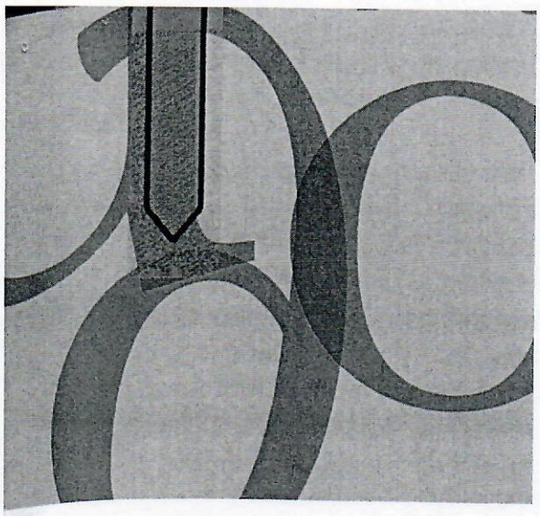


2

Morphology: The Words of Language

By words the mind is winged.

ARISTOPHANES (450 BCE–388 BCE)

A powerful agent is the right word. Whenever we come upon one of those intensely right words . . . the resulting effect is physical as well as spiritual, and electrically prompt.

MARK TWAIN

Every speaker of every language knows tens of thousands of words. Unabridged dictionaries of English contain nearly 500,000 entries, but most speakers don't know all of these words. It has been estimated that a child of six knows as many as 13,000 words and the average high school graduate about 60,000. A college graduate presumably knows many more than that, but whatever our level of education, we learn new words throughout our lives, such as the many words in this book that you will learn for the first time.

Words are an important part of linguistic knowledge and constitute a component of our mental grammars, but one can learn thousands of words in a language and still not know the language. Anyone who has tried to communicate in a foreign country by merely using a dictionary knows this is true. On the other hand, without words we would be unable to convey our thoughts through language or understand the thoughts of others.

Someone who doesn't know English would not know where one word begins or ends in an utterance like *Thecatsatonthemat*. We separate written words by spaces, but in the spoken language there are no pauses between most words. Without knowledge of the language, one can't tell how many words are in an utterance. Knowing a word means knowing that a particular sequence of sounds is associated with a particular meaning. A speaker of English has no difficulty in segmenting the stream of sounds into six individual words—*the*, *cat*, *sat*, *on*, *the*, and *mat*—because each of these words is listed in his or her mental dictionary, or lexicon (the Greek word for *dictionary*), that is part of a speaker's linguistic knowledge. Similarly, a speaker knows that *uncharacteristically*, which has more letters than *Thecatsatonthemat*, is nevertheless a single word.

The lack of pauses between words in speech has provided humorists with much material. The comical hosts of the show *Car Talk*, aired on National Public Radio (as reruns nowadays), close the show by reading a list of credits that includes the following cast of characters:

Copyeditor:	Adeline Moore (add a line more)
Accounts payable:	Ineeda Czech (I need a check)
Pollution control:	Maury Missions (more emissions)
Purchasing:	Lois Bidder (lowest bidder)
Statistician:	Marge Innovera (margin of error)
Russian chauffeur:	Picov Andropov (pick up and drop off)
Legal firm:	Dewey, Cheetham, and Howe (Do we cheat 'em? And how!)[1]

In all these instances, you would have to have knowledge of English words to make sense of and find humor in such plays on words.

The fact that the same sound sequences (Lois Bidder—lowest bidder) can be interpreted differently shows that the relation between sound and meaning is an arbitrary pairing, as discussed in chapter 1. For example, *Un petit d'un petit* in French means 'a little one of a little one,' but to an English speaker the sounds resemble the name *Humpty Dumpty*.

When you know a word, you know its sound (pronunciation) and its meaning. Because the sound-meaning relation is arbitrary, it is possible to have words with the same sound and different meanings (*bear* and *bare*) and words with the same meaning and different sounds (*sofa* and *couch*).

Because each word is a sound-meaning unit, each word stored in our mental lexicon must be listed with its unique phonological representation, which determines its pronunciation, and with a meaning. For literate speakers, the spelling, or **orthography**, of most of the words we know is included.

