

An illustration of a human head profile in shades of purple and brown. A red megaphone is positioned at the mouth, with sound waves emanating from it. A green steering wheel is connected to the mouth area by a horizontal bar with two circular ends, suggesting a mechanical or controlled process of speech.

3 The Sounds of Language

I take it you already know
Of tough and bough and cough and dough?
Others may stumble but not you
On hiccough, thorough, lough and through.
Well done! And now you wish, perhaps,
To learn of less familiar traps?
Beware of heard, a dreadful word,
That looks like beard and sounds like bird.
And dead: it's said like bed, not bead—
For goodness sake don't call it "deed"!
Watch out for meat and great and threat
(They rhyme with suite and straight and debt).

T. S. Watt (1954)

In Chapter 1, we noted some of the basic features of the human vocal tract and the intricate muscle interlacing in and around the mouth that give humans the ability to produce a wide range of sounds with great speed. Yet, as they chatter away, humans do not simply produce a random selection of these sounds. Only certain sounds are selected on a regular basis as significant for communicative activity. In order to identify and describe those sounds, we have to slow down the chatter of everyday talk and focus on each individual sound segment within the stream of speech. This may seem straightforward, but it is not an easy task.

Phonetics

Fortunately, there is an already established analytic framework for the study of speech segments that has been developed and refined for over a hundred years and is known as the **International Phonetic Alphabet**, or **IPA**. In this chapter, we will look at how some of the symbols of this alphabet can be used to represent the sounds of English words and what physical aspects of the human vocal tract are involved in the production of those sounds. The full IPA chart can be found at internationalphoneticalphabet.org and on the website: www.cambridge.org/yule7

The general study of the characteristics of speech sounds is called **phonetics**. Our main interest will be in **articulatory phonetics**, which is the study of how speech sounds are made, or articulated. Other areas of study are **acoustic phonetics**, which deals with the physical properties of speech as sound waves in the air, and **auditory phonetics** (or perceptual phonetics), which deals with the perception, via the ear, of speech sounds.

Consonants

We are not generally aware of how we produce speech sounds and it takes a certain amount of concentration on what we are doing with our mouths to become capable of describing the individual sounds produced. We will begin with the consonants. When we describe the articulation of a consonant, we focus on three features: the voiced/voiceless distinction, the place of articulation and the manner of articulation.

Voiced and Voiceless Sounds

To make a consonant sound, we start with the air pushed out by the lungs up through the trachea (or windpipe) to the larynx. Inside the larynx are your **vocal folds (or vocal cords)**, which take two basic positions.

- 1 When the vocal folds are spread apart, the air from the lungs passes between them with no obstruction, producing **voiceless sounds**.
- 2 When the vocal folds are drawn together, the air from the lungs repeatedly pushes them apart as it passes through, with a vibration effect, producing **voiced sounds**.

The distinction can be felt physically if you place a fingertip gently on the top of your Adam's apple (i.e. that part of your larynx you can feel in your neck below your chin), then produce sounds such as Z-Z-Z-Z or V-V-V-V. Because these are voiced sounds, you should be able to feel some vibration. Keeping your fingertip in the same position, now make the sounds S-S-S-S or F-F-F-F. Because these are voiceless sounds, there should be no vibration. Another trick is to put a finger in each ear, not too far, and produce the voiced sounds (e.g. Z-Z-Z-Z) to hear and feel some vibration, whereas no vibration will be heard or felt if you make voiceless sounds (e.g. S-S-S-S) in the same way.

Place of Articulation

Once the air has passed through the larynx, it enters the vocal tract and comes up via the pharynx, an extended tube shape about five inches (13 centimeters) long. It is then pushed out through the mouth (the oral tract) and/or the nose (the nasal tract). As noted in Chapter 1, we typically produce speech as we are breathing out and generally find it quite difficult to do very much talking while breathing in. Most consonant sounds are produced by using the tongue and other parts of the mouth to constrict, in some way, the shape of the oral tract through which the air is passing. The terms used to describe many sounds are those that denote the place of articulation of the sound: that is, the location inside the mouth at which the constriction takes place.

What we need is a slice of head. If we crack a head right down the middle, we will be able to see those parts of the oral cavity that are crucially involved in speech production. In Figure 3.1, in addition to lips and teeth, a number of other physical features are identified. To describe the place of articulation of most consonant sounds, we can start at the front of the mouth and work back. We can also keep the voiced–voiceless distinction in mind and begin using the symbols of the IPA for specific sounds. These symbols will be enclosed within square brackets [].

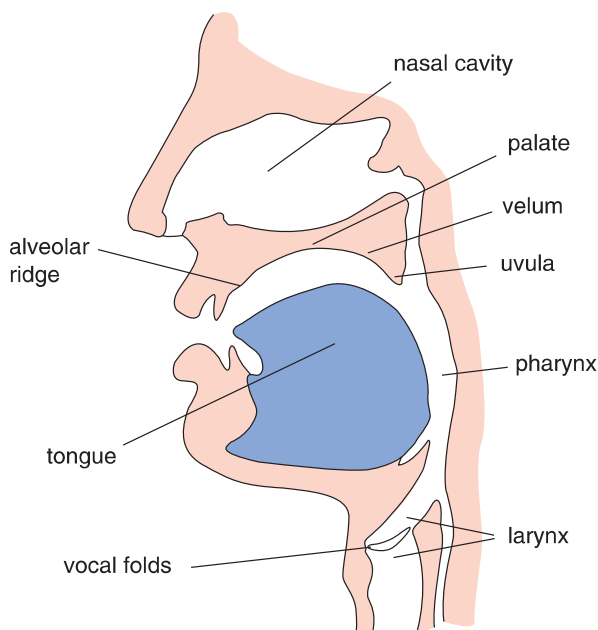


Figure 3.1 The human vocal tract

Familiar Symbols

Many of the symbols used in phonetics to describe consonant sounds will be familiar. We use [p] for the voiceless consonant in pop. We use [b] in Bob, [m] in mom and [w] in wet for the voiced versions. These are **bilabial** consonants, made with both lips.

We use [f] and [v] for the **labiodentals**, which are formed using the upper front teeth and the lower lip at the beginning of fat and vat. The voiceless [f] is at the beginning and the voiced [v] is at the end of the pronunciation of five.

Behind the upper teeth is a rough area called the alveolar ridge. We raise the front of the tongue to this area when we make the **alveolar** sounds of [t] in tot, [d] in dad, [s], [z] in size, [r], [l] in rail and [n] in nun; [t] and [s] are voiceless, [d], [z], [r], [l] and [n] are voiced.

Unfamiliar Symbols

Other symbols may be much less familiar, as in the two ways of representing the “th” sounds in English. We use [θ], called “theta,” for the voiceless version, as in thin and wrath, and at the beginning and end of the phrase three teeth. We use [ð], called “eth,” for the voiced version, as in thus, then, feather and loathe. Because the teeth are involved in creating these sounds, they are called **dentals**. If these sounds are made with the tongue tip between (= inter) the teeth, they are described as **interdentals**.

There are some special symbols used for the sounds made in the middle area of the mouth, involving the tongue and the palate (the roof of the mouth). We use [ʃ] for the “sh” sound, as in shout and shoe-brush, and [tʃ] for the “ch” sound, as in child and church. These are voiceless consonants. Their voiced counterparts are [ʒ] for the sound in treasure and rouge, and [dʒ] for the sound in judge and George. Because they are produced in an area where the alveolar ridge meets the palate, these sounds ([ʃ], [tʃ], [ʒ], [dʒ]) are sometimes described as “post-alveolar” or “palato-alveolar,” but we will just refer to them as **palatals**. Another palatal is the voiced sound [j], which often represents the sound of the written letter “y,” as in yes, yoyo and lawyer.

The sounds produced toward the back of the mouth, involving the velum, are represented by the **velars** [k], as in kick (voiceless), and [g], as in gag (voiced). Note that phonetic [g] is different from typewritten “g.” Another velar consonant is [ŋ], called “angma,” as in thong and ringing. There is no [g] sound at the end of these words.

There is one consonant sound produced without the active use of the tongue. It is the [h] sound in have and hold, and the first sound in who and whose. This sound is described as a voiceless **glottal**. The “glottis” is the space between the vocal folds in the larynx. When the glottis is open, as in the production of other voiceless sounds, and there is no manipulation of the air passing out of the mouth, the sound produced is [h].

A summary of the place of articulation for each consonant is presented in Table 3.1.



TABLE 3.1 PLACE OF ARTICULATION

Consonants	Voiceless	Voiced	Place of articulation
<i>Bilabials</i>	[p] <i>pet, tape</i>	[b], [m], [w] <i>bet, met, wet</i>	both (=bi) lips (=labia)
<i>Labiodentals</i>	[f] <i>fat, safe</i>	[v] <i>vat, save</i>	upper teeth with lower lip
<i>Dentals</i>	[θ] <i>thin, bath</i>	[ð] <i>then, bathe</i>	tongue tip behind upper teeth
<i>Alveolars</i>	[t], [s] <i>top, sit</i>	[d], [z], [n], [l], [r] <i>dog, zoo, nut, lap, rap</i>	tongue tip to alveolar ridge
<i>Palatals</i>	[ʃ], [tʃ] <i>ship, chip</i>	[ʒ], [dʒ], [j] <i>casual, gem, yet</i>	tongue and palate
<i>Velars</i>	[k] <i>cat, back</i>	[g], [ŋ] <i>gun, bang</i>	back of tongue and velum
<i>Glottals</i>	[h] <i>hat, who</i>		space between vocal folds



Transcribing Sounds (Not Letters)

It is important to remember that written English is often a poor guide to pronunciation. We have already seen that words such as *bang* and *tongue* end with [ŋ] only, and there is no [g] sound despite the spelling. As shown in Table 3.1, there are some single sounds in English that are represented in spelling by two letters. We don't pronounce an [s] sound followed by an [h] sound at the beginning of *ship*; we use the single sound [ʃ]. Some sounds can have very different spellings, as in the underlined forms in *photo* and *enough*. Both are pronounced as [f].

There are also words with letters that are not pronounced at all, as in the first and last letters of *write* and the middle two letters of *right*. Both these words are pronounced as [raɪt]. Perhaps more tricky are letters that suggest one sound, but are pronounced with another. Try pronouncing the pairs *face* versus *phase* and *race* versus *raise*. If you listen carefully, you will hear [s] at the end of the first word of each pair and [z] in the second.

Manner of Articulation

When we focus on the place of articulation for consonants, as in Table 3.1, we can see that [t] and [s] are similar in that they are both voiceless alveolars. But they are clearly different sounds. The difference is in how they are pronounced, or their manner of articulation. The [t] sound is a **stop** consonant. We produce stops by blocking the airflow very briefly, then letting it go abruptly. The sound [p] is another stop consonant. Go to a mirror and look at your lips as you say the word *pop*. That initial [p] is pronounced like a small explosion, so that in some descriptions the term “plosive” is used instead of stop for this type of articulation.

The [s] sound is a **fricative** consonant, produced by almost blocking the airflow, then letting the air escape through a narrow gap, creating friction. If you place the back of your hand against your chin while making a [sss] sound, you’ll feel the air pushing downward after squeezing past the alveolar ridge behind the upper teeth. Other terms used to describe manner of articulation are included in Table 3.2. Note that “glides” may also be described as “approximants” or “semi-vowels.”



TABLE 3.2 MANNER OF ARTICULATION

Consonants	Voiceless	Voiced	Manner of articulation
Stops	[p], [t], [k] <i><u>pet</u>, <u>talk</u></i>	[b], [d], [g] <i><u>bed</u>, <u>dog</u></i>	block airflow, let it go abruptly
Fricatives	[f], [θ], [s], [ʃ], [h] <i><u>faith</u>, <u>house</u>, <u>she</u></i>	[v], [ð], [z], [ʒ] <i><u>vase</u>, <u>the</u>, <u>rouge</u></i>	almost block airflow, let it escape through a narrow gap
Affricates	[tʃ] <i><u>cheap</u>, <u>rich</u></i>	[dʒ] <i><u>jeep</u>, <u>rage</u></i>	combine a brief stop with a fricative
Nasals		[m], [n], [ŋ] <i><u>morning</u>, <u>name</u></i>	lower the velum, let air flow out through nose
Liquids		[l], [r] <i><u>load</u>, <u>light</u>, <u>road</u>, <u>write</u></i>	raise and curl tongue, let airflow escape round the sides
Glides		[w], [j] <i><u>we</u>, <u>want</u>, <u>yes</u>, <u>you</u></i>	move tongue to or from a vowel

A Consonant Chart

Having described the most common consonant sounds used by English speakers, we can summarize the information in a chart (Table 3.3). Along the top are the terms for place of articulation, as well as -V (voiceless) and +V (voiced). On the lefthand side are the terms for manner of articulation.



TABLE 3.3 CONSONANT CHART

	Bilabial		Labiodental		Dental		Alveolar		Palatal		Velar		Glottal	
	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V	-V	+V
Stops	p	b					t	d			k	g		
Fricatives			f	v	θ	ð	s	z	ʃ	ʒ			h	
Affricates									tʃ	dʒ				
Nasals		m						n				ŋ		
Liquids							l	r						
Glides		w								j				



Glottal Stops and Flaps

Missing from Table 3.3 are two ways of pronouncing consonants that may also be heard in English, usually in casual speech situations. The **glottal stop**, represented by the symbol [ʔ], is produced when the space between the vocal folds (the glottis) is closed completely very briefly, then released. Many speakers produce a glottal stop in the middle of *Uh-uh* (meaning “no”), when they say the name *Harry Potter* as if it didn’t have the “H” or the “tt,” or in the words *bottle* or *butter* without the “tt” part.

If, however, you are someone who pronounces the word *butter* in a way that is close to “budder,” you are making a **flap**. It is represented by [ɾ]. This sound is produced by the tongue tip tapping the alveolar ridge briefly. Many American English speakers have a tendency to “flap” [t] and [d] consonants between vowels with the result that the pairs *latter/ladder*, *metal/medal* and *writer/rider* do not have distinct middle consonants. Those young students who were told about the importance of *Plato* in class and wrote it in their notes as *playdough* were clearly victims of a misinterpreted flap.

 **Vowels**

While the consonant sounds are mostly articulated via obstruction in the vocal tract, **vowel** sounds are produced with a relatively free flow of air. They are all typically voiced. To describe vowel sounds, we consider the way in which the tongue influences the shape through which the airflow must pass. To talk about a place of articulation, we think of the space inside the mouth as having a front versus a back and a high versus a low area. Thus, in the pronunciation of *heat* and *hit*, we talk about “high, front” vowels because the sound is made with the front part of the tongue in a raised position.

In contrast, the vowel sound in *hat* is produced with the tongue in a lower position and the sound in *hot* can be described as a “low, back” vowel. The next time you’re facing the bathroom mirror, try saying the words *heat*, *hit*, *hat*, *hot*. For the first two, your mouth will stay fairly closed, but for the last two, your tongue will move lower and cause your mouth to open wider. (The sounds of relaxation and pleasure typically contain lower vowels.)

We can use a vowel chart, like Table 3.4 (based on Ladefoged and Johnson, 2015), to help classify the most common vowel sounds in English, as illustrated in the words below.

 **TABLE 3.4 VOWEL CHART**

	Front	Central	Back
High	i		u
	ɪ		ʊ
Mid	e	ə	o
	ɛ	ʌ	ɔ
Low	æ	a	ɑ

Front vowels

- [i] *bead, beef, key, me*
- [ɪ] *bid, myth, women*
- [ɛ] *bed, dead, said*
- [æ] *bad, laugh, wrap*

Central vowels

- [ə] *above, oven, support*
- [ʌ] *butt, blood, dove, tough*

Back vowels

- [u] *boo, move, two, you*
- [ʊ] *book, could, put*
- [ɔ] *born, caught, fall, raw*
- [ɑ] *Bob, cot, swan*



Diphthongs

In addition to single vowel sounds, we regularly create sounds that consist of a combination of two vowel sounds, known as **diphthongs**. When we produce diphthongs, our vocal organs move from one vocalic position [a] to another [ɪ] as we produce the sound [aɪ], as in *Hi* or *Bye*. The movement in this diphthong is from low toward high front. Alternatively, we can use movement from low toward high back, combining [a] and [ʊ] to produce the sound [aʊ], which is the diphthong repeated in the traditional speech training exercise [hʌʊ nəʊ braʊn kəʊ]. In some descriptions, the movement is interpreted as involving a glide such as [j] or [w], so that the diphthongs we are representing as [aɪ] and [aʊ] may sometimes be seen as [aj] or [aw].

While the vowels [e], [a] and [o] are used as single sounds in other languages, and by speakers of different varieties of English, they are more often used as the first sounds of diphthongs in American English. Figure 3.2 provides a rough idea of how diphthongs are produced and is followed by a list of the sounds, with examples to illustrate some of the variation in the spelling of these sounds.

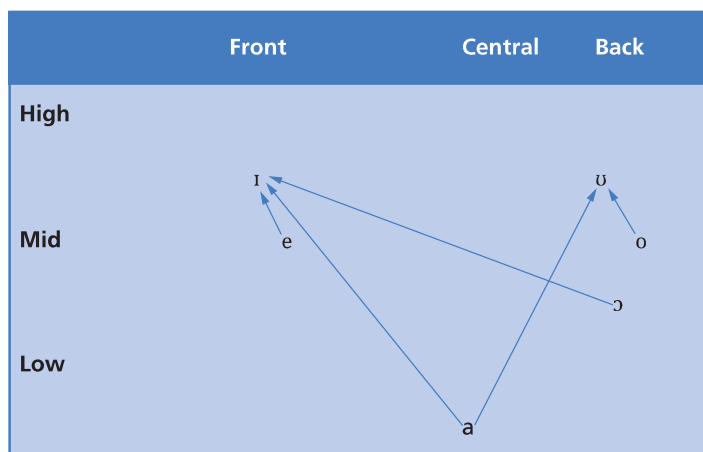


Figure 3.2 Diphthongs

- | | |
|---|---|
| [aɪ] <i>buy, eye, I, my, pie, sigh</i> | [oʊ] <i>boat, home, owe, throw, toe</i> |
| [aʊ] <i>bough, doubt, cow</i> | [ɔɪ] <i>boy, noise, royal</i> |
| [eɪ] <i>bait, eight, great, late, say</i> | |

American and British Diphthongs

The pronunciation of some diphthongs in Southern British English, following Roberts (2017), is noticeably different from North American English, as shown in Table 3.5. Note that the final [r] sound, normally pronounced in American varieties, is typically omitted in Southern British English, especially among higher social status speakers (see Table 19.1, page 297).

