



A Biography of the English Language



A Biography of the English Language

THIRD EDITION

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Australia • Brazil • Japan • Korea • Mexico • Singapore • Spain • United Kingdom • United States

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**A Biography of the English
Language, Third Edition**

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Library of Congress Control Number: 2010940924

ISBN-13: 978-0-495-90641-4

ISBN-10: 0-495-90641-7

Wadsworth

20 Channel Center Street
Boston, MA 02210
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Printed in the United States of America

1 2 3 4 5 6 7 14 13 12 11 10



Phonology

Language is a cracked kettle on which we beat out
tunes for bears to dance to, while all the time we long
to move the stars to pity.

—GUSTAVE FLAUBERT

Most native speakers of English, even without training in linguistics, have a fairly good intuitive understanding of morphology, syntax, lexicon, and semantics. However, because the Latin alphabet is so inadequate for representing English sounds and because the match between English spelling and English pronunciation is both complex and poor, some specific training in English phonology is necessary to study the history of English.

Partly because we are accustomed to seeing speech represented on paper as a series of separate marks, we tend to think of speech as consisting of discrete sounds. Real speech is continuous, not discrete. In a sound spectrogram¹ of someone saying the word *dig*, for example, there are no clear boundaries between the *d*, the *i*, and the *g*. Nonetheless, if we are to analyze the sounds of speech, we must treat them as if they were discrete—and, for all its shortcomings, our writing system does just that. Further, all the evidence we have suggests that the human brain in some way also breaks up the continuous flow of speech and sorts it out into separate units.

There are at least three ways to approach the analysis of speech sounds: (1) from a perceptual point of view, or how the mind analyzes and interprets the sounds; (2) from an acoustic point of view, or the physical properties of the sounds; and

1. A sound spectrogram is a kind of “photograph” giving a visual representation of the intensity and frequency of sound waves in a segment of speech over time. The free wave surfer software for acoustic analysis and sound manipulation can be used by people with little or no phonetic knowledge.

(3) from an articulatory point of view, or how the sounds are produced by the speech organs. For the purposes of studying the history of English, we will use the articulatory approach. It is relatively easy for people to see and feel what is going on in their mouths as they produce speech sounds. Furthermore, apart from cases such as cleft palates or missing teeth, the vocal tracts of all human beings are basically identical and have not changed over the centuries.

THE PRODUCTION OF SPEECH

W 2.3

Speech begins when air leaves the lungs. After that, the stream of air may be impeded or modified at any point from the larynx on up through the nose or lips; the nature of the resulting speech sound depends on how and where the stream of air is modified. The **articulators** of speech are the movable parts of the speech tract: the lips, the tongue, and the uvula. The tongue is the most important articulator. The **points of articulation** are the nonmovable portions of the speech tract with which an articulator comes in contact or near contact. Figure 2.1 shows the whole vocal apparatus, apart from the lungs.

PHONEMES AND ALLOPHONES

The human vocal tract produces a wide assortment of noises. Some of them are speech sounds or suitable for use as speech sounds, and some are not. In studying phonology, we ignore snorts, sneezes, sighs, coughs, sniffs, screams, and so on. We ignore extralinguistic or supralinguistic aspects such as the pitch difference between male and female voices and whispering.

Of the remaining sounds, the components of speech, no two are ever identical, even when produced by the same speaker. However, both speaker and hearer treat some sounds as if they were identical and others as different. For example, the initial consonants of *pear* and *bear* are considered different because they distinguish two words with different meanings. On the other hand, the p-sounds in *pace* and *space* are also physically different for all native speakers of English. The *p* in *pace* is accompanied by a fairly strong puff of air called **aspiration**, whereas the *p* in *space* is not. However, this difference in aspiration is never used to distinguish two different words in English, that is, no two words contrast on the basis of this difference alone. Thus, the two sounds are treated as being the same.

A group of sounds that never contrast significantly with one another, that speakers treat as the same sound, is called a **phoneme**. For example, /f/ and /v/ are separate phonemes in PDE because they distinguish such words as *fat/vat* and *strife/strive*. The noncontrastive variants that comprise a phoneme are called **allophones** of that phoneme. Hence *p* and *b* are separate phonemes in English, but aspirated *p* and unaspirated *p* are only allophones of the phoneme *p*. To indicate whether we are discussing phonemes or allophones, it is conventional to enclose phonemes between slashes (/ /) and allophones between square

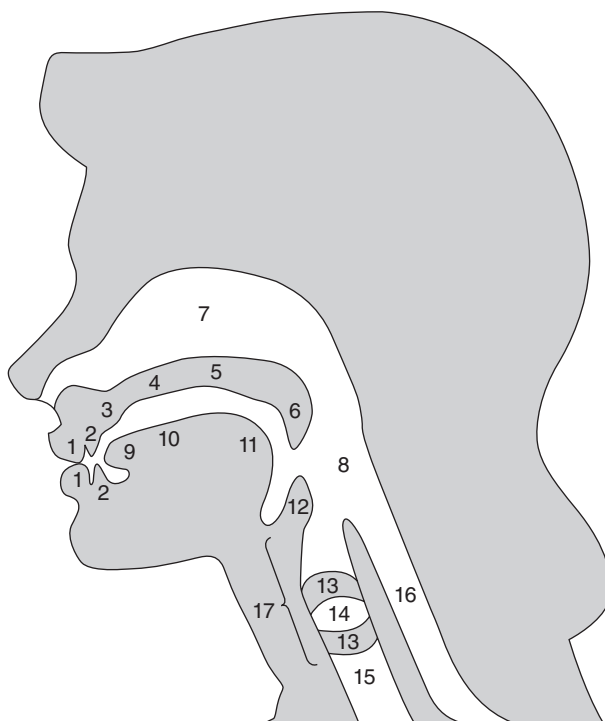
brackets ([]). Thus we say that [p] and [pʰ] (where the inverted apostrophe stands for aspiration) are allophones of the phoneme /p/.

Normally, all the allophones of a phoneme share many features. Both [p] and [pʰ] are voiceless, are bilabial, and involve a momentary complete stoppage of the air coming from the lungs. Their only difference lies in the force of the plosion when the stoppage is released. In a few instances, however, allophones of a single phoneme differ strikingly. For example, most allophones of the English phoneme /t/ are formed by the contact of the tongue with the alveolar ridge, where your tongue is when you say *hot* and *top*. But one common allophone, [ʔ], does not involve the tongue at all. Instead, it is formed by the momentary contraction and then release of the vocal cords. Phonetically, it is a glottal stop, not an alveolar stop; phonemically, it is still only an allophone of /t/ in English.

