Palindromic poems are read line by line, as in Lindon’s "Doppelgänger" in which after the poem's midway point, each line is repeated in reverse order, as in this short quote from the middle of the poem:

I puzzled over it, hiding alone,
Watching the woman as she neared the gate.
He came, and I saw him crouching
Night after night.
Night after night
He came, and I saw him crouching,
Watching the woman as she neared the gate.

I puzzled over it, hiding alone --

The word *emordnilap* (*palindrome* spelled backwards) means a word that reads as another word when spelled backwards. Commonly cited examples: *desserts* & *stressed*, *live* & *evil*, *drawer* & *reward*, *gateman* & *nametag*, *time* & *emit*, *laced* & *decal*, *regal* & *lager*.

A palinode is a poem that retracts or takes back something said in an earlier work. For instance, long after Burgess wrote "I never saw a purple cow," he wrote this palinode:

Ah yes, I wrote the purple cow!
I'm sorry now I wrote it!
But I can tell you anyhow,
I'll kill you if you quote it!

Many of these examples are from https://czechtheworld.com/best-palindromes.

Participles. In English there are two participle verb forms: the **past participle**, usually spelled with the suffix *-ed*)01, sometimes with *-en*)02 or *-n*)1, and sometimes with just a change of vowel – as in *have missed, have broken, have drawn, have sung*; and the **present participle**, sometimes called **gerunds** when used like nouns, always spelled with *-ing*)1 – as in *hurrying*. Past participles carry the sense "action completed" and usually take some form of *have* or *be* as auxiliary (or "helping") verbs. Present participles carry the sense "action still going on" and take some form of *to be* – as in "The cake has been baked" vs. "The cake is baking."

The word *participle* means "that which shares in the properties of two or more others," and our past and present participles share in the properties of verb, adjective, and noun – as in "*He has broken his arm twice*" (verb), "*His broken arm was set at the ER*" (adjective), and "*Breaking his arm was really a stupid thing to do*" (noun), and in "The news is breaking" (verb), "The breaking news" (adjective), "Breaking the news was a mistake" (noun).

Particles. Particles contribute no content to a word, though they can serve various functions. Usually particles enter in when elements link together to form words. The most common particles are the second consonants that are inserted in twinning when a word like *run* takes a suffix that starts with a vowel: run1+n2+ing)1 = *running*, the particle <n2> serving the orthographic function of marking the preceding short vowel. Similar particles occur in the assimilation of prefix-final consonants – for instance, the <s1> in *assimilation* (ad+s1+simil+ate)1+ion)1, where the particle eases pronunciation. Other particles function as linkers, like the letter <o> common in technical words, especially from Greek: *ileostomy* ile1+o4+stom+y)3 and *ozonosphere* oz+one)3+o4+sphere. Many words from French and Spanish that would otherwise start with <st> or <sc> or <sp> have an initial particle <e> there for reasons of euphony – thus, *estate, escrow, espy.* A list of all 39 identified particles appears in the Particles data table of the Lexis database.

Partridge, Eric. Eric Partidge (1894-1979) was born in New Zealand and

lived in Australia and England. He was a prolific lexicographer of the English language, having written several dictionaries of slang and etymology. His *Origins: A Short Etymological Dictionary of Modern English* is particularly useful since it gathers together cognate words and explores their sources, senses, and relationships.

Pastor, pasture. Although in their day-to-day use these words may not seem to be related in history and meaning, they actually are: Both are thought to come from an Indo-European root that meant "shelter, feed." *Pastor* explicates to past6+or)2, the base *past*6 meaning "shelter, protect" and the suffix *-or*)2 meaning "one that does." *Pasture* explicates to past2+ure), the base *past*2 meaning "feed, food" and the derivational suffix *-ure*) marking a noun of result or source. There's a subtle but important difference in the pronunciation of the two: *pastor* is [păs'tər], *pasture* is [păs' chər]. For that <t> spelling of [ch] in *pasture* see Palatalization.

Pejoration and Amelioration are two common ways that the senses of words change. In pejoration the sense becomes more negative, or pejorative, worse; in amelioration it becomes better. *Pejoration* comes from a Latin word that meant "to make worse," which descended from an ancient base that meant "foot." (The connection between "foot" and "make worse" apparently came by way of the notion of stumbling.) *Amelioration* comes from a Latin word that meant "better," from an ancient base that meant "strong, great."

Examples of Pejoration

Word	Earlier Sense	Current Sense
crafty	skillful, clever	cunning, sly
egregious	remarkably good	remarkably bad
err	ramble, roam	make a mistake, sin
grandiose	stately, grand	pompous
impertinent	not pertinent	insolent
inquisition	investigation	persecution
notorious	widely known	unfavorably known
reek	smoke, steam	stink
silly	helpless, weak, pitiful	foolish, lacking common sense
vulgar	common, customary	indecent

The earlier sense of *err* remains in *errant*, especially the compound *knight-errant*. The earlier sense of *vulgar* remains when it is used to refer to the language spoken by the common people.

Examples of Amelioration

Word	Earlier Meaning	Current Meaning
dizzy	foolish, stupid	feeling vertigo
fond	foolish, silly, idiotic	affectionate
glamor	magic, spell, including evil	attractiveness, allure
guy	an effigy of the rebel Guy Fawkes	man, fellow
knight	youth, servant	defender, champion
luxury	lust	luxuriousness
mischievous	disastrous	playfully annoying
praise	put a value on, appraise	put a high value on
sophisticated	adulterated, impure	knowledgeable, refined

Pejoration and amelioration result from the way emotion and feeling enter into our use of words to create meanings. For more on changes in sense in general see Content and Meaning. For the many changing senses of *nice* see Some Unexpected "One" Words.

(*Per1-*, (*pre-*. These two prefixes are close enough in spelling and sometimes in pronunciation that it can be easy to transpose the <e> and the <r>. The more common prefix (*pre-* means "before, prior to, in front of" – as in *preamble, precaution, precedent, predict, preface, prefer, prefix, pregnant, prejudice, preliminary, prepare, preposition, prescription, present, preserve, president, pretend, pretense, prevalent, prevent, previously, represent*. The less common (*per1-* is an intensive and means "thoroughly, completely," though its intensive meaning can be hard to detect in most words: *perceive, perfect, perform, perfume, perimeter, period, perish, permanent, permission, permit, perpetual, persist, perspective, persuade.*

Periphrastic. *Periphrastic* (peri+phrast+ic)1 refers to the use an additional word in place of an inflectional suffix to indicate possession – as in "a friend of Bob" rather than "Bob's friend" – which often gets doubled up as "a friend of Bob's." The prefix (*peri+* means "around"; the base *phrast* meant "to think," but later came to mean "to point out, say" – and is a bound form of the free base *phrase*. Notice that we still use the notion of "talking around" a subject to describe not coming directly to the point.

Another common periphrastic form is the use of *more* and *most* to form the comparatives and superlatives of many adjectives and adverbs rather than using the inflectional suffixes +*er*) and +*est*) – as in "more wise" and "most wise" rather than *wiser* and *wisest*.

***Personal, personnel*.** *Personnel* is essentially the French version of *personal,* which explicates to person+al)1; *personnel* explicates to personn+el)1. The base *person* earlier meant "mask, actor," and *personn* is

a French expansion of *person.* A French professor once told me that the <nn> in words like *personnel, questionnaire, legionnaire,* and *mayonnaise* indicated that the preceding vowel is nasalized, or articulated through the nose -- a distinction more important to French than English. The suffixes *-al*)1 and *-el*)1 both are used to form adjectives and nouns, *-el*)1 again being more typically French, and receiving more stress than the *-al*)1 in *personal*.

Phonemics vs. Phonetics. Phonemics deals with **phonemes** – that is, with abstract categories of speech sounds, categories whose members are treated as being equivalent in function. Phonetics deals with the concrete and specific speech sounds, or **phones**, that are members of those phonemic categories. The contrast between phonemics and phonetics parallels the contrast between content and meaning in that content sets the boundaries for using a word to make meanings, and the phoneme sets the boundaries for using phones to do the same. It also parallels the contrast between code and performance, in that code sets the boundaries in which a performance is meaningful.

The symbols for phonemes are conventionally enclosed in diagonals, while symbols of phones are conventionally enclosed in square brackets – thus, /t/ for the abstract phoneme, and [t] for the concrete phone. (But see the NB at IPA for usage on this site.) Phonetic transcriptions can show added details about phones. For instance, if you hold the back of your hand close to your mouth as you pronounce, say, *tick* and *stick*, you should feel a little puff of air with the [t] in *tick* but no puff with the [t] in *stick*. That puff of air indicates that in *tick* the [t] is aspirated, spoken with a puff of air – but in *stick* it is not. In phonetic transcriptions aspiration is symbolized with a superscript <h>. Thus [t^{h}ɪk] for *tick* with aspiration but [stɪk] for *stick* with none. You can feel similar contrasts in pairs like *pit* and *spit*; *kit* and *skit*, *trip* and *strip*. Such aspirated and unaspirated pairs are allophones – that is, "other, or different, sounds" – within the /t/ phoneme. See IPA for more on such phonetic features. Also *OCEL,* pp. 769-71, *EDLL*, pp. 298-99.

Just as a phoneme is realized via phones, some scholars speak of **graphemes** as the written counterpart of phonemes, being realized by **graphs** – or written letters – the written versions of phones. An abstract grapheme is realized via a potentially infinite number of **allographs** – for instance, upper vs. lower case letters or printed vs. cursive or italic vs. roman – and more broadly different letter forms in individuals' handwriting. Graphemes and their graphs are enclosed in angle brackets – thus, <t> the letter vs. /t/ the phoneme vs. [t] the phone. *OCEL,* p. 452, *EDLL*, p. 161.