Each word in your mental lexicon includes other information as well, such as whether it is a noun, a pronoun, a verb, an adjective, an adverb, a preposition, or a conjunction. That is, the mental lexicon also specifies the **grammatical category** or **syntactic class** of the word. You may not consciously

[1]"Car Talk" credits from National Public Radio.™ Dewey, Cheetham & Howe, 2006, all rights reserved.

know that a form like *love* is listed as both a verb and a noun, but as a speaker you have such knowledge, as shown by the phrases *I love you* and *You are the love of my life.* If such information were not in the mental lexicon, we would not know how to form grammatical sentences, nor would we be able to distinguish grammatical from ungrammatical sentences.

Content Words and Function Words

"... and even ... the patriotic archbishop of Canterbury found it advisable—"

"Found what?" said the Duck.

"Found it," the Mouse replied rather crossly; "of course you know what 'it' means."

"I know what 'it' means well enough, when I find a thing," said the Duck; "it's generally a frog or a worm. The question is, what did the archbishop find?"

LEWIS CARROLL, *Alice's Adventures in Wonderland*, 1865

Languages make an important distinction between two kinds of words—content words and function words. Nouns, verbs, adjectives, and adverbs are the **content words**. These words denote concepts such as objects, actions, attributes, and ideas that we can think about like *children, build, beautiful,* and *seldom.* Content words are sometimes called the **open class** words because we can and regularly do add new words to these classes, such as *Facebook* (noun), *blog* (noun, verb), *frack* (verb), *online* (adjective, adverb), and *blingy* (adjective).

Other classes of words do not have clear lexical meanings or obvious concepts associated with them, including conjunctions such as *and, or,* and *but;* prepositions such as *in* and *of;* the articles *the* and *a/an,* and pronouns such as *it.* These kinds of words are called **function words** because they specify grammatical relations and have little or no semantic content. For example, the articles indicate whether a noun is definite or indefinite—*the* boy or *a* boy. The preposition *of* indicates possession, as in "the book of yours," but this word indicates many other kinds of relations too. The *it* in *it's raining* and *the archbishop found it advisable* are further examples of words whose function is purely grammatical—they are required by the rules of syntax and we can hardly do without them.

Function words are sometimes called **closed class** words. This is because it is difficult to think of any conjunctions, prepositions, or pronouns that have recently entered the language. The small set of personal pronouns such as *I, me, mine, he, she,* and so on are part of this class. With the growth of the feminist movement, some proposals have been made for adding a genderless singular pronoun. If such a pronoun existed, it might have prevented the department head in a large university from making the incongruous statement: "We will hire the best person for the job regardless of his sex." Various proposals such as "e" have been put forward, but none are likely to gain traction because the closed classes are unreceptive to new membership. Rather, speakers prefer to recruit existing pronouns such as *they* and *their* for this job, as in "We will hire the best person for the job regardless of **their** sex." A convenient ploy used by

writers is *s/he* or *she/he* pronounced "shee-hee" when read aloud, as in *If any student wishes to leave early, s/he must obtain special permission.*

The difference between content and function words is illustrated by the following test that has circulated over the Internet:

> Count the number of F's in the following text without reading further, then check the footnote:[2]
>
> FINISHED FILES ARE THE
> RESULT OF YEARS OF SCIENTIFIC
> STUDY COMBINED WITH THE
> EXPERIENCE OF YEARS.

This little test illustrates that the brain treats content and function words (like *of*) differently. A great deal of psychological and neurological evidence supports this claim. As discussed in chapter 10, some brain-damaged patients and people with specific language impairments have greater difficulty in using, understanding, or reading function words than they do with content words. Some aphasics are unable to read function words like *in* or *which*, but can read the lexical content words *inn* and *witch*.

The two classes of words also seem to function differently in **slips of the tongue** produced by normal individuals. For example, a speaker may inadvertently switch words producing "the journal of the editor" instead of "the editor of the journal," but the switching or exchanging of function words has not been observed. There is also evidence for this distinction from language acquisition (discussed in chapter 9). In the early stages of development, children often omit function words from their speech, as in, for example, "doggie barking."

The linguistic evidence suggests that content words and function words play different roles in language. Content words bear the brunt of the meaning, whereas function words connect the content words to the larger grammatical context.

recap difference between content v.s. function words

Morphemes: The Minimal Units of Meaning

> "They gave it me," Humpty Dumpty continued, "for an un-birthday present."
>
> "I beg your pardon?" Alice said with a puzzled air.
>
> "I'm not offended," said Humpty Dumpty.
>
> "I mean, what is an un-birthday present?"
>
> "A present given when it isn't your birthday, of course."
>
> LEWIS CARROLL, *Through the Looking-Glass*, 1871

[2]Most people come up with three, which is wrong. If you came up with fewer than six, count again, and this time, pay attention to the function word *of*.

