Semantics: The Analysis of Meaning

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. . . in every object there is inexhaustible meaning.

—Thomas Carlyle

Objectives

In this chapter, you will learn:

- how we derive meaning from words and sentences
- how different languages encode concepts in words and sentences
- how we use sentence structure to produce and understand meaning
- how speaker beliefs and attitudes, setting, and context contribute to meaning

Up to now, this book has focused on the form of utterances—their sound pattern, morphological structure, and syntactic organization. But there is more to language than just form. In order for language to fulfill its communicative function, utterances must also convey a message; they must have content. Speaking very generally, we can refer to an utterance's content as its **meaning.**

This chapter is concerned with **semantics,** the study of meaning in human language. Because some work in this complicated area of linguistic analysis presupposes considerable knowledge of other disciplines (particularly logic, mathematics, and philosophy), not all aspects of contemporary semantics are suitable for presentation in an introductory linguistics textbook. We will restrict our attention here to four major topics in semantics: (1) the nature of meaning, (2) some of the properties of the conceptual system underlying meaning, (3) the contribution of syntactic structure to the interpretation of sentences, and (4) the role of nongrammatical factors in the understanding of utterances.

1 The Nature of Meaning

Long before linguistics existed as a discipline, thinkers were speculating about the nature of meaning. For thousands of years, this question has been considered central to philosophy. More recently, it has come to be important in other disciplines as well, including of course linguistics and psychology. Contributions to semantics have come from a diverse group of scholars, ranging from Plato and Aristotle in ancient Greece to Bertrand Russell in the twentieth century. Our goal in this section will be to consider in a very general way what this research has revealed about meaning in human language. We will begin by considering some of the basic analytic notions used in evaluating the meanings of words and sentences.

1.1 Semantic Relations among Words

Words and phrases can enter into a variety of semantic relations with each other. Because

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Table 6.1 Some Synonyms in English

filbert	hazelnut
youth	adolescent
automobile	car
remember	recall
purchase	buy
big	large

Table 6.2 Some Antonyms in English

dark	light
boy	girl
hot	cold
up	down
in	out
come	go

these relations help identify those aspects of meaning relevant to linguistic analysis, they constitute a good starting point for this chapter.

Synonymy. **Synonyms** are words or expressions that have the same meaning in some or all contexts. The following pairs of words in Table 6.1 provide plausible examples of synonymy in English. Because it would be inefficient for a language to have two words or phrases with absolutely identical meanings, perfect synonymy is rare, if not impossible. For example, although *youth* and *adolescent* both refer to people of about the same age, only the latter word can be used to imply immaturity, as in *Such irresponsible behavior— what an adolescent!*

Antonymy. **Antonyms** are words or phrases that are opposites with respect to some component of their meaning. The pairs of words in Table 6.2 provide examples of antonymy. In each of these pairs, the two words contrast with respect to at least one aspect of their meaning. For instance, the meanings of *boy* and *girl* are opposites with respect to gender, although they are alike in other respects (both are human). Similarly, *come* and *go* are opposites with respect to direction, although both involve the concept of movement.

Polysemy and Homophony. Polysemy occurs where a word has two or more related meanings. Table 6.3 contains some examples of polysemous words in English.

If you consult a reasonably comprehensive dictionary for any language, you will find numerous examples of polysemy. For example, my dictionary lists several related meanings for the word *mark*.