Phonetic spelling. Phonetic spelling is spelling with a phonetic alphabet in which each speech sound is represented by a single letter and each letter represents a single speech sound. A common example of phonetic spelling is the pronunciation spellings given in dictionaries right after the main entry word. The most ambitious phonetic alphabet is the International Phonetic Alphabet (IPA) used by linguists and anthropologists. For centuries people

have argued that English spelling should be more phonetic, but see Morphemes and Morphophonemics and Richard Mulcaster. For a short but lethal critique of spelling reform, see Jacques Barzun's "The Näiveté of Spelling Reform" in his *A Word or Two Before You Go . . .* (Middletown: Wesleyan UP, 1986), pp. 92-98.

Picture, pitcher. Too relaxed a pronunciation of *picture* can end up rhyming with *pitcher. Picture* explicates to pict+ure), the base *pict* meaning "to mark, paint, picture." Other *pict* words are *depict, pictorial, picturesque.* Other related words are *biopic, paint, pinto, pix*.

There are two *pitcher*'s: The first one means "one who pitches, as in baseball," which explicates to pitch1+er)01 and whose base has several related meanings, as in a sales pitch, the angle of a roof, the frequency of a musical tone, a cricket field, and the tilt of an airplane's nose.

The second *pitcher* refers to "a container for liquid," pitch3+er)04, its base meaning "an earthen vessel, jug, drinking vessel, beaker." And there is also an unrelated *pitch3* "a sticky substance secreted by trees," a very old word that comes from an ancient root with this same meaning.

Plurals, regular and nonregular. See Noun plurals.

Polysemy "many meanings." Nearly all English words are polysemous, with two or more definitions. For example, in the 5th edition of the *American Heritage Dictionary* the definitions of the word *set1* fill nearly an entire page: There are 14 definitions of it as a transitive verb, eight as an intransitive verb, six as an adjective, and 11 as a noun. There are also 16 phrasal verbs listed such as *set off* (five definitions) and *set up* (10 definitions). Finally, there are 15 idioms listed such as *set in motion* and *set on fire*. And most of these 70 main definitions are divided into two or more sub-definitions. For instance, the main definition "to put into a fixed position" has four sub-definitions, and "to cause to be in proper, useful, or working condition" has eight. So the total of all *set1*'s definitions is well over 100 – the very model of modern polysemy.

All of these definitions attempt to describe the content of *set1* – that is, all of the agreed-upon senses we can select from as we use the word to create meanings. For more see Content and Meaning. Polysemy occurs because English is a living language, changing and evolving over time as changing speakers and writers use English words to address a changing world. When we use the word *set1*, we don't use all those senses. So a word always contains more than it is used to mean. But also it is always used to mean more than it contains, because all of the particulars of our use of the word: the time, the place, our intentions, our relationship to the reader, what has been said before – all of those things and more are part of the meaning we create with that word, but none of it is in the word's content. There is always a mismatch. There is always meaning left over, and it is that surplus of meaning that causes the content over time to change, to add or modify or subtract earlier senses. And subtraction does

occur, as is shown by all of the definitions labeled “Obsolete” in a historical dictionary like the *Oxford English Dictionary* (*OED*).

Different dictionaries order definitions in different ways. For instance, the *American Heritage Dictionary* puts the "central and often the most commonly sought meaning first.” The *Random House Dictionary* orders definitions from the most to the least frequently encountered. And, like the *OED* the *Merriam-Webster* dictionaries order them historically, with the oldest first.

Sometimes the distinction between polysemy and homonymy is not entirely clear-cut. For instance, the *American Heritage Dictionary* treats *walk* as one polysemous word with both the verb and noun meanings all treated in a single entry. But the words *vault1* “an arched structure” and *vault2* “to jump” are treated as homonyms, even though they both descend from the same Proto-Indo-European root *wel3 “turn, roll, curve.” When one polysemous word becomes two homonyms, it is much like the emergence of a new species in biological evolution.

Poor, pour, pore. Because of the effect of [r] on preceding vowels the pronunciation of these three can vary greatly from one dialect to another – and even in the pronunciation used by a given speaker from one situation to the next. In relaxed speech they often all rhyme. It’s hard to be definite here without getting too complex and technical, but we can say the following: In the analysis in CommonWords *poor* rhymes with words like *lure, moor, sure,* and *tour*. *Pour* and *pore* rhyme with each other and with words like *war, reward, warrant, dinosaur, nor, roar, floor,* and *source.*

Possessives. The possessive case is sometimes called the **genitive**. In nouns it is usually marked with -‘*s*): *the foreman**’s** sister*. Less often it is marked periphrastically with the preposition *of*: *the sister **of** the foreman*. As its name suggests, the possessive case usually indicates possession, but it can indicate a few other similar relationships: Description: *children’s toys;* agent or doer of the act: *the principal’s permission, the doctor’s arrival;* the recipient of the act: *my neighbor’s murderer*. Possessive pronouns do not have apostrophes: *his, hers, its, ours, yours*.

Prefixes. The most clear-cut prefixes carry a prepositional or a negative meaning. Among the prepositionals showing direction or location are (*anti-* “opposite, against,” (*ad-* "to, toward," (*epi-* “on, over, close to,” (*ex-* “outside, not, without,” (*in*-2 "in", (*ob-* “inverse,” (*pre-* “earlier, before, anterior.” Among the negatives are (*a*-1 “without, not,” (*in*-1, (*non-*, (*un-*. The distinction between prefixes and bound bases is a fuzzy one: Many elements are classified as prefixes in some dictionaries and as bound bases in others. See also “Definition of Prefixes” in the Introduction to the Lexis Database. Assimilation. (*EDLL* at Affix, *OCEL*, *AES,* pp. 33-35)

Prepositions and Prepositional Phrases. Prepositions come in several sizes and shapes and serve several functions, but we will concentrate on

just two types: (1) As suggested by the stem *position* most prepositions indicate direction or location: *up, down; to, toward; at, beside; from, away from; on, onto; off, off of; into, in; out of* – and the very general *of*. (2) A few prepositions serve as intensifiers, especially *up* and *down*: *burn, burn up, burn down.* These intensifierss are sometimes treated as adverbs.

A prepositional phrase consists of an initial preposition plus its object – for instance, "up the road," "down the alley," "to the kitchen," "toward the goal," etc. English uses many, many prepositional phrases – in part because English does not use many inflections to convey the information that prepositional phrases convey. See "Inflection, inflected forms," "Suffixes," and "Old English" (*EDLL*, p. 312; OCEL, pp. 801-03)

***Principle, principal*.** These two homophones are often confused. *Principle* is a noun that means "truth, law, standard." *Principal* as an adjective means "main, most important," and as a noun it means "chief person," as in the principal of a school. Etymology is not much help in distinguishing the two because they both descend from a Latin word meaning "leader, emperor." And word structure is not much help either, since their two suffixes, -*le*)2 and -*al*)1, can both form adjectives and nouns. Corny as it may seem, the one help I know is the mnemonic phrase "The princi**pal** is our **pal"** – which at least helps with the youngsters' most common use of *principal*. And it may help to know that *principle* has a derived adjective, *principled*, but *principal* does not.

Principle of Preferred Regularity. Faced with variant spellings – such as, for instance, *busing* and *bussing* – it makes sense to choose the variant that is most regular – that is, best agrees with the patterns and rules of English spelling. Thus the Principle of Preferred Regularity would urge *bussing* over *busing* since *bussing* is a regular instance of the twinning rule while *busing* contradicts that rule. Choosing the more regular spelling helps the spelling system evolve to greater regularity and simplicity. (This example is complicated somewhat by the fact that we also have the words *buss* and *bussing* that mean "kiss" and "kissing"!) *AES*, pp. 25-26.

Procedures. The word *procedure* refers to things that must happen when elements are linked together. CommonWords recognizes four procedures: simple addition, twinning, silent final <e> deletion, <y>-to-<i> and <i>-to-<y> replacement.

Processes. The word *process* refers to changes in pronunciation and sometimes spelling that occurred long ago and have complicated modern English spelling. CommonWords recognize three processes: assimilation, palatalization, and vowel shortening due to suffix rules.

Pronunciation Problems: Lost Sounds and Letters. In relaxed, conversational speech, sounds often get dropped. If students are used to hearing words without these sounds, it can be easy for them to forget the

missing letters – especially with unstressed sounds, and most especially at the ends of words. Some examples are given below, with the problem areas highlighted in red:

Front	Middle	End
procope (or apharesis) *about* because [cŭz]	**syncope** *aspirin* *buttoning* *camera* *chocolate* *comparable* *family* *favorite* *February* *library* *memory* *restaurant* vegetable	**apocope** cup of [cŭpə] did you [dĭjə] don't you [dōnchə] don't know [dənō] give me [gĭmē] going to [gŭnə] have to [hăftə] most [mōs] shouldhave [shůda] want to [wŏnə] what are you [wŭchə] would you [wůjə]

For fans of big words the table includes the technical names of the problems, as blue hyperlinks to Wiktionary. The base *cope1* is from a Greek word meaning "strike, cut off." And just for the record, here are the technical terms for the **addition** of sounds at the beginning, middle, and end of words: *prothesis*, epenthesis, *epithesis*. The base *thes1* comes from the Greek and means "set, put."

For suggestions on how to deal with missing sounds and letters, see Misspellings. And for more words that often have dropped sounds and letters go to "Search > Other spelling problems > !(spelling demons) > Search" at CommonWords.

A historical note: The use of silent final <e> to mark long vowels emerged from a version of apocope: In the evolution to Middle English, Old English inflectional endings reduced and converged to schwa spelled <e>, normally leaving the preceding vowel open and long. In Middle English when the <e> fell silent, the long vowel remained. See Silent final <e> functions and deletion.

See the related and more general Contraction. For special problems when teaching English to native speakers of Spanish (and French), see "Teaching English Spelling to Spanish Speaking Students".

Quite, quiet, quit. These three all come from a Latin word that meant "to rest," a relationship clear enough in *quiet and quit*, less so with *quite.* The details are not settled, but it appears that the progression of senses with *quite* was from "rest" to "free" to "totally, completely (done)."

[r]-Colored Vowels. The sound [r] can have a strong effect on the sound

spelled by the vowel letter preceding it. For instance, in *mate* the silent final <e> marks a long <a>, [ā], but in *mare*, with <ar>, the vowel is closer to [ĕ] than [ā]. On the other hand, the silent final <e> in *mare* is serving some diacritical function, as is revealed in the contrast between *mare* and *mar*, or *bare* and *bar*, or *care* and *car, fare* and *far,* etc.