Humpty Dumpty is well aware that the prefix *un-* means 'not,' as further shown in the following pairs of words:

A	B
desirable	undesirable
likely	unlikely
inspired	uninspired
happy	unhappy
developed	undeveloped
sophisticated	unsophisticated

Thousands of English adjectives begin with *un-*. If we assume that the most basic unit of meaning is the word, what do we say about parts of words, like *un-*, which has a fixed meaning? In all the words in the B column, *un-* means the same thing—'not.' *Undesirable* means 'not desirable,' *unlikely* means 'not likely,' and so on. All the words in column B consist of at least two meaningful units: *un + desirable*, *un + likely*, *un + inspired*, and so on.

Just as *un-* occurs with the same meaning in the previous list of words, so does *phon-* in the following words. (You may not know the meaning of some of them, but you will when you finish this book.)

phone	phonology	phoneme
phonetic	phonologist	phonemic
phonetics	phonological	allophone
phonetician	telephone	euphonious
phonic	telephonic	symphony

Phon- is a minimal form in that it can't be decomposed. *Ph* doesn't mean anything; *pho*, though it may be pronounced like *foe*, has no relation in meaning to it; and *on* is not the preposition spelled *o-n*. In all the words on the list, *phon* has the identical meaning 'pertaining to sound.'

Words have internal structure that is rule-governed. *Uneaten*, *undisputed*, and *ungrammatical* are words in English, but **eatenun*, **disputedun*, and **grammaticalun* (to mean 'not eaten,' 'not disputed,' 'not grammatical') are not words because we form a negative meaning of a word by prefixing *un-*, not by suffixing it.

When Samuel Goldwyn, the pioneer moviemaker, announced, "In two words: im-possible," he was reflecting the common view that words are the basic meaningful elements of a language. We have seen that this cannot be so, because some words contain several distinct units of meaning. The linguistic term for the most elemental unit of grammatical form is **morpheme**. The word is derived from the Greek word *morphe*, meaning 'form.' If Goldwyn had taken a linguistics course, he would have said, more correctly, "In two morphemes: im-possible."

The study of the internal structure of words, and of the rules by which words are formed, is **morphology**. This word itself consists of two morphemes, *morph + ology*. The suffix *-ology* means 'branch of knowledge,' so the meaning of *morphology* is 'the branch of knowledge concerning (word) forms.' Morphology also refers to our internal grammatical knowledge concerning the words of our language, and like most linguistic knowledge we are not consciously aware of it.

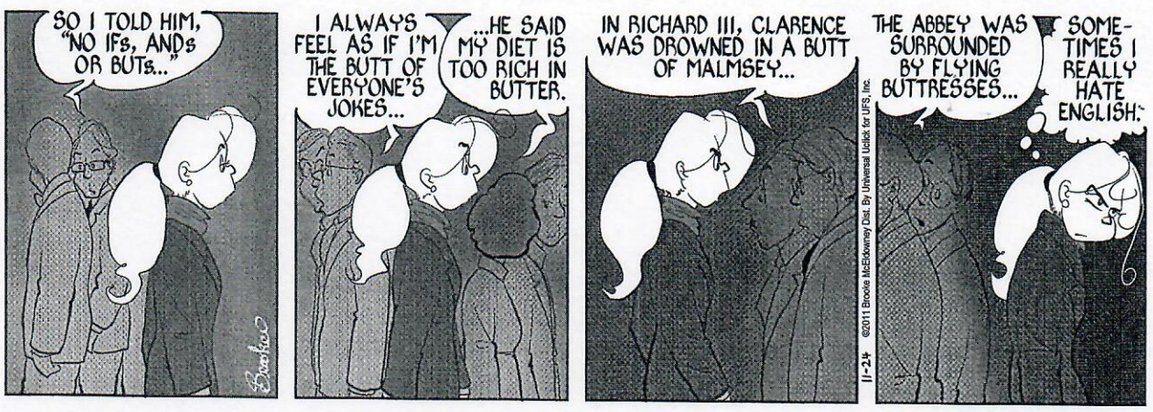
A single word may be composed of one or more morphemes:

One morpheme	boy
	desire
	meditate
two morphemes	boy + ish
	desire + able
	meditate + tion
three morphemes	boy + ish + ness
	desire + able + ity
four morphemes	gentle + man + li + ness
	un + desire + able + ity
more than four	un + gentle + man + li + ness
	anti + dis + establish + ment + ari + an + ism

A morpheme may be represented by a single sound, such as the morpheme *a-* meaning 'without' as in *amoral* and *asexual*, or by a single syllable, such as *child* and *ish* in *child + ish*. A morpheme may also consist of more than one syllable: by two syllables, as in *camel*, *lady*, and *water*; by three syllables, as in *Hackensack* and *crocodile*; or by four or more syllables, as in *hallucinate*, *apothecary*, *helicopter*, and *accelerate*.