Although the glottal stop [ʔ] is only an allophone of /t/ or other stops in English, it constitutes a separate phoneme in some languages. This fact illustrates an important principle of phonology: *every language has its own unique configuration of phonemes and allophones*. Even within a given language, the total set of phonemes and allophones may differ from dialect to dialect and may change over time. For example, though French and English both have /t/ phonemes, they are not the “same” /t/. Most of the allophones of the French /t/ are produced with the tongue touching the upper teeth rather than the alveolar ridge. Nor does the French /t/ have the aspirated allophone [tʰ] in initial position or the glottal allophone [ʔ]. Russian has a palatal version of its phoneme /t/ that does not occur at all in English. The concept of the phoneme and the allophone is meaningful only in the context of a specified language.

In discussing the earlier stages of a language, we normally operate at the phonemic level and not the allophonic level (though there are exceptions). Although we can identify with a fair amount of confidence the phonemes of past stages, we usually lack the precise knowledge of production required to identify the allophones.

As a means of representing actual pronunciation, English spelling is notoriously inadequate and complex. Words pronounced the same may be spelled differently (*meet*, *meat*, *mete*), and words spelled the same may be pronounced differently (*wind*, *invalid*, *recreate*). Some phonemes have no spelling of their own (for example, the two initial consonant sounds of *then* and *thin*). Some alphabetic symbols can stand for several different sounds—or no sound at all—as is the case of *s* in the words *sun*, *pays*, *treasure*, *tension*, and *aisle*. The letter *c* is totally redundant in that any phoneme that it represents also has another traditional representation: It replace *k* in *call*, *s* in *cell*, *ch* in *cello*, *sh* in *social*, and stands for nothing at all in *indict*. Many words are spelled with “silent” letters (*b* in *climb*, *ch* in *yacht*, *g* in *sign*, *h* in *exhaust*, *n* in *autumn*, *p* in *receipt*, *t* in *castle*, and *w* in *answer*). In other instances, phonemes are not represented in spelling at all (the initial *w*-sound in *one* or the *y*-sound after *m* in *music*). We will see in later chapters that there is usually a good historical explanation for these anomalies of spelling. They represent an earlier stage in the pronunciation of English—or even of Latin, French, Dutch, and so on. Knowledge of the history of English makes one more tolerant of the eccentricities of Present-Day English spelling.



- | | |
|-----------------------|----------------------------|
| 1 Lips | 10 Front of tongue (blade) |
| 2 Teeth | 11 Back of tongue (dorsum) |
| 3 Alveolar ridge | 12 Epiglottis |
| 4 Hard palate | 13 Vocal cords |
| 5 Velum (soft palate) | 14 Glottis |
| 6 Uvula | 15 Trachea (windpipe) |
| 7 Nasal cavity | 16 Esophagus |
| 8 Pharynx | 17 Larynx |
| 9 Tongue tip (apex) | |

1. The **lips** may be open, closed, partially closed, spread, or rounded during speech. Sounds involving the lips as articulator are **labials**. If both lips are involved, the sounds are **bilabials**.
2. The **teeth** may be open, closed, or partially closed during speech. Sounds in which the tongue touches the back of the teeth are **dental**; those in which the tongue protrudes slightly between the teeth are **interdental**. **Labiodental** sounds are produced with the upper teeth on the lower lip.
3. The **alveolar ridge** is the bony plate into which the upper teeth are fixed. **Alveolar** sounds are produced when the tip or the front of the tongue is in contact with the alveolar ridge.
4. The **hard palate** is the dome-shaped bony plate at the roof of the mouth. **Palatal** sounds are produced when the tip or the front of the tongue is in contact with the hard palate.

FIGURE 2.1 The Human Vocal Apparatus

5. The **velum**, or **soft palate**, is the soft, muscular tissue behind the hard palate. (If you have a limber tongue, you can curl it back to feel the dividing line between the hard palate and the velum. Or you can find it with your forefinger.) The velum can be contracted to come in contact with the top of the throat, closing off the nasal passage. **Velar** sounds are produced when the back of the tongue, or **dorsum**, comes in contact with the velum.
6. The **uvula** is the cylindrically shaped extension of the velum that hangs down over the back of the tongue; you can view it in a mirror if you open your mouth very wide. The uvula is not used in forming English sounds, but it becomes an articulator in some languages when it is made to vibrate rapidly, producing a **uvular trill**. (It also vibrates during snoring and gargling.)
7. The **nasal cavity** is opened to the flow of air from the lungs when the velum is lowered. The resulting sounds are called **nasals**; the specific nature of the nasal sound depends on the position of other articulators.
8. The **pharynx** is the cavity at the back of the upper throat. It is not specifically involved in the production of sounds in English, though it is in some languages, for example, Arabic.
9. The **tongue tip**, or **apex** of the tongue, is one of the most important articulators. In **apical** sounds, the tongue tip is the articulator.
10. The **blade**, or front of the tongue, is that portion of the tongue just behind of the tip. As an articulator, the blade may come in contact with the teeth, the alveolar ridge, or the hard palate.
11. The **dorsum**, or the back of the tongue, serves as an articulator when it comes in contact with the velum (soft palate).
12. The **epiglottis** is a piece of cartilage that folds down over the trachea to channel food down the esophagus and prevent it from going down the trachea and into the lungs. It is not an articulator and is involved in speech only to the extent that, when it is sealing off the trachea, speech is impossible.
13. The **vocal cords** are a pair of elastic muscular bands rather like thick rubber bands. They are attached to the front and back of the larynx. When the vocal cords are relaxed, air from the lungs passes through them unimpeded, and the resulting sounds are called **voiceless**. When the vocal cords are tensed, the opening between them is reduced, and air passing through them makes them vibrate rapidly; the resulting sounds are called **voiced**. The faster the vocal cords vibrate, the higher the pitch of the voiced sounds.
14. The **glottis** is the opening between the vocal cords. If the glottis is momentarily closed and then released, a voiceless speech sound called a **glottal stop** results. A glottal stop appears before the vowels in the two syllables of “unh-unh,” the vocal gesture meaning “no.” It also separates the two syllables of “uh-oh,” the sound we use to indicate trouble.
15. The **trachea** is the tube carrying air to and from the lungs.
16. The **esophagus** is the tube running parallel to the trachea, through which food passes on its way to the stomach. The esophagus is not involved in normal speech production.
17. The **larynx** is the general area between the pharynx and the trachea, including the vocal cords. It is not an articulator in English, though it is in some languages.

FIGURE 2.1 (continued)

To represent every phoneme by one and only one symbol, various phonemic alphabets have been devised. Most such alphabets use Latin symbols, supplementing them with diacritical marks or modifications where necessary and omitting Latin symbols that are totally redundant (such as *x* and *c* for English). In this book we use the American Phonetic Alphabet (APA). (See the inside back cover.)