The effect of the [r] on the preceding vowel varies in its strength, the *mare* vs. *mate* contrast being among the strongest. The list below shows some of those effects in vowel spellings and pronunciations. The CommonWords sound symbols are those used in the CommonWords database. The IPA symbols are taken from Kenyon, John S., and Thomas Knott. *A Pronouncing Dictionary of American English*. Springfield, Mass.: G & C. Merriam, 1944:

CommonWords	**IPA**	**Spellings**
[a1r]	/ær/	tariff, carriage, guarantee
[a3r]	/ɛr/, /ær/	rare, pair, prayer, wear, heir, where
[e1r]	/ɛr/	dictionary, berry, bury, cemetery, sheriff
[e3r]	/ɪr/	dear, peer, weird, pier
[i1r]	/ɪr/	irritate, tyranny
[i2r]	/aɪr/	fiery, desire
[o3r]	/ɑr/	car, barn, park, starred, heart, seargeant
[o5r]	/ɔr/	war, reward, warrant, dinosaur, nor, roar, floor, source
[u1r]	/ɝ/	fur, burn, burrow, first, squirrel, term, word, worry, courage, earl, myrrh, colonel
[u3r]	/ʊr/	amateur, poor, tour, fluorocarbon, during
[u4r]	/ər/	coward, mother, admiral, soldier, doctor, injury, martyr, cupboard
[yu3r]	/jʊr/	Europe, curiosity, puritan

For more discussion of [r]-coloring see *AES*, chapter 25, “Vowels Before /r/,” pp. 307-26.

***Recent, resent*.** Perhaps the first thing to notice about these two near homographs is that in *recent* the stress is on the first syllable, while in *resent* it is on the second. Another thing to notice is that *recent* is an adjective, while *resent* is a verb. *Recent* explicates to (re+cent4; *resent* to (re+sent2 . The base *cent*4 means “fresh, new, young” and apparently appears only in *recent* and its derivatives. The base *sent*2 “feel” occurs in the verbs *assent, consent, dissent*, and more remotely in *sentence, sentinel,* and *sentry.* In both *recent* and *resent* the prefix (*re-* is an intensive, so *recent* means something like “very new,” while *resent* originally meant something like “to feel strongly,” but by the 17th century it had picked up the negative meaning that it has now.

Reduced vowels. Reduced vowels are unstressed vowels that have lost their stressed vowel sound and usually have reduced down to schwa – a

soft “uh” sound like that spelled <a> in *alone* [ə·lōn']. Some vowels reduce down to an unstressed [ĭ] like that spelled <a> in *leverage* [lĕv'·ər·ĭj] or [lĕv'·rĭj]. Merriam-Webster dictionaries use a dotted schwa [ə̇] to show a range of reduced vowel sounds from [ə] to [ĭ]. Reduced vowels can occur in either open or closed syllables.

Reduplication. In reduplication a word or part of a word is repeated exactly or with a slight change. Repetition of the whole word is common in words mimicking baby talk: *bye-bye, choo-choo, night-night, no-no, pee-pee, poo-poo*. Rhyming reduplication is a common method of intensification: *superduper, huggermugger, chugalug, peewee, pellmell, hotchpotch.* Reduplication in which a word is repeated with a change of vowel is usually also an intensifier, as in *chitchat, gewgaw, knickknack, lippity-loppity, mishmash, pitapat, rickrack, riprap, seesaw, slipslop, ticktack, zigzag. Schm*-reduplication was adopted from Yiddish and is usually derogatory or comic: *fancy-schmancy, smartsy-schmartsy*, and any number of others.

Register. A register is a variety of English based on the situation or field in which it is used. A register involves the vocabulary of the field but also the way sentences are constructed and the tone in which they are used. The list of registers would include such things as scientific-technical, religious, legal, medical. But there are also registers dealing with cuisine, education, sports, etc. We could even include a youth register, based on a vocabulary of rapidly changing slang and special constructions, such as “He’s a great guy. Not.”

Rhythm. Though [r] is usually spelled <r> or <rr>, in *rhythm* it is spelled <rh>. *Rhythm* comes via Latin from Greek *rhuthmós*, “a measured flow or movement, symmetry, rhythm.” The <rh> is from the Greek letter rho (P, ρ) which was represented in Latin with <rh>; the <y> is from Greek upsilon (Y, υ), in Latin <y>; the <th> is from Greek theta (Θ, θ), Latin <th>, and the <m> from mu (M, μ), which is a syllabic consonant. *Rhythm* comes from an ancient root **sreu* that meant “to flow.” Other words from **sreu* include *stream* (from Old English)*, maelstrom* (from Dutch)*,* and (from Greek) *catarrh, diarrhea, hemorrhoid, rheumatism*. The spelling <rrh> is from Greek double rho. A useful mnemonic may be *“Rhythm* is a tricky six-letter word.”

Romance languages. Romance languages are languages that descended from Latin, the language of the Romans. The major four Romance languages are French, Spanish, Italian, and Portuguese. Less well known are Catalan (spoken in Catalonia in northeastern Spain), Provencal (spoken in southeastern France), Rhaeto-Romance (spoken in areas around the Alps), and Romanian (spoken in Romania). See Indo-European Languages and The Indo-European Family at “Lineages from Indo-European Roots.”

Runes. Runes are the letters from a group of Germanic alphabets in use in northern Europe and probably based on the Latin alphabet. The runic alphabet of interest to us is the **futhorc**, used by the Anglo-Saxons. The name *futhorc* comes from the names of the first six runes, much like our *ABC*'s. Only four runes are relevant to our discussion: **thorn** <þ> "thorn"; **edh** <ð>; **wynn** <Þ> "mirth, joy"; and **yogh** <ȝ>, an Old English form of <g>, from the rune gyfu "gift". Thorn and edh were used interchangeably to represent either [th] or [th], as in our *thin* and *then*, and were replaced by <th>; wynn was replaced by <w>, and yogh by <g> and <y>. See Norman scribes.

Futhorc Runic Alphabet

Schwa is the most common vowel sound in English. It is the sound you hear at the beginning of the word *alone*, a soft "uh." It is written phonetically with an upside-down <e>: [ə]. Schwa sounds like short <u> [ŭ], except that [ŭ] is always stressed, and schwa is always unstressed, so the word *above* [ə-bŭv'] contains both schwa and [ŭ]. (The Merriam-Webster dictionaries use a schwa to symbolize both the schwa sound and stressed short <u>.) It is the most common vowel sound in English because most vowels, when they are unstressed, reduce down to schwa. The word *schwa* comes through German from a Hebrew word meaning "emptiness."

Schwa can be hard to spell because it can be spelled by any vowel letter and nearly any combination of vowel letters. In the following words the bold large letters are twenty different spellings of schwa:

abridge	serg**ea**nt	cab**i**net	**o**bscure
halleluj**ah**	bur**eau**crat	parl**ia**ment	tort**oi**se
mount**ai**n	sover**ei**gn	pat**ie**nt	miracul**ou**s
ep**au**let	lunch**eo**n	anx**iou**s	calcul**u**s
emergency	right**eou**s	nasturt**iu**m	ox**y**gen

Old English had a complex system of inflectional suffixes, but in the evolution from Old to Middle English, many of these suffixes simplified to a neutral schwa sound. This vestige of old inflectional endings came to be spelled <e>. In Middle English (from about the 12th through the 15th century) final <e> was pronounced as a separate weak syllable, the schwa [ə]. Over the years the final <e> fell silent, though it tended to stay in the spelling. See Silent final <e> functions and deletion and Vowel Lengthening and Shortening.

Semantics and semiotics. See Content and meaning.

Shakespeare, William. William Shakespeare was the greatest poet and playwright of the Early Modern English period, a period of many great writers. He is widely said to be the greatest writer of the English language. He is certainly the most quoted single author in the *OED*, with 33,051 citations, nearly double the number for the second place writer, Sir Walter Scott. Beyond that, according to the *OED*, 1,498 of his quotations are the first evidence for a word in English, and 7,613 are the first evidence for a particular meaning of a word. He clearly had an astonishing effect on the development of the English lexicon – and to a certain extent, its spelling. Though at times difficult, Shakespeare's English is quite accessible to modern readers, as in these opening lines from *Macbeth.* The <ſ> is the "long <s>" used in place of <s> in non-final positions:

> Thunder and Lightning. Enter three witches.
> 1. When ſhall we three meet againe?
> In Thunder, Lightning, or in Raine?
> 2. When the Hurley-Burley's done,
> When the Battaile's loſt, and wonne.
> 3. That will be ere the ſet of Sunne.

Short vowels. The short vowels are [ă] as in *pat*, [ĕ] in *pet*, [ĭ] as in *pit*, [ŏ] in *pot,* [ŭ] in *putt*. See Vowel sounds.

Shortening rules. In English there is a small group of rules that account for the presence of short vowels in strings where we would normally expect long ones. See, for instance, the Third syllable (vowel) rule; Suffix rules, and French Lemon (or Stress Frontshift) Rule. See also Vowel lengthening and shortening .

Short Word Rule. English spelling restricts two-letter words – such as *be, by, do, is, to*, we, and *an* – to a small group of function words and very common verbs. That's one reason we have some otherwise unnecessary final double-consonants – such as in *egg, ebb, add*, and *err*. Also some silent final <e>'s appear at the ends of words to keep them longer than two letters and thus distinct from words in that select two-letter group: *be* vs. *bee; by* vs. *bye; do* vs. *doe; to* vs. *toe; we* vs. *wee*. This usage extends to

otherwise two-letter words in general: *dye, eye, foe, pie, rye, tee, vee, woe, zee.* See *AES*, pp. 87-89.