A morpheme—the minimal linguistic unit—is thus an arbitrary union of a sound and a meaning (or grammatical function) that cannot be further analyzed. So solidly welded is this union in the mind that it is impossible for you to hear or read a word you know and not be aware of its meaning, even if you try! These two sides of the same coin are often called a **linguistic sign**, not to be confused with the *sign* of sign languages. Every word in every language is composed of one or more morphemes.

The Discreteness of Morphemes



9 CHICKWEED LANE © 2011 Brooke McEldowney. Reprinted by permission of Universal Uclick for UFS. All rights reserved.

Internet bloggers love to point out "inconsistencies" in the English language. They observe that while singers sing and flingers fling, it is not the case that fingers "fing." However, English speakers know that *finger* is a single morpheme, or a **monomorphemic word**. The final *-er* syllable in *finger* is not a

separate morpheme because a finger is not "something that fings." Similarly *butter* when not referring to goat-like behavior is monomorphemic food stuff, and *buttress*, to be sure, is neither a feminine form of *butt* nor has anything to do with locks of hair.

The meaning of a morpheme must be constant. The agentive morpheme *-er* means 'one who does' in words like *singer, painter, lover,* and *worker,* but the same sounds represent the comparative morpheme, meaning 'more,' in *nicer, prettier,* and *taller.* Thus, two different morphemes may be pronounced identically. The identical form represents two morphemes because of the different meanings. The same sounds may occur in another word and not represent a separate morpheme at all, as in *finger.*

examples relating to suffix 'er'

Conversely, the two morphemes *-er* and *-ster* have the same meaning, but different forms. Both *singer* and *songster* mean 'one who sings.' And like *-er, -ster* is not a morpheme in *monster* because a monster is not something that "mons" or someone that "is mon" the way *youngster* is someone who is young. All of this follows from the concept of the morpheme as a *sound* plus a *meaning* unit.

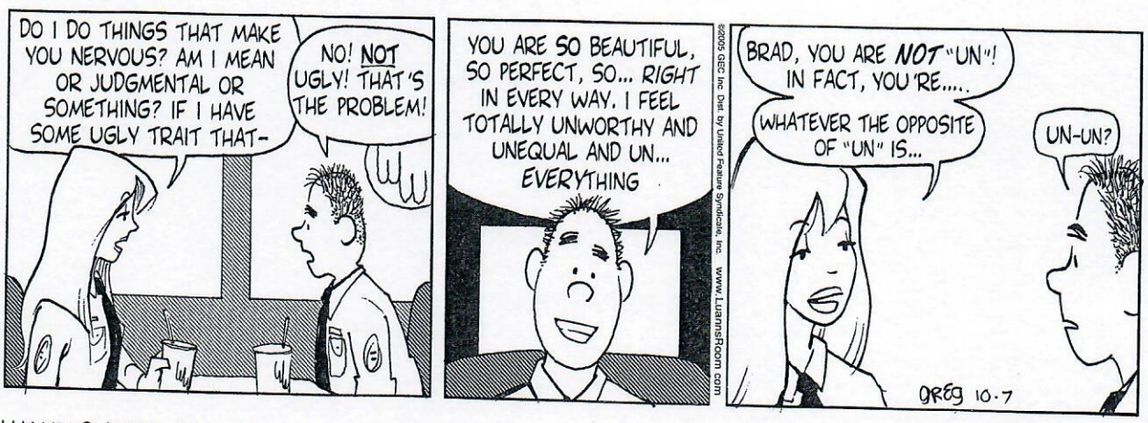
The decomposition of words into morphemes illustrates one of the fundamental properties of human language—discreteness—a property that sets it apart from the animal communication systems discussed in chapter 1. In all languages, sound units combine to form morphemes, morphemes combine to form words, and words combine to form larger units—phrases and sentences.