THE PHONEMES OF PRESENT-DAY AMERICAN ENGLISH

In this discussion of phonemes, we are concentrating on a variety of Present-Day English known as Standard American English (SAE) or General American (GA). The phonemes of all languages are conventionally subdivided into consonants and vowels. This division is convenient because of fundamental differences in the way consonants and vowels are produced and because of their different roles in the structure of syllables. In simplest terms, consonants are characterized by a stoppage or impedance of the flow of air at some point in the vocal tract, whereas vowels are characterized by an unimpeded flow of air but with modifications of the shape of the oral chamber through which the air passes. In English, every vowel constitutes the center of a syllable; the syllable may or may not include one or more consonants.

Consonants

W 2.5,
W 2.7,
and
W 2.9

In articulatory terms, a **consonant** can be defined by its place of articulation and its manner of articulation. The places of articulation are illustrated in Figure 2.1. Table 2.1 shows English consonants defined by manner and place of articulation.

Stops **Stops**, also called **plosives**, are sounds produced by blocking the flow of air completely at some point in the mouth and then fully releasing it. The type of stop is defined by the point in the mouth at which the stream of air is blocked. Thus, /p/ is a bilabial stop because the air is blocked at the lips, whereas /g/ is a

For the Birds

Imitative (or echoic, or onomatopoeic) words comprise only a tiny, though entertaining, part of the total English vocabulary. Perhaps the highest proportion of such words is to be found in the name of birds and bird sounds. The word *owl*, for example, goes all the way back to an imitative Indo-European root *ul-. Other onomatopoeic names for English birds include *chiffchaff*, *chough*, *cock*, *cuckoo*, *curlew*, *hoopoe*, *pewit*, and *quail*. The process has continued into the modern period. When English colonists encountered unfamiliar birds in North America, they frequently named them for their songs or characteristic cries; hence such names as *bobolink*, *bobwhite*, *chewink*, *chickadee*, *chuckwill's widow*, *killdeer*, *peetweet*, *pewee*, *phoebe*, and *whippoorwill*. Among the imitative words describing bird noises are *cackle*, *caw*, *cheep*, *chirp*, *cluck*, *cock-a-doodle-doo*, *coo*, *gobble*, *hoot*, *peep*, *tweet*, and *twitter*. Although bird songs are notoriously difficult to describe to someone who has not heard them, people clearly are willing to keep trying.

TABLE 2.1 Consonant Phonemes of Present-Day English

| Manner of Articulation | | Point of Articulation | | | | | |
|------------------------|-----------|-----------------------|--------------|--------------|----------|---------------|------------------|
| | | Bilabial | Labio-dental | Inter-dental | Alveolar | Alveo-palatal | Velar |
| Stops | Voiceless | p | | | t | | k |
| | Voiced | b | | | d | | g |
| Affricates | Voiceless | | | | | č | |
| | Voiced | | | | | ǰ | |
| Fricatives | Voiceless | | f | θ | s | š | h* |
| | Voiced | | v | ð | z | ž | |
| Nasals | | m | | | n | | ŋ [†] |
| Lateral | | | | | l | | |
| Retroflex | | | | | r | | |
| Semivowels | | w | | | | j | (w) [‡] |

Key

| | | | | | |
|-----|-------|-----|---------|-----|------|
| /p/ | pill | /f/ | feel | /m/ | hum |
| /b/ | bill | /v/ | veal | /n/ | Hun |
| /t/ | till | /θ/ | thigh | /ŋ/ | hung |
| /d/ | dill | /ð/ | thy | /l/ | lore |
| /k/ | kill | /s/ | seal | /r/ | roar |
| /g/ | gill | /z/ | zeal | /w/ | wore |
| /č/ | chill | /š/ | mesher | /j/ | yore |
| /ǰ/ | Jill | /ž/ | measure | | |
| | | /h/ | heel | | |

*The fricative /h/, in modern English only a burst of aspiration preceding a vowel, is actually produced at various points in the mouth, depending on the nature of the following vowel. For the sake of convenience, it is listed here as a velar phoneme.

[†] The velar /ŋ/ is not phonemic for many speakers of English, but only an allophone of /n/ that occurs before /k/ and /g/. If, in your speech, the words *finger* and *singer* rhyme, [ŋ] is probably not phonemic for you.

[‡] The phoneme /w/ actually has a dual articulation; it is bilabial by virtue of the rounding and near closure of the lips and velar by virtue of the raising of the back of the tongue toward the velum.

velar stop because the air is blocked at the velum by the back of the tongue. If the vocal cords vibrate during the production of the stop, it is a **voiced** stop; if they do not vibrate, it is a **voiceless** stop. As you can see from Table 2.1, the voiced bilabial stop is /b/, and the voiceless bilabial stop is /p/.

Fricatives **Fricatives**, also called **spirants**, are produced by impeding but not totally blocking the stream of air from the lungs. This constriction of the passage produces friction, a hissing sound created by the turbulence of the stream of air.

The type of fricative is defined by the point of narrowest stricture; /f/ is a labiodental fricative because the friction occurs at the point of loose contact between the upper teeth and the lower lip. Like stops, fricatives may be either voiced or voiceless in English.

Affricates **Affricates** are a combination of stop plus fricative. The stream of air is stopped very briefly and then is released relatively gradually with accompanying friction. Though some languages have several types of affricate phonemes, English has only the alveopalatal affricates /tʃ/ and /dʒ/, the former voiceless and the latter voiced.

Resonants All the remaining consonants of English can be grouped as **resonants**; all are voiced only. The resonants include the nasals, the lateral, the retroflex, and the semivowels. The lateral and the retroflex are sometimes termed **liquids**. **Nasals** are formed by blocking the oral passage at some point but lowering the velum so that air escapes through the nose. The particular type of nasal is determined by the point at which the oral passage is blocked. The **lateral** /l/ is produced when the center of the mouth is blocked by the tongue in contact with the alveolar ridge while air is allowed to escape along the sides of the tongue (hence the term *lateral*). The most common allophone of /l/ after a vowel is [ɫ] as in “milk,” the so-called “dark l,” produced by raising the back of the tongue toward but not touching the velum. The **retroflex** /r/ is produced by curling the tip of the tongue upward and pointing it toward the alveolar ridge or hard palate. **Semivowels** are produced by narrowing the air passage greatly but still allowing air to pass without stoppage or friction at any point. Semivowels are like vowels in that the stream of air is not blocked, but they are classified as consonants because they function like consonants before regular vowels and because the air passage is more constricted than with regular vowels. Our analysis classifies only /j/ and /w/ as semivowels; some analyses also treat English /r/ as a semivowel. Another class of consonants is the **sibilants**. These are fricative or affricative consonant sounds in which the tongue tip (apex) is brought near the roof of the mouth and air is pushed past the tongue to make a hissing sound. In English, the sibilant phonemes are /ʃ, ʒ, s, z, č, ǰ/.