1) Polysemy in the meaning of *mark.*
   - a visible trace or impression on something (*The tires left a mark on the road.*)
   - a written or printed symbol (*You need a punctuation mark here.*)
   - a grade, as in school (*He got a good mark on the math test.*)
   - a target (*She hit the mark every time.*)
   - an indication of some quality or property (*The mark of a good diplomat is the ability to negotiate.*)

Homophony exists where a single form has two or more entirely distinct meanings (see Table 6.4). In such cases, it is assumed that there are separate words with the same pronunciation rather than a single word with different meanings. Homophones sound the same but need not have identical

Table 6.3 Some Polysemy in English

Word	Meaning a	Meaning b
bright	'shining'	'intelligent'
to glare	'to shine intensely'	'to stare angrily'
a deposit	'minerals in the earth'	'money in the bank'

Table 6.4 Some Homophones in English

Word	Meaning a	Meaning b
light	'not heavy'	'illumination'
bank	'a financial institution'	'a small cliff at the edge of a river'
club	'a social organization'	'a blunt weapon'
pen	'a writing instrument'	'an enclosure'

spellings — *write* and *right* are homophones, as are *piece* and *peace*.

Polysemy and homophony create **lexical ambiguity,** in that a single form has two or more meanings. Thus, a sentence such as 2 could mean either that Liz purchased an instrument to write with or that she bought an enclosure.

2) Liz bought a *pen*.

Of course, in actual speech, the surrounding words and sentences usually make the intended meaning clear. The lexical ambiguity in sentences such as the following therefore normally goes unnoticed.

3) He got a loan from the *bank*.

4) Because Liz needed a place to keep her goat, she went downtown and bought a *pen* for $100.

The most lexically ambiguous item in English may well be *set*, which has more than 150 entries in the *Oxford English Dictionary*.

1.2 Semantic Relations Involving Sentences

Like words, sentences have meanings that can be analyzed in terms of their relation to other meanings. Three such relations — paraphrase, entailment, and contradiction — are particularly important.

Paraphrase. Two sentences that can have the same meaning are said to be **paraphrases** of each other. The following pairs of sentences provide examples of paraphrase.

5) a. The police chased the burglar.
   b. The burglar was chased by the police.

6) a. I gave the summons to Erin.
   b. I gave Erin the summons.

7) a. It is unfortunate that the team lost.
   b. Unfortunately, the team lost.

8) a. Paul bought a car from Sue.
   b. Sue sold a car to Paul.

9) a. The game will begin at 3:00 p.m.
   b. At 3:00 p.m., the game will begin.

The *a* and *b* sentences in each of the above pairs are obviously very similar in meaning. Indeed, it would be impossible for one sentence to be true without the other also being true. Thus, if it is true that the police chased the burglar, it must also be true that the burglar was chased by the police. (Sentences whose meanings are related to each other in this way are said to have the same **truth conditions** — that is, they are true under the same circumstances.)

For some linguists, this is enough to justify saying that the two sentences have the same meaning. However, you may notice that there are subtle differences in emphasis between the *a* and *b* sentences in 5 through 9. For instance, it is natural to interpret 5*a* as a statement about what the police did and 5*b* as a statement about what happened to the burglar. Similarly, 9*b* seems to place more emphasis on the starting time of the game than 9*a* does. As is the case with synonymy, many linguists feel that languages do not permit two or more structures to have absolutely

identical meanings and that paraphrases are therefore never perfect.

Entailment. When the truth of one sentence guarantees the truth of another sentence, we say that there is a relation of **entailment.** This relation is mutual in the case of examples 5 to 9, since the truth of either sentence in the pair guarantees the truth of the other. In examples such as the following, however, entailment is asymmetrical.

10) a. The park wardens killed the bear.
    b. The bear is dead.

11) a. Prince is a dog.
    b. Prince is an animal.

If it is true that the park wardens killed the bear, then it must also be true that the bear is dead. However, the reverse does not follow since the bear could be dead without the park wardens having killed it. Similarly, if it is true that Prince is a dog, then it is also true that Prince is an animal. Once again, though, the reverse does not hold: even if we know that Prince is an animal, we cannot conclude that he is a dog rather than a horse or a cat.

Contradiction. Sometimes it turns out that if one sentence is true, then another sentence must be false. This is the case with the examples in *12*.

12) a. Charles is a bachelor.
    b. Charles is married.