another aspect ⓓ of lang. creativity

Discreteness is an important part of linguistic creativity. We can combine morphemes in novel ways to create new words whose meaning will be apparent to other speakers of the language. If you know that "to write" to a DVD means to put information on it, you automatically understand that a *writable* DVD is one that can take information; a *rewritable* DVD is one where the original information can be written over; and an *unrewritable* DVD is one that does not allow the user to write over the original information. You know the meanings of all these words by virtue of your knowledge of the discrete morphemes *write, re-, -able,* and *un-,* and the rules for their combination.

example for creating new words morphologically

✓Bound and Free Morphemes



Our morphological knowledge has two components: knowledge of the individual morphemes and knowledge of the rules that combine them. One of the things we know about particular morphemes is whether they can stand alone or whether they must be attached to a base morpheme. Some morphemes like *boy, desire, gentle,* and *man* may constitute words by themselves. These are **free morphemes**. Other morphemes like *-ish, -ness, -ly, pre-, trans-,* and *un-* are never words by themselves but are always parts of words. These **affixes** are **bound morphemes** and they may attach at the beginning, the end, in the middle, or both at the beginning and end of a word. The humor in the cartoon is Brad's stumbling over the bound morpheme *un-* in a questionable attempt to free it.

Prefixes and Suffixes

We know whether an affix precedes or follows other morphemes, for example that *un-, pre-* (*premeditate, prejudge*), and *bi-* (*bipolar, bisexual*) are prefixes. They occur before other morphemes. Some morphemes occur only as **suffixes**, following other morphemes. English examples of suffix morphemes are *-ing* (*sleeping, eating, running, climbing*), *-er* (*singer, performer, reader*), *-ist* (*typist, pianist, novelist, linguist*), and *-ly* (*manly, sickly, friendly*), to mention only a few.

Many languages have prefixes and suffixes, but languages may differ in how they deploy these morphemes. A morpheme that is a prefix in one language may be a suffix in another and vice versa. In English the plural morphemes *-s* and *-es* are suffixes (*boy*s, *lass*es). In Isthmus Zapotec, spoken in Mexico, the plural morpheme *ka-* is a prefix:

zigi	'chin'	kazigi	'chins'
zike	'shoulder'	kazike	'shoulders'
diaga	'ear'	kadiaga	'ears'

Languages may also differ in what meanings they express through affixation. In English we do not add an affix to derive a noun from a verb. We have the verb *dance* as in "I like to dance," and we have the noun *dance* as in "There's a dance or two in the old dame yet." The form is the same in both cases. In Turkish, you derive a noun from a verb with the suffix *-ak*, as in the following examples:

dur	'to stop'	durak	'stopping place'
bat	'to sink'	batak	'sinking place' or 'marsh/swamp'

To express reciprocal action in English we use the phrase *each other*, as in *understand each other, love each other.* In Turkish a morpheme is added to the verb:

anla	'understand'	anlash	'understand each other'
sev	'love'	sevish	'love each other'

The reciprocal suffix in these examples is pronounced *sh* after a vowel and *ish* after a consonant. This is similar to the process in English in which we use *a* as the indefinite article morpheme before a noun beginning with a consonant, as in *a dog*, and *an* before a noun beginning with a vowel, as in *an apple.* The same morpheme may have more than one slightly different form (see exercise 6, for example). We will discuss the various pronunciations of morphemes in more detail in chapter 6.

In Piro, an Arawakan language spoken in Peru, a single morpheme, *-kaka*, can be added to a verb to express the meaning 'cause to':

cokoruha	'to harpoon'	cokoruhakaka	'cause to harpoon'
salwa	'to visit'	salwakaka	'cause to visit'

In Karuk, a Native American language spoken in the Pacific Northwest, adding *-ak* to a noun forms the locative adverbial meaning 'in.'

ikrivaam	'house'	ikrivaamak	'in a house'

It is accidental that both Turkish and Karuk have a suffix *-ak*. Despite the similarity in *form*, the two meanings are different. Similarly, the reciprocal suffix *-ish* in Turkish is similar in form to the English suffix *-ish* as in *boyish*.

Similarity in meaning may give rise to different forms. In Karuk the suffix *-ara* has the same meaning as the English *-y*, that is, 'characterized by' (*hairy* means 'characterized by hair').

aptiik	'branch'	aptikara	'branchy'

These examples illustrate again the arbitrary nature of the linguistic sign, that is, of the sound-meaning relationship, as well as the distinction between bound and free morphemes.