Vowels

W 2.4,
W 2.6,
and
W 2.8

Unlike consonants, vowel phonemes cannot easily be defined by manner and point of articulation because the manner of articulation is essentially the same for all vowels. Further, vowels have no real point of articulation because the articulator (the tongue) does not come into actual contact with another part of the mouth. Instead, English vowels are traditionally defined by the height of the tongue, the location of the highest part of the tongue, and the degree of tension of the tongue during articulation.

The height of the tongue is normally correlated with the degree of openness of the mouth; the lower the tongue, the more open the mouth. Vowels are accordingly classified as **high**, **mid**, or **low**. The location in the mouth of the highest part of the tongue determines whether a vowel is **front**, **central**, or **back**. Finally, if the tongue is relatively tense, the vowel is called **tense**; if the tongue is relatively relaxed, the vowel is called **lax**.

These three features are adequate for defining all the vowels of modern American English. However, for other languages and for earlier periods of English, additional features are necessary. In Old English, some vowel phonemes were distinguished on the basis of rounding—a high front tense vowel, for example, could be articulated with either rounded or unrounded lips. In many languages, including Old and Middle English, vowel length (or the amount of time spent in producing a vowel) is distinctive. In some languages, such as modern French, nasality of vowels is phonemic; modern English vowels may have nasal coloring if the following consonant is a nasal, but no two vowels are distinguished on the basis of nasality alone.

With a few exceptions, all native speakers of English have the same inventory of consonant phonemes and use these phonemes in the same places. However, there are great disparities among English speakers in both the total number of vowel phonemes and in their distribution in individual words. The configuration depicted in Figure 2.2 illustrates the minimum number of distinctions made by most speakers of American English.

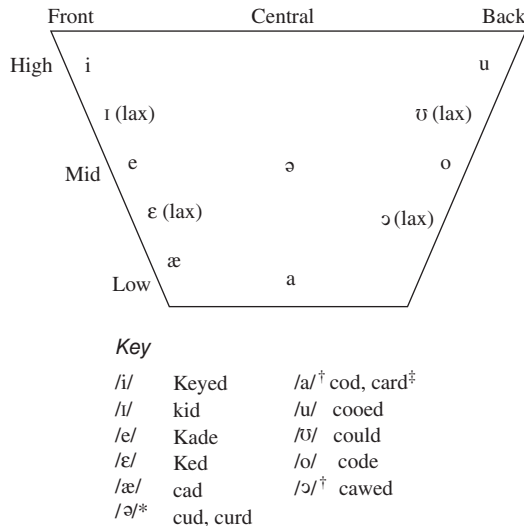


FIGURE 2.2 Vowel Phonemes of Present-Day American English

*The symbol /ə/, called *schwa*, is used here for the stressed vowel sound in *but*, the unstressed final vowel in *sofa*, and the vowel preceding /r/ in words like *her*, *fir*, and *purr*. Many speakers will notice a definite qualitative difference in the sounds of the vowel in these three positions. However, because the three sounds are in complementary distribution (never contrast with each other), they can be treated as allophones of the phoneme /ə/. Some linguists prefer to use the symbol /ʌ/ for the stressed sound of *but* and /ɐ/ for the sound preceding /r/, leaving /ə/ only for the unstressed vowel of *sofa*. For those speakers of English who regularly omit /r/ except before a vowel, the “dropped” /r/ is often replaced by /ə/, especially after high and mid vowels. Thus, *fear* may be /fiə/ and *four* may be /foə/.

†If *cod* and *cawed* have the same vowel in your speech, you probably have /ɔ/ in both; you may have /a/ in *balm* but /ɔ/ in *bomb*. If you think you have the same vowel in all of these words, /a/ and /ɔ/ are probably not separate phonemes for you. You may—or may not—make the distinction by using [a] in *aah* (*that’s good!*) and [ɔ] in *aw* (*shucks!*).

‡A following /r/ drastically affects the pronunciation of vowels in most dialects of English. In general, there is a tendency for the distinction between the lax and tense vowels and between /æ/ and /a/ to be lost. For example, most speakers today probably do not distinguish *mourning* and *morning* by having /o/ in the former and /ɔ/ in the latter. Similarly, some speakers have /e/ in *Mary*, /ɛ/ in *merry*, and /æ/ in *marry*; others make only two distinctions here, and still others have /e/ in all three words. In some dialects, both *poor* and *pore* have /ɔ/; in others, *poor* has /ɔ/ or /u/ and *pore* has /ɔ/. In some dialects, nearly all vowels are followed by a short /a/ before an /r/; other speakers use such a glide only to distinguish pairs of words like *mare* /mer/ and *mayor* /meər/; and still other speakers do not use a schwa here at all.

Diphthongs In addition to so-called pure vowels, in which the tongue remains in one position during articulation, English has several **diphthongs**, or **glides**. A diphthong is a vowel-like sound produced while the tongue is moving from one vowel position toward another. The two symbols used to transcribe a diphthong represent the approximate starting and ending points of that diphthong. For example, in the word *toy*, the tongue moves from the approximate position of /o/ or /ɔ/ toward the direction of /ɪ/ or /i/.

Phonetically, most English vowels, especially the tense vowels /i e o u/, are often diphthongized in actual speech. This is particularly noticeable in the final position, where the vowel in a word such as *go* may clearly move from the /o/ position toward the /u/ position. Nevertheless, because these diphthongized versions never contrast with nondiphthongized versions, we can treat them simply as allophones of the “pure” vowels, which are produced with a fixed vocal tract shape and tongue position. Pure vowels are the opposite of diphthongs.

Of the three diphthongs that are phonemic in English, two, /aɪ/ and /ɔɪ/, are fronting diphthongs; that is, they move from a low or back position toward the high front position. One, /aʊ/, is a backing diphthong, that is, it moves from the low central position towards the high back position. The arrows in Figure 2.3 show the directions in which the diphthongs move.

Unstressed Vowels In most dialects of English, unstressed vowels are regularly reduced to /ɪ/ or /ə/, with the distribution of these two varying widely from dialect to dialect and even from speaker to speaker. The vowel /ɪ/ is especially common in inflectional endings (as in *patches*, *wishes*, *judges*), but it is by no means universal even here.