If it is true that Charles is a bachelor, then it cannot be true that he is married. When two sentences cannot both be true, we say that there is a **contradiction.**

1.3 What Is Meaning?

Although it is relatively easy to determine whether two words or sentences have identical or different meanings, it is much more difficult to determine precisely what meaning is in the first place. In fact, despite many centuries of study, we still know very little about the nature of meaning or how it is represented in the human mind. Nonetheless, it is worthwhile to review briefly some of the better-known proposals and the problems that they encounter.

Connotation. One notion that is closely linked with the concept of meaning is **connotation,** the set of associations that a word's use can evoke. For most Minnesotans, for example, the word *winter* evokes thoughts of snow, bitter cold, short evenings, frozen finger tips, and the like. These associations make up the word's connotation, but they can not be its meaning (or at least not its entire meaning). The word *winter* does not become meaningless just because it is a mild year or because one moves to Florida in November. We must therefore look beyond connotation for our understanding of what meaning is.

Denotation. One well-known approach to semantics attempts to equate the meaning of a word or phrase with the entities to which it refers — its **denotation,** or **referents.** The denotation of the word *winter*, for example, corresponds to the season between autumn and spring (regardless of whether it is cold and unpleasant). Similarly, the denotation of the word *dog* corresponds to the set of canines, and so on.

Although a word's denotation is clearly connected to its meaning in some way, they cannot be one and the same thing. This is because there are words such as *unicorn* and phrases such as *the present king of France* that have no referents in the real world, even though they are far from meaningless.

A problem of a different sort arises with expressions such as *the Prime Minister of Britain* and *the leader of the Labour Party*,

Table 6.5 Extension versus Intension

Phrase	Extension	Intension
prime minister of Britain	Tony Blair	leader of the governing party
World Series champions	Florida Marlins (2003)	winners of the World Series Championship
capital of Missouri	Jefferson City	city containing the state legislature

both of which refer (in 2004, at least) to Tony Blair. Although these two expressions may have the same referent, it seems wrong to say that they mean the same thing. Thus, we would not say that the phrase *Prime Minister of Britain* is defined as 'the leader of the Labour Party' or that the definition of the phrase *leader of the Labour Party* is 'Prime Minister of Britain'.

Extension and Intension. The impossibility of equating an element's meaning with its referents has led to a distinction between **extension** and **intension.** Whereas an expression's extension corresponds to the set of entities that it picks out in the world (its referents), its intension corresponds to its inherent sense, the concepts that it evokes. Thus, the extension of *woman* is a set of real world entities (women) while its intension involves notions like 'female' and 'human'. Similarly, the phrase *Prime Minister of Britain* has as its extension an individual (Tony Blair), but its intension involves the concept 'leader of the governing party' (see Table 6.5). The distinction between intension and extension does not allow us to resolve the question of what meaning is. It simply permits us to pose it in a new way: what are intensions?

One suggestion is that intensions correspond to mental images. This is an obvious improvement over the referential theory, since it is possible to have a mental image of a unicorn or even the king of France, although there are no such entities in the real world. However, problems arise with the meanings of words such as *dog*, which can be used to refer to animals of many different sizes, shapes, and colors. If the meaning of this word corresponds to a mental image, that image would have to be general enough to include Chihuahuas and St. Bernards, yet still exclude foxes and wolves. If you try to draw a picture that satisfies these requirements, you will see just how hard it is to construct an image for meanings of this sort.