Infixes

Some languages also have **infixes**, morphemes that are inserted into other morphemes. Bontoc, spoken in the Philippines, is such a language, as illustrated by the following:

Nouns/Adjectives		Verbs	
fikas	'strong'	fumikas	'to be strong'
kilad	'red'	kumilad	'to be red'
fusul	'enemy'	fumusul	'to be an enemy'

In this language, the infix *-um-* is inserted after the first consonant of the noun or adjective. Thus, a speaker of Bontoc who knows that *pusi* means 'poor' would understand the meaning of *pumusi*, 'to be poor,' on hearing the word for the first time, just as an English speaker who learns the verb *sneet* would know that *sneeter* is 'one who sneets.' A Bontoc speaker who knows that *ngumitad* means 'to be dark' would know that the adjective 'dark' must be *ngitad*.

Oddly enough, the only infixes in English are full-word obscenities, usually inserted into adjectives or adverbs. The most common infix in America is the word *fuckin'* and all the euphemisms for it, such as *friggin*, *freakin*, *flippin*, and *fuggin*, as in *ri-fuckin-diculous* or *Kalama-flippin-zoo*, based on the city in Michigan. In Britain, a common infix is *bloody*, an obscene term in British English, and its euphemisms, such as *bloomin'*. In the movie and stage musical *My Fair Lady*, the word *abso-bloomin-lutely* occurs in one of the songs sung by Eliza Doolittle.

Circumfixes

Some languages have **circumfixes**, morphemes that are attached to a base morpheme both initially and finally. These are sometimes called **discontinuous morphemes**. In Chickasaw, a Muskogean language spoken in Oklahoma, the negative is formed by surrounding the affirmative form with both a preceding

ik- and a following *-o* working together as a single negative morpheme. The final vowel of the affirmative is dropped before the negative part *-o* is added. Examples of this circumfixing are:

Affirmative		Negative	
chokma	'he is good'	ik + chokm + o	'he isn't good'
lakna	'it is yellow'	ik + lakn + o	'it isn't yellow'
palli	'it is hot'	ik + pall + o	'it isn't hot'
tiwwi	'he opens (it)'	ik + tiww + o	'he doesn't open (it)'

An example of a more familiar circumfixing language is German. The past participle of regular verbs is formed by tacking on *ge-* to the beginning and *-t* to the end of the verb root. This circumfix added to the verb root *lieb* 'love' produces ***geliebt***, 'loved' (or 'beloved,' when used as an adjective).

Roots and Stems

Morphologically complex words consist of a morpheme **root** and one or more affixes. Some examples of English roots are *paint* in *painter*, *read* in *reread*, *ceive* in *conceive*, and *ling* in *linguist*. A root may or may not stand alone as a word (*paint* and *read* do; *ceive* and *ling* don't). In languages that have circumfixes, the root is the form around which the circumfix attaches, for example, the Chickasaw root *chokm* in *ikchokmo* ('he isn't good'). In infixing languages the root is the form into which the infix is inserted; for example, *fikas* in the Bontoc word *fumikas* ('to be strong').

Semitic languages like Hebrew and Arabic have a unique morphological system. Nouns and verbs are built on a foundation of three consonants, and one derives related words by varying the pattern of vowels and syllables. For example, the root for 'write' in Egyptian Arabic is *ktb*, from which the following words (among others) are formed by infixing vowels:

katab	'he wrote'
kaatib	'writer'
kitáab	'book'
kútub	'books'

When a root morpheme is combined with an affix, it forms a **stem**. Other affixes can be added to a stem to form a more complex stem, as shown in the following:

root	Chomsky	(proper) noun
stem	Chomsky + ite	noun + suffix
word	Chomsky + ite + s	noun + suffix + suffix
root	believe	verb
stem	believe + able	verb + suffix
word	un + believe + able	prefix + verb + suffix
root	system	noun
stem	system + atic	noun + suffix
stem	un + system + atic	prefix + noun + suffix
stem	un + system + atic + al	prefix + noun + suffix + suffix
word	un + system + atic + al + ly	prefix + noun + suffix + suffix + suffix

With the addition of each new affix, a new stem and a new word are formed. Linguists sometimes use the word **base** to mean any root or stem to which an affix is attached. In the preceding example, *system*, *systematic*, *unsystematic*, and *unsystematical* are bases.