Shudder, shutter. *Shudder* is a verb that explicates to shudd+er)03; the base *shudd* means "shake, tremble," and the suffix *-er*)03 marks frequentative verbs. So to shudder is to shake or tremble repeatedly. *Shutter*, on the other hand, is a noun that explicates to shut+t2+er)01; the base *shut* means "shut," and the suffix *-er*)01 means "one that does," so a shutter is something that shuts or closes. In spite of all these differences between them in meaning, function and form, the two words are easy to confuse because they are also near homophones: In *shutter* the <tt> spells [t], but when the sound [t] comes between two vowels, especially if the first vowel is stressed, it can sound very much like [d]. Linguists call it a flapped [t]. The same problem exists with pairs like *ladder, latter; pedal*, *petal, utter, udder,* and *hardy, hearty* – and *medal, metal, mettle, meddle*.

Silent final <e> functions and deletion. Silen final <e> is often all that is left of a number of Old English inflectional suffixes. Originally it was pronounced schwa, but after it fell silent in late Middle English, it was still there in the spelling. Silent final <e> can serve five different functions:

• **marking long vowels**: A silent final <e> regularly will mark a stressed vowel in front of it as long if there is only one consonant letter between them – that is, in a VCV string:

Short Vowel Sounds		Long Vowel Sounds	
[ă]	*cap*	[ā]	*cape*
[ĕ]	*met*	[ē]	*mete*
[ĭ]	*gyp*, *fin*	[ī]	*type*, *fine*
[ŏ]	*not*	[ō]	*note*
[ŭ]	*dud*	[ū]	*dude*

There are three holdouts to this rule: In words that end in <aste>, <ange>, and <le> the silent final <e> will usually mark the preceding vowel as long even though there are two consonants between the vowel and the <e>: *paste* vs. *past*; *range* vs. *rang*; *rifle* vs. *riffle*.

• **marking soft <c> and <g>**: Whether or not it affects the preceding vowel, sometimes silent final <e> affects the preceding consonant – namely, the sounds spelled by <c> and <g>: *pac* vs. *pace, lac* vs. *lace*, *mac* vs. *mace* and *dog* vs. *doge*, *hug* vs. *huge*, *sag* vs. *sage, stag* vs. *stage, wag* vs. *wage*. See Soft and hard <c> and <g>.

• **marking voiced <th>**: A silent final <e> will mark a preceding <th> as voiced, pronounced [th]: *bath* with voiceless [th] vs. *bathe* with voiced [th]. Also *cloth* vs. *clothe, teeth* vs. *teethe*, *loath* vs. *loathe, breath vs. breathe*. See Voiced vs. voicless (unvoiced) sounds.

• **insulating word-final <v> and <u>**: Long ago <v> and <u> were different

forms of the same letter. See Latin alphabet. For reasons that go back hundreds of years, we use silent final <e> to insulate an otherwise word-final <v>: *curve, give, groove, have, shelve,* and *thieve*. And except for a few recent foreign borrowings – like *gnu, bayou*, and *tabu* – we also use it to insulate an otherwise word-final <u>, as in *plaque, tongue, league, statuesque*.

• **insulating base-final <s> and <z>.** Silent final <e> is sometimes used to keep a word from ending with a base-final single <s> or <z>: For instance, in *tens* ten+s)3 and *laps* lap1+s)3 the <s> is the plural suffix; in *tense* and *lapse* the <s> is part of the base, and the silent final <e> keeps them from looking like the plural nouns *tens* and *laps*. If the <s> has a short vowel right in front of it, another <s> will be added rather than a silent final <e>: *mass, mess, miss, moss, muss*. The same pattern holds for the letter <z>. The letter <z> is fairly rare in English, and the sound [z] is most often spelled <s>. As with <s>, we tend to avoid ending a word with a single <z>. If there is a short vowel preceding the <z>, we add a second <z>, as in *fuzz, fizz*, and *jazz*, but notice the recent adoption *fez.* If there is a consonant or a long vowel preceding the <z>, we add a silent final <e>, as in *bronze, wheeze*, and *booze*.

• **enforcing the** Short Word Rule.

Some silent final <e>'s are fossils with no modern function.

Deleting silent final <e> is fairly straightforward: We delete a silent final <e> that is marking a soft <c> or <g> whenever we add a suffix that starts with <e>, <i>, or <y>: lac~~e~~+ed)1, lac~~e~~+ing)1, lac~~e~~+y)1 and except for some local cases involving stems ending <ee>, <ie> and <oe>, we delete any other silent final <e> when we add a suffix that starts with any vowel letter.

Those local cases with <ee>, <ie>, and <oe> are these:

• With stems that end <ee>, we delete the final <e> only when adding suffixes that start with <e>: te~~e~~+ed)1 but tee+ing)1.

• With stems that end <ie>, we delete the final <e> when adding a suffix that starts with any vowel except <i>, in which case we change the <i> to <y> and then delete the <e>: di~~e~~+ed)1 = *died,* but d*i*~~*e*~~+y+ing)1 = *dying*.

• With stems that end <oe>, we delete the final <e> when adding suffixes that start with any vowel except <i>: to~~e~~+ed)1 = *toed* but toe+ing)1 = *toeing*. *AES*, pp. 145-60.

Silent letters. In one sense all letters are silent since they are things you see not hear. But in another sense, a letter is silent if it is there in the written word but you can hear no trace of it when the word is spoken. In that sense the <b> in *climb* can be said to be silent, as can the <p> in *cupboard* or the [b] in *subpoena.* The sounds [m, b, p] are all bilabial consonant sounds, and when two bilabials come together there is a tendency for one of them to get lost in pronunciation. Consider these words with word-final <mb> spelling [m]: *bomb, climb, comb, dumb, lamb, succumb, tomb, womb*. Rather than calling all those final <b>'s silent letters that mark some ghostly unit of silence, in this analysis they are

treated as simplifications – that is, cases where earlier pronunciations simplified but the spelling has remained the same. Thus, in these words we say that [m] is spelled <mb>, in *cupboard* [b] is spelled <pb>, and in *subpoena* [p] is spelled <bp>. One holdout: the letter <h> does occur as a true silent consonant letter in words like *honest, honor, hour* and after <x>, as in *exhaust, exhibit, exhort.* See <h> and [h]. See also <gh>. For more on <gh> in words like *weigh* and *neighbor* see "A Note on Silent Letters" from Spelling for Learning.

This analysis does recognize silent vowel letters – most noticeably, silent final <e> as in *time* where it serves the diacritic function of marking a long vowel, or *clothe* where it marks a voiced <th>, *ounce* where it marks a soft <c>, or *bronze, clause, league, active*, where it insulates a letter that normally doesn't occur at the end of word-final bases. On the other hand, some silent <e>'s serve no diacritic function at all, as in *fixed* [fikst], *ashamed* [ə·shāmd'], *cigarette* and *medicine,* and can be treated as fossils.

Simple Addition. The Rule of Simple Addition is the single most important and general rule in English spelling. It states that unless you know of some reason to make a change – such as twinning or <e> deletion – elements simply add together, or concatenate, with no changes – as one of my students said years ago, like pop-beads. Far and away most of the time elements join through simple addition – as in *unearthly* (un1+earth+ly)3 and *repainted* (re+paint+ed)1.

Simplifications. Simplifications retain the original longer spellings of one-time blends (and two concatenations) that have simplified over time to single consonant sounds:

<bp> = [p] as in *subpena*
<cht> = [t] as in *yacht*
<ft> = [f] as in *often*
<ght> = [t] as in *light*
<gn> = [n] as in *sign*
<kn> = [n] as in *knight*
<ld> = [d] as in *could*
<lf> = [f] as in *half*
<lk> = [k] as in *talk*
<lm> = [m] as in *calm*
<ln> = [n] as in *Lincoln*
<mb> = [m] as in *bomb*
<mn> = [m] as in *column*
<sl> = [l] as in *island*
<st> = [s] as in *listen*
<sth> = [s] as in *isthmus*
<sw> = [s] as in *sword*
<tg> = [g] as in *mortgage*
<wr> = [r] as in *write*
<pb> = [b] as in *cupboard*
<ph> = [p] as in *shepherd*
<ps> = [s] as in *psychology*
<qu> = [k] as in *conquer*
<sc> = [s] as in *muscle*

Some analyses would treat the extra letters in simplifications as silent letters or fossils.

Simplifications with lost [t], [l], and [p].

Lost [t]: Usually <ft> spells [ft] as in *after, craft, fifteen, fifty, gift, left, lofty, oft, swift*. But it spells [f] with a lost [t] in *often* – though there is a less common variant pronunciation with [ft]. These variant pronunciations have

been around since the 16th century, though [ft] seems to be gaining ground, probably due to spelling pronunciation. The [t] is also lost in other simplifications, especially before the syllabic consonants [n] and [l]: *fasten, listen, soften; castle, epistle, thistle, wrestle*, and in *chestnut, Christmas, mortgage*.

Lost [l]: Usually <ld> spells [ld]: *bewilder, children, field, held, old, soldier, world.* But in *could, should, would* and their derivatives *couldn't, shouldn't, wouldn't*, <ld> spells [d] with a lost [l]. See Analogy. There is also a lost [l] in *solder*. Usually <lf> spells [lf]: *fulfill, golf, herself, olfactory, shelf, sulfur, twelfth, werewolf*. But the [l] is lost in *behalf, calf, half*. Usually <lk> spells [lk]: *alkaline, bulk, folk, polka, silken,* but the [l] is lost in *chalk, Norfolk, sidewalk, stalk, talk, walk*. The only known case where [l] is lost in an <ln> spelling is *Lincoln.*

Lost [p]: Usually <ps> spells [ps]: *apocalypse, collapse, eclipse, epilepsy, keeps, perhaps, upset*. But in several words, all from Greek spelled with the Greek letter psi, <ψ>, originally pronounced [ps], the [p] is lost in English: *parapsychology, psalm, psalter, pseudoscience, psyche, psychiatry, psychic, psychology, psychotic, psychosomatic, psychotherapy*. The [p] is also lost in *receipt* due to a 14th century Latinization of the Middle English *receite,* from the Latin *recepta.* And the [p] is lost in a number of [pt] simplifications of Greek adaptions, mostly from the scientific-technical register: *pterodactyl, ptisan, ptomaine, ptosis, ptyalin*. A [p] is also lost in the respelling of the Gaelic *tarmachan* to *ptarmigan,* apparently due to the mistaken notion that it was a variation of the Greek base *pter "*wing*"* as in *pterodactyl* and *helicopter*. There is a lost [p] in the simplificaton <pb> in *cupboard, clapboard, raspberry, Campbell*. This loss is due to the fact that when the the two bilabial stops [p] and [b] concatenate, the first tends to be lost. Compare this with loss of [b] in *subpoena.* (In the concatenation <mbp> in *bombproof* and *thumbprint* the lost [b] is due to <mb> simplification in *bomb* and *thumb*.)