PROSODY

The term **prosody** refers to the stress patterns of a language. In English, stress is distinctive at the level of the individual word and at the level of phrases, clauses, and entire sentences. For our purposes, we need to be concerned only with stress in

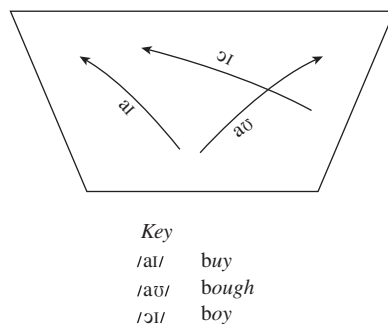


FIGURE 2.3 Diphthong Phonemes of Present-Day American English

individual words. Here English distinguishes three levels of stress—primary, secondary, and reduced (or unstressed). To indicate stress of stress distinctions, an acute accent (´) represents primary stress (*Ápril, underánd*), a grave accent (`) represents secondary stress (*álphabèt, bóokcàse*), and no marking at all represents reduced stress (*lánguage*). In this book, we usually distinguish only primary and reduced stress.

ESSENTIAL CONCEPTS

The most important information about phonology is as follows:

- Speech is produced by articulators (the moveable parts of the speech tract) and points of articulation (the nonmoveable parts of the speech tract with which an articulator comes in contact or near contact).
- A phoneme is the smallest speech unit that can distinguish one word from another. An allophone is any of the nondistinctive variants of a phoneme.
- The consonant phonemes in PDE are distinguished by the point of articulation (the part of the oral cavity that the tongue makes contact with) and manner of articulation (how breath is controlled). These include stops, fricatives, affricates, and resonants. They are also distinguished on the basis of whether they are voiced or voiceless.
- The vowel phonemes in PDE are distinguished by the height of the tongue (high, mid, or low) and the location in the mouth of the highest part of the tongue (front, central, or back). If the tongue is relatively tense, the vowel is tense; if the tongue is relatively relaxed, the vowel is lax.

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Writing

If speaking makes us human,
writing makes us civilized.

—JOHN ALGEO

People were speaking for hundreds of thousands—perhaps millions—of years before writing was invented. Human beings speak before they learn to read and write; even today, many people never learn to read and write, and there are still languages with no writing systems. People learn how to speak without formal training, but most have to be taught how to read and write. Further, all forms of writing are ultimately based on spoken language. In other words, writing is a derivative of speech; it is a secondary form of language, a sort of dehydrated speech. Speech is, quite properly, the focus of most linguistic study.

Nonetheless, we should not underestimate the importance of writing. Civilization as we know it depends on the written word. We study speech by means of writing, and we use writing to represent the phonetics of speech. Most of our information about language, and certainly all of our information about the history of languages, is in writing.

Most of us know many words we can read, understand, and even write but that we would hesitate to pronounce. We also use words and grammatical constructions in writing that we rarely if ever say out loud. Who uses the subordinating conjunction *ergo* in a casual conversation? What does a paragraph sound like? Many people read and some even write fluently in languages that they cannot speak. Skilled readers (especially scholars and researchers) take in and mentally process written texts at a rate so rapid that the words cannot possibly have been silently articulated and “listened to”; clearly, for such readers, writing has become a form of language virtually independent of speech. There is even physiological evidence that writing is more than simply a secondary form of

speech: Some brain-damaged people are competent in reading and writing but are unable to speak or understand speech.

THE EFFECTS OF WRITING ON SPEECH

Human beings have been speaking, we presume, as long as they have existed. We have been writing, as far as we can document, only about 5,000 years. In that time, writing has had numerous effects on spoken language. For most of that time, the more literate a culture was, the greater these effects were. Because of the prestige, the conservatism, and the permanency of writing, it has tended to act as a brake on changes in the spoken language. The ability to read and write, however, is no longer limited to a minority of well-to-do and privileged people. The kinds of people who write and the things they write about have expanded far beyond the scholarly and clerical realms of centuries past, even beyond the social letter writing and business transactions of recent centuries. People write for myriad purposes—scholarship, of course, but also marketing and advertising, conveying news, business transactions, casual communication, and so on—and writing appears on paper and in electronic formats (e.g., email, texting, blogs). Because of technology, written exchanges no longer take months, weeks, or days but can occur within seconds, and people tend to write as they speak in quick exchanges. Research about writing's effect on speech, and vice versa, in view of today's technology is in its early stages but has begun to challenge our thinking on this.

Writing tends to spread changes from one area or group of speakers to another. This is especially true of vocabulary items. Most of us can recall new words that we first encountered in a written text and only later, or perhaps never, heard spoken. Writing also preserves archaisms that have been lost in the spoken language and sometimes even revives words that have become obsolete in the spoken language. For example, through electronic communication, the word *avatar* has shifted its meaning. Until the late twentieth century, an *avatar* referred to a Hindu god who appeared on earth in a bodily form; now *avatar* refers to an electronic representation of any person.

Writing and literacy give rise to spelling pronunciations, that is, the pronunciation of words as they are spelled. These may take the form of the reinsertion of lost sounds or the insertion of unhistorical sounds. For instance, because English readers associate the letter sequence ⟨th⟩¹ with the sounds /θ/ and /ð/, words spelled with that sequence that historically were pronounced with /t/ have come to be pronounced with /θ/. Examples include the names *Katherine* and *Arthur* (compare the short forms *Art* and *Kate* that retain the /t/). The river *Thames* is pronounced /tɛmz/ in Britain, but /θɛmz/ in Connecticut because the influence of the spelling has proved stronger than earlier oral tradition. The word *often* has been pronounced historically as if the *t* didn't exist. In recent years, people have begun to pronounce it because the *t* appears in the written word.

1. When it is necessary to distinguish graphemic forms from phonological representations, angled brackets (⟨⟩) are used for the graphemes.

Conventional spellings for vocal gestures involving noises outside the English phonemic system may also lead to a literal pronunciation. Examples include the vocal gesture for disapproval or commiseration, an alveolar click. Because this sound is written *tsk-tsk*, it is occasionally pronounced /tɪsk tɪsk/. Even more familiar are the pronunciations /bər:/ for <brrr>, a spelling originally intended to represent a voiced bilabial trill, and /i:k/ for *EEK*, a spelling intended to represent a high-pitched scream. Literacy and our alphabet so permeate our culture that even our vocabulary is affected. The widespread use of acronyms and initialisms presupposes speakers are familiar with the letters with which words begin (e.g., UN, BYOB, DOS, SUV). Because space is at a premium in electronic format (e.g., texting, mobile email), written English has sprouted numerous acronyms that are heard now in speech (e.g., LOL, OMG). We even use letter shapes as analogies to describe objects: The words *I-beam*, *tee shirt* (or *T-shirt*), *V-tum*, *ell* (as a wing of a building), *S-curve*, and *V-neck* are all derived from the names of alphabetic characters.