TABLE 3.5 DIFFERING DIPHTHONGS

	<i>poor</i>	<i>peer</i>	<i>pair</i>	<i>pour</i>	<i>pyre</i>	<i>power</i>
American	[pʊr]	[pɪr]	[peɪr]	[pɔʊr]	[paɪəɾ]	[paʊəɾ]
British	[pʊə]	[pɪə]	[peə]	[pɔə]	[paɪə]	[paʊə]

Subtle Individual Variation

Vowel sounds are notorious for varying between one variety of English and the next, often being a key element in what we recognize as different accents. It may be, for example, that you make no distinction between the vowels in the words *caught* and *cot* and use [ɑ] in both. You may also be used to seeing the vowel sound of *pet* represented as [e] in dictionaries rather than with [ɛ] as used here. For many speakers, [e] is the short vowel in words like *came* and *make*.

You may not make a significant distinction between the central vowels [ə], called “schwa,” and [ʌ], called “wedge.” If you’re trying to transcribe, just use schwa [ə]. It is the unstressed vowel (underlined) in the everyday use of words such as *afford*, *collapse*, *photograph*, *wanted*, and in those very common words *a* and *the* in casual speech. You can check the transcription in Task A on page 39 to see how often the schwa sound occurs. There are many other variations in the physical articulation of speech sounds. We didn’t even mention the **uvula** (“little grape”), hanging at the end of the velum. It is used with the back of the tongue to produce **uvular** sounds, such as the “r” sound, usually represented by [ʀ], in the French pronunciation of *rouge* and *lettre*. The more we focus on the subtle differences in each sound, the more likely we are to find ourselves describing the pronunciation of a group or an individual speaker. Such differences help us to recognize a person’s voice as soon as he or she speaks. But those differences do not explain how we understand what total strangers with unfamiliar voices are saying.

We are able to disregard variation in phonetic detail and identify each underlying sound type as part of a word with a particular meaning. Trying to understand how we do that takes us into phonology.



4 The Sound Patterns of Language

Uans appona taim uas tri berres; mamma berre, pappa berre, e beibi berre. Live inne contri nire foresta. NAISE AUS. No mugheggia. Uanna dei pappa, mamma, e beibi go bice, orie e furghetta locche di dorra.

Bai ene bai commese Goldilocchese. Sci garra natingha tu du batte meiche troble. Sci puscia olle fudde daon di maute; no live cromma. Den sci gos appesterrese enne slipse in olle beddse.

Bob Belviso, quoted in Espy (1975)

In the preceding chapter, we investigated the physical production of speech sounds in terms of the articulatory mechanisms of the human vocal tract. That investigation was possible because of some rather amazing facts about the nature of language. When we considered the human vocal tract, we didn't have to specify whether we were talking about a fairly large person, over 6 feet tall, weighing over 200 pounds, or about a rather small person, about 5 feet tall, weighing less than 100 pounds. Yet those two physically different individuals would inevitably have physically different vocal tracts, in terms of size and shape. In a sense, every individual has a physically different vocal tract. Consequently, in purely physical terms, every individual will pronounce sounds differently. There are, then, potentially millions of physically different ways of saying the simple word *me*.

 Phonology

In addition to the millions of different individual vocal tracts that belong to humans all over the world, each individual will not pronounce the word *me* in a physically identical manner on every occasion. Obvious differences occur when that individual is shouting, or has just woken from a deep sleep, or is suffering from a bad cold, or is trying to ask for a sixth martini, or any combination of these. Given this vast range of potential differences in the actual physical production of a speech sound, how do we manage consistently to recognize all those versions of *me* as the form [mi], and not [ni] or [si] or [mæ] or [mo] or something else entirely? The answer to that question is provided to a large extent by the study of phonology.

Phonology is essentially the description of the systems and patterns of speech sounds in a language. It is, in effect, based on a theory of what every adult speaker of a language unconsciously knows about the sound patterns of that language. Because of this theoretical status, phonology is concerned with the abstract or mental aspect of the sounds in language rather than with the actual physical articulation of speech sounds. If we can make sense of Bob Belviso’s comic introduction to the Goldilocks story at the start of this chapter, we must be using our phonological knowledge of sounds in English words to overcome some very unusual spellings. We can use various different ways of spelling the words in the first and second lines below, but the underlying phonological representation in the third line is constant. (See the end of the chapter for a full translation of the story.)

Uans appona taim uas tri berres
 Ones up on atam waz theree bars
 /wʌns əpən ə taim wəz θri berz/

Phonology is about the underlying design, the blueprint of each sound type, which may vary in different physical contexts. When we think of the [t] sound in the words *tar*, *star*, *writer*, *butter* and *eighth* as being “the same,” we actually mean that, in the phonology of English, they would be represented in the same way. In actual speech, these [t] sounds are all potentially very different from each other because they can be pronounced in such different ways in relation to the other sounds around them.

However, all these articulation differences in [t] sounds are less important to us than the distinction between the [t] sounds in general and the [k] sounds, or the [f] sounds, or the [b] sounds, because there are meaningful consequences related to the use of one rather than the others. These sounds must be distinct meaningful sounds, regardless of which individual vocal tract is being used to pronounce them, because they are what make the words *tar*, *car*, *far* and *bar* meaningfully distinct. Considered from this point of view, we can see that phonology is concerned with the abstract representation of sounds in our minds that enables us to recognize and interpret the meaning of words on the basis of the actual physical sounds we say and hear.



Phonemes

Each one of these meaning-distinguishing sounds in a language is described as a **phoneme**. When we learn to use alphabetic writing, we are actually using the concept of the phoneme as the single stable sound type that is represented by a single written symbol. It is in this sense that the phoneme /t/ is described as a sound type, of which all the different spoken versions of [t] are tokens. Note that slash marks are conventionally used to indicate a phoneme, /t/, an abstract segment, as opposed to the square brackets, as in [t], used for each phonetic or physically produced segment.

An essential property of a phoneme is that it functions contrastively. We know there are two phonemes /f/ and /v/ in English because they are the only basis of the contrast in meaning between the words *fat* and *vat*, or *fine* and *vine*. This contrastive property is the basic operational test for determining the phonemes in a language. If we change one sound in a word and there is a change of meaning, the sounds are distinct phonemes.

Natural Classes

The descriptive terms we used to talk about sounds in Chapter 3 can be considered “features” that distinguish each phoneme from the next. If the feature is present, we mark it with a plus sign (+) and if it is not present, we use a minus sign (–). Thus /p/ can be characterized as [–voice, +bilabial, +stop] and /k/ as [–voice, +velar, +stop]. Because these two sounds share some features, they are sometimes described as members of a **natural class** of phonemes. Phonemes that have certain features in common tend to behave phonologically in some similar ways. Table 4.1 presents an analysis of some of the distinctive features of four English phonemes. Only /p/ and /k/ have sufficient features in common to be members of a natural class. They are both voiceless stops.

In contrast, /v/ has the features [+voice, +labiodental, +fricative] and so cannot be in the same natural class of sounds as /p/ and /k/. Although other factors will be involved, this feature analysis could lead us to suspect that there may be a good phonological reason why words beginning with /pl-/ and /kl-/ are common in English, but words beginning with /vl-/ or /nl-/ are not. This type of feature analysis allows us to describe not only individual phonemes, but also the possible sequences of phonemes in a language.

TABLE 4.1 DISTINCTIVE FEATURES OF FOUR ENGLISH PHONEMES

/p/	/k/	/v/	/n/
–voice	–voice	+voice	+voice
+bilabial	+velar	+labiodental	+alveolar
+stop	+stop	+fricative	+nasal


Phones and Allophones

While the phoneme is the abstract unit or sound type (“in the mind”), there are many different versions of that sound type regularly produced in actual speech (“in the mouth”). We can describe those different versions as **phones**, which are phonetic units, in square brackets. When we have a set of phones, all of which are versions of one phoneme, we add the prefix “allo-” (meaning one of a closely related set) and call them **allophones** of that phoneme.

For example, the phoneme /t/ can be pronounced in a number of physically different ways as phones. The [t] sound in the word *tar* is normally pronounced with a stronger puff of air than is present in the [t] sound in the word *star*. If you put the back of your hand in front of your mouth as you say *tar*, then *star*, you should feel some physical evidence of **aspiration** (the puff of air) accompanying the [t] sound at the beginning of *tar* (but not in *star*). This aspirated phone is represented more precisely as [t^h].

In the last chapter, we noted that the [t] sound between vowels in a word like *writer* often becomes a flap, which we can represent as [ɾ]. That’s another phone.

We also saw that a word like *butter* can have a glottal stop as the middle consonant in the pronunciation, so the part written as “t” may be pronounced as [ʔ], which is yet another phone. In the pronunciation of a word like *eighth* (/ertθ/), the influence of the final dental [θ] sound causes a dental articulation of the [t] sound. This can be represented more precisely as [t̪]. That’s yet another phone. There are even more variations of this sound which, like [t^h], [ɾ], [ʔ] and [t̪], can be represented in a more precise way in a detailed, or narrow phonetic transcription. Because these variations are all part of one set of phones, they are referred to as allophones of the phoneme /t/, as shown in Table 4.2.

The crucial distinction between phonemes and allophones is that substituting one phoneme for another will result in a word with a different meaning (as well as a different pronunciation), but substituting allophones only results in a different (and perhaps unusual) pronunciation of the same word.

TABLE 4.2 ALLOPHONES

Phoneme	Allophones	
/t/	[t ^h]	(<i>tar</i>)
	[ɾ]	(<i>writer</i>)
	[ʔ]	(<i>butter</i>)
	[t̪]	(<i>eighth</i>)

Complementary Distribution

When we have two different pronunciations (allophones) of a sound type (phoneme), each used in different places in words, they are said to be in **complementary distribution**. That is, the [t^h] pronunciation of the phoneme /t/ with aspiration is used word-initially, as in *tar*, but never after another consonant in initial position, as in *star*. The places where /t/ occurs with aspiration, and without aspiration, never overlap and so the different pronunciations are in complementary distribution.

Minimal Pairs and Sets

Phonemic distinctions in a language can be tested via pairs and sets of words. When two words such as *fan* and *van* are identical in form except for a contrast in one phoneme, occurring in the same position, the two words are described as a **minimal pair**. When a group of words can be differentiated, each one from the others, by changing one phoneme (always in the same position in the word), they are described as a **minimal set**. Examples of contrasting pairs and sets are presented in Table 4.3.

TABLE 4.3 MINIMAL PAIRS AND SETS

Minimal pairs		Minimal sets
<i>f<u>a</u>n – v<u>a</u>n</i>	<i>b<u>a</u>th – m<u>a</u>th</i>	<i>b<u>i</u>g – p<u>i</u>g – r<u>i</u>g – f<u>i</u>g – d<u>i</u>g – w<u>i</u>g</i>
<i>b<u>a</u>t – b<u>e</u>at</i>	<i>m<u>a</u>th – m<u>y</u>th</i>	<i>f<u>a</u>t – f<u>i</u>t – f<u>e</u>et – f<u>e</u>te – f<u>o</u>ot – f<u>o</u>ught</i>
<i>s<u>i</u>t – s<u>i</u>ng</i>	<i>m<u>y</u>th – M<u>i</u>ck</i>	<i>c<u>a</u>t – c<u>a</u>n – c<u>a</u>p – c<u>a</u>b – c<u>a</u>sh – c<u>a</u>dge</i>

Phonotactics

This type of exercise with minimal sets also allows us to see that there are definite patterns in the types of sound combinations permitted in a language. The first minimal set in Table 4.3 does not include forms such as *lig* or *vig*. According to my dictionary, these are not English words, but they could be viewed as possible English words. That is, our phonological knowledge of the pattern of sounds in English words would allow us to treat these forms as acceptable if, at some future time, they came into use. They might, for example, begin as invented abbreviations (*I think Bubba is one very ignorant guy. ~ Yeah, he's a big vig!*). Until then, they represent “accidental” gaps in the vocabulary of English. It is, however, no accident that forms such as [fsg] or [rnrg] do not exist or are unlikely ever to exist. They have been formed without obeying some constraints on the sequence or position of English phonemes. Such constraints are called the **phonotactics** (i.e. permitted arrangements of sounds) in a language and are obviously part of every speaker’s phonological knowledge. Because these constraints operate on a unit that is larger than the single segment or phoneme, we have to move on to a consideration of the basic structure of that larger phonological unit called the syllable.

Syllables

A **syllable** must contain a vowel or vowel-like sound, including diphthongs. The most common type of syllable also has a consonant (C) before the vowel (V) and is represented as CV. The basic elements of the syllable are the **onset** (one or more consonants) followed by the **rhyme**. The rhyme (sometimes written as “rime”) consists of a vowel, which is treated as the **nucleus**, plus any following consonant(s), described as the **coda**.

Syllables like *me*, *to* or *no* have an onset and a nucleus, but no coda. They are known as **open syllables**. When a coda is present, as in the syllables *up*, *cup*, *at* or *hat*, they are called **closed syllables**. The basic structure of the kind of syllable found in English words like *green* (CCVC), *eggs* (VCC), *and* (VCC), *ham* (CVC), *I* (V), *do* (CV), *not* (CVC), *like* (CVC), *them* (CVC), *Sam* (CVC), *I* (V), *am* (VC) is shown in Figure 4.1.

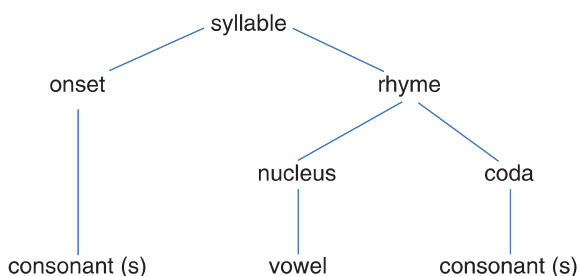


Figure 4.1 Syllable structure



Consonant Clusters

Both the onset and the coda can consist of more than a single consonant, also known as a **consonant cluster**. The combination /st/ is a consonant cluster (CC) used as onset in the word *stop*, and as coda in the word *post*. There are many CC onset combinations permitted in English phonotactics, as in *black*, *bread*, *trick*, *twin*, *flat* and *throw*. Note that liquids (/l/, /r/) and a glide (/w/) are used in second position.

English can actually have larger onset clusters, as in the words *stress* and *splat*, consisting of three initial consonants (CCC). When we study the phonotactics of these larger onset consonant clusters, we can find a fairly regular pattern. The first consonant must always be /s/, followed by one of the natural class of voiceless stops (/p/, /t/, /k/), plus a liquid or a glide (/l/, /r/, /w/). We can check if this description is adequate for the combinations in *splash*, *spring*, *strong*, *scream* and *squeeze* (/skwiz/). Does the description also cover the second syllable in the pronunciation of *exclaim*? How about /ɛk-skleɪm/? Remember that it is the onset of the syllable that is being described, not the beginning of the word. See Task D on page 53 for more syllables and clusters.

Coarticulation Effects

It is quite unusual for languages to have large consonant clusters of the type just described. In English, large clusters may be reduced in casual conversational speech, particularly if they occur in the middle of a word. This is just one example of a process that is usually discussed in terms of **coarticulation effects**.

In much of the preceding discussion, we have been describing speech sounds in syllables and words as if they are always pronounced carefully in slow motion. Speech is not normally like that. Mostly our talk is fast and spontaneous, and it requires our articulators to move from one sound to the next without stopping. The process of making one sound almost at the same time as the next sound is called coarticulation.



Assimilation

When two sound segments occur in sequence and some aspect of one segment is taken or “copied” by the other, the process is known as **assimilation**. In the physical production of speech, this regular process happens simply because it is quicker, easier and more efficient for our articulators as they do their job. Think of the word *have* /hæv/ by itself, then think of how it is pronounced in the phrase *I have to go* in everyday speech. In this phrase, as we start to say the /t/ sound in *to*, which is voiceless, we tend to produce a voiceless version of the preceding sound, resulting in what sounds more like /f/ than /v/. So, we typically say [hæftə] in this phrase and you may even see it written informally as “hafta,” showing how the assimilation from a voiced to a voiceless sound is perceived.



Nasalization

Vowels are also subject to assimilation. In isolation, we would typically pronounce [ɪ] and [æ] with no nasal quality at all. However, when we say the words *pin* and *pan* in everyday talk, the anticipation of the final nasal consonant makes it easier to go into the nasalized articulation in advance. This process is known as **nasalization** and can be represented with a small diacritic (̃), called “tilde,” over the vowel symbol. The vowel sounds in those words will be, in more precise transcription, [ĩ] and [ã]. This process is such a regular feature of English that a phonological rule can be stated in the following way: “Any vowel becomes nasal whenever it immediately precedes a nasal.”

This type of assimilation process occurs in a variety of different contexts. By itself, the word *can* may be pronounced as [kæn], but, when we say *I can go*, the influence of the following velar [g] in *go* will typically make the preceding nasal sound come out as [ŋ] (velar) rather than [n] (alveolar). The most commonly observed conversational version of the phrase is [aɪkənɡou]. Notice that the vowel in *can* has also changed to schwa [ə] from the isolated-word version [æ]. We may also pronounce *and* as [ænd] by itself, but in the normal use of the phrase *you and me*, we usually say [ən], as in [juənmi].



Elision

In the last example, illustrating the normal pronunciation of *you and me*, the [d] sound of the word *and* was not included in the transcription. That is because it is not usually pronounced in this phrase. In the environment of a preceding nasal [n] and a following nasal [m], we simply don't devote speech energy to including the stop sound [d].

There is also typically no [d] sound included in the everyday pronunciation of a word like *friendship* [frɛnʃɪp]. This process of not pronouncing a sound segment that might be present in the deliberately careful pronunciation of a word in isolation is described as **elision**. In consonant clusters, especially in coda position, /t/ is a common casualty in this process, as in the typical pronunciation [æspɛks] for *aspects*, or in [hɪməsbi] for the phrase *he must be*. We can, of course, slowly and deliberately pronounce each part of the phrase *we asked him*, but the process of elision (of /k/) in casual conversation is likely to produce [wiæstəm].