Soft and hard <c> and <g>. The letter <c> spells the sound [s] when it is followed by the letters <e, i, y>: *chance, chancing, chancy*. A <c> that spells [s] is called **soft <c>**. The letter <c> spells the sound [k] before any other letter and at the end of a word: *career, discuss, nucleus, critic, arc.* A <c> that spells [k] is called **hard <c>**. In Latin <c> never spelled [s], always [k], but in French before vowels spelled <e>, <i>, or <y> it came to spell [ts], which over time simplified to [s]. Thus, our hard/soft distinction.

Similarly,the letter <g> usually spells the sound [j] when it is followed by the letters <e, i, y>: *range, ranging, rangy*, and is called **soft <g>**. The letter <g> spells the sound [g] before any other letter and at the end of a word. But it also spells [g] before <e, i, y> in some native words: *get, girl, bogy* – and in one pronunciation of the Greek base *gyn* "woman," as in *gynecology*. When <g> spells [g], it is called **hard <g>**.

Spelling Bees. Spelling bees are named after the honey bee in reference to the bee's social nature. Originally this word *bee* was used to refer to

work parties, especially among farm families, where neighbors joined together in some project – as in quilting-bees, (barn-)raising-bees, husking-bees. Later it came to mean a gathering for a competition among spellers. For more information about becoming involved with spelling bees, you can go to spellingbee.com.

Spelling Demons. There are many different lists of spelling demons, but very little agreement among them. In his *Spelling: An Element in Written Expression* R. L. Hillerich reported that in a 398-word composite list from four different lists of spelling demons, more than 70% appeared in only one of the four lists (Merrill, 1976, p. 64). An even larger composite demons list appears in the "Other Problem Spellings" field of the CommonWords data table, where 639 words that appear in at least one list of demons are marked with an exclamation point. See also Misspellings and Individual Spelling Demons.

Spelling pronunciation. Spelling pronunciation is a change in pronunciation that brings it more in line with the spelling. It often results in the introduction of consonant sounds that were missing in the traditional pronunciation – for example, *often* with [t], *clothes* with [th], *salmon* and *palm* with [l], *arctic* with two [k]'s, *ski* with [sk] rather than the original [sh]. Sometimes it results in the re-expansion of pronunciations that had traditionally been simplified: *waistcoat* as [wāst'kōt͵] rather than the older [wĕs'kĭt], *cupboard* with a [p], *forehead* as [fôr'hĕd͵] rather than the older [fôr'ĭd].

Standard Written English. After the reestablishment of English as the language of the land in the 14th and 15th centuries, a written standard developed in the Early Modern English period. The standard was based on the London dialect and was helped along by the invention of the printing press and the work of the Chancery office in London, which produced government documents that were circulated nationwide. Standard Written English went far towards standardizing English spelling, but since the spoken language changes faster than the written, we are left with a spelling system that at times does a more efficient job of spelling Early Modern English than the English of today.

Stems. A stem is any element or string of elements to which we are going to add or from which we are going to subtract any elements. Every stem must contain at least one base, but it can have any number of prefixes or suffixes, including none at all. Stems, like bases, can be either bound or free. So all of the following combinations can be stems – in this case, free stems:

Combinations	Example Stems
Free Base	*paint*
Prefix + Free Base	*repaint*
Free Base + Suffix	*painted*
Prefix + Free Base + Suffix	*repainted*

And we can go on adding elements, especially prefixes and suffixes, as in free stems like *unrepainted.*

Stems can also contain bound bases, as in the following examples, with the bound base *spect*:

Combinations	Example Stems
Prefix + Bound Base	*respect*
Prefix + Bound Base +Suffix	*respectful*
Prefix + Prefix + Bound Base + Suffix	*disrespectful*
Prefix + Prefix + Bound Base + Suffix + Suffix	*disrespectfully*

Stems can also be bound, as in stems like *spect, spectful* and *spectfully*, none of which is a word. Sometimes even a stem with a free base can be bound. For instance, In the word *unblinkingly*, *unblinking* is a free stem because it's also a word, but *unblink* is bound, since we do not have the word *unblink*.

Stress. Stress (sometimes called *accent*) refers to what is usually called the loudness of a certain vowel sound – though it is often described as intensity or prominence or force. Some linguists distinguish four degrees of stress: primary, secondary, tertiary, and weak, but usually only three degrees are distinguished – primary, secondary, and weak – as in the pronunciation respellings given in most dictionaries. In the analysis in the "Syllable structure" field in CommonWords, only two degrees are noted, stressed and unstressed. Other areas of CommonWords recognize three degrees – primary marked with a following high vertical, secondary with a following low vertical, and weak with no mark: [flāˈmĭng], [bĭgˌhĕdˈĭd], [əˑbŭvˈ].

Strings. In CommonWords a string is a sequence of vowel and consonant letters, the first vowel of which is usually spelling a stressed vowel sound. The following different strings are recognized:

VCV vs. VCCV strings. A VCV string consists of a single vowel letter spelling a stressed long vowel sound followed by a single consonant letter, which is in turn followed by a vowel letter – often a silent final <e>: *rated, ceded, writing, hope, dune*. A VCCV string consists of a single vowel letter spelling a stressed short vowel sound followed by two consonant letters –

often a doublet – as in *gander, lettuce, sadden, pumpkin.* Thus we have contrasts like *later* vs. *latter, biter* vs. *bitter, coma* vs. *comma, dining* vs. *dinning, fiber* vs. *fibber*. See VCV vs VCCV Contrasts.

VCC*le* vs. VC*le* strings. A VCC*le* string consists of a single vowel letter spelling a stressed short vowel sound followed by two consonant letters – often a doublet – followed in turn by a word-final <le>. Some examples: *battle, gamble, pebble, gentle, thimble, topple, supple.* A VC*le* string consists of a single vowel letter spelling a stressed long vowel sound followed by a single consonant letter followed <le> – as in *ladle, noble, ogle, quadruple*. Thus we have the following contrasts: *riffle* vs. *rifle; ruble* vs. *rubble*.

CVC# strings. A CVC# string consists of a word-final consonant letter preceded by a single vowel letter, with the vowel letter spelling a short vowel – as in *homonym, lunatic, thermostat.*

V.V strings. A V.V string consists of two vowel letters spelling two vowel sounds separated by a syllable boundary. The first vowel in a V.V string will be long even if it is unstressed, as in *create* [krē·āt'] or *anemia* [ə·nē'mē·ə], as well as in words like *lion* and *giant* where the first vowel is stressed. Notice that the first vowel in a V.V string is by definition in an open syllable.

Subjects vs. Objects, Direct and Indirect. A subject is the source of the action of the verb, and an object is the thing that receives that action. For instance, in "Hugo likes Kelly" the verb is *likes*, the subject is Hugo, who is doing the liking, and the object is Kelly, who is being liked. But see "Verbs: Active and Passive" for a complication of this simple formula.

Verbs that take objects are called **transitive** verbs since they transfer their sense across to the their objects. Verbs that do not take objects are **intransitive**.

Transitive verbs can take two kinds of objects: direct and indirect. Direct objects are directly acted upon by the verb. Thus, in "Hugo likes Kelly" *Kelly* is the direct object. But in "Hugo gave Kelly a present" the direct object is *present*, the thing given, and *Kelly* is an indirect object, the recipient of the gift. Usually when there are both an indirect and a direct object, the indirect comes first, as in "Hugo gave Kelly a present." But when the sense of the indirect object is conveyed in a prepositional phrase, it usually comes after the direct object: "Hugo gave a present to Kelly."

Suffix -*ic*)1 Rule. See Suffix Rules.

Suffix -*ity*) Rule. See Suffix Rules.

Suffixes. There are two kinds of suffixes: **inflectional** and **derivational**. In dictionaries inflected forms are usually listed towards the beginning of an entry, derived forms towards the end.

Inflectional suffixes. Inflectional suffixes add meanings to the stem that help answer questions like "One or more than one?" "Whose?" "How much?" and "When?" For instance, the inflectional suffix -*ed*)1 answers the

question “When?”, and the suffix -*s*)3 answers the question "One or more than one?" In the sentence "George painted three of the chairs," -*ed*)1 adds the meaning “in the past” to the verb *paint*; -*s*)3 adds the meaning "more than one" to the singular noun *chair*. Thus, -*ed*)1 is a past tense verb inflectional suffix; -*s*)3 is a noun plural inflectional suffix.

Among regular verbs there are two common 3rd person singular present tense suffixes: -*s*)2 and -*es*)1. We add -*es*)1 to verbs that end with one of four sounds: [s], [z], [ch], or [sh], and after the <y> to <i> replacement – as in *kisses, buzzes, watches, wishes, tries. Fixes* takes -*es*)1 because the <x> spells the combination sound [ks]. These are the inflectional suffixes for regular verbs:

Suffix	Inflectional Sense	Example
-s)2, -es)1	3rd person singular present tense “action undertaken”	“She calls.”
-ed)1	Past tense “in the past”	“She called yesterday.”
-ed)1	Past participle “action completed”	“She has called often.”
-ing)1	Present participle “action continuing	“She is calling now.”

Notice that what we are calling present tense is actually a kind of recurrent or routine tense: “She calls” could mean that she may be calling right now in the present, but more often it means that she has called in the past, and can be expected to call in the future.

Nonregular, so-called strong verbs from Germanic show past tense and past participle inflection through changes in their vowel. See Ablaut. But they show the 3rd person present singular with -*s*)2 and the present participle with -*ing*)1: *sing, sang, sung, sings, singing; swim, swam, swum, swims, swimming*.