In sum, writing has been such an integral part of English for the past thirteen hundred years or so that it is impossible to imagine what the spoken language would be like today if English had never been committed to writing. Indeed, without writing, English probably would have split up into numerous mutually unintelligible dialects long ago.

WHY WAS WRITING INVENTED?

Until fairly recent times, speech was severely limited in both time and space—once an utterance was made, it was gone forever; the preservation of its contents depended on human memory. Writing is as permanent as the materials used in producing it—quill and scroll, pen and paper, or keyboard and disk; readers can return to a written record. Furthermore, speech was much more limited in space than was writing. Until the invention of electronic recording media, speech was spatially limited to the range of the unamplified human voice. Writing, however, could be done on portable materials and carried wherever people would go.

Although it would perhaps be esthetically satisfying to think that the first writing systems were created to preserve literary works, all the evidence indicates that the first true writing was used for far more mundane purposes. Although “creative” literature arose long before the invention of writing, it was orally transmitted with devices such as alliteration, repetition, and regular meter being used as aids to memory. Writing was invented for the same practical purpose to which, in terms of sheer bulk, most writing today is probably still dedicated: commercial record keeping—the number of lambs born in a season, the number of pots/barrels of oil shipped to a customer, the wages paid to laborers, the number of CDs sold, the weight on an airplane, legal agreements, bills of sale. A second important early use of writing was to preserve the exact wording of sacred texts that would otherwise be corrupted by imperfect memories and changes in the spoken language. Much writing today is used primarily for everyday communications. In an office, a conversation that used to take place in person now takes place via email.

It is doubtful that anyone has quantified the amount of writing on the Internet, some of which is also published in other media (articles online and in printed journals; newspapers online and on paper). Would it even be possible to quantify the amount of casual writing on the Internet (e.g., blogs, chats, reviews, references such as dictionaries)? For most of the history of writing, literacy has been restricted to a small elite of bookkeepers and priests; often, the two occupations were combined in one scribe. In the twenty-first century, most people can write and do so in various media and for various purposes; in fact, we find it disturbing that some countries have such low literacy rates.

TYPES OF WRITING SYSTEMS

If we can judge by the delight a child takes in its own footprints or scribbles made with any implement on any surface, human beings have always been fascinated by drawing. The urge to create pictures is revealed by the primitive drawings—early forms of graffiti—found in caves and on rocks all over the world. But pictures as such are not writing, although it is not always easy to distinguish pictures from writing. If we define writing as the use of written characters for the purpose of keeping records or transmitting ideas,² then, in many cases, we do not know whether the marks are systematic because we do not have a large enough sample. Nor do we know if the characters, or marks, were intended to communicate a message. For example, Figure 3.1 is a Native American **petroglyph** (a drawing or carving on rock) from Cottonwood Canyon, Utah. Conceivably, the dotted lines, wavy lines, spiral, and semicircle had some conventional meaning that could be interpreted by a viewer familiar with the conventions. If so, the petroglyph might be called prewriting, but not actual writing.

Pictograms and Ideograms

W 3.3

More clearly related to writing are the picture stories of American Indians. Like the modern cartoon strip without words, these **pictographs** communicate a

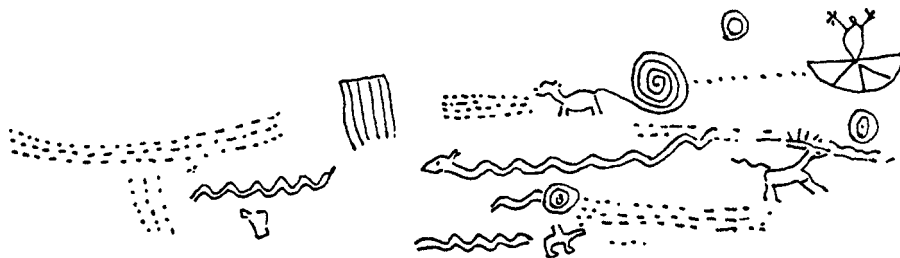


FIGURE 3.1 American Indian Petroglyph

Source: Drawing adapted from Roland Siegrist, ed., *Prehistoric Petroglyphs and Pictographs in Utah* (Salt Lake City: Utah State Historical Society, 1972), p. 62. Reproduced with permission of the Utah State Historical Society.

2. *OED Online*. www.oed.com Accessed March 13, 2010.

message. Further, they often include conventional symbols. Figure 3.2 tells the story of little crow's business trip to trade shells. (Start reading at center.)

Although such pictographs do communicate a message, they are not a direct sequential representation of speech. They may include **ideographic** symbols that

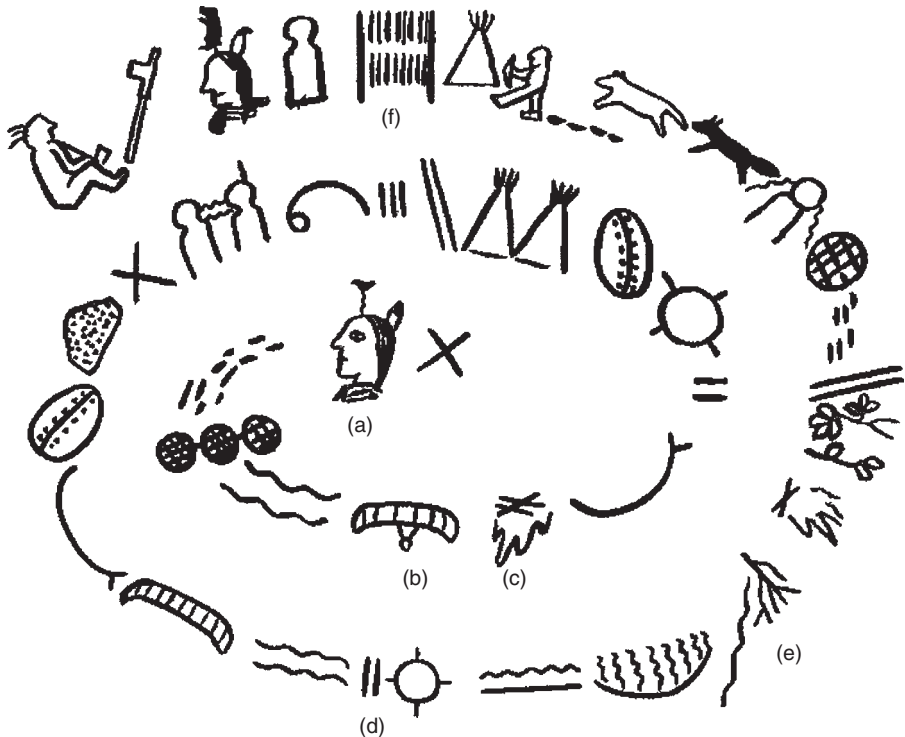


FIGURE 3.2 A Pictographic Story

An Indian trader by the name of Little Crow (a) went on a journey. He traveled for three nights until he came to a river. The reason he traveled at night was because he was in enemy country. At the river he secured a canoe (b), camped there that evening (c), and at sunrise the next morning started down the river and traveled two suns (days).