Vowels also disappear through elision, with the result that sometimes a whole syllable may not be pronounced, as in [ɛvri] for *every*, [ɪntrɪst] for *interest*, [kæbnət] for *cabinet*, [kæmrə] for *camera*, [prɪznər] for *prisoner* and [spəʊz] for *suppose*.

These processes are summarized in Table 4.4. We use a pair of symbols (/ ____) to indicate “in the context of” or “under the influence of” the following element.

TABLE 4.4 COARTICULATION EFFECTS

Assimilation:	making a sound segment more similar to the next one voiced (→ voiceless) / ____ + voiceless: hæv + tu → hæftə
Nasalization:	adding a nasal quality to a sound segment before a nasal sound non-nasal (→ nasal) / ____ + nasal: pæ + n → pæn
Elision:	leaving out a sound segment consonant cluster (→ reduced) / ____ + consonant: məst + bi → məsbi three syllables (→ two syllables) / ____ + syllable: prɪzənər → prɪznər

Normal Speech

These processes of assimilation, nasalization and elision occur in everyone's normal speech and should not be regarded as some type of sloppiness or laziness in speaking. In fact, consistently avoiding the regular patterns of assimilation, nasalization and elision used in a language would result in extremely artificial-sounding talk. The point of investigating these phonological processes is not to arrive at a set of rules about how a language should be pronounced, but to try to come to an understanding of the regularities and patterns that underlie the actual use of sounds in language.



6 Morphology

AMBIMOUSTROUS (adj.) able to use a computer mouse with both hands

Collins English Dictionary (2019)

Throughout Chapter 5, we approached the description of processes involved in word formation as if the unit called the “word” was always a regular and easily identifiable form, even when it is a form such as *ambimoustrous* that we may never have seen before. This new word is based on an established form, *ambidextrous* (“able to use either hand equally well”), with the middle element, *dext(e)r* (“right hand”), replaced by *mous(e)*. Clearly this single word has more than one element contributing to its meaning. Yet we don’t normally think of a “word” as having internal elements. We tend to think of words as those individual forms marked in black with bigger spaces separating them in written English. In this chapter, we’ll investigate ways of taking a closer look inside words.

Morphology

In many languages, what appear to be single forms actually turn out to contain a large number of “word-like” elements. For example, in Swahili (or Kiswahili, spoken throughout East Africa), the form *nitakupenda* conveys what, in English, would have to be represented as something like *I will love you*. Now, is the Swahili form a single word? If it is a “word,” then it seems to consist of a number of elements that, in English, turn up as separate “words.” A rough correspondence can be presented here:

<i>ni-</i>	<i>ta-</i>	<i>ku-</i>	<i>penda</i>
I	will	you	love

It would seem that this Swahili “word” is rather different from what we think of as a written English “word.” Yet there clearly is some similarity between the languages, in that similar elements of the whole message can be found in both. Perhaps a better way of looking at linguistic forms in different languages would be to use this notion of “elements” in the message, rather than depend on identifying only “words.”

The type of exercise we have just performed is an example of investigating basic forms in language, known as **morphology**. This term, which literally means “the study of forms,” was originally used in biology, but is now also used to describe the study of those basic “elements” in a language. What we have been describing as “elements” in the form of a linguistic message are technically known as “morphemes.”

Morphemes

We do not actually have to go to other languages such as Swahili to discover that “word forms” may consist of a number of elements. We can recognize that English word forms such as *talks*, *talker*, *talked* and *talking* must consist of one element *talk*, and the other four elements *-s*, *-er*, *-ed* and *-ing*. All these five elements are described as **morphemes**. The definition of a morpheme is “a minimal unit of meaning or grammatical function.” Units of grammatical function include forms used to indicate past tense or plural, for example. So, we can take words apart, as shown in Table 6.1 with the verb *re-new-ed* and the noun *tour-ist-s*, to reveal the different elements in their morphology.

TABLE 6.1 MORPHEMES

Minimal units of meaning	Grammatical function
<i>re-</i> (“again”) <i>new</i> (“recently made”)	<i>-ed</i> (past tense)
<i>tour</i> (“travel for pleasure”) <i>-ist</i> (“person who”)	<i>-s</i> (plural)

Free and Bound Morphemes

Looking at the examples in Table 6.1, we can make a broad distinction between two types of morphemes. There are **free morphemes**, that is, morphemes that can stand by themselves as single words, for example, *new* and *tour*. There are also **bound morphemes**, which are those forms that cannot normally stand alone and are typically attached to another form, exemplified as *re-*, *-ist*, *-ed*, *-s*. These forms were described in Chapter 5 as affixes. So, we can say that all affixes (prefixes and suffixes) in English are bound morphemes. The free morphemes can generally be identified as the set of separate English word forms such as basic nouns, verbs, adjectives and adverbs. When they are used with bound morphemes attached, the basic word forms are technically known as **stems**. For example:

	<i>undressed</i>			<i>carelessness</i>		
<i>un-</i>	<i>dress</i>	<i>-ed</i>	<i>care</i>	<i>-less</i>	<i>-ness</i>	
prefix	stem	suffix	stem	suffix	suffix	
(bound)	(free)	(bound)	(free)	(bound)	(bound)	

We should note that this type of description is a partial simplification of the morphological facts of English. There are a number of English words, typically derived from Latin, in which the element treated as the stem is not a free morpheme. In words such as *receive*, *reduce* and *repeat*, we can identify the bound morpheme *re-* at the beginning, but the elements *-ceive*, *-duce* and *-peat* are not separate word forms in English and hence cannot be free morphemes. These types of forms are sometimes described as “bound stems.”

Lexical and Functional Morphemes

What we have described as free morphemes fall into two categories. The first category is that set of ordinary nouns (*girl*, *house*), verbs (*break*, *sit*), adjectives (*long*, *sad*) and adverbs (*never*, *quickly*) that we think of as the words that carry the “content” of the messages we convey. These free forms are called **lexical morphemes**. We can add new lexical morphemes to the language rather easily, so they are treated as an “open” class of words.

Other types of free morphemes are called **functional morphemes**. Examples are articles (*a*, *the*), conjunctions (*and*, *because*), prepositions (*on*, *near*) and pronouns (*it*, *me*). Because we almost never add new functional morphemes to the language, they are described as a “closed” class of words.

Derivational Morphemes

The set of affixes that make up the category of bound morphemes can also be divided into two types. One type is described in Chapter 5 in terms of the derivation of words. These are **derivational morphemes**. We use these bound forms to make new words or to make words of a different grammatical category from the stem. For example, the addition of the derivational morpheme *-ment* changes the verb *encourage* to the noun *encouragement*. The noun *class* can become the verb *classify* by the addition of the derivational morpheme *-ify*. Derivational morphemes can be suffixes like *-ment* and *-ify* and also prefixes, such as *re-*, *pre-*, *ex-*, *mis-*, *co-*, *un-*.

Inflectional Morphemes

The second set of bound morphemes contains **inflectional morphemes** (or “inflections”). These are not used to produce new words in the language, but rather to indicate the grammatical function of a word. Inflectional morphemes are used to show if a word is plural or singular, past tense or not, and if it is a comparative or possessive form. English has only eight inflectional morphemes, all suffixes.

Jim's two sisters are really different.

One likes to have fun and is always laughing.

The other enjoyed school as a child and has always been very serious.

One is the loudest person in the house and the other is quieter than a mouse.

In the first sentence, both inflections are attached to nouns, marking possessive (-'s) and plural (-s). There are four inflections attached to verbs: *-s* (3rd person singular, present tense), *-ing* (present participle), *-ed* (past tense) and *-en* (past participle). Two inflections attach to adjectives: *-er* (comparative) and *-est* (superlative).

There is some variation in the form of these inflectional morphemes. For example, the possessive sometimes appears as a plural form *-s'* (*those boys' bags*) and the past participle is often *-ed* (*they have talked already*). Table 6.2 has a summary.

TABLE 6.2 DERIVATIONAL AND INFLECTIONAL MORPHEMES

	Nouns	Verbs	Adjectives
Derivational	<i>critic-ism</i>	<i>critic-ize</i>	<i>critic-al</i>
	<i>encourage-ment</i>	<i>class-ify</i>	<i>wonder-ful</i>
Inflectional	<i>Jim-'s</i>	<i>like-s, laugh-ing</i>	<i>quiet-er</i>
	<i>sister-s</i>	<i>enjoy-ed, be-en</i>	<i>loud-est</i>

Morphological Description

The difference between derivational and inflectional morphemes is worth emphasizing. An inflectional morpheme never changes the grammatical category of a word. For example, both *old* and *older* are adjectives. The *-er* inflection here (from Old English *-ra*) simply creates a different version of the adjective. However, a derivational morpheme can change the grammatical category of a word. The verb *teach* becomes the noun *teacher* if we add the derivational morpheme *-er* (from Old English *-ere*). So, the suffix *-er* in Modern English can be an inflectional morpheme as part of an adjective and also a distinct derivational morpheme as part of a noun. Just because they look the same (*-er*) doesn't mean they do the same kind of work.

Whenever there is a derivational suffix and an inflectional suffix used together, they always appear in that order. First the derivational (*-er*) is attached to *teach*, then the inflectional (*-s*) is added to produce *teachers*. Armed with all these terms for different types of morphemes, we can now take most sentences of English apart and list all the "elements." For example, in the sentence *The teacher's wildness shocked the girls' parents*, we can identify thirteen morphemes.

<i>The</i>	<i>teach</i>	<i>-er</i>	<i>'s</i>	<i>wild</i>	<i>-ness</i>
functional	lexical	derivational	inflectional	lexical	derivational

<i>shock</i>	<i>-ed</i>	<i>the</i>	<i>girl</i>	<i>'s</i>	<i>parent</i>	<i>-s</i>
lexical	inflectional	functional	lexical	inflectional	lexical	inflectional

A useful way to remember all these different types of morphemes is presented in Figure 6.1.

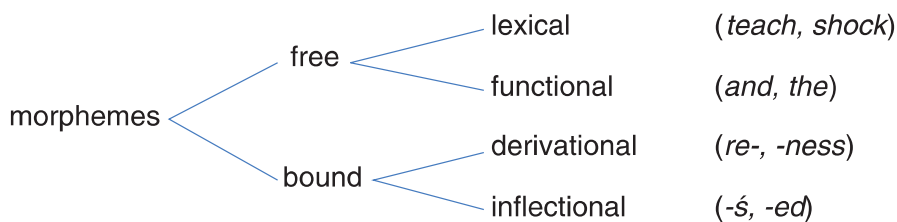


Figure 6.1 Types of morphemes

Morphs, Allomorphs and Special Cases

The rather neat chart presented in Figure 6.1 conceals a number of outstanding problems in the analysis of English morphology. The inflectional morpheme *-s* is added to *cat* and we get the plural *cats*. What is the inflectional morpheme that makes *sheep* the plural of *sheep*, or *men* the plural of *man*? These two words are clearly exceptions to the general pattern and have to be treated as special cases.

One way to describe more regular differences in inflectional morphemes is by proposing variation in morphological realization rules. In order to do this, we draw an analogy with processes already noted in phonology (Chapter 4, page 47). Just as we treated phones as the actual phonetic realization of phonemes, so we can propose **morphs** as the actual forms used to realize morphemes. For example, the form *cats* consists of two parts, /kæt/ + /-s/, with a lexical morpheme (“cat”) and an inflectional morpheme (“plural”). The words *dogs* and *horses* also consist of two parts, /dɒg/ + /-z/ and /hɔːs/ + /-əz/, each consisting of a lexical morpheme and an inflectional morpheme (“plural”). So we have at least three forms (/s/, /z/ and /əz/) used to realize the inflectional morpheme “plural.” Just as we noted that there were “allophones” of a phoneme, so we can recognize the existence of **allomorphs** of a morpheme, again using the prefix “allo-” (= one of a closely related set). The three allomorphs of the one morpheme (“plural”) are shown in Table 6.3.

TABLE 6.3 ALLOMORPHS

Morpheme	Allomorphs
plural	/-s/ (“cats _s ”)
	/-z/ (“dog _s ”)
	/-əz/ (“horse _s ”)

Returning to our special cases, we could propose that there may be a “zero-morph” involved when we add the “plural” morpheme to a word like *sheep*, so that the plural of *sheep* can be analyzed as /ʃi:p/ + /∅/, adding another form (/∅/) to the set of allomorphs of “plural.” When we add “plural” to /mæn/, we could have a vowel change in the word (æ → ɛ) as the morph that produces the “irregular” plural form *men*. However, it is more likely that we treat the two forms /mæn/ and /mɛn/ as two distinct lexical morphemes that we learn as separate words.

There is a similar pattern in the way “past tense” is realized in English. The inflectional suffix *-ed* is used in the typical derivation: *flirted*, *hugged* and *kissed*. The irregular forms are like separate lexical morphemes: *go/went*, *be/was/were*. See Task C, on page 84, for more on the allomorphs of past tense in English.

Other Languages

When we look at the morphology of other languages, we can find other forms and patterns realizing the basic types of morphemes we have identified. In the following examples, based on Gleason (1955), we can try to work out how different forms in the languages are used to realize morphological processes and features.

Kanuri

This first set of examples is from Kanuri, a language spoken in Nigeria.

	Adjective	Noun	
(“excellent”)	<i>karite</i>	<i>nəmkarite</i>	(“excellence”)
(“big”)	<i>kura</i>	<i>nəmkura</i>	(“bigness”)
(“small”)	<i>gana</i>	<i>nəmgana</i>	(“smallness”)
(“bad”)	<i>dibi</i>	<i>nəmdibi</i>	(“badness”)

From this set, we can propose that *nəm-* is a prefix, functioning as a derivational morpheme that is used to derive nouns from adjectives. The process is similar to the use of the suffix *-ness* in English, creating the noun *bigness* from the adjective *big*. Discovering a regular morphological feature of this type helps us to make certain predictions when we encounter other forms. For example, if the Kanuri word for “length” is *nəmkurugu*, then we can be reasonably sure that “long” is *kurugu*.

Ganda

Different languages also employ different means to produce inflectional marking on forms. Here are some examples from Ganda, a language spoken in Uganda.

	Singular	Plural	
(“doctor”)	<i>omusawo</i>	<i>abasawo</i>	(“doctors”)
(“woman”)	<i>omukazi</i>	<i>abakazi</i>	(“women”)
(“girl”)	<i>omuwala</i>	<i>abawala</i>	(“girls”)
(“heir”)	<i>omusika</i>	<i>abasika</i>	(“heirs”)

From this small sample, we can observe that there is an inflectional prefix *omu-* used with singular nouns, and a different inflectional prefix *aba-* used with the plural of those nouns. If we learn that *abalenzi* is a Ganda plural, meaning “boys,” then we can be pretty sure that the singular form meaning “boy” must be *omulenzi*.

Ilocano

When we look at Ilocano, a language of the Philippines, we find a quite different way of marking plurals.

	Singular	Plural	
(“head”)	<i>úlo</i>	<i>ulúlo</i>	(“heads”)
(“road”)	<i>dálan</i>	<i>daldálan</i>	(“roads”)
(“life”)	<i>bíag</i>	<i>bibíag</i>	(“lives”)
(“plant”)	<i>múla</i>	<i>mulmúla</i>	(“plants”)

In these examples, there seems to be repetition of the first part of the singular form. When the first part is *bí-* in the singular, the plural begins with this form repeated *bibí-*. The process involved here is technically known as **reduplication** (= “repeating all or part of a form”). Having seen how plurals differ from singular forms in Ilocano, you should be able to take this plural form *taltálon* (“fields”) and work out what the singular (“field”) would be. If you follow the observed pattern, you should get *tálon*.

Tagalog

Here are some examples from Tagalog, another language of the Philippines.

<i>basa</i> (“read”)	<i>tawag</i> (“call”)	<i>sulat</i> (“write”)
<i>bumasa</i> (“Read!”)	<i>tumawag</i> (“Call!”)	<i>sumulat</i> (“Write!”)
<i>babasa</i> (“will read”)	<i>tatawag</i> (“will call”)	<i>susulat</i> (“will write”)

If we assume that the first form in each column can be treated as a stem, then it appears that, in the second item in each column, an element *-um-* has been inserted after the first consonant, or more precisely, after the syllable onset. It is an example of an **infix** (described in Chapter 5, page 65).

In the third example in each column, the change involves a repetition of the first syllable, as *basa* becomes *babasa*. So, referring to the future in Tagalog is done via reduplication. Using this information, we can complete these examples:

<i>lakad</i> (“walk”)	(“Walk!”) _____	(“will walk”) _____
<i>lapit</i> (“come here”)	(“Come here!”) _____	(“will come here”) _____

In the second column, with the infix *-um-*, we would write *lumakad* and *lumapit*. In the third column, with reduplication, we would write *lalakad* and *lalapit*. So, next time you’re enjoying a stroll through the streets of Manila and you hear *lumapit!*, you’ll know what to do. Learn more about Tagalog in Task D, on page 85.



KEEP CALM AND USE CORRECT GRAMMAR

7

Grammar

Diagramming sentences is one of those lost skills, like darning socks or playing the sackbut, that no one seems to miss. When it was introduced in an 1877 text called *Higher Lessons in English* by Alonzo Reed and Brainerd Kellogg, it swept through American public schools like measles, embraced by teachers as the way to reform students who were engaged in (to take Henry Higgins slightly out of context) “the cold-blooded murder of the English tongue.”

Florey (2006)

We have already looked at two levels of description used in the study of language. We have described linguistic expressions as sequences of sounds that can be represented in the phonetic alphabet and described in terms of their features. That is, we can identify a voiced fricative /ð/, a voiceless stop /k/ and a diphthong /ɔɪ/ as segments in the transcription of a phrase such as /ðəlʌkɪbɔɪz/.

We can take the same expression and describe it as a sequence of morphemes:

<i>the</i>	<i>luck</i>	<i>-y</i>	<i>boy</i>	<i>-s</i>
functional	lexical	derivational	lexical	inflectional

With these descriptions, we could characterize all the words and phrases of a language in terms of their phonology and morphology.

English Grammar

However, we have not accounted for the fact that the three words in this phrase can only be combined in a particular sequence. We recognize that the phrase *the lucky boys* is a well-formed phrase in contemporary English, but that the following two “phrases” are not at all well-formed.