There are also two common noun plural suffixes: -*s*)3 and -*es*)2. See Noun plurals.

The inflectional suffixes -*er*)02 and -*est*)1 form comparatives and superlatives, adding the senses “more” and “most”: *dark, darker, darkest; slow, slower, slowest*.

Derivational Suffixes. Inflectional suffixes add layers of meaning to words. But derivational suffixes usually change the entire function of the words to which they are affixed – that is, change their part of speech, adding information like "This is an adjective" or "This is an adverb." A derivational suffix is basically any suffix that is not an inflection – and there are a lot of them. Though the situation is more complicated, the following illustrates some of the uses of several derivational suffixes:

Suffix	Derives	Examples
-able)	adjectives from verbs	*agree, agreeable*
-ance)	nouns from verbs	*guide, guidance*
-ancy)	nouns from adjectives or verbs	*buoy, buoyancy*
-al)1	adjectives from nouns	*classic, classical*
-al)2	nouns from verbs	*propose, proposal*
-ful)	adjectives from nouns or verbs	*delight, delightful*
-ion)1	nouns from verbs	*act, action*
-ity)	nouns from adjectives	*extreme, extremity**
-ize)	verbs from nouns	*critic, criticize*
-less)	negative adjectives from nouns	*hope, hopeless*
-ly)1	adverbs from adjectives	*close, closely*
-ly)3	adjectives from nouns	*friend, friendly*
-ment)	nouns from verbs	*achieve, achievement*
-ness)	nouns from adjectives	*kind, kindness*
-th)1	ordinal numbers from cardinals	*eleven, eleventh*
-th)2	nouns from verbs or adjectives	*grow, growth*; *warm, warmth*

* See Suffix Rules for the change from long to short <e> in *extremity*.

Some derivational suffixes do not change an adjective or noun's part of speech but rather turn it into a related noun:

Suffix	Sense	Examples
-ess)1	"Feminine"	*god, goddess*
-hood)	"Condition, instance of a condition"	*child, childhood*
-ism)	"Action, characteristic quality"	*terror, terrorism*
-ist)1	"One connected with a thing"	*violin, violinist*
-ster)1	"One that is associated with"	*gang, gangster*

Suffix Rules. The two main suffix rules concern the suffixes -*ity*) and -*ic*)1. The **suffix *-ity* rule** states that the suffix -*ity*) is regularly preceded by a vowel that is stressed and short, even if it heads a VCV string. The -*ity*) rule motivates shortening of the stem vowel, as in *sane* with [ā] vs. *sanity* with [ă], and it also motivates a shift of stress onto the vowel immediately preceding it, as in *civil* vs. *civility,* [sĭˈ-vəl] vs. [sĭ-vĭlˈ-ĭ-tē]. Other examples: *active, activity; mental, mentality; cave, cavity; obscene, obscenity; electric, electricity; profane, profanity; extreme, extremity; public, publicity*.

The **suffix *-ic*)1 rule** states that -*ic*)1is regularly preceded by a vowel that is stressed and short, even if the vowel is unstressed or long in the stem: *athlete, athletic; state, static; atom, atomic; parasite, parasitic; demon, demonic; patriot, patriotic.*

Suppose, supposed; use, used. *Suppose* is a verb; *supposed* is the past participle of that verb used as an adjective meaning "intended as true, required." The major spelling problem is when the verb *suppose* is used in phrases that call for the adjective *supposed*, as in the mistaken *"He was suppose to go." A similar problem exists with the verb *use* and its past

participle *used*, as in the mistaken *"He use to go on Saturdays" instead of "He used to go on Saturdays."

Surnames. One's surname – or last name – is the name of one's family, in contrast with one's first, or given, name, which identifies an individual in that family. Surnames can have many different sources and original meanings; often those given below are just thought to be likely.

Many surnames originally showed descent, in English nearly always from a father – for instance, *Jacobson* "son of Jacob" or *Petersen* "son of Peter." Such surnames are called *patronymics* "fathers' names." Besides <son> and <sen> other additions that mean "of" or "son of" are

- the possessives <s> and <es> as in *Roberts* and *Hughes*;
- <mac>, often contracted to <mc>, as in *MacDonald* and *McOwen*;
- <ez> as in *Hernandez* and *Gomez*;
- <o'> as in *O'Brien* and *O'Connor,* which has been lost in *Sullivan*;
- <fitz> as in *Fitzgerald* and *Fitzpatrick*;
- <ap> as in *Price*, contracted from the Welsh *Ap Rhys*;
- <ben> as in *Benjamin*.

Among the 100 most common surnames in the 2000 U.S. census, the largest group are patronymics. In descending order of frequency:

Johnson	Robinson	Kelly
Williams	Perez	Diaz
Jones	Sanchez	Richardson
Davis	Adams	Watson
Garcia	Nelson	James
Rodriguez	Ramirez	Reyes
Wilson	Roberts	Brooks
Martinez	Phillips	Hughes
Anderson	Evans	Price
Thomas	Torres	Myers
Hernandez	Collins	Sanders
Jackson	Edwards	Morales
Thompson	Flores	Powell, from *Ap Hywel*
Lopez	Morris	Sullivan
Gonzalez	Rogers	Ortiz
Harris	Peterson	Jenkins
Lewis	Gomez	Gutierrez

Many surnames, especially those ending with <er> or <or>, indicate occupations for which the original bearer of the name was known – such as *Baxter* (feminine of *Baker*), *Carpenter*, *Sawyer*, *Barber*. Among the most common in North America, again in descending order:

Smith
Miller
Taylor “tailor”
Clark “clerk”
King “leader”
Walker “a fuller, or walker, of cloth”
Wright
Baker
Carter “cart driver”
Turner “maker of wooden objects”
Parker “park keeper”
Stewart “steward”
Cook
Cooper “maker of barrels”
Bailey “bailiff”
Ward “guardian”
Foster “forester”
Butler “wine steward,” cf. *bottle*
Fisher

Some surnames indicate qualities or characteristics of the original bearer, like a nickname, as in *Armstrong*, *Becket*(*t*) “little beak”, *Black*, *Blanchard* “whitish.” Other common ones:

White
Allen “little rock”
Young
Green
Campbell “crooked mouth”
Morgan “sea bright”
Reed “red faced or red haired”
Cox “youth, cocky”
Howard “brave”
Bell “handsome”
Gray
Long
Russell “red hair”
Mitchell “like God”

Some surnames indicate the locality with which the original bearers were identified, as in these common ones:

Moore “moor”
Lee “lea, meadow”
Scott “Scotland”
Hall
Hill
Rivera
Wood
Ross “upland, moorland”
Perry “pear tree”
Barnes

Other common surnames are *Martin* “of Mars, god of war”; the Vietnamese *Nguyen* from a Chinese surname, forced on many Vietnamese people by rulers’ fiats; *Murphy* “descendant of a sea warrior”; *Bennett “*after St. Benedict”; *Cruz* “cross.” And, of course, the meanings and sources of many surnames remain a mystery. For more see *OCEL*, “Patronymics” and “Personal Names.” A short, but good, dictionary is Basil Cottle’s paperback *The Penguin Dictionary of Surnames* (1967, 1984).

Syllables. Syllables are units of the spoken language. That is one of the ways they differ from elements, which are units of the written language. A syllable is a section of a spoken word that contains one and one only vowel sound – or in a few cases one and only one syllabic consonant. Syllables can be stressed or unstressed, and open or closed. Open syllables end with a vowel sound; closed syllables end with a consonant sound. Closed syllables usually contain short vowel sounds, as in *bat* and *monk*, though closed syllables at the end of words can contain long vowels, especially those that end with silent final <e>, as in *hope* and *engage*. Open syllables usually contain a long vowel sound, as in *agent* and *sky*. Reduced vowels can occur in both open and closed syllables, like the schwas in *above* and *item.*

In dictionaries the syllabification of the entry word is given in the

pronunciation respelling, usually in parentheses right after the word. But dictionaries also divide the entry word itself into units that fall somewhere between regular syllables and elements – think of them as written syllables. They are provided to show where the word can be divided and hyphenated at line's end. These divisions often do not agree with the actual syllabification of the word or with its explication into elements. See "A Note on Syllables" from "Spelling for Learning."

Syllabic consonants. A syllable always contains one and only one peak of sound. In the huge majority of cases those peaks are vowel sounds spelled with vowel letters, but occasionally the nasals and liquids [m], [n], [l], and [r] can provide the peak without a vowel letter, usually at the end of free stems. These consonant sounds are called **syllabic consonants.** For instance, the word *chasm* has two syllables but only one vowel letter. When the letter <m> follows an <s> and comes at the end of a word, it spells a syllabic consonant that functions as if it were a vowel. Other instances are in *algorithm, organism* – and all the other words with the suffix *-ism*).

Other letters that can spell syllabic consonants are <n>, <l>, and <r>. Notice that in *button*, *brittle*, and *butter*, you do not hear any vowel sounds in the final syllables, just the consonant sounds [n], [l], and [r].

Synonyms, antonyms, pseudonyms, heteronyms, acronyms.

• **Synonyms** are two or more words that have the same or nearly the same content – such as *lawyer* and *attorney*, or *throng* and *crowd.* Though their contents are close, most synonyms actually produce slightly different shades of meaning, so they must be used with care.

• **Antonyms** are words that have opposite or nearly opposite contents – like *hot* and *cold*, or *happy* and *sad.*

• **Pseudonyms** are fictitious names. A pseudonym used by a writer is called a *pen name* or *nom de plume*, such as Samuel Clemens' pen name *Mark Twain*.

• **Heteronyms** have the same spellings but different contents and pronunciations – such as *bass1* "a low singing voice" pronounced [bās] and *bass2* "a fish" pronounced [bă̄s]; or *tinged1* "made a tinging noise" pronounced [tĭngd] and *tinged2* "slightly colored" pronounced [tĭnjd]. *Heteronym* is another name for *homograph*.