He now traveled in daytime, because he was in friendly territory. He was an Indian trader in shells, which were used for wampum and ornamentation. At the end of the fifth day's travel, he reached the village where the shells were obtainable. He rested there for three days in conference with the chief, and as a result he traded for a large amount of shells. At sunrise on the fourth day he loaded his canoe and started down the river and traveled for two days (d).

On the second day a storm came up, with rain and lightning. He saw the lightning strike a tree and set it afire (e). As a result of the storm he became sick, so he searched and found some medicinal plants and waited there a couple of days until he felt better.

He then traveled at night and hid away in the daytime. He knew that the country abounded in game because he heard foxes and wolves. He finally reached home, though some days late. Twenty braves (f) of the tribe came out to meet him, including their chief, Standing Bear. Their hearts were glad as a result of his safe and successful trip, and they all had a very sociable time.







Source: Copyright © 2003 The Inquiry Net, www.inquiry.net

represent ideas or concepts but do not stand for specific sounds, syllables, or words. In Figure 3.2, the drawing at (f) means that twenty braves were there, but it does not represent a unique series of sounds or words. It could be translated as “twenty braves came out to meet him” or “the first thing he saw was twenty braves.”

To take a more familiar example, the picture  is an **ideogram**; it does not represent a sequence of sounds, but rather a concept that can be expressed in English in various ways: “go that way” or “in this direction” or “over there” or, combined with words or other ideograms, such notions as “the stairs are to the right” or “pick up your luggage at that place.” Ideograms are not necessarily pictures of objects; the arithmetic “minus sign” is an ideogram that depicts not an object but a concept that can be translated as “minus” or “subtract the following from the preceding” or “negative.”

Logograms






W 3.4

Ideograms are not writing, but they are the ancestors of writing. If a particular ideogram is always translated by the same spoken word, it can come to stand for that word and that word alone. At this point, **logograms**, or symbols representing a single word, have been invented, and true writing has begun. Indeed, an entire writing system may be based on the logographic principle. This is the case with Chinese, in which each character stands for a word or part of a compound word. In their purest forms, logographic symbols have no relationship to individual sounds, but only to entire words. For example, the Chinese character  stands for a verb meaning “to hang, to suspend”; it is pronounced roughly as /diau/ in Standard (Mandarin) Chinese, but no particular part of the character represents /d/ or /i/ or /a/ or /u/. By itself, the top part of the character, , is pronounced /kou/, and the bottom part, , is pronounced /jin/. The character  is pronounced in exactly the same way as , but  means “to fish with a hook and line.” Like all writing systems actually used for natural languages, (languages used for everyday communication whose rules evolve organically), Chinese is less than totally pure; many characters contain both ideographic and phonetic components. Still, the Chinese system is basically logographic in that each character stands for an entire word or morpheme, and one cannot determine the pronunciation of an unfamiliar character from its components.





The distinction between ideograms and logograms is somewhat arbitrary. If, within a given language, a symbol is always interpreted as representing one word and one word alone, it is a logogram for that language. However, if it has the same meaning but is represented by different words in other languages, it is, strictly speaking, an ideogram. An example would be the symbol &, which stands only for the word *and* in English, but for *agus* in Irish, *et* in French, *och* in Swedish, *И* in Russian, *na* in Swahili, and so forth. It is a logogram within a given language, but an ideogram across languages.

Syllabaries

Logographic systems are inefficient for most languages because if every single word in the language is to be represented by a different symbol, an astronomical

number of complex symbols is required. Therefore, while the writing is still at the ideographic-logographic stage, scribes may begin to use symbols to represent sounds instead of concepts. They probably begin by punning on existing logograms. For example, assume that English used the logogram  to stand for the word *cell*. Noting that, in speech, the word *cell* sounds like the word *sell*, a clever scribe might decide to use  to mean *sell* as well as *cell* in writing. If the logogram for *fish* were , then *selfish* could be written  . Symbols would now represent sound sequences or syllables instead of entire words.

W 3.5,
W 3.6
and
W 3.7

When this kind of punning becomes widely used, the writing system is turning into a **syllabary**, or a system in which each symbol stands for a syllable. Over time, the sound values of symbols become predominant and their picture value less important. As scribes simplify the symbols to save time and space, the original pictures often become unrecognizable. To use our hypothetical example from English again, the logogram for *fish* might change from  to  to  to  as a syllabic writing system evolved.

The first syllabaries were developed among the Semites of the Middle East, perhaps as long as seven or eight thousand years ago, and the concept of the syllabary rapidly spread over the entire area. Although, strictly speaking, a syllabary represents vowel differences as well as consonant differences among syllables, most of the Semitic syllabaries indicated only consonants. That is, while /ba/, /ma/, and /ka/ were represented by distinct symbols, /ba/, /be/, and /bi/ were all written the same way.

For languages with very simple syllable structures, such as Japanese or Chinese, a syllabary provides an efficient writing system because relatively few symbols are needed to represent every possible syllable in the language. Modern Japanese has two syllabaries, the *katakana* and the *hiragana*. Each of these two syllabaries consists of only forty-six basic signs, plus a few diacritical marks. Although the syllabaries are completely adequate for writing anything in Japanese, the prestige of Chinese logograms is so great that contemporary Japanese continues to use a mixture of Chinese characters, called *kanji*, and *kana* syllabic signs—illustrating how cultural factors may outweigh logic and efficiency in determining the written form of a language.

Words from Mistakes

New words can originate in many ways. One entertaining kind of origin is simple misreading due to confusion of similar letter forms. For example, the English word *gravy* comes from Old French *grané*; the letters *n* and *v* (*u*) looked much alike in medieval handwriting. The word *sneeze* is apparently the result of misreading an *f* for an *s*; its Old English ancestor was *fneosan* (*f* and *s* were formed in much the same way in Old English times). In some instances, both the correct and the erroneous form have with differentiation of meaning. Hence we have both the original Greek form *acme* and the misread form *acne*. *Acme*, meaning “point”, became *acne*, so-called for the “points” that formed on the face.

Alphabets

W 3.6,
W 3.8
and
W 3.9

The final step in the phonemicization of writing is the **alphabet**, in which each symbol represents a separate phoneme, not an entire syllable. So far as we know, the alphabet has been invented only once. The Greeks borrowed the Semitic syllabary and probably over a fairly long time, began using unneeded characters to represent vowels separately from consonants. Once there were separate characters for vowels, the originally syllabic characters could always be used for consonants alone, and the alphabet had been invented.