Bound Roots

It had been a rough day, so when I walked into the party I was very chalant, despite my efforts to appear gruntled and consolate. I was furling my wieldy umbrella . . . when I saw her. . . . She was a descript person. . . . Her hair was kempt, her clothing shevelled, and she moved in a gainly way.

JACK WINTER, "How I Met My Wife" by Jack Winter from *The New Yorker*, July 25, 1994. Reprinted by permission of the Estate of Jack Winter.

Bound roots do not occur in isolation and they acquire meaning only in combination with other morphemes. For example, words of Latin origin such as *receive, conceive, perceive,* and *deceive* share a common root, *-ceive*; and the words *remit, permit, commit, submit, transmit,* and *admit* share the root *-mit*. For the original Latin speakers, the morphemes corresponding to *ceive* and *mit* had clear meanings, but for modern English speakers, Latinate morphemes such as *ceive* and *mit* have no independent meaning. Their meaning depends on the entire word in which they occur.

A similar class of words is composed of a prefix affixed to a bound root morpheme. Examples are *ungainly*, but no **gainly*; *discern*, but no **cern*; *nonplussed*, but no **plussed*; *downhearted* but no **hearted*, and others to be seen in this section's epigraph.

The morpheme *huckle*, when joined with *berry*, has the meaning of a berry that is small, round, and purplish blue; *luke* when combined with *warm* has the meaning 'somewhat.' Both these morphemes and others like them (*cran*, *boysen*) are bound morphemes that convey meaning only in combination.

Rules of Word Formation

"I never heard of 'Uglification,'" Alice ventured to say. "What is it?" The Gryphon lifted up both its paws in surprise. "Never heard of uglifying!" it exclaimed. "You know what to beautify is, I suppose?" "Yes," said Alice doubtfully: "it means—to make—prettier." "Well, then," the Gryphon went on, "if you don't know what to uglify is, you are a simpleton."

LEWIS CARROLL, *Alice's Adventures in Wonderland*, 1865

When the Mock Turtle listed the branches of Arithmetic for Alice as "Ambition, Distraction, Uglification, and Derision," Alice was very confused. She wasn't really a simpleton, since *uglification* was not a common word in English until Lewis Carroll used it. Still, most English speakers would immediately know the meaning of *uglification* even if they had never heard or used the word before

because they would know the meaning of its individual parts—the root *ugly* and the affixes *-ify* and *-cation*.

We said earlier that knowledge of morphology includes knowledge of individual morphemes, their pronunciation, and their meaning, and knowledge of the rules for combining morphemes into complex words. The Mock Turtle added *-ify* to the adjective *ugly* and formed a verb. Many verbs in English have been formed in this way: *purify*, *amplify*, *simplify*, *falsify*. The suffix *-ify* conjoined with nouns also forms verbs: *objectify*, *glorify*, *personify*. Notice that the Mock Turtle went even further: he added the suffix *-cation* to *uglify* and formed a noun, *uglification*, as in *glorification*, *simplification*, *falsification*, and *purification*. By using the **morphological rules** of English, he created a new word. The rules that he used are as follows:

example of morphological rule

Adjective + ify	→	Verb	'to make Adjective'
Verb + cation	→	Noun	'the process of making Adjective'

Derivational Morphology

Macnelly/King Features Syndicate

Bound morphemes like *-ify*, *-cation* and *-arian* are called derivational morphemes. When they are added to a base, a new word with a new meaning is derived. The addition of *-ify* to *pure*—*purify*—means 'to make pure,' and the addition of *-cation*—*purification*—means 'the process of making pure.' If we invent an adjective, *pouzy*, to describe the effect of static electricity on hair, you will immediately understand the sentences "Walking on that carpet really pouzified my hair" and "The best method of pouzification is to rub a balloon on your head." This means that we must have a list of the derivational morphemes in our mental dictionaries as well as the rules that determine how they are added to a root or stem. The form that results from the addition of a derivational morpheme is called a **derived word**.

because they ~~contrit~~ change semantic content of resulting word

Derivational morphemes have clear semantic content. In this sense they are like content words, except that they are not words. As we have seen, when a derivational morpheme is added to a base, it adds meaning. The derived word may also be of a different grammatical class than the original word, as shown by suffixes such as *-able* and *-ly*. When a verb is suffixed with *-able*, the result is an adjective, as in *desire* + *able*. When the suffix *-en* is added to an adjective, a