• **Acronyms** are formed from the initials of a group of words. Some acronyms are pronounced like regular words – for instance, *NATO* and *UNICEF*, but others are spelled out – *UN* and *ROTC*, though on college campuses *ROTC* is sometimes pronounced [rŏtˈsē¸].

Tenant, tenet. *Tenant* "a resident" explicates to ten2+ant)1 The very common suffix *-ant*)1 marks adjectives and nouns and occurs in words like *accountant, antioxidant, assailant, assistant, attendant*. *Tenet* "a belief or principle" explicates to ten2+et)4. The suffix *-et*)4 is a very rare marker of

Latin stems. The base *ten2* also occurs in *countenance, lieutenant, maintenance, sustenance, tenable, tenacious, tenor, tenure, untenable*. *Ten2* is the nonterminative co-form of *+tain1*, as in *maintain* and *sustain* and means "stretch, hold, keep."

Terminative vs. nonterminative elements. Terminative bases and suffixes can be used at the end of words; nonterminatives cannot. The Lexis database lists 392 nonterminative bases, as in these nonterminative/terminative pairs:

abil, able As in *ability* vs. *able*
astr aster As in *disastrous* vs. *disaster*
crac, crat As in *aristocracy* vs. *aristocrat*
dinn, dine1 As in *dinner* vs. *dine*
fif, five As in *fifty* vs. *five*
grav, grave As in *aggravate* vs. *grave* "Serious, solemn"
hens, hend As in *apprehensive* vs. *apprehend*

At first the notion of a nonterminative suffix may seem odd, but the Lexis database lists 56 of them:

acul]1, acle]1 As in *spectacular* vs. *spectacle*
ibil], ible] As in *eligibility* vs. *eligible*
ios], ious] As in *curiosity* vs. *curious*
ul]5, le]2 As in *singular* vs. *single*

See also Sets, co-sets.

Third Syllable (or Third Vowel) Rule. The Third Vowel Rule says that the third (or fourth) vowel sound from the end of the word will be short **if** it is stressed. Most instances of the Third Vowel Rule are words adapted from Latin, and they reflect the way Latin pronunciation was taught in British schools during the late Middle Ages and Renaissance. A few instances, like *holiday* from "holy day," are native English words, which reflect the fact that in Old English there was a strong tendency to shorten long vowel sounds in syllables three or more places from the end of a word. Another native English example is *midwifery* with [wĭf] from *midwife* with [wīf].

In the following pairs, the first, the stem or a closely related shorter word, has a long vowel, while the second is a longer derived or related word that illustrates the Third Vowel Rule. In these words we are treating *-ion*) as having two syllables, as it did back when the Third Vowel Rule affected it:

Shorter Words	Longer Words	Shorter Words	Longer Words
compete	*competitor*	*legal*	*legacy*
crime	*criminal*	*nation*	*national*
decide	*decision*	*nature*	*natural*
sane	*sanity*	*navy*	*navigate*

Shorter Words	Longer Words	Shorter Words	Longer Words
explain	*explanatory*	*pose*	*positive*

The Third Vowel Rule holds in hundreds and hundreds of words, perhaps thousands, but there are two familiar local rules that can preempt it:

• The long vowels [ū] and [yū], as in *cuticle, enthusiast, fumigate, jubilee, luminous, mutilate, punitive,* and *unicorn;* and

• when the head vowel of a V.V string falls three (or four) places back in a word, it will resist shortening by the Third Vowel Rule: *dialect, iodine, piety, psychiatrist, reliable, violate, hyacinth, kaolin, peony.*

Through, thorough. Both *through* and *thorough* come from the Old English word *þurh* "through." By late Old English *þurh* had developed the two-syllable expansion *þuruh* with the extended meaning "through, end to end," which became our adjective *thorough* "complete." This same expansion from one to two syllables occurred in several words – including our words *borough, furrow, borrow, sorrow*. For <þ> see Runes.

Triplets. In English spelling there is a strong constraint against triplets – that is, strings of three identical letters. Thus, *shrill+ly)*1 does not equal *shrillly and *wee+est)* does not equal *weeest. I am not aware of any holdouts to this constraint. We can say that *shrilly* explicates to either shrill+y)4 or to shrill+ly)1, the suffix -*y*)4 being a contraction of -*ly*)1 used after [l], as in *notably, visibly,* etc. By the same token, *weest* explicates either to wee+est)1 or to wee+st)5, -*st*)5 being a contraction of -*est*)1 as in *first*, *most,* etc.

There is a weak constraint against doublets within larger clusters. Thus, *offal*, which etymologically is *off* + *fall* has a deleted <f> (and <l>) off+fall. This constraint also explains the deletions in *ascend,* which equals (ad+s+scend to avoid *asscend, with the <ss> doublet in the larger <ssc> cluster. Similarly we have *aspect* (ad+s+spect, *distant* (dis+stant, and *distinct* (dis+stinct and several others. However, there are several holdouts to this weak constraint – for instance, in some words that end with the suffixes -*ful*) or -*ness*): *blissful, illness, successful, wellness,* and several others.

Twinning. You twin the final consonant of a stem if you are adding a suffix that starts with a vowel, and if the stem ends in a single vowel sound and letter followed by a single consonant sound and letter, and if there is at least secondary stress on the final vowel sound of the stem both before and after you add the suffix. For example:

begin + *er*)1 = (be+gin3+n+er)01 = *beginner*

commit + *ing*) = (com+mit1+t+ing)1 = *committing*

But *dead* + *er*)*02* = *deader* with no twinning because there are two vowel letters preceding the final consonant. *Rich* + *er*)*02* = *richer* with no twinning

because the stem word ends with two consonant letters. And *limit* + *ed*) = *limited*, *symbol*+*ic*)1 = *symbolic,* and *infer*+*ence*) = *inference* – all with no twinning because there is no stress on the final syllable of the stem word both before and after the suffix is added. For more details see Twinning in "Spelling for Learning."

***Use, used*.** See Suppose, supposed.

Vacuum. It can be hard to remember that <uu>. *Vacuum* explicates to vacu+um)1. The base *vacu* comes from an ancient root that meant, among other things, "empty," and the suffix -*um*)1 marks singular nouns from Latin – thus the two <u>'s: one for the base and one for the suffix. *Vacu* also occurs in *evacuate, evacuation, vacuity* "emptiness*," vacuole* "a small empty space*,"* and *vacuous* "empty*."* Vacu has the co-form *vac1* which occurs in *vacancy, vacant, vacate, vacation.* And then there is *vac2*, which contracts *vacuum cleaner*.

In English <uu> is very rare: Besides *vacuum* Lexis lists only the following instances with their few derivatives: *continuum, duumvir* "one of two joint Roman officials*," menstruum* "a liquid medium*," residuum* "residue," and the more recent adoptions *muumuu* "a long, loose-fitting Hawaiian dress" and the German *weltanschauung* "world view."

We do have double-u, or <w>, which was adopted when Old English began to be written with the Latin alphabet, which had no letter to represent an English sound that did not exist in Latin. Scribes used the doublet <uu> (thus the name), which in time became our <w>.

Variant Spellings. In his *Variant Spellings in Modern American Dictionaries* (1973) Donald W. Emery listed about 2,000 words that have variant spellings. Three points to remember about variant spellings are (i) all are equally correct, (ii) not all are equally common, and (iii) not all are equally regular. In general, when correcting tests and papers, I recommend a generous approach: If a spelling is listed as a variant in at least one dictionary, it's correct – though it's probably a good idea to point out to students that uncommon variants will often be treated as incorrect by readers. Further tempering that generosity, if one of the variants is more regular than the other or others, I recommend preferring the more regular one. By *regular* here I mean simply that the spelling better agrees with the patterns and rules of English spelling. By preferring regularity we are gently encouraging the evolution of our spelling system to more regularity and ruliness. See Principle of Preferred Regularity and British and American Spelling. For a list of words with variant spellings see Dailywritingtips.

VCV vs. VCCV Contrasts. VCV vs. VCCV contrasts occur in several common pairs of words and can give spellers problems:

biter, bitter
coma, comma
diner, dinner
filing, filling
fury, furry
later, latter
liter, litter
muter, mutter
planing, planning
raged, ragged
super, supper

VCV vs. VCCV contrasts also occur in less common pairs of words:

coper "one who copes", *copper*
fluter "one who plays the flute", *flutter*
mater "Latinate 'mother'", *matter*
puling "whining", *pulling*
shining, *shinning* "shinnying"
wining as in *"wining and dining"*, *winning*

Similar single-consonant vs. double-consonant contrasts occur, but due to shifts in stress they are not regular VCV vs VCCV contrasts:

below, bellow
cares, caress
desert, dessert
discus, *discuss*
posses (pl. of *posse*), *possess*
princes, princess

There are a very few single-consonant vs. double-consonant contrasts with no change in the pronunciation of the vowels: *canon, cannon; caries* "tooth decay"*, carries;* and *Mary, marry*.

Velar sounds. Velars are consonant sounds articulated with the back of the tongue at or near the soft palate, or velum, at the rear of the mouth: [g, k, ng, w].

Verbs: Active and Passive. An active verb has a subject that is the agent or cause of the action indicated by the verb – like the dog in "Their dog bit my hand" where the subject dog did the biting. But the subject of a passive verb is the recipient, or patient, of the action – like the hand in "My hand was bitten by their dog." It's the difference between being the biter and the bitee.

Though generally we prefer active verbs, sometimes passives can be handy, even necessary, to smooth, clear writing. For one thing, passive verbs allow us to flip sentences back-to-front: The active "Their dog bit my hand" reverses in the passive to "My hand was bitten by their dog." Whether active or passive is better depends on what we have been talking about in preceding sentences. If we had been talking about the dog, then we want the active with *dog* early in the sentence, where old information usually goes in well-constructed sentences. But if we had been talking about me or my hand, we want the passive, with *hand* up front.

And the passive can be useful if we don't know – or don't want to reveal – who the agent is – "My hand got bitten." No telling by what or whom. Thus things get done anonymously: employees are fired, appeals are denied,

plans are rejected – no telling by what or whom. For more see "Verbs: Regular and Irregular" and "Subjects vs. Objects, Direct and Indirect."