**boys the lucky*

**lucky boys the*

(We use an asterisk * to indicate that a form is unacceptable or ungrammatical.)

From these examples, we can see that English has strict rules for combining words into phrases. The article (*the*) must go before the adjective (*lucky*), which must go before the noun (*boys*). So, in order to be grammatical, this type of phrase must have the sequence article + adjective + noun (and not *noun + article + adjective, for example).

The process of describing the structure of phrases and sentences in such a way that we account for all the grammatical sequences in a language and rule out all the ungrammatical sequences is one way of defining the **grammar** of a language. It is the kind of definition assumed when we talk about the grammar of English as opposed to the grammar of Swahili, Tagalog or Turkish. As illustrated in Chapter 6, each of these languages has different ways of forming grammatical phrases and sentences. Studying grammar in this way has a very long tradition.

Traditional Grammar

The terms “article,” “adjective” and “noun” that we use to label the grammatical categories of the words in the phrase *the lucky boys* come from traditional grammar, which has its origins in the description of languages such as Latin and Greek. Indeed, the expression “grammar school” was originally used exclusively for an institution where Latin was taught. Since there was a well-established grammatical description of Latin, based on earlier analyses of Greek, it seemed appropriate to adopt the existing categories from this description and apply them in the analysis of newer languages such as English. Because Latin and Greek were the languages of philosophy, religion and scholarship, the description of the grammatical components of these languages was taken to be the best model for other grammars. We have inherited a number of terms from the model that are used in describing those basic grammatical components, known as the “parts of speech,” and how they connect to each other in terms of “agreement.”

The Parts of Speech

Each part of speech, or word class, is illustrated in the following sentence and simple definitions of each technical term are listed below.

The lucky boys found a backpack in
 article adjective noun verb article noun preposition

the park and they opened it carefully
 article noun conjunction pronoun verb pronoun adverb

- Nouns** are words used to refer to people (*boy*), objects (*backpack*), creatures (*dog*), places (*school*), qualities (*roughness*), phenomena (*earthquake*) and abstract ideas (*love*) as if they were all “things.” We begin **proper nouns** with a capital letter (*Cathy, Latin, Rome*).
- Articles** are words (*a, an, the*) used with nouns to form noun phrases classifying those “things” (*You can have **a** banana or **an** apple*) or identifying them as already known (*I’ll take **the** apple*).
- Adjectives** are words used, typically with nouns, to provide more information about the things referred to (***large** objects, a **strange** experience*).
- Verbs** are words used to refer to various kinds of actions (*go, talk*) and states (*be, have*) involving people and things in events (*Jessica **is** ill and **has** a sore throat so she can’t **talk** or **go** anywhere*).
- Adverbs** are words used, typically with verbs, to provide more information about actions, states and events (*slowly, yesterday*). Some adverbs (*really, very*) are also used with adjectives to modify information about things (***Really** large objects move **slowly**. I had a **very** strange experience **yesterday***).
- Prepositions** are words (*at, in, on, near, with, without*) used with nouns in phrases providing information about time (***at** five o’clock, **in** the morning*), place (***on** the table, **near** the window*) and other connections (***with** a knife, **without** a thought*) involving actions and things.
- Pronouns** are words (*she, herself, they, it, you*) used in place of noun phrases, typically referring to people and things already known (***She** talks to **herself**. **They** said **it** belonged to **you***).
- Conjunctions** are words (*and, but, because, when*) used to make connections and indicate relationships between events (*Chantel’s husband was so sweet **and** he helped her a lot **because** she couldn’t do much **when** she was pregnant*).

Agreement

In addition to the terms used for the parts of speech, traditional grammatical analysis has also given us a number of other categories, including “number,” “person,” “tense,” “voice” and “gender.” These categories can be discussed in isolation, but their role in describing language structure becomes clearer when we consider them in terms of **agreement**. For example, we say that the verb *loves* “agrees with” the noun *Cathy* in the sentence *Cathy loves her dog*.

This agreement is partially based on the category of **number**, that is, whether the noun is singular or plural. It is also based on the category of **person**, which covers the distinctions of first person (involving the speaker), second person (involving the hearer) and third person (involving any others). The different forms of English pronouns can be described in terms of person and number. We use *I* for first person singular, *you* for second person singular, and *he, she, it* (or *Cathy*) for third person singular. So, in the sentence *Cathy loves her dog*, we have a noun *Cathy*, which is third person singular, and we use the verb *loves* (not *love*) to “agree with” the noun.

In addition, the form of the verb must be described in terms of another category called **tense**. In this case, the verb *loves* is in the present tense, which is different from the past tense (*loved*). The sentence is also in the **active voice**, describing what Cathy does (i.e. she performs the action of the verb). An alternative would be the **passive voice**, which can be used to describe what happens to Cathy (i.e. she doesn’t perform the action), as in *Cathy is loved by her dog* or just *Cathy is loved*.

Our final category is **gender**, which helps us describe the agreement between *Cathy* and *her* in our example sentence. In English, we have to describe this relationship in terms of **natural gender**, mainly derived from a biological distinction between male and female. The agreement between *Cathy* and *her* is based on a distinction made in English between reference to female entities (*she, her*), male entities (*he, his*) and things or creatures, when the sex is unknown or irrelevant (*it, its*).

Figure 7.1 shows the basis of the agreement between *Cathy* and *loves*, and also between *Cathy* and *her* in the same sentence.

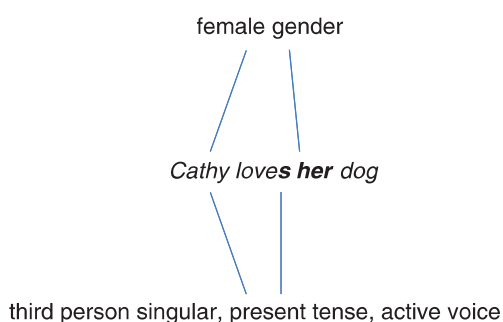


Figure 7.1 Agreement

Grammatical Gender

The type of biological distinction based on “natural gender” in English is quite different from the more common distinction found in languages that use **grammatical gender**. Whereas natural gender is based on sex (male and female), grammatical gender is based on the type of noun (masculine and feminine) and is not tied to sex. In this system, nouns are classified according to their gender class and articles and adjectives have different forms to “agree with” the nouns’ gender.

Spanish, for example, has two grammatical genders, masculine and feminine, as in the expressions *el sol* (“the sun”) and *la luna* (“the moon”). German uses three genders, masculine *der Mond* (“the moon”), feminine *die Sonne* (“the sun”) and neuter *das Feuer* (“the fire”). The different forms of the articles in both the Spanish (*el* or *la*) and German (*der*, *die* or *das*) correspond to differences in gender class.

We should emphasize that this gender distinction is not based on a distinction in sex. The French noun in *le livre* (“the book”) is grammatically masculine, but neither we nor the French people consider a book to be biologically male. Grammatical gender is an important category in many languages. (For more on gender, see Chapter 20.)

Traditional Analysis

The notion of appropriateness of analytic categories for a particular language has not always been a consideration. In traditional grammar books, tables such as the following were often presented for the analysis of English verbs, constructed by analogy with tables in Latin grammar, in this case for the verb *amare* (“to love”).

TABLE 7.1 GRAMMATICAL CATEGORIES: PRESENT TENSE, ACTIVE VOICE

First person singular	(<i>I</i>)	<i>love</i>	<i>amo</i>
Second person singular	(<i>you</i>)	<i>love</i>	<i>amas</i>
Third person singular	(<i>she</i>)	<i>loves</i>	<i>amat</i>
First person plural	(<i>we</i>)	<i>love</i>	<i>amamus</i>
Second person plural	(<i>you</i>)	<i>love</i>	<i>amatis</i>
Third person plural	(<i>they</i>)	<i>love</i>	<i>amant</i>

Each Latin verb form is different, based on the categories of person and number, yet the English verbs are (with one exception) mostly the same. Thus, in Latin, these descriptive categories characterize verb forms, but that is not the case in English. In English, the categories actually describe different forms of pronouns.

The Prescriptive Approach

It is one thing to adopt the grammatical labels (e.g. “noun,” “verb”) to categorize words in English sentences; it is quite another thing to go on to claim that the structure of English sentences should be like the structure of sentences in Latin. That was an approach taken in eighteenth-century England by grammarians who set out rules for the “proper” use of English. This view of grammar as a set of rules for the proper use of a language is still found today and is best characterized as the **prescriptive approach**. Some old-style prescriptive rules for English are:

You must not split an infinitive.

You must not end a sentence with a preposition.

Following these types of rules, traditional teachers would correct sentences like *Who did you go with?* to *With whom did you go?* (so that the preposition *with* was not at the end of the sentence). And *Mary runs faster than me* would be corrected to *Mary runs faster than I*. And one should never begin a sentence with *and*!

It may, in fact, be a valuable part of one’s education to be made aware of this “linguistic etiquette” for the use of language in certain contexts. Yet it is worth considering the origins of some of these rules and asking whether they have to be followed in English. Let’s look at one example: “You must not split an infinitive.”

Captain Kirk’s Infinitive

The infinitive in English has the form *to* + the base form of the verb, as in *to go*, and can be used with an adverb such as *boldly*. At the beginning of each of the older televised *Star Trek* episodes, one of the main characters, Captain Kirk, always used the expression *To boldly go . . .* This is an example of a split infinitive. Captain Kirk’s teacher might have expected him to say *To go boldly* or *Boldly to go*, so that the adverb didn’t split the infinitive. If Captain Kirk had been a Roman space traveler, speaking Latin, he would have used the expressions *ire* (“to go”) and *audacter* (“boldly”). Now, in saying *Ire audacter . . .* in Latin, Capitaneus Kirkus would not even have the opportunity to split his infinitive (*ire*), because Latin infinitives are single words and just do not split.

If it is a typical feature of the use of English that speakers and writers regularly produce forms such as *to boldly go*, *to solemnly swear* or *to never ever get back together*, then we may simply wish to note that there are structures in English that differ from those found in Latin, rather than think of the English forms as “bad” because they don’t follow a rule of Latin grammar.

The Descriptive Approach

It may be that using a well-established grammatical description of Latin is a useful guide for European languages (e.g. Spanish), is less useful for others (e.g. English), and may be absolutely misleading for non-European languages. This last point became clear to linguists trying to describe the structure of the native languages of North America toward the end of the nineteenth century. Because the categories of traditional grammar did not seem to fit these languages, a different method, called the **descriptive approach**, was adopted. Analysts collected samples of the language they were interested in and attempted to describe regular structures of that language as it was used, not according to some view of how it should be used.

Structural Analysis

One type of descriptive approach is called **structural analysis** and its main concern is to investigate the distribution of forms in a language. The method involves the use of “test-frames,” which can be sentences with empty slots in them.

The _____ makes a lot of noise.
I heard a _____ yesterday.

There are a lot of forms that can fit into these slots to produce good grammatical sentences of English (e.g. *car*, *child*, *donkey*, *dog*, *radio*). As a result, we can propose that, because all these forms fit in the same test-frame, they are likely to be examples of the same grammatical category, a “noun” (or N).

However, there are many forms that do not fit those test-frames. Examples would be *Cathy*, *someone*, *the dog*, *a car* and many others. (That is, we wouldn't say **The Cathy* or **The the dog*.) For these forms, we require different test-frames:

_____ makes a lot of noise.
I heard _____ yesterday.

Among other forms that comfortably fit these test-frames are *it*, *the big dog*, *an old car*, *Ani Difrancò*, *the professor with the Scottish accent* and many other examples of the same grammatical category, a “noun phrase” (or NP).

Observing that *it* fits only in this second set of test-frames (**The it makes a lot of noise*), allows us to improve on the Latin-influenced, analysis of pronouns in English. Pronouns were described as “words used in place of nouns.” We now see that it is better to say that pronouns are used in place of noun phrases (not just nouns).

Constituent Analysis

An approach with the same descriptive aims is called **constituent analysis**. The technique employed in this approach is designed to show how small constituents (or components) go together to form larger constituents. One basic step is determining how words go together to form phrases. In the following sentence, we can identify nine constituents at the word level: *The old woman brought a large snake from Brazil*. How do those nine constituents go together to form constituents at the phrase level? Does it seem appropriate to put the words together as follows?

The old woman brought brought a large snake from Brazil

We don't normally think of these combinations as phrases in English. We are more likely to say that the phrase-like constituents here are combinations of the following types: *The old woman*, *a large snake*, *Brazil* (noun phrases), *from Brazil* (a prepositional phrase) and *brought* (a verb).

This analysis of the constituent structure of the sentence can be represented in a diagram (Figure 7.2) showing the distribution of the constituents at different levels.

The	old	woman	brought	a	large	snake	from	Brazil

Figure 7.2 Distribution of constituents

Using this kind of diagram we can determine the types of forms that can be substituted for each other at different levels of constituent structure. One advantage of this type of analysis is that it shows rather clearly that pronouns (*she*, *it*) and proper nouns or names (*Brazil*), though they are single words, can be used as noun phrases and fill the same constituent space as longer phrases (e.g. *the old woman* or *a large snake*). Figure 7.3 presents an analysis of the common constituent structure of many English sentences.

Noun phrase	Verb	Noun phrase	Prepositional phrase
The old woman She	brought kept	a large snake it	from Brazil in a cage

Figure 7.3 Constituent analysis

Subjects and Objects

In Figure 7.3, not only can we see how small constituents combine to form larger constituents as phrases; we can also work out the different grammatical functions of those phrases. We use the term “noun phrase” when we describe the form of the expression (i.e. it has a noun or a pronoun in it). We use the terms “subject” and “object” to describe the different functions of noun phrases in a sentence. Since English uses position in the sentence to indicate grammatical function, we can normally identify the **subject** as the first noun phrase before the verb and the **object** as the noun phrase after the verb. The other phrase at the end of our example sentence is an **adjunct**, often a prepositional phrase, which typically provides additional information such as where, when or how the subject verb-*ed* the object. Figure 7.4 displays this analysis.

Subject	Verb	Object	Adjunct
The old woman She	brought kept	a large snake it	from Brazil in a cage

Figure 7.4 Grammatical functions

There are a number of ways in which we can distinguish between noun phrases used as subjects versus objects. In addition to position differences, the subject is frequently the person or thing that the sentence is about and often the one that performs the action of the verb, whereas the object more typically represents the person or thing that undergoes the action. The subject noun phrase determines the form of the verb as singular or plural. English also makes a clear distinction between pronouns used as subjects (*I, he*) and those used as objects (*me, him*). These differences between subjects and objects are summarized in Table 7.2.

TABLE 7.2 SUBJECTS AND OBJECTS

Subjects	Objects
• the first noun phrase	• the noun phrase after the verb
• controls the verb (singular or plural)	• no influence on verb
• often performs the action	• often undergoes the action
• pronouns: <i>I, he, she, we, they</i>	• <i>me, him, her, us, them</i>

Word Order

The basic linear order of constituents in English is Noun Phrase–Verb–Noun Phrase (or NP V NP) and their typical grammatical functions are Subject–Verb–Object (or SVO), as shown in Table 7.3. Although we are actually talking about constituent order, this type of analysis is traditionally discussed in terms of **word order**. The English word order sequence is not the only possible, or even the most common word order among languages. The most common pattern is actually Subject–Object–Verb (SOV), as illustrated in the Japanese sentence in Table 7.3, with the verb at the end of the sentence. Japanese is a verb-final language.

In verb-initial languages, the sentence begins with the verb. As illustrated in Table 7.3, Scottish Gaelic has a Verb–Subject–Object (VSO) order and Malagasy (spoken in Madagascar) has a Verb–Object–Subject (VOS) order. Note that in Gaelic and Malagasy the adjective is placed after the noun (literally translated as “dog big”).

TABLE 7.3 WORD ORDER

(SVO)	Subject	Verb	Object
	NP	V	NP
English	<i>John</i>	<i>saw</i>	<i>the big dog</i>
(SOV)	Subject	Object	Verb
	“John”	“big dog”	“saw”
Japanese	<i>Jon ga</i>	<i>ookii inu o</i>	<i>mita</i>
(VSO)	Verb	Subject	Object
	“Saw”	“John”	“the dog big”
Gaelic	<i>Chunnaic</i>	<i>Iain</i>	<i>an cu mor</i>
(VOS)	Verb	Object	Subject
	“Saw”	“the dog big”	“John”
Malagasy	<i>Nahita</i>	<i>ny alika be</i>	<i>Rajaona</i>

Language Typology

The use of word order patterns such as SVO or VOS to talk about different “types” of languages is part of a more general area of study known as **language typology**. This is the study of similarities in the grammatical structures of languages that allow them to be classified as members of the same type or group. The four main types are shown in Table 7.3. The other two possibilities, OSV and OVS, have been documented in a small number of languages in South America.

Why Study Grammar?

We began this chapter with the observation that in the grammar of English there are strict rules for combining words in a specific order to create phrases and sentences. In Table 7.3, we have expanded the analysis of those ordering rules to capture the different basic patterns that exist in most of the world's languages. One advantage of having this information is that it may help explain some of the problems second language learners face when they try to acquire a language that simply does not have the same structural organization as their first language. If you are used to referring to *the dog big* or *a bottle of wine red*, you may unthinkingly employ those structures in a language that expects *the big dog* or *a bottle of red wine*. By helping students and teachers notice critical grammatical differences of this type between languages, we may be able to develop better awareness of what the learning task is and what might be beneficially included in language teaching materials.

Throughout this discussion we have focused on the linear order of constituents in grammatical structures. However, there is a lot of evidence to suggest that the linear order we observe is based on a set of underlying structures that are more abstract and organized in a more hierarchical way. We will explore the nature of this more abstract system in Chapter 8.



8 Syntax

Time flies like an arrow; fruit flies like a banana.

Oettinger (1966)

In an early observation on the difficulties of getting computers to process natural language, Anthony Oettinger used the example above to illustrate how we tend to interpret sentences based on an expected structure and when we arrive at a problematic interpretation, we are able to go back and try to use a different structure. This process brings to light the importance of recognizing the underlying structure of sentences in order to make sense of them. If we keep thinking that the structure of the second expression is the same as the first in the example, we will definitely miss something. (For a helpful analysis, see Figure 8.9, on page 127.)