The precise form of the Greek letters, or **graphemes**, changed somewhat over time, and the Romans introduced still further changes when they borrowed the Greek alphabet to write Latin, partly because the sound system of Latin differed in a number of important ways from that of Greek. The Romans did not adopt the Greek letters Θ, Ξ, Φ, Ψ, or Ω at all. They modified the most common forms or orientations of Greek Γ, Δ, Λ, Σ to C, D, L, and S, respectively, and then added a tail to C to form G. The archaic Greek letter F had represented /w/, but the Romans used it for /f/ instead. In Greek, H is a vowel symbol, but it became a consonant symbol in Latin. The grapheme P represents /r/ in Greek, but because the Romans used P for /p/, they had to modify it to R to represent /r/. The Romans adopted the obsolete Greek character Q to represent /k/ before /w/, as in Latin *quo*. Because Latin used three symbols, C, Q, and K (though K was rarely used) to represent /k/, the Latin alphabet almost from the beginning violated the principle of an ideal alphabet, a one-to-one correspondence between phoneme and grapheme.

Primarily through the spread of Christianity from Rome, the Latin version of the alphabet was eventually adopted in all of Western Europe. Because Russia was Christianized by the Eastern Church, whose official language was Greek, its alphabet (the Cyrillic alphabet) was borrowed independently from Greek; in many ways, it is closer to the classical Greek alphabet than the Latin alphabet is. For example, its forms Γ, Д, Л, Н, П, Ф, and Х for /g, d, l, n, p, r, f, x/, respectively, are similar to their Greek originals. However, the Cyrillic alphabet uses В for /v/, and Б, a modified form of В, for /b/. С represents /s/, and У represents /u/. З, a modified form of Greek Ζ, is used for /z/. Because Russian is much richer in fricatives and affricates than Greek, new symbols were devised to represent them: Ж, Ц, Ч, Ш, Щ stand for /ž, ts, č, š, šč/, respectively. The Cyrillic characters И, Ъ, Ы, Ю, Я represent the vowels or diphthongs /i, y, ε, ju, ja/, respectively. Finally, Russian also uses two graphemes as diacritics; they represent no sound of their own, but indicate that a preceding consonant is palatalized (Ь) or not palatalized (Ъ). To palatalize a consonant means to move the tongue toward the hard plate or alveolar ridge while speaking it.

English has had two different alphabets. Before the Christianization of England, the little writing that was done in English was in an alphabet called the **futhorc** or **runic alphabet**. The futhorc was originally developed by Germanic tribes on the Continent and probably was based on Etruscan or early Italic versions of the Greek alphabet. Its association with magic is suggested by its name, the runic alphabet, and the term used to designate a character or letter,

A Poor Devil

Slips of the tongue and pen have always been a part of natural language, but perhaps only medieval monks would invent a patron demon for them. Titivillus, as he was named, collected fragments of mispronounced, mumbled, or skipped words in the divine services. He put them all into a sack and carried them to his master in hell, where they were registered against the offender.

Later Titivillus's jurisdiction was extended to orthographic and printing errors. He never lacked for material to put in his sack. For instance, when Pope Sixtus V (1585–1590) authorized the printing of a new edition of the Vulgate Bible, he decided to ensure against printing errors by automatically excommunicating ahead of time any printer who altered the text in any way. Furthermore, he himself proofread every page as it came off the press. Nonetheless, the final text was so full of errors that the Pope finally had to recall every copy for destruction.

Titivillus was well enough known, both in England and on the Continent, to appear as a character in medieval Biblical plays and other literature. Hence his introduction in *Myroure of Oure Ladye*, an anonymous fifteenth-century devotional treatise:

I am a poure dyuel, and my name ys Tytyuyllus ... I muste eche day ... brynge my master a thousande pokes full of faylynges, and of neglygences in syllables and wordes.

(I am a poor devil, and my name is Titivillus ... I must each day ... bring my master a thousand bags full of mistakes, and of negligent errors in syllables and words.)

MYROURE OF OURE LADYE I.xx.54

rune. In Old English, the word *rūn* meant not only “runic character” but also “mystery, secret.” The related verb, *rūnian*, meant “to whisper, talk secrets, conspire.” (See Chapter 5 for further details about the Old English alphabet.)

As a by-product of the Christianization of England in the sixth and seventh centuries, the English received the Latin alphabet. Although it has been modified somewhat over the centuries, the alphabet we use today is essentially the one adopted in the late sixth century. However, its fit to the sound system is much less accurate than at the time of its adoption because many phonological changes have not been reflected in the writing system.

An ideal alphabet contains one symbol for each phoneme and represents each phoneme by one and only one symbol. In practice, few alphabets are perfect. Even if they are a good match to the sound system when they are first adopted (not always the case), subsequent sound changes destroy the fit. Writing is always much more conservative than speech, and, as the years go by, the fit between phoneme and grapheme becomes worse and worse unless there is regular spelling and even alphabet reform. Such reform has taken place in a number of countries: In recent years, German and Irish have undergone spelling changes. Regular reform is even required by law in Finland. Major reform in the Soviet Union occurred after the 1917 revolution. In 1928, Turkey under Kemal Atatürk switched from the Arabic writing system to the Latin alphabet. However, as the history of Russian and Turkish suggests, resistance to reform is usually so

strong that it takes a cataclysmic event like a revolution to achieve it. In general, reform is easier in smaller countries that do not use a language of worldwide distribution and prestige. Even under these circumstances, resistance to reform will be fierce if the country has a long tradition of literacy and literature. Icelandic, for instance, is spoken by fewer than a quarter of a million people, a large proportion of whom are bilingual or trilingual in other European languages. However, pride in their long native literary traditions has to date prevented any significant spelling reforms. A person reasonably skilled in Old Norse (c. A.D. 900–c. A.D. 1350) can read modern Icelandic without much difficulty even though the spoken language has undergone vast changes since Old Norse times and even though the present match between grapheme and phoneme is poor indeed. Clearly, people become as emotionally entangled with their writing systems as with their spoken languages.

ESSENTIAL CONCEPTS

The most important information about writing is as follows:

- Writing has numerous effects on the spoken language; historically, it has served to put a brake on changes in the spoken language. With recent technology, however, writing is changing rapidly, undergoing changes that are not reflected in the spoken language.
- Writing was invented to provide a written, portable record of texts. Until the relatively recent invention of electronic media, speech was spatially limited to the range of the unamplified human voice.
- There are four types of writing systems: pictograms and ideograms, logograms, syllabaries, and alphabets.
- The effect of writing on speech, and vice versa, in light of new electronic media is not really known yet; it is the subject of current research.

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