Verbs: regular and irregular. Almost all verbs change their form to indicate action in the past. Most verbs are regular, which means that they form their past tense and past participle by adding the suffix -*ed*)1: *call* (pres.)*, called* (past)*, called* (past part.)*; buzz, buzzed, buzzed; look, looked, looked; tow, towed, towed; pass, passed, passed*. But there are more than 250 irregular verbs – that is, verbs that do not form their past tense and/or their past participles with -*ed*)1. The following are some of the different types of irregular verbs: A few, like *cut, cost, hit, hurt, shut*, do not make any changes in their past tense or past participle. Several, the so-called **strong verbs**, form their past tense by changing the vowel sound and spelling and their past participle by sometimes changing the vowel and always adding the suffix -*en*)02 or -*n*)1: *freeze, froze, frozen; speak, spoke, spoken; draw, drew, drawn; fall, fell, fallen, eat, ate, eaten; rise, rose, risen.* See Ablaut. Others mark the past tense and past participle in the same way, but with pronounced changes in spelling and pronunciation from the infinitive or basic form: *bring, brought, brought; buy, bought, bought; catch, caught, caught; teach, taught, taught; think, thought, thought.*

Regular and irregular verbs all form the 3rd person singular present tense and the present participle with -*s*)2 or -*es*)1 and -*ing*)1, as in *thinks, goes; thinking, going*. See Suffixes. For more on verbs see also "Subjects vs. Objects, Direct and Indirect." and "Verbs: Active and Passive."

Vikings. The Vikings were seafarers from Norway, Sweden, and Denmark who from the late 8th century to the late 11th raided northern Europe and England. Those who settled in northern France in the 10th century became the Normans. There were earlier landings and raids, but the Vikings' first major raid on England was in 793, when they sacked and destroyed the Christian abbey on the island of Lindisfarne off England's northeast coast. By the mid 9th century they had overrun and begun settling eastern and northern England. By the late 9th century and after repeated battles Alfred the Great, king of Wessex, defeated the Vikings and brought peace to Wessex in southern England and to Mercia in the central south and west. In the late 10th century the Viking attacks began again and continued through the early 11th century, until the Norse had settled in and held control of much of eastern England. In the early 11th century there were four Norse kings of England: Sweyn Forkbeard, Canute the Great, Harold Harefoot, and Harthacnut.

The interaction between Old English and Norse and Anglo-Norse had significant influence on the evolution of English.

Voiced vs. voiceless (unvoiced) sounds. Sixteen consonants come in pairs in which the two sounds are identical except that one is **voiced** and the other is **voiceless**. A voiced sound is pronounced with the vocal cords vibrating, a voiceless sound is pronounced with no vibration:

Voiceless	Voiced
[p] as in *pop*	[b] as in *bob*
[t] as in *tat*	[d] as in *dad*
[k] as in *kick*	[g] as in *gig*
[f] as in *fluff*	[v] as in *verve*
[s] as in *scarce*	[z] as in *cars*
[th] as in *thin*	[th] as in *then*
[sh] as in *shush*	[zh] as in *azure*
[ch] as in *church*	[j] as in *judge*

Nasals, liquids, semivowels, and vowels are all voiced.

Sometimes, even if you have trouble hearing the difference between, say, voiceless [th] and voiced [th], as in *thin* and *then*, you can feel the difference: Put your fingers lightly on your throat just up under your chin and say *thin*. You should feel nothing as you pronounce the [th]. Then say *then*. You should feel some vibration in your throat as you pronounce the voiced [th]. The vibrations are caused by your vocal cords.

Vowel lengthening and shortening. In earlier English the distinction between long and short vowels was quite different from what it is today. It was a distinction in sound quantty, or duration, as the words *long* and *short* suggest: Long <a> was the same vowel sound as short <a>, just held longer. Thus, in earlier English short <a> was an “ah”-like sound; long <a> was more like “aah.” Today *long* and *short* refer not so much to quantity, or duration, but to the quality of the vowel sound, so today’s short <a>, [ă] as in *fat*, is different in sound quality from long <a>, [ā] as in *fate*, with no consideration of quantity. Today *long* vs. *short* is not a phonetic but an orthographic distinction.

In Old English, long vowels could occur in either open or closed syllables, as could short vowels. The evolution of Old English into Middle English was marked by the systematic lengthening of short vowels in open syllables while long vowels in closed syllables were systematically shortened. The following are words with long vowels that were short in Old English open syllables: *bacon, eat, hope, make, meat, sake, smoke, steal.* Words with short vowels that were long in Old English closed syllables include *ask, kept, hid, soft.*

The lengthening of Old English vowels in open syllables led to the convention of using silent final <e> as a long vowel marker. This final <e> was all that was left of a number of Old English inflectional suffixes and was originally pronounced [ə], usually putting the preceding vowel in an open

syllable, thus tending to lengthen it. After the final <e> fell silent in late Middle English, it was still there in the spelling to complete the VCV string.

There were some other more localized and less systematic lengthenings: Some short Old English vowels lengthened before <nd>, <ld>, and <mb>: *bind, blind, find, grind, hind, kind, mind, rind, wind* (vb.); *child, wild, mild; climb, tomb.* For more on vowel lengthening and shortening and the use of silent final <e>, see *AES*, pp. 97-99, "A Short History of the VCC/VCV Contrast" and "The Development of Silent Final *e*."

Vowel letters. See Consonant and vowel letters.

Vowel sounds. English vowels are usually displayed in a chart whose rows indicate the tongue's position relative to the roof of the mouth (high, mid, low) and whose columns indicate the part of the tongue that is raised (front, central, back). The simple vowels recognized in our analysis are as follows:

	Front	Central	Back
High	[ī] *beet* /i/ [ĭ] *bit* /ɪ/		[ū] *boot* /u/ [u̇] *book* /ʊ/
Mid	[ā] *bait* /e/ [ĕ] *bet* /ɛ/	[ŭ] *but* /ʌ/ [ə] *alone* /ə/	[ō] *boat* /o/
Low	[ă] *bat* /æ/		[ä] *bother* /ɑ/ [ŏ] *cot* /ɑ/ [o̤] *caught* /ɔ/

Characters in diagonals are equivalent IPA symbols. Notice that [u̇] is close to [ū], and that [o̤] and [ä] are close to [ŏ].

Ten vowel sounds come in five short/long pairs:

Short	Long
[ă] *bat* /æ/	[ā] *bait* /eɪ/
[ĕ] *bet* /ɛ/	[ē] *beet* /i/
[ĭ] *bit* /ɪ/	[ī] *bite* /aɪ/
[ŏ] *got* /ɑ/	[ō] *goat* /oʊ/
[ŭ] *but* /ʌ/	[ū] *boot* /u/

There is a second long <u> recognized in our analysis, [yū], /ju/ in IPA, as in *cute*, contrasting with [ū] in *coot*. It is essentially a diphthong. See Vowel lengthening and shortening. (*EDLL*, *OCEL*, *AES,* 201-06, 210-12)

***Wear, ware, where; were, we're*.** In this group *wear, ware, where* are homophones, which can always be problems for spellers; *were* and *we're* are near homographs, which shouldn't be too problematic – if students remember that apostrophe in the contraction *we're*.

These homophones have many historical sources and are often the product of changes in vowel pronunciations and spellings in earlier English, which are complicated further by the effects of [r] on preceding vowels. Alas, I know of little specific historical information that would be useful in the elementary or secondary classroom. But on the assumption that it is always better to know your enemies, here are the most common instances of the homophonic spellings <ear>, <are>, and <ere>:

Like *wear*: *bear, pear, swear, tear* "rip" (vb.*).*
Like *ware*: *bare, care, compare, dare, declare, fare, flare, glare, hare, mare, prepare, rare, scare, share, snare, spare, square, stare.*
Like *where*: *ere,* plus *there* and *where* and their compounds, such as *thereafter, wherever*, and the like.

Webster, Noah. In 1783 the American Noah Webster (1758-1843) published the first volume of *A Grammatical Institute of the English Language* – known in later editions as the *American Spelling Book*, then the *Elementary Spelling Book*, or 'the Blue-back Speller' – which conveyed to generations of Americans Webster's nationalistic and pedagogical enthusiasm for spelling reform and simplification. Still in print, it was clearly the most successful language arts text ever published. In 1806 he published his *Compendious Dictionary of the English Language,* which included a generous sampling of his reformed spellings. In 1828 far fewer of his reforms were included in his much expanded *An American Dictionary of the English Language*.

Webster competed with and could be acidly critical of Samuel Johnson, whose *A Dictionary of the English Language* (1755) dominated spelling practices not only in Britain but also in the 18th and early 19th centuries in America. Webster argued for an American spelling distinct from British for reasons partly pedagogic, partly nationalistic, partly economic. In time American readers, writers, and publishers began to be influenced by the finally rather modest spelling reforms in Webster's later spellers and his 1828 dictionary, and by the fact that Americans tended to prefer simplification and were less concerned than Johnson had been with British traditions. For more see British and American Spelling. For even more on Webster (and Johnson), see my "The Evolution of British and American Spelling" in *The Routledge Handbook of the English Writing System* (V. Cook and D. Ryan, eds.) London & New York: Routledge, 2016. pp. 275-292).

Wessex and the West Saxon dialect. See Alfred the Great.

Your, you're, yore. When stressed *your* and *you're* are most often homophones, rhyming with *fore*. Unstressed they rhyme with *fur*.

Your is a possessive pronoun, or more specifically a *possessive adjective,* parallel to *our* and *their*, which functions as a modifier, as in “Pick up your gloves.” *Yours* is also a possessive pronoun (sometimes called a double possessive because of that <s>). It is parallel to *ours* and *theirs* and functions as a noun, as in “Those gloves are yours.” *You’re,* which is often misspelled <your>, is a contraction of *you are*, parallel to *we’re* and *they’re*.

Yore “a time long past” is of obscure origin but is probably related to *year*. Nowadays we mostly use *yore* in the phrases like “In days of yore when knighthood was in flower.” Remember that final <e>.