In Chapter 7, we moved from the general categories of traditional grammar to more specific methods of describing the structure of phrases and sentences. When we concentrate on the structure and ordering of components within a sentence, we are studying the **syntax** of a language. The word “syntax” comes originally from Greek and literally means “a putting together” or “arrangement.” In earlier approaches, there was an attempt to produce an accurate description of the sequence or ordering “arrangement” of elements in the linear structure of the sentence. In more recent attempts to analyze structure, there has been a greater focus on the underlying rule system that we use to produce or “generate” sentences.

Syntactic Rules

When we set out to provide an analysis of the syntax of a language, we try to adhere to the “all and only” criterion. This means that our analysis must account for *all* the grammatically correct phrases and sentences and *only* those grammatically correct phrases and sentences in whatever language we are analyzing. In other words, if we write rules for the creation of well-formed structures, we have to check that those rules, when applied logically, won’t also lead to ill-formed structures.

For example, we might say informally that, in English, we put a preposition (*near*) before a noun (*London*) to form a prepositional phrase (*near London*). This will describe a large number of phrases, but does it describe all (and only) the prepositional phrases in English? Note that, if we use this as a rule of the grammar to create structures involving a preposition and a noun, we will end up producing phrases like **near tree* or **with dog*. These don’t seem to be well-formed English structures, so we mark them with an asterisk *, indicating that they are ungrammatical.

We clearly need to be more careful in forming the rule that underlies the structure of prepositional phrases in English. We might have more success with a rule stating that we put a preposition before a noun phrase (not just a noun). In Chapter 7, we saw that a noun phrase can consist of a proper noun (*London*), a pronoun (*me*) or the combination of an article (*a, the*) with a noun (*tree, dog*), so that the revised rule can be used to produce these well-formed structures: *near London, with me, near a tree, with the dog*.

A Generative Grammar

When we have an effective rule such as “a prepositional phrase in English consists of a preposition followed by a noun phrase,” we can imagine an extremely large number of English phrases that could be produced using this rule. In fact, the potential number is unlimited. This reflects another goal of syntactic analysis, which is to have a small and finite (i.e. limited) set of rules that will be capable of producing a large and potentially infinite (i.e. unlimited) number of well-formed structures. This small and finite set of rules is sometimes described as a **generative grammar** because it can be used to “generate” or produce sentence structures and not just describe them.

This type of grammar should also be capable of revealing the basis of two other phenomena: first, how some superficially different phrases and sentences are closely related and, second, how some superficially similar phrases and sentences are in fact different.

Deep and Surface Structure

Our intuitions tell us that there must be some underlying similarity involving these two superficially different sentences: *Charlie broke the window* and *The window was broken by Charlie*. In traditional grammar, the first is called an active sentence, focusing on what *Charlie* did, and the second is a passive sentence, focusing on *The window* and what happened to it. The distinction between them is a difference in their **surface structure**, that is, the different syntactic forms they have as individual English sentences. However, this superficial difference in form disguises the fact that the two sentences are closely related, even identical, at a less superficial level.

This other “underlying” level, where the basic components (Noun Phrase + Verb + Noun Phrase) shared by the two sentences can be represented, is called their **deep structure**. The deep structure is an abstract level of structural organization in which all the elements determining structural interpretation are represented. That same deep structure can be the source of many other surface structures such as *It was Charlie who broke the window* and *Was the window broken by Charlie?*. In short, the grammar must be capable of showing how a single underlying abstract representation can become different surface structures.

Structural Ambiguity

Let’s say we have two distinct deep structures. One expresses the idea that “Annie had an umbrella and she bumped into a man with it.” The other expresses the idea that “Annie bumped into a man and the man happened to be carrying an umbrella.” Now, these two different versions of events can actually be expressed in the same surface structure form: *Annie bumped into a man with an umbrella*. This sentence provides an example of **structural ambiguity**. It has two distinct underlying interpretations that have to be represented differently in deep structure. Note that this is not the type of ambiguity that we experience in hearing *Their child has grown another foot*, which illustrates lexical ambiguity mainly because the word *foot* has more than one meaning. (See Task E, page 122, for further analysis.)

The comedian Groucho Marx knew how to have fun with structural ambiguity. In the film *Animal Crackers*, he first says *I once shot an elephant in my pajamas*, then follows it with *How he got into my pajamas I’ll never know*. In the non-funny interpretation, part of the underlying structure of the first sentence could be something like: “I shot an elephant (while I was) in my pajamas.” In the other (ho, ho) interpretation, part of the underlying structure would be something like: “I shot an elephant (which was) in my pajamas.” There are two different underlying structures with the same surface structure, revealed by syntactic analysis.

Syntactic Analysis

In syntactic analysis we use some conventional abbreviations for the parts of speech identified in Chapter 7. Examples are N (= noun), Art (= article), Adj (= adjective) and V (= verb). We also use abbreviations for phrases, such as NP (= noun phrase) and VP (= verb phrase). In English, the verb phrase (VP) consists of the verb (V) plus the following noun phrase (NP). We can take the simple sentence from Table 7.3 (page 101) and label the constituents using these categories, as in Figure 8.1.

NP	VP	
	V	NP
<i>John</i>	<i>saw</i>	<i>the big dog</i>

Figure 8.1 Sentence structure

Figure 8.1 presents a static analysis of a single sentence. We would like to be able to represent the same syntactic information in a more dynamic format. One way of presenting the concept “consists of” is with an arrow (\rightarrow), also interpreted as “rewrites as.” The following rule states that a noun phrase (NP) such as *the dog* consists of or rewrites as (\rightarrow) an article (*the*) and a noun (*dog*). This simple formula is the underlying structure of millions of different English phrases.

$$\text{NP} \rightarrow \text{Art N}$$

However, it is not the only form a noun phrase can take. We want to be able to include another constituent (Adj) in the rule so that it is good for not only phrases like *the dog*, but also *the big dog*. This constituent is *optional* in a noun phrase, so we use round brackets to indicate that Adj is an optional constituent, as shown here:

$$\text{NP} \rightarrow \text{Art (Adj) N}$$

Another common symbol is in the form of curly brackets $\{ \}$. These indicate that *only one* of the elements enclosed within the curly brackets must be selected. We have already seen, in Figure 7.3, on page 99, that a noun phrase can also contain a pronoun (*it*), or a proper noun (*John*). Using the abbreviations “Pro” (for pronoun) and “PN” (for proper noun), we can write three separate rules, as shown on the left, but it is more succinct to write one rule, on the right, using curly brackets.

$$\text{NP} \rightarrow \text{Art (Adj) N}$$

$$\text{NP} \rightarrow \text{Pro}$$

$$\text{NP} \rightarrow \text{PN}$$

$$\text{NP} \rightarrow \{ \text{Art (Adj) N, Pro, PN} \}$$

Phrase Structure Rules

What we have started to create is a set of syntactic rules called **phrase structure rules**. As the name suggests, these rules state that the structure of a phrase of a specific type will consist of one or more constituents in a particular order.

The first rule in the following set of simple (and necessarily incomplete) phrase structure rules captures a very general rule of English sentence structure: “a sentence (S) rewrites as a noun phrase (NP) and a verb phrase (VP).” The second rule states that “a noun phrase rewrites as either an article plus an optional adjective plus a noun, or a pronoun, or a proper noun.” In the third rule, a verb phrase rewrites as a verb plus a noun phrase.

$$\begin{aligned} S &\rightarrow NP VP \\ NP &\rightarrow \{\text{Art (Adj) N, Pro, PN}\} \\ VP &\rightarrow V NP \end{aligned}$$

Lexical Rules

Phrase structure rules generate structures. In order to turn those structures into recognizable English, we also need **lexical rules** that specify which words can be used when we rewrite constituents such as PN. The first rule in the following set states that “a proper noun rewrites as *John* or *Mary*.” (It is a very small world.)

$$\begin{aligned} PN &\rightarrow \{John, Mary\} & Art &\rightarrow \{a, the\} \\ N &\rightarrow \{girl, dog, boy\} & Adj &\rightarrow \{big, small\} \\ V &\rightarrow \{followed, helped, saw\} & Pro &\rightarrow \{it, you\} \end{aligned}$$

We can rely on these rules to generate the grammatical sentences shown below in (1)–(6), but not the ungrammatical sentences shown in (7)–(12).

- | | |
|--------------------------------------|---|
| (1) <i>A dog followed the boy.</i> | (7) <i>*Dog followed boy.</i> |
| (2) <i>You saw it.</i> | (8) <i>*You it saw.</i> |
| (3) <i>John saw the big dog.</i> | (9) <i>*John Mary small dog</i> |
| (4) <i>It followed Mary.</i> | (10) <i>*Followed Mary the dog big.</i> |
| (5) <i>The small boy helped you.</i> | (11) <i>*The helped you boy</i> |
| (6) <i>Mary helped John.</i> | (12) <i>*Mary John helped.</i> |

Tree Diagrams

One of the best ways to create a visual representation of underlying syntactic structure is through **tree diagrams**. We can use the symbols introduced earlier to label parts of the tree when we create a representation of how each part fits into the underlying structure of phrases. The information in a phrase structure rule, on the left, can be expressed in a tree diagram, on the right, as in Figure 8.2.

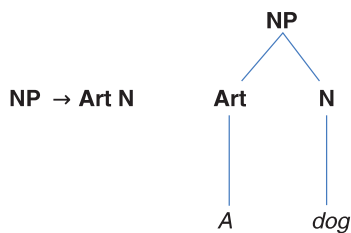


Figure 8.2 Noun phrase tree diagram

Although this kind of “tree,” with its “branches,” on the right, seems to grow down rather than up, it functions rather well as a diagram representing all the grammatical information found in the other analysis on the left. It also shows very explicitly that there are different levels in the analysis. That is, there is a level of analysis at which a constituent such as NP is represented and a different, lower, level at which a constituent such as N is represented.

We can use a similar tree diagram to represent the more complex structure of an English verb phrase (VP), as shown in Figure 8.3. Once again, this type of diagram provides a way of representing the hierarchical nature of underlying structure. In this hierarchy, the verb phrase (VP) is higher than and contains the verb (V) and a noun phrase (NP). The noun phrase (NP) is higher than and contains the article (Art) and the noun (N).

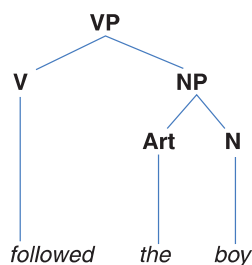


Figure 8.3 Verb phrase tree diagram

Tree Diagrams of English Sentences

We can now put together tree diagrams for whole sentences, hierarchically organized, as shown in Figure 8.4. Notice that essentially the same basic tree diagram structure is the foundation for all the different sentences (1)–(6), from page 116, with variable constituents included in each one.

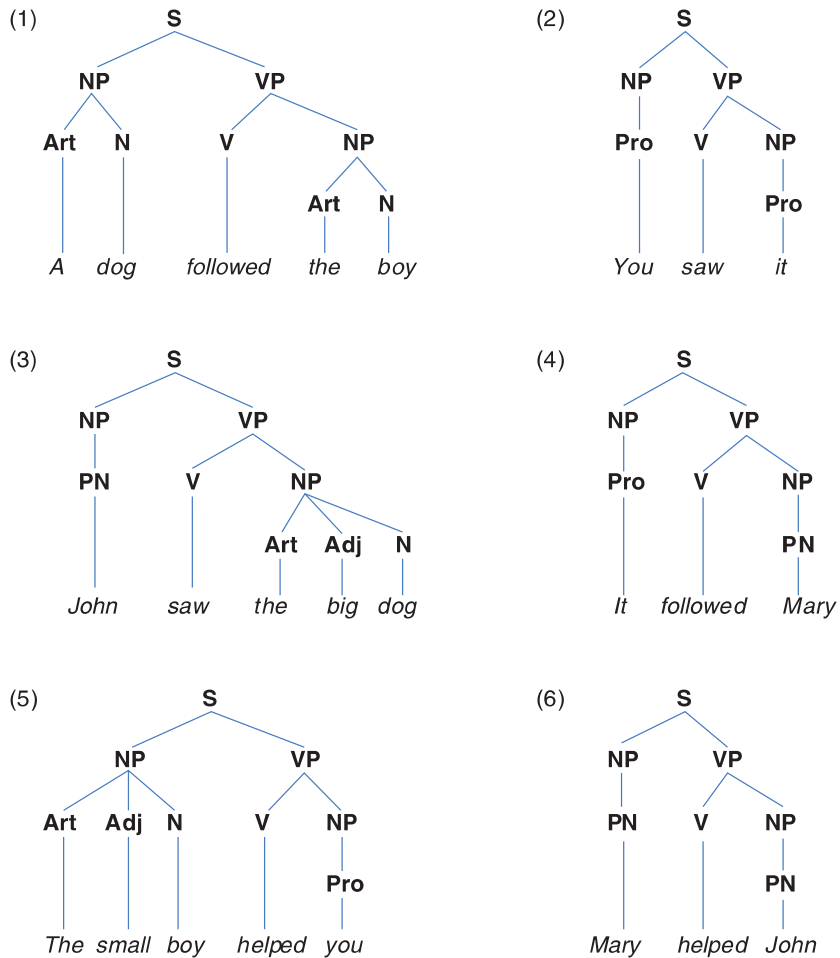


Figure 8.4 Tree diagrams of English sentences

Just Scratching the Surface

At the bottom of all the trees in Figure 8.4 are surface structure variations of a single underlying deep structure, revealing the generative power of the phrase structure rules involved. There are other phrase structure rules involved in the composition of more complex sentences. Some are presented in Task C on page 121 and Task K on page 125 for English, and Tasks F and G, on page 123 for other languages. As we try to develop better ways of analyzing the syntactic structure of complex sentences, we inevitably need a larger analytic framework. (We have barely scratched the surface structures.) However, having explored some of the basic issues, terminology, representations and methods of syntactic analysis in order to talk about basic structures in the English language, we will now move on to consider how we might incorporate the analysis of meaning in the study of language.



9 Semantics

This one time I was flying out of SFO (San Francisco) and I happened to have a jar of home-made quince preserves in my carry-on. A TSA (Transportation Security Administration) agent stopped me, saying that the quince preserves couldn't come aboard because no gels, liquids, or aerosols were allowed past the checkpoint. I asked him politely which of those quince preserves were: gel, liquid, or aerosol, because they seemed a lot like fruit. His response, and I kid you not, was "Sir, I'm not going to argue semantics with you."

Bergen (2012)

Semantics is the study of the meaning of words, phrases and sentences. In semantic analysis, there is always an attempt to focus on what the words conventionally mean, rather than on what an individual speaker might think they mean, or want them to mean, on a particular occasion. This approach is concerned with linguistic meaning that is shared by all competent users of the language. Doing semantics is attempting to spell out what it is we all know when we behave as if we share knowledge of the meaning of a word, a phrase, or a sentence in a language.

Meaning

While semantics is the study of meaning in language, there is more interest in certain aspects of meaning than in others. We have already ruled out special meanings that one individual might attach to words or what TSA agents believe words mean, as in Ben Bergen’s story quoted earlier. That is, our main interest is in what we might describe as the widely accepted objective or factual meaning of words and not their subjective or personal meaning. This distinction is generally presented in terms of **referential meaning** as opposed to **associative** or **emotive meaning**, such as feelings or reactions to words that may be found among some individuals or groups but not others.

Referential meaning covers those basic, essential components of meaning that are conveyed by the literal use of a word. It is the type of meaning that dictionaries are designed to describe. Some of the basic components of a word like *needle* in English might include “thin, sharp, steel instrument.” These components would be part of the referential meaning of *needle*. However, different people might have different associations or connotations attached to a word like *needle*. They might associate it with “pain,” or “illness,” or “blood,” or “drugs,” or “thread,” or “knitting,” or “hard to find” (especially in a haystack), and these associations may differ from one person to the next. These associations can’t be part of the word’s referential meaning.

One way in which the study of basic referential meaning might be helpful would be as a means of accounting for the “oddness” we experience when we read sentences such as the following:

The hamburger ate the boy.

The table listens to the radio.

The horse is reading the newspaper.

We should first note that the oddness of these sentences does not derive from their syntactic structure. According to the basic syntactic rules for forming English sentences (presented in Chapter 8), we have well-formed structures.

NP	V	NP
<i>The hamburger</i>	<i>ate</i>	<i>the boy</i>

This sentence is syntactically good, but semantically odd. Since the sentence *The boy ate the hamburger* is perfectly acceptable, we may be able to identify the source of the problem. The components of the referential meaning of the noun *hamburger* must be significantly different from those of the noun *boy*, allowing one, not the other, to “make sense” with the verb *ate*. Quite simply, the kind of noun used with *ate* must denote a living or “animate” entity that is capable of “eating.” The noun *hamburger* doesn’t have this property and the noun *boy* does.

Semantic Features

We can also say that in addition to [+animate], *boy* has the feature [+human] and *horse* has [-human]. These examples illustrate a way of analyzing the meaning of words in terms of **semantic features**.

We can then characterize which semantic feature is required in a noun in order for it to appear as the subject of a particular verb. In this way we can predict which nouns (*boy*, *horse*, *hamburger*) would fit in a sentence appropriately and which would be odd, as in the following two. Both *boy* and *horse* would work in the first example, only *boy* would work in the second, and *hamburger* would be odd in both.

The _____ ate all the food.
N [+animate]

The _____ is reading the newspaper.
N [+human]

Componential Analysis

Semantic features have been used to analyze how words in a language are (or are not) connected to each other. Features such as [+human] or [+adult] can be treated as basic elements or components of meaning in an approach called **componential analysis**, as illustrated with one set of connected words in Table 9.1. If we replace [human] with [equine], we can analyze the set *colt*, *filly*, *stallion*, *mare* in the same way.

TABLE 9.1 COMPONENTIAL ANALYSIS

	boy	girl	man	woman
human	+	+	+	+
adult	-	-	+	+
female	-	+	-	+

Words as Containers of Meaning

The approach just outlined is a start on analyzing the basic components of word meaning, but it is not without problems. For many words in a language it may not be as easy to come up with neat components of meaning. If we try to think of the components or features we would use to differentiate the nouns *advice*, *threat* and *warning*, for example, we may not be very successful. Part of the problem seems to be that the approach involves a view of words in a language as some sort of “containers” that carry meaning components. This approach seems to be too restrictive and very limited in terms of practical use. There is more to the meaning of words than these basic types of features.

Semantic Roles

Instead of thinking of words as containers of meaning, we can look at the “roles” they fulfill within the situation described by a sentence. If the situation is a simple event, as in *The boy kicked the ball*, then the verb describes an action (*kick*). The noun phrases in the sentence describe the roles of entities, such as people and things, involved in the action. We can identify a small number of **semantic roles** (also called “thematic roles” or “case roles”) for these noun phrases.

Agent and Theme

In our example sentence, one role is taken by the noun phrase *The boy* as “the entity that performs the action,” technically known as the **agent**. Another role is taken by *the ball* as “the entity that is involved in or affected by the action,” which is called the **theme** (or sometimes the “patient”). The theme can also be an entity (*The ball*) that is simply being described (i.e. not performing an action), as in *The ball was red*.

Agents and themes are the most common semantic roles. Although agents are typically human (*The boy*), as in (1) below, they can also be non-human entities that cause actions, as in noun phrases denoting a natural force (*The wind*), a machine (*A car*), or a creature (*The dog*), all of which affect *the ball* as theme in examples (2)–(4). The theme is typically non-human, but can be human (*the boy*), as in the last sentence (5).

- (1) *The boy kicked the ball.*
- (2) *The wind blew the ball away.*
- (3) *A car ran over the ball.*
- (4) *The dog caught the ball.*
- (5) *The dog chased the boy.*

Instrument and Experiencer

If an agent uses another entity in order to perform an action, that other entity fills the role of **instrument**. In the sentences *The boy cut the rope with an old razor* and *He drew the picture with a crayon*, the noun phrases *an old razor* and *a crayon* are being used in the semantic role of instrument. Note that the preposition *with* is often a clue that the following noun phrase has the role of instrument in English. A related use of *with* is explored in Task G, and noun phrases marked as instruments in another language (Lakhota) can be found in Task H, both on page 143.

When a noun phrase is used to designate an entity as the person who has a feeling, perception or state, it fills the semantic role of **experiencer**. If we *feel*, *know*, *hear* or *enjoy* something, we are not really performing an action (hence we are not agents). We are in the role of experiencer. In the first sentence below, the experiencer (*The woman*) is the only semantic role. In the second example, the question is asking if (*you*) had the experience of hearing the theme (*that noise*).

The woman feels sad
Did you hear that noise?

Location, Source and Goal

A number of other semantic roles designate where an entity is in the description of an event. Where an entity is (*on the table*, *in the room*) fills the role of **location**. Where the entity moves from is the **source** (*from Chicago*) and where it moves to is the **goal** (*to New Orleans*), as in *We drove from Chicago to New Orleans*. When we talk about transferring money *from savings to checking*, the source is *savings* and the goal is *checking*. (Other examples are presented in Task I, page 144.)

All these semantic roles are illustrated in the following scenario. Note that a single entity (e.g. *George*) can appear in several different semantic roles.

Mary	saw	a fly	on the wall.
EXPERIENCER		THEME	LOCATION
She	borrowed	a magazine	from George.
AGENT		THEME	SOURCE
She	squashed	the bug	with the magazine.
AGENT		THEME	INSTRUMENT.
She	handed	the magazine	back to George.
AGENT		THEME	GOAL
“Gee thanks,”	said	George.	
		AGENT	

Lexical Relations

Not only can words be treated as containers of meaning, or as fulfilling roles in events, they can also have “relationships” with each other. In everyday talk, we often explain the meanings of words in terms of their relationships. If we are asked the meaning of the word *conceal*, for example, we might simply say, “It’s the same as *hide*,” or give the meaning of *shallow* as “the opposite of *deep*,” or the meaning of *pine* as “a kind of *tree*.” In doing so, we are characterizing the meaning of each word, not in terms of its component features, but in terms of its relationship to other words. This approach is used in the semantic description of language and treated as the analysis of **lexical relations**. The lexical relations we have just exemplified are synonymy (*conceal/hide*), antonymy (*shallow/deep*) and hyponymy (*pine/tree*).

Synonymy

Two or more words with very closely related meanings are called **synonyms**. They can often, though not always, be substituted for each other in sentences. In the appropriate circumstances, we can say, *What was his answer?* or *What was his reply?* with much the same meaning. Other common examples of synonyms are the following pairs:

<i>almost/nearly</i>	<i>big/large</i>	<i>broad/wide</i>	<i>buy/purchase</i>
<i>cab/taxi</i>	<i>car/automobile</i>	<i>couch/sofa</i>	<i>doctor/physician</i>
<i>freedom/liberty</i>	<i>handbag/purse</i>	<i>hard/difficult</i>	<i>sweat/perspire</i>

We should keep in mind that the idea of “sameness” of meaning used in discussing synonymy is not necessarily “total sameness,” and it is best to think of these pairs as “close synonyms.” There are many occasions when one word is appropriate in a sentence, but its synonym would be odd. For example, whereas the word *answer* fits in the sentence *Sandy had only one answer correct on the test*, the word *reply* would sound odd. Although *broad* and *wide* can both be used to describe a street in a similar way, we only talk about being *in broad agreement* (not *wide*) and *in the whole wide world* (not *broad*). There are also regional differences in the use of synonymous pairs, with *candy*, *chips*, *diaper* and *gasoline* in American English being equivalents of *sweets*, *crisps*, *nappy* and *petrol* in British English.

Synonymous forms may also differ in terms of formal versus informal uses. The sentence *My father purchased a large automobile* has virtually the same meaning as *My dad bought a big car*, with four synonymous replacements, but the second version sounds much more casual or informal than the first.

Antonymy

Two forms with opposite meanings are called **antonyms**. Some common examples are the pairs:

alive/dead big/small buy/sell enter/exit fast/slow
happy/sad hot/cold long/short male/female married/single
old/new raise/lower rich/poor smart/stupid true/false

Antonyms are usually divided into three main types, “gradable” (opposites along a scale), “non-gradable” (direct opposites) and “reversives” (one is the reverse action of the other). We can use **gradable antonyms** in comparative constructions involving adjectives, as in these underlined examples: *I’m smaller than you and slower, sadder, colder, shorter and older, but luckily quite a bit richer*. Also, the negative of one member of a gradable pair does not necessarily imply the other. For example, the sentence *My car isn’t old* doesn’t have to mean *My car is new*.

With **non-gradable antonyms** (also called “complementary pairs”), comparative constructions are not normally used. We don’t typically describe someone as *deader* or *more dead* than another. Also, using the “negative test,” we can see that the negative of one member of a non-gradable pair does imply the other member. That is, *My grandparents aren’t alive* does indeed mean *My grandparents are dead*. Other non-gradable antonyms are the pairs: *male/female*, *married/single* and *true/false*.

Although we can use the “negative test” to identify non-gradable antonyms in a language, we usually avoid describing one member of an antonymous pair as the negative of the other. For example, while *undress* can be treated as the opposite of *dress*, it does not mean “not dress.” It actually means “do the reverse of dress.” Antonyms of this type are called **reversives**. Other examples are *enter/exit*, *pack/unpack*, *lengthen/shorten*, *raise/lower*, *tie/untie*. (See Tasks C and D, page 142.)

Hyponymy

When the meaning of one form is included in the meaning of another, the relationship is described as **hyponymy**. Examples are the pairs: *animal/horse*, *insect/ant*, *flower/rose*. The concept of “inclusion” involved in this relationship is the idea that if an object is a *rose*, then it is necessarily a *flower*, so the meaning of *flower* is included in the meaning of *rose*. Or, *rose* is a hyponym of *flower*.

When we investigate connections based on hyponymy, we are essentially looking at the meaning of words in some type of hierarchical relationship. Try to think quickly of a basic meaning for each of these words: *banyan*, *parakeet*, *terrier*, *turnip*. You can check Figure 9.1 to see if your meaning included hyponymy.

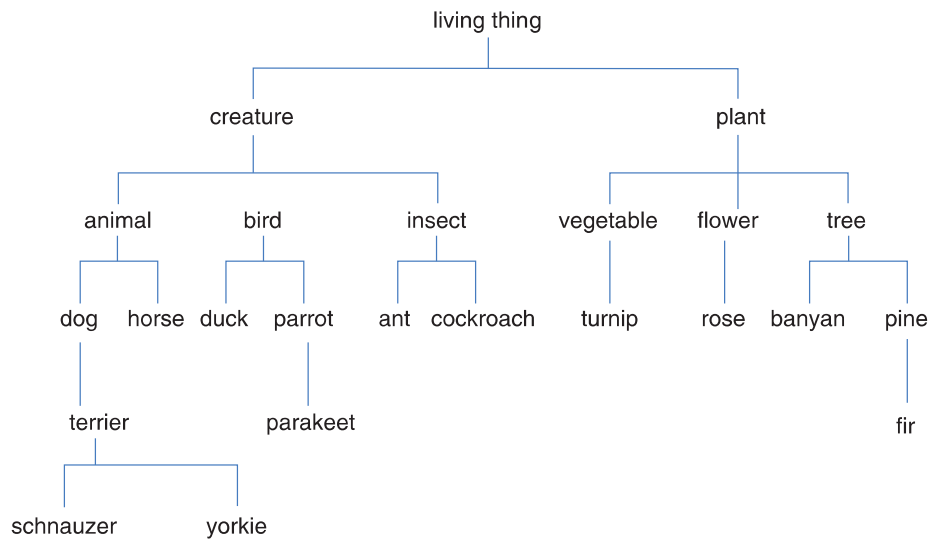


Figure 9.1 Hyponymy

Looking at the examples in Figure 9.1, we can say that “*horse* is a hyponym of *animal*,” “*ant* is a hyponym of *insect*” and “*turnip* is a hyponym of *vegetable*.” In these three examples, *animal*, *insect* and *vegetable* are called the **superordinate** (= higher level) terms. We can also say that two or more words that share the same superordinate term are **co-hyponyms**. So, *dog* and *horse* are co-hyponyms and the superordinate term is *animal*, while *ant* and *cockroach* are co-hyponyms with *insect* as the superordinate. Or *schnauzer* and *yorkie* are co-hyponyms, with *terrier* as one superordinate and *dog* as another at a more general level.

The relation of hyponymy captures the concept of “is a kind of,” as when we give the meaning of a word by saying, “a *schnauzer* is a kind of *dog*.” Sometimes the only thing we know about the meaning of a word is that it is a hyponym of another term. That is, we may know nothing more about the meaning of the word *yorkie* other than that it is a kind of *dog* (also known as a Yorkshire terrier) or that *banyan* is a kind of *tree*.

Of course, it is not only words for “things” that are hyponyms. Words such as *punch*, *shoot* and *stab*, as verbs describing “actions,” can all be treated as co-hyponyms of the superordinate term *injure* and the verbs *bake*, *boil*, *fry* and *grill* as co-hyponyms of the superordinate *cook*. For a lot of people, *microwave* has become another one.

Prototypes

While the words *canary*, *cormorant*, *dove*, *duck*, *flamingo*, *parrot*, *pelican* and *robin* are all equally co-hyponyms of the superordinate *bird*, they are not all considered to be equally good examples of the category “bird.” According to some researchers, the most characteristic instance of the category “bird” is *robin*. The idea of “the characteristic instance” of a category is known as the **prototype**. The concept of a prototype helps explain the meaning of certain words, like *bird*, not in terms of component features (e.g. “has feathers,” “has wings”), but in terms of resemblance to the clearest example. Thus, we might wonder if *ostrich* or *penguin* should be hyponyms of *bird* (technically they are), but we have no trouble deciding about *sparrow* or *pigeon*. These last two are much closer to the prototype.

Given the category label *furniture*, we are quick to recognize *chair* as a better example than *bench* or *stool*. Given *clothing*, people recognize *shirts* quicker than *shoes*, and given *vegetable*, they accept *carrot* before *potato* or *turnip*. It is clear that there is some general pattern to the categorization process involved in prototypes and that it determines our interpretation of word meaning. However, this is one area where individual experience can lead to substantial variation in interpretation. People may disagree over the categorization of words like *avocado* or *tomato* and treat them as co-hyponyms of both *fruit* and *vegetable* in different contexts.

Homophones and Homonyms

When two or more different (written) forms have the same pronunciation, they are described as **homophones**. Common English examples are:

bare/bear *flour/flower* *meat/meet* *pail/pale*
pair/pear *right/write* *sew/so* *to/too/two*

We use the term **homonyms** when one form (written or spoken) has two or more unrelated meanings, as in these examples:

bat (flying creature) – *bat* (used in sports)
mole (on skin) – *mole* (small animal)
pen (writing instrument) – *pen* (enclosed space)
race (contest of speed) – *race* (ethnic group)
sole (single) – *sole* (part of foot or shoe)

The temptation is to think that the two types of *bat* must be related in meaning. They are not. Homonyms are words that have separate histories and meanings, but have accidentally come to have exactly the same form.

Polysemy

When we encounter two or more words with the same form and related meanings, we have what is technically known as **polysemy**. Polysemy (from Greek *poly* “many” and *semy* “meanings”) can be defined as one form (written or spoken) having multiple meanings that are all related by extension. Examples are the word *head*, used to refer to the object on top of your body, froth on top of a glass of beer, person at the top of a company or department or school and many other things. Other examples of polysemy are *foot* (of a person, of a bed, of a mountain), *mouth* (part of a face, a cave, a river) or *run* (person does, water does, colors do).

If we are not sure whether different uses of a single word are examples of homonymy or polysemy, we can check in a dictionary. If the word has multiple meanings (i.e. it is polysemous), there will be a single entry, with a numbered list of the different meanings. If two words are homonyms, they will have two separate entries. In most dictionaries, *bat*, *mail*, *mole*, and *sole* are treated as homonyms whereas *face*, *foot*, *get*, *head* and *run* are treated as examples of polysemy.

Of course, it is possible for two forms to be distinguished via homonymy and for one of the forms also to have various uses via polysemy. The words *date* (= a thing we can eat) and *date* (= a point in time) are homonyms. However, the “point in time” kind of *date* is polysemous in terms of a particular day and month (= on a letter), an arranged meeting time (= an appointment), a social meeting (= with someone we like) and even a person (= that person we like). So the question *How was your date?* could have a number of different interpretations.

Word Play

These last three lexical relations are the basis of a lot of word play, usually for humorous effect. In the nursery rhyme *Mary had a little lamb*, we think of a small animal, but in the comic version *Mary had a little lamb, some rice and vegetables*, we think of a small amount of meat. The polysemy of *lamb* allows the two interpretations. It is recognizing the polysemy of *leg* and *foot* in the riddle *What has four legs, but only one foot?* that leads to a solution (*a bed*).

We can make sense of another riddle *Why are trees often mistaken for dogs?* by recognizing the homonymy in the answer: *Because of their bark*. Shakespeare used homophones (*sun/son*) for word play in the first lines of the play *Richard III*:

*Now is the winter of our discontent
Made glorious summer by this sun of York.*

And if you are asked the following question: *Why is 6 afraid of 7?*, you can understand why the answer is funny (*Because 789*) by identifying the homophones.

Metonymy

The relatedness of meaning found in polysemy is essentially based on similarity. The *head* of a company is similar to the *head* of a person on top of and controlling the body. There is another type of relationship between words, based simply on a close connection in everyday experience. That close connection can be based on a container–contents relation (*bottle/water, can/juice*), a whole–part relation (*car/wheels, house/roof*) or a representative–symbol relationship (*king/crown, the President/the White House*). Using one of these words to refer to the other is an example of **metonymy**.

It is our familiarity with metonymy that makes it possible for us to understand *He drank the whole bottle*, although it sounds absurd literally (i.e. he drank the liquid, not the glass object). We also accept *The White House has announced . . .* or *Downing Street protested . . .* without being puzzled that buildings appear to be talking. We use metonymy when we talk about *filling up the car, answering the door, boiling a kettle, giving someone a hand or needing some wheels*. (See Task F, page 142, for more.)

Collocation

One final aspect of our knowledge of words, and how they are used, has nothing to do with any of the factors considered so far. As mature speakers of a language, we all know which words tend to occur with other words. If you ask a thousand people what they think of when you say *hammer*, more than half will say *nail*. If you say *table*, they'll mostly say *chair*, *needle* elicits *thread* and *salt* elicits *pepper*. One way we seem to organize our knowledge of words is simply on the basis of **collocation**, or frequently occurring together.

In recent years, the study of which words occur together, and their frequency of co-occurrence, has received a lot more attention in **corpus linguistics**. A corpus is a large collection of texts, spoken or written, typically stored as a database in a computer. Those doing corpus linguistics can then use the database to find out how often specific words or phrases occur and what types of collocations are most common. Some of the most common collocations are actually everyday phrases which may consist of several words used together, as in *I don't know what to do* (six words), *you know what I mean* (five words) or *they don't want to* (four words). See Task G page 257 in Chapter 16, for more examples.

We can also look into the corpus for specific words, extract a set of examples in context and arrange them in concordance lines, as illustrated in Figure 9.2.

Concordance

A **concordance** is a listing of each occurrence of a word (or phrase) in a corpus, along with the words surrounding it. The word being studied is described as the “key word in context” (KWIC). In the examples presented in Figure 9.2, from Taylor (2016: 112), the key word is *sarcastic*. From these examples, it is clear that *sarcastic* conveys an evaluation of behavior, with a range of negative terms (e.g. *abusive, condescending, hateful*) accompanying it. By far the most common collocate is the word *rude*, indicating that being *sarcastic* is frequently evaluated as a form of impoliteness, with an interpersonal meaning, adding to the referential meaning in the dictionary.

- 1 *I can't without being a bit **sarcastic** or rude. I'll simply photocopy and submit*
- 2 *to me – I mean if they were being **sarcastic** or rude, I think I would have noticed*
- 3 *don't wish to come across as rude, **sarcastic** or condescending. It does make*
- 4 *someone who is hotheaded rude **sarcastic** tactless won't give an inch etc. All your words*
- 5 *become more and more **sarcastic**, rude, whatever, until I respond. He's with some*
- 6 *words like rude, abusive and **sarcastic** keep cropping up when people deal with them*
- 7 *what comes out of her mouth is rude, **sarcastic** and downright mean it's hard to cope*
- 8 *demonstrative and hateful, rude, **sarcastic** and aggressive, I have very little support*
- 9 *customer service was very rude and **sarcastic**. Finally we had enough and said we*
- 10 *giving them an acerbic or **sarcastic** response is rude unless they were snarling in*

Figure 9.2 Concordance lines

Research of this type provides more evidence that our understanding of what words and phrases mean is tied to the contexts in which they are typically used. We will look at other aspects of the role of context in the interpretation of meaning in Chapter 10.



10 Pragmatics

In the late 1960s, two elderly American tourists who had been touring Scotland reported that, in their travels, they had come to a Scottish town in which there was a great ruined cathedral. As they stood in the ruins, they saw a small boy and they asked him when the cathedral had been so badly damaged. He replied in the war. Their immediate interpretation, in the 1960s, was that he must be referring to the Second World War which had ended only twenty years earlier. But then they thought that the ruins looked as if they had been in their dilapidated state for much longer than that, so they asked the boy which war he meant. He replied the war with the English, which, they eventually discovered, had formally ended in 1745.

Brown (1998)

In Chapter 9, we focused on referential meaning and the relationships between words. There are other aspects of meaning that depend more on context and the communicative intentions of speakers. In Gill Brown's story, the American tourists and the Scottish boy seem to be using the word *war* with essentially the same basic meaning. However, the boy was using the word to refer to something the tourists didn't expect, hence the initial misunderstanding. Communication clearly depends on not only recognizing the meaning of words in an utterance, but also recognizing what speakers mean by their utterances in a particular context. The study of what speakers mean, or "speaker meaning," is called **pragmatics**.

Invisible Meaning

In many ways, pragmatics is the study of “invisible” meaning, or how we recognize what is meant even when it is not actually said or written. In order for that to happen, speakers (or writers) must be able to depend on a lot of shared assumptions and expectations when they try to communicate. The investigation of those assumptions and expectations provides us with some insight into how we understand more than just the linguistic content of utterances. From the perspective of pragmatics, more is always communicated than is said. This pragmatic principle lies behind our ability to interpret the sign in Figure 10.1. You might think it means that we can park our “heated attendant” in this place. (They take attendants, heat them up, and this where they park them.) Alternatively, the sign may indicate a place where parking will be carried out by attendants who have been heated. (Maybe they will be more cheerful.) The words in the sign may allow these interpretations, but we prefer to think that we can park a car here, in a heated area, with an attendant to look after it. But how do we know that when the sign doesn’t even have the word *car* on it?



Figure 10.1 Street sign

Context

It must be the case that we interpret the words (the “text”) in a specific situation (the “context”) with pre-existing assumptions about a likely message. The meaning of the text is not in the words alone, but in what we think the writer intended to communicate in that context.

A similar process is at work in making sense of the newspaper advertisement in Figure 10.2. By analogy with the expression *Furniture Sale*, we might think that someone is announcing the sale of some very young children here. But we resist that interpretation and assume that it is clothes for those children that are on sale. Yet the word *clothes* is nowhere in the message. It is part of what we bring to our interpretation in that context.

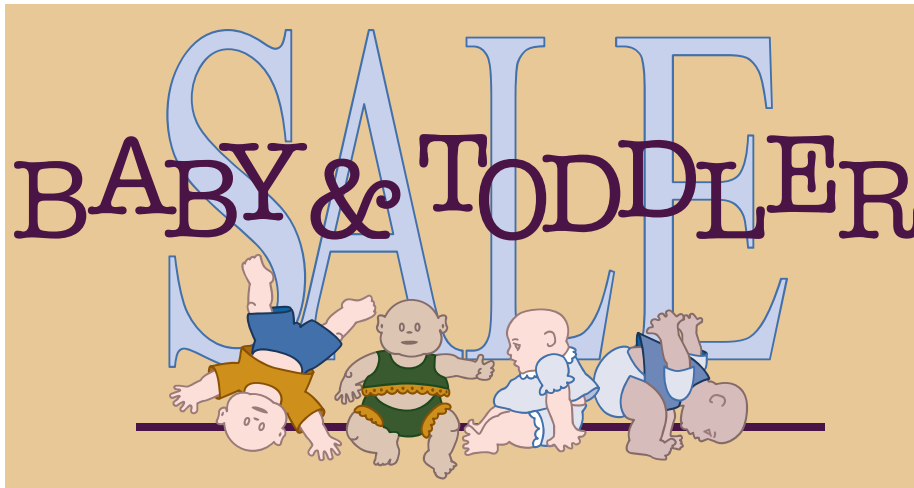


Figure 10.2 Newspaper ad

In these two examples, the influence of the context is crucial. In these cases, it is largely the **physical context**, the location “out there” where we encounter words and phrases. When we see the word *Bank* on a wall of a building, we interpret it in terms of a financial institution in that context. However, if you read about *an overgrown steep bank by the river*, you will have a different interpretation of the word *bank*. In this second interpretation it is the **linguistic context**, the surrounding words, also known as **co-text**, that helps us understand what is meant. Both physical context and linguistic context play important roles in how we make sense of any text.

Deixis

There are some very common words in our language that can't be interpreted at all if we don't know the context. These are words such as *here* and *there*, *this* or *that*, *now* or *then*, *yesterday*, *today* or *tomorrow*, as well as pronouns such as *you*, *me*, *she*, *him*, *it*, *them*. Some sentences of English are virtually impossible to understand if we don't know who is speaking, about whom, where and when. For example, what is the meaning of: *You'll have to bring it back tomorrow because she isn't here today?*

Out of context, this sentence is really vague. It contains a large number of expressions (*you*, *it*, *tomorrow*, *she*, *here*, *today*) that rely on knowledge of the local context for their interpretation. In context, we are expected to understand that the delivery driver (*you*) will have to return on February 15th (*tomorrow*) to 660 College Drive (*here*) with the long box (*it*) labeled "flowers, handle with care" addressed to Lisa Landry (*she*). For more examples, see Tasks C and D on pages 159–160.

Expressions such as *tomorrow* and *here* are technically known as **deictic** (/daɪkɪk/) **expressions**, from the Greek word **deixis**, which means "pointing" via language. We use deixis to point to people (*us*, *them*, *those idiots*), places (*here*, *over there*) and times (*now*, *last week*). All these deictic expressions are interpreted in terms of which person, place or time the speaker has in mind. As shown in Table 10.1, we also make a broad distinction between what is close to the speaker (*this*, *here*, *now*) and what is distant or not close to the speaker (*that*, *there*, *then*).

TABLE 10.1 DEICTIC EXPRESSIONS

	Close to speaker	Not close to speaker
Person deixis	<i>me, us, ours, this girl</i>	<i>him, them, that woman, those idiots</i>
Spatial deixis	<i>here, this bed, behind me</i>	<i>there, those hills, over yonder</i>
Temporal deixis	<i>now, today, this morning</i>	<i>then, yesterday, last week, next year</i>

This distinction may also be used to express emotions. If something is close, but we don't like it, we can use a "not close" term to describe it, thereby pushing it away from us by using deixis. A large bowl of cold tomato soup (which you hate) is placed in front of you (so it is close), but you find yourself saying, *I can't eat **that***.

We can also indicate whether movement is away from the speaker (*go*) or toward the speaker (*come*). Just think about the difference between telling someone to *Go to bed* versus *Come to bed*. Deixis can even be entertaining. The bar owner who puts up a big sign that reads *Free Beer Tomorrow* (to get you to return to the bar) can always claim that you are just one day too early for the free drink.

Reference

In discussing deixis, we assumed that the use of words to refer to people, places and times was a simple matter. However, words themselves don't refer to anything. People refer. We have to define **reference** as an act by which a speaker (or writer) uses language to enable a listener (or reader) to identify something. To perform an act of reference, we can use proper nouns (*Chomsky, Jennifer, Whiskas*), other nouns in phrases (*a writer, my friend, the cat*) or pronouns (*he, she, it*). We sometimes assume that these words identify someone or something uniquely, but it is more accurate to say that, for each word or phrase, there is a "range of reference." The words *Jennifer* or *friend* or *she* can be used to refer to many entities in the world. As we observed earlier, an expression such as *the war* doesn't directly identify anything by itself, because its reference depends on who is using it.

We can also refer to things when we are not sure what to call them. We can use expressions such as *the blue thing* and *that icky stuff* and we can even invent names. For instance, there was a man who always drove his motorcycle fast and loud through my neighborhood and was locally referred to as *Mr. Kawasaki*. In this case, a brand name for a motorcycle is being used to refer to a person.

Inference

As in the "Mr. Kawasaki" example, a successful act of reference depends more on the listener/reader's ability to recognize what the speaker/writer means than on the listener's "dictionary" knowledge of a word that is used. For example, in a restaurant, one waiter can ask another, *Where's the spinach salad sitting?* and receive the reply, *He's sitting by the door*. If you're studying linguistics, you might ask someone, *Can I look at your Chomsky?* and get the response, *Sure, it's on the shelf over there*. And when you hear that *Jennifer is wearing Calvin Klein*, you avoid imagining someone called Calvin draped over poor Jennifer and recognize that they are talking about her clothing.

These examples make it clear that we can use nouns associated with things (*salad*) to refer to people, and use names of people (*Chomsky, Calvin Klein*) to refer to things. The key process here is called **inference**. An inference is additional information used by the listener to create a connection between what is said and what must be meant. In the *Chomsky* example, the listener has to operate with the inference: "if X is the name of the writer of a book, then X can be used to identify a copy of a book by that writer." Similar types of inferences are necessary to understand someone who says that *Picasso is in the museum*, *We saw Shakespeare in London*, *Mozart was playing in the background* and *The bride wore Giorgio Armani*.

Anaphora

We usually make a distinction between how we introduce new referents (*a puppy*) and how we refer back to them (*the puppy, it*).

*We saw a funny home video about a boy washing a puppy in a small bath.
The puppy started struggling and shaking and the boy got really wet.
 When he let go, it jumped out of the bath and ran away.*

In this type of referential relationship, the second (or subsequent) referring expression is an example of **anaphora** (“referring back”). The first mention is called the **antecedent**. So, in our example, *a boy, a puppy* and *a small bath* are antecedents and *The puppy, the boy, he, it* and *the bath* are anaphoric expressions.

There is a much less common pattern, called **cataphora**, which reverses the antecedent–anaphora relationship by beginning with a pronoun (*It*), then later revealing more specific information. This device is more common in stories, as in this beginning: *It suddenly appeared on the path a little ahead of me, staring in my direction and sniffing the air. An enormous grizzly bear was checking me out.*

Anaphora is, however, the more common pattern and can be defined as subsequent reference to an already introduced entity. Mostly we use anaphora in texts to maintain reference. The connection between an antecedent and an anaphoric expression is created through a pronoun (*it*), or a phrase with *the* plus the antecedent noun (*the puppy*), or another noun that is related to the antecedent in some way (*The little dog ran out of the room*). The connection between antecedents and anaphoric expressions is often based on inference, as in these examples:

*We found a house to rent, but the kitchen was very small.
 I got on a bus and asked the driver if it went near the downtown area.*

In the first example, we must make an inference like “if X is a house, then X has a kitchen” in order to interpret the connection between antecedent *a house* and anaphoric expression *the kitchen*. In the second example, we must make an inference like “if X is a bus, then X has a driver” in order to make the connection between *a bus* and *the driver*. In some cases, the antecedent can be a verb, as in: *The victim was shot twice, but the gun was never recovered*. Here the inference is that any “shooting” event must involve a gun. We have used the term “inference” here to describe what the listener (or reader) does.

When we talk about an assumption made by the speaker (or writer), we usually talk about a “presupposition.”

Presupposition

When we use a referring expression like *this*, *he* or *Jennifer*, we usually assume that our listeners can recognize which referent is intended. In a more general way, we design our linguistic messages on the basis of large-scale assumptions about what our listeners already know. What a speaker (or writer) assumes is true or known by a listener (or reader) can be described as a **presupposition**.

If someone tells you *Hey, your brother is looking for you*, there is an obvious presupposition that you have a brother. If you are asked the question *When did you stop smoking?*, there are at least two presuppositions involved: you used to smoke and you no longer do so. There is a test for presuppositions that involves comparing a sentence with its negative version and identifying which presuppositions remain true in both. This is called “constancy under negation.” Whether you say *My car is a wreck* or the negative *My car is not a wreck*, there is an underlying presupposition (*I have a car*) that remains true. For more examples, see Task G on page 161.

Pragmatic Markers

Speakers have other ways of indicating how their utterances are to be interpreted. They can include short forms such as *you know*, *well*, *I mean*, *I don't know*, which are optional and loosely attached to the utterance. These are **pragmatic markers** and they can be used to mark a speaker's attitude to the listener or to what is being said. Speakers can use *you know* to indicate that knowledge is being treated as shared, and *I mean* to self-correct or to mark an attempt to clarify something.

*They had been reading something by Charles Wright, **you know**, the famous poet and **well, I mean**, he's famous in America at least, but em they didn't really understand it.*

After making a statement about the poet, the speaker uses *well* to mark a shift from conveying information to commenting on it, with *I mean* introducing a clarification.

A more recent change of function has turned *I don't know* into a pragmatic marker. This phrase has evolved from a way of indicating lack of knowledge (*What's a lychee? ~ I don't know*) to become a marker of hesitation or uncertainty when a speaker is about to say something potentially in disagreement with another speaker.

LEE: *I'm not very fond of Edinburgh it's so drab and it's always cold there.*

JEN: ***Oh, I don't know**, I really enjoyed going to the Festival there last year.*

By appearing hesitant about disagreeing, the speaker can signal a desire not to challenge the other speaker. It seems to be a new way of being polite in interaction.

Politeness

We can think of politeness in general terms as having to do with ideas like being tactful, modest and nice to other people. In the study of linguistic politeness, the most relevant concept is “face.” Your **face**, in pragmatics, is your public self-image. This is the emotional and social sense of self that everyone has and expects everyone else to recognize. **Politeness** can be defined as showing awareness and consideration of another person’s face.

If you say something that represents a threat to another person’s self-image, that is called a **face-threatening act**. For example, if you use a direct command to get someone to do something (*Give me that paper!*), you are behaving as if you have more social power than the other person. If you don’t actually have that social power (e.g. you are not a military officer or prison warden), then you are performing a face-threatening act. An indirect request, in the form associated with a question (*Could you pass me that paper?*), removes the assumption of social power. You are only asking if it is possible. This makes your request less threatening to the other person’s face. Whenever you say something that lessens the possible threat to another’s face, it can be described as a **face-saving act**.

Negative and Positive Face

We have both a negative face and a positive face. (Note that “negative” doesn’t mean “bad” here, it is simply the opposite of “positive.”) **Negative face** is the need to be independent and free from imposition. **Positive face** is the need to be connected, to belong, to be a member of the group. So, a face-saving act that emphasizes a person’s negative face will show concern about imposition (*I’m sorry to bother you . . . ; I know you’re busy, but . . .*). A face-saving act that emphasizes a person’s positive face will show solidarity and draw attention to a common goal (*The same thing happened to me . . . ; Let’s do this together . . .*).

Ideas about the appropriate language to mark politeness differ substantially from one culture to the next. If you have grown up in a culture that has directness as a valued way of showing solidarity, and you use direct commands (*Give me that chair!*) to people whose culture is more oriented to indirectness and avoiding direct imposition, then you will be considered impolite. You, in turn, may think of the others as vague and unsure of whether they really want something or are just asking questions about it (*Are you using this chair?*). In either case, it is the pragmatics that is misunderstood and, unfortunately, more will often be communicated than is said.

The distinction between direct and indirect ways of communicating can be analyzed as different types of linguistic action, or speech acts.

Speech Acts

We use the term **speech act** to describe an action that involves language such as “requesting,” “commanding,” “questioning” or “informing.” To take a more specific example, if you say, *I’ll be there at six*, you are not just uttering a sentence, you seem to be performing the speech act of “promising.” We can define a speech act as the action performed by a speaker with an utterance. (See Task E, page 160, for more.)

In order to understand how utterances can be used to perform actions that are both direct and indirect, we need to visualize a relationship between the structure of an utterance and the normal function of that utterance, as in Table 10.2.

TABLE 10.2 SPEECH ACTS

	Structures	Functions
<i>Did you eat the pizza?</i>	Interrogative	Question
<i>Eat the pizza (please)!</i>	Imperative	Command (Request)
<i>You ate the pizza.</i>	Declarative	Statement

Direct and Indirect Speech Acts

When an interrogative structure such as *Did you . . . ?*, *Is she . . . ?* or *Can you . . . ?* is used with the function of a question, it is described as a **direct speech act**. When you seriously want to know the answer to *Is she wearing a wig?*, that utterance is a direct speech act. If we really don’t know something and we ask for the information (e.g. about ability), we normally use a direct speech act, as in *Can you ride a bicycle?*.

Compare that utterance with *Can you pass the salt?*. In this second example, we are not really asking a question about someone’s ability. We are using an interrogative structure to make a request. This is an example of an **indirect speech act**. Whenever one of the structures in Table 10.2 is used to perform a function other than the one listed beside it on the same line, the result is an indirect speech act. For example, you can also use a declarative structure (*You left the door open*) to make a request (to the person, who just came in from the chilly outside, to close it). That is another indirect speech act.

Indirect speech acts offer fairly good evidence in support of the pragmatic principle, stated earlier, that communication depends on not only recognizing the structure and meaning of words in an utterance, but also recognizing what speakers mean by their utterances in a particular context. We will encounter more examples of this principle at work in Chapter 11.



11 Discourse Analysis

There's two types of favors, the big favor and the small favor. You can measure the size of the favor by the pause that a person takes after they ask you to "Do me a favor." Small favor – small pause. "Can you do me a favor, hand me that pencil." No pause at all. Big favors are, "Could you do me a favor . . ." Eight seconds go by. "Yeah? What?"

" . . . well." The longer it takes them to get to it, the bigger the pain it's going to be.

Humans are the only species that do favors. Animals don't do favors. A lizard doesn't go up to a cockroach and say, "Could you do me a favor and hold still, I'd like to eat you alive." That's a big favor even with no pause.

Seinfeld (1993)

In the study of language, some of the most interesting observations are made, not in terms of the components of language, but in terms of the way language is used, even how pauses are used, as in Jerry Seinfeld's commentary. We have already considered some of the features of language in use when we discussed pragmatics in Chapter 10. We were, in effect, asking how it is that language-users successfully interpret what other language-users intend to convey. When we carry this investigation further and ask how we make sense of what we read, how we can recognize well-constructed texts as opposed to those that are jumbled or incoherent, how we understand speakers who communicate more than they say, and how we successfully take part in that complex activity called conversation, we are undertaking what is known as **discourse analysis**.

Discourse

The word **discourse** is usually defined as “language beyond the sentence” and so the analysis of discourse is typically concerned with the study of language in texts and conversation. In many of the preceding chapters, when we were concentrating on linguistic description, we were concerned with the accurate representation of the forms and structures. However, as language-users, we are capable of more than simply recognizing correct versus incorrect forms and structures. We can cope with fragments in newspaper headlines such as *Trains collide, two die*, and know that what happened in the first part was the cause of what happened in the second part. We can also make sense of notices like *No shoes, no service*, on shop windows in summer, understanding that a conditional relation exists between the two parts (“If you are wearing no shoes, you will receive no service”). We have the ability to create complex discourse interpretations of fragmentary linguistic messages.

Interpreting Discourse

We can even cope with texts, written in English, which we couldn’t produce ourselves and which appear to break a lot of the rules of the English language. Yet we can build an interpretation. The following example, provided by Eric Nelson, is from an essay by a student learning English and contains ungrammatical forms and misspellings, yet it can be understood.

My Town

My natal was in a small town, very close to Riyadh capital of Saudi Arabia. The distant between my town and Riyadh 7 miles exactly. The name of this Almasani that means in English Factories. It takes this name from the peopl’s carrer. In my childhood I remmeber the people live. It was very simple. Most the people was farmer.

This example may serve to illustrate a simple point about the way we react to language that contains ungrammatical forms. Rather than simply rejecting the text as ungrammatical, we try to make sense of it. That is, we attempt to arrive at a reasonable interpretation of what the writer intended to convey. (Most people say they understand the “My Town” text quite easily.)

It is this effort to interpret (or to be interpreted), and how we accomplish it, that are the key elements investigated in the study of discourse. To arrive at an interpretation, and to make our messages interpretable, we certainly rely on what we know about linguistic form and structure. But, as language-users, we have more knowledge than that.

Cohesion

We know, for example, that texts must have a certain structure that depends on factors quite different from those required in the structure of a single sentence. Some of those factors are described in terms of **cohesion**, or the formal ties and connections that exist within texts. There are several **cohesive ties** in this text.

My father once bought a Lincoln convertible. He did it by saving every penny he could. That car would be worth a fortune nowadays. However, he sold it to help pay for my college education. Sometimes I think I'd rather have the convertible.

We can identify connections here in the use of words to maintain reference to the same people and things throughout. There are also connections created by terms that share a common element of meaning, such as “money” and “time.” The verb tenses in the first four sentences are in the past, creating a connection between those events, in contrast to the present tense of the final sentence marking a change in time and focus. These cohesive ties are listed in Table 11.1. See Task B on page 178 for more.

TABLE 11.1 COHESIVE TIES

People	<i>My father – He – he – he; My – my – I – I</i>
Things	<i>A Lincoln convertible – That car – it – the convertible</i>
Money	<i>bought – saving every penny – worth a fortune – sold – pay</i>
Time	<i>once – nowadays – sometimes</i>
Tenses	<i>past (bought) – past (did) – past (could) – past (sold) – present (think)</i>

Analysis of these cohesive ties gives us some insight into how writers structure what they want to say. However, by itself, cohesion is not sufficient to enable us to make sense of what we read. It is quite easy to create a text that has a lot of cohesive ties, but is difficult to interpret. Note that the following text has these connections in *Lincoln – the car, red – that color, her – she* and *letters – a letter*.

My father bought a Lincoln convertible. The car driven by the police was red. That color doesn't suit her. She consists of three letters. However, a letter isn't as fast as a telephone call.

It becomes clear from this type of example that the “connectedness” we experience in our interpretation of normal texts is not simply based on connections between words. There must be another factor that helps us distinguish connected texts that make sense from those that do not. This factor is usually described as “coherence.”

Coherence

The key to the concept of **coherence** (“everything fitting together well”) is not something that exists in the words or structures of discourse, like cohesion, but something that exists in people. It is people who “make sense” of what they read and hear. They try to arrive at an interpretation that is in line with their experience of the way the world is. You may have tried quite hard to make the last example fit some situation that accommodated all the details (involving a red car, a woman and a letter) into a single coherent interpretation. In doing so, you would necessarily be involved in a process of bringing other information to the text. This process is not restricted to trying to understand “odd” texts. It seems to be involved in our interpretation of all discourse.

For example, you pick up a newspaper and see this headline: *Woman robs bank with sandwich*. As you try to build a coherent interpretation, you probably focus on the *sandwich* part because there is something odd about this situation. Is she just carrying a sandwich, or is she eating the sandwich (taking occasional bites), or is she acting as if the sandwich is a weapon (concealed in a bag perhaps)? Deciding which interpretation is appropriate cannot be accomplished based on only the words in the headline. We need to bring information from our experience to create a plausible situation. If you decided on the “pretend gun in bag” situation, then your coherence-creating mind would appear to be in good working order.

We also depend on coherence in coping with everyday conversation. We are continually taking part in conversational interactions where a great deal of what is meant or communicated cannot actually be found in what is said. In this brief interaction (from Widdowson, 1978), there are no cohesive ties connecting the three utterances, so we must be using some other means to make sense of it. One way to understand what is going on is to consider the three parts of the interaction in terms of speech acts (introduced in Chapter 10). These are listed on the right, providing a way of analyzing the interaction by identifying what makes it coherent for the participants.

HER: *That's the telephone.* (She makes a request of him to perform action)

HIM: *I'm in the bath.* (He states reason why he cannot comply with request)

HER: *OK.* (She accepts reason)

If this is a reasonable analysis of what took place in the brief interaction, then it is clear that language-users must have a lot of knowledge of how conversation works that is not simply knowledge of words and sentences, but must involve familiarity with a lot of other types of structures and their typical functions.

Conversation Analysis

In simple terms, English conversation can be described as an activity in which, for the most part, two or more people take **turns** at speaking. Typically, only one person speaks at a time and there tends to be an avoidance of silence between speaking turns. (This is not true in all situations or societies.) If more than one participant tries to talk at the same time, one of them usually stops, as in the following example, where A stops until B has finished.

A: *Didn't you [know wh-*

B: *[But he must've been there by two*

A: *Yes but you knew where he was going*

(A small square bracket [is conventionally used to indicate a place where simultaneous or overlapping speech occurs.)

For the most part, participants wait until one speaker indicates that he or she has finished, usually by signaling a **completion point**. Speakers can mark their turns as complete in a number of ways: by asking a question, for example, or by pausing at the end of a completed syntactic structure like a phrase or sentence. Other participants can indicate that they want to take the speaking turn, also in a number of ways. They can start to make short sounds, usually repeated, while the speaker is talking, and often use body shifts or facial expressions to signal that they have something to say. (For more on conversation, see Task C, on page 179, and Task F on page 180)

Turn-Taking

There are different expectations of conversational style and different strategies of participation in conversation, which may result in slightly different conventions of **turn-taking**. One strategy, which may be overused by “long-winded” speakers or those who are used to “holding the floor,” is designed to avoid having normal completion points occur. We all use this strategy to some extent, usually in situations where we have to work out what we are trying to say while actually saying it.

If the normal expectation is that completion points are marked by the end of a sentence and a pause, then one way to “keep the turn” is to avoid having those two markers occur together. That is, don't pause at the end of sentences; make your sentences run on by using connectors like *and*, *and then*, *so*, *but*; place your pauses at points where the message is clearly incomplete; and preferably “fill” the pause with a hesitation marker such as *er*, *em*, *uh*, *ah*.

Pauses and Filled Pauses

In the following example, note how the pauses (marked by . . .) are placed before and after verbs rather than at the end of sentences, making it difficult to get a clear sense of what this person is saying until we hear the part after each pause.

A: *that's their favorite restaurant because they . . . enjoy French food and when they were . . . in France they couldn't believe it that . . . you know that they had . . . that they had had better meals back home*

In the next example, speaker X produces **filled pauses** (with *em*, *er*, *you know*) after having almost lost the turn at his first brief hesitation.

X: *well that film really was . . . [wasn't what he was good at*

Y: *[when di-*

X: *I mean his other . . . em his later films were much more . . . er really more in the romantic style and that was more what what he was . . . you know . . . em best at doing*

Y: *so when did he make that one*

Adjacency Pairs

That last example would seem to suggest that conversation is a problematic activity where speakers have to pay close attention to what is going on. That is not normally the case because a great deal of conversational interaction follows some fairly well established patterns. When someone says *Hi* or *Hello*, we usually respond with a similar greeting. This type of almost automatic sequence is called an **adjacency pair**, which consists of a first part and a second part, as found in greetings, question–answer (Q ~ A) sequences, thanking and leave-taking.

First part

YOU: *Good mornin'.*

YOU: *Where's Mary?*

YOU: *Thanks for your help yesterday.*

YOU: *Okay, talk to you later.*

Second part

ME: *Good mornin'.*

ME: *She's at work already.*

ME: *Oh, you're welcome.*

ME: *Bye.*

These examples illustrate the basic pattern, but not all first parts are immediately followed by second parts. For example, one question may not receive its answer until after another question–answer sequence. (See Task E, on page 179, for more.)

Insertion Sequences

In the following example, the sequence Q2 ~ A2 comes between the first question (Q1) and its answer (A1). This is called an **insertion sequence**, that is, an adjacency pair that comes between the first and second parts of another pair.

YOU: *Do you want some milk?* (= Q1)
 ME: *Is it soy milk?* (= Q2)
 YOU: *Of course.* (= A2)
 ME: *Okay, thanks.* (= A1)

In some situations, a complex structure can emerge from the effect of insertion sequences. This is often the case in “service encounters,” as in our next example. Notice how it is only in the middle of this interaction (Q3 ~ A3) that we have an adjacency pair together, while insertion sequences delay the occurrence of second parts for each of the other first parts.

BUD: *Can I order pizza to go?* (= Q1)
 DAN: *What kind would you like?* (= Q2)
 BUD: *Do you have any special deals?* (= Q3)
 DAN: *Well, you can get two veggie supremes for the price of one.* (= A3)
 BUD: *Okay, I'd like that deal.* (= A2)
 DAN: *Sure thing. We'll have that ready for you in no time.* (= A1)

We are not normally aware of most of these aspects of conversational structure, but speakers sometimes draw attention to the need for a second part once a first part has been uttered. In the following interaction, originally analyzed by Sacks (1972: 341), a mother immediately notices the absence of a spoken return greeting by her daughter and draws attention to the social expectation involved.

WOMAN: *Hi, Annie.*
 MOTHER: *Annie, don't you hear someone say hello to you?*
 WOMAN: *Oh, that's okay, she smiled hello.*
 MOTHER: *You know you're supposed to greet someone, don't you?*
 ANNIE: [Hangs head] *Hello.*

The expectations we all have that certain patterns of turn-taking will occur in conversation are connected to a more general aspect of socially situated interaction, that it will be “co-operative.” This observation is actually a principle of conversation.

The Co-operative Principle

An underlying assumption in most conversational exchanges is that the participants are co-operating with each other. This principle, plus four elements, or “maxims,” were first described by the philosopher Paul Grice (1975: 45), and are often referred to as the “Gricean maxims,” as presented in Table 11.2.

TABLE 11.2 GRICEAN MAXIMS

The Co-operative Principle: Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.
The Quantity maxim: Make your contribution as informative as is required, but not more, or less, than is required.
The Quality maxim: Do not say that which you believe to be false or for which you lack adequate evidence.
The Relation maxim: Be relevant.
The Manner maxim: Be clear, brief and orderly.

In simple terms, we expect our conversational partners to make succinct, honest, relevant and clear contributions to the interaction and to signal to us in some way if these maxims are not being followed. It is certainly true that, on occasion, we can experience conversational exchanges in which the co-operative principle may not seem to be in operation. However, this general description of the normal expectations we have in conversation helps to explain a number of regular features in our talk. For example, during their lunch break, one woman asks another how she likes the sandwich she is eating and receives the following answer.

Oh, a sandwich is a sandwich.

In logical terms, this reply appears to have no communicative value since it states something obvious and hence would appear to be a **tautology**. Repeating a phrase that adds nothing would hardly count as an appropriate answer to a question. However, if the woman is being co-operative and adhering to the Quantity maxim about being “as informative as is required,” then the listener must assume that her friend is communicating something. Given the opportunity to evaluate the sandwich, her friend has responded without an explicit evaluation, thereby implying that she has no opinion, good or bad, to express. That is, her friend has communicated that the sandwich is not worth talking about. (See Task D, on page 179, for more.)

Hedges

We can use certain types of expressions, called **hedges**, to show that we are concerned about following the maxims while being co-operative speakers. Hedges can be defined as words or phrases used to indicate that we are not really sure that what we are saying is sufficiently correct or complete. We can use *sort of* or *kind of* as hedges on the accuracy of our statements, as in descriptions such as *His hair was kind of long* or *The book cover is sort of yellow*. These are examples of hedges on the Quality maxim. Other examples would include the following expressions that people sometimes use as they begin a conversational contribution.

As far as I know . . .
Correct me if I'm wrong, but . . .
I'm not absolutely sure, but . . .

We also take care to indicate that what we report is something we *think* or *feel* (not *know*), is *possible* (not *certain*), and *may* (not *must*) happen. Hence the difference between saying *Jackson is guilty* and *I think it's possible that Jackson may be guilty*. In the first version, people will assume you have very good evidence for the statement.

Implicatures

When we try to analyze how hedges work, we usually talk about speakers implying something that is not said. Similarly, in considering what the woman meant by *a sandwich is a sandwich*, we decided that she was implying that the sandwich was not worth talking about. With the co-operative principle and the maxims as guides, we can start to work out how people actually decide that someone is “implying” something in conversation. Consider the following example.

CAROL: *Are you coming to the party tonight?*
 LARA: *I've got an exam tomorrow.*

On the face of it, Lara's statement is not an answer to Carol's question. Lara doesn't say *Yes* or *No*. Yet Carol will interpret the statement as meaning “No” or “Probably not.” How can we account for this ability to grasp one meaning from a sentence that, in a literal sense, means something else? It seems to depend on the assumption that Lara is being relevant (Relation) and informative (Quantity). Given that Lara's original answer contains relevant information, Carol can work out that “exam tomorrow” involves “study tonight,” and “study tonight” precludes “party tonight.” Thus, Lara's answer is not just a statement about tomorrow's activities, it contains an **implicature** (an additional conveyed meaning) concerning tonight's activities.

Background Knowledge

It is noticeable that, in order to analyze the conversational implicature involved in Lara's statement, we had to describe some background knowledge (about exams, studying and partying) that must be shared by the conversational participants. Investigating how we use our background knowledge to arrive at interpretations of what we hear and read is a critical part of doing discourse analysis.

The processes involved in using background knowledge can be illustrated in the following exercise (from Sanford and Garrod, 1981). Begin with these sentences:

John was on his way to school last Friday.

He was really worried about the math lesson.

Most readers report that they think John is probably a schoolboy. Since this piece of information is not directly stated in the text, it must be an inference. Other inferences, for different readers, are that John is walking or that he is on a bus. These inferences are clearly derived from our conventional knowledge, in our culture, about "going to school," and no reader has ever suggested that John is swimming or on a boat, though both are physically possible interpretations.

An interesting aspect of the reported inferences is that readers can quickly abandon them if they do not fit in with some subsequent information.

Last week he had been unable to control the class.

On encountering this sentence, most readers decide that John must be a teacher and that he is not very happy. Many report that he is probably driving a car to school.

It was unfair of the math teacher to leave him in charge.

Suddenly, John reverts to his schoolboy status, and the inference that he is a teacher is quickly abandoned. The final sentence of the text contains a surprise.

After all, it is not a normal part of a janitor's duties.

This type of text and manner of presentation, one sentence at a time, is rather artificial, of course. Yet the exercise does provide us with some insight into the ways in which we "build" interpretations of what we read by using more information than is presented in the words on the page. We actually create what the text is about, based on our expectations of what normally happens. To describe this phenomenon, researchers often use the concept of a "schema" or a "script."

Schemas and Scripts

A **schema** is a general term for a conventional knowledge structure that exists in memory. We were using our conventional knowledge of what a school classroom is like, or a “classroom schema,” as we tried to make sense of the previous example. We have many schemas (or schemata) that are used in the interpretation of what we experience and what we hear or read about. If you hear someone describe what happened during a visit to a supermarket, you don’t have to be told what is in a supermarket. You already have a “supermarket schema” (food displayed on shelves, arranged in aisles, shopping carts and baskets, check-out counter and so on).

Similar in many ways to a schema is a **script**. A script is essentially a dynamic schema. That is, instead of the set of typical fixed features in a schema, a script has a series of conventional actions that take place. You have a script for “Going to the dentist” and another script for “Going to the movies.” We all have versions of an “Eating in a restaurant” script, which we can activate to make sense of this text.

Trying not to be out of the office for long, Suzy went into the nearest place, sat down and ordered an avocado sandwich. It was quite crowded, but the service was fast, so she left a good tip. Back in the office, things were not going well.

On the basis of our restaurant script, we would be able to say a number of things about the scene and events briefly described in this short text. Although the text doesn’t have this information, we would assume that Suzy opened a door to get into the restaurant, that there were tables there, that she ate the sandwich, then she paid for it and so on. The fact that information of this type can turn up in people’s attempts to remember the text is further evidence of the existence of scripts. It is also a good indication of the fact that our understanding of what we read doesn’t come directly from what words and sentences are on the page, but the interpretations we create, in our minds, of what we read.

Indeed, information is sometimes omitted from instructions on the assumption that everybody knows the script. This instruction is from a bottle of cough syrup.

Fill measure cup to line and repeat every 2 to 3 hours.

No, you’ve not just to keep filling the measure cup every 2 to 3 hours. Nor have you to rub the cough syrup on your neck or in your hair. You are expected to know the script and *drink* the stuff from the measure cup every 2 or 3 hours.

Clearly, our understanding of what we read is not only based on what we see on the page (language structures), but also on other things that we have in mind (knowledge structures) as we go about making sense of discourse.