Componential Analysis. Still another approach to meaning tries to represent a word's intension by breaking it down into smaller semantic components. Sometimes known as **componential analysis** or **semantic decomposition,** this approach has often been used to analyze the meaning of certain types of nouns in terms of semantic features. The analysis in Figure 6.1 for the words *man*,

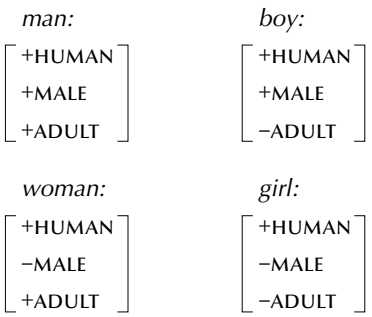


Figure 6.1 Semantic feature composition for *man, woman, boy, girl.*

woman, *boy*, and *girl* illustrates how this works. (Nothing depends on the choice of feature names here; the analysis would work just as well with the feature ±female as ±male.) An obvious advantage of this approach is that it allows us to group entities into natural classes (much as we do in phonology). Hence, *man* and *boy* could be grouped together as [+human, +male] while *man* and *woman* could be put in a class defined by the features [+human, +adult].

This in turn can be useful for stating generalizations of various sorts. For instance, there are certain verbs, such as *marry*, *argue*, and the like, that we expect to find only with subjects that are [+human]. Moreover, within the English pronoun system, *he* is used to refer to [+human] entities that are [+male] while *she* is used for [+human] entities that are [–male].

There are limits on the insights into word meaning offered by componential analysis. What value, for example, is there in characterizing the meaning of *dog* as [+animal, +canine] as long as there is no further analysis of these features? Similarly, do we say that the meaning of *blue* consists of the feature [+color] and something else? If so, what is that other thing? Isn't it blueness? If so, then we have not really broken the meaning of *blue* into smaller components, and we are back where we started.

To date, componential analysis has given its most impressive results in the study of verb meaning. A typical component of verb meaning is the concept GO, which is associated with change of various sorts. (The components of verb meaning tend not to be binary features. We use uppercase letters to represent a semantic concept.)

13) manifestations of the concept GO:
   a. positional change:
      Harvey went from Austin to New Orleans.
   b. possessional change:
      The inheritance went to Maria.
   c. identificational change:
      Max went from being a rational gentleman to being a stark raving lunatic.

Despite their somewhat different senses, all three uses of the verb *go* have something in common that can be traced to the GO component of their meaning—they typically occur with a phrase that denotes the entity (i.e., the subject in these examples) undergoing change and with a phrase expressing the endpoint of that change (the *to* complements).

The GO concept is manifested in the meaning of verbs other than just *go*. For instance, positional GO is present in the meaning of *fly* 'go through the air', *walk* 'go on foot', *crawl* 'go on hands and knees', and so forth. Possessional GO is manifested in the meaning of *give*, *buy*, and *inherit*, all of which involve a change of possession, while identificational GO shows up in *become* and *turn into*. Because these verbs all share the abstract GO meaning, they are all typically used with a phrase denoting the entity undergoing the change (marked in *14* by a single underline) and a phrase denoting the endpoint of that change (marked by a double underline).

14) a. positional GO:
      The bird flew to its nest.
   b. possessional GO:
      The coach gave a new ball to the children.
   c. identificational GO:
      The caterpillar turned into a butterfly.

Verb Meaning and Subcategorization. Sometimes quite surprising features of verb meaning can be relevant to the choice of accompanying phrases. Consider, for instance, the contrast between the verbs in list *a*, which can occur with two NP

complements, and the verbs in list *b*, which cannot.

15) a. throw [$_{NP}$ the boy] [$_{NP}$ the package]
toss
kick
fling
b. *push [$_{NP}$ the boy] [$_{NP}$ the package]
*pull
*lift
*haul

Can you see the semantic difference? The verbs in list *a* all denote ballistic motion that results from the instantaneous application of force to an object at its point of origin. (When we throw something, for example, we thrust it forward and then release it.) In contrast, the verbs in list b all denote motion that is accompanied by the continuous application of force to the object as it moves from one point to another. (Pulling, for instance, typically involves the extended use of force as the object moves, rather than a single quick motion.)

Now think about the contrast between the following two sets of verbs.

16) a. fax [$_{NP}$ Helen] [$_{NP}$ the news]
radio
e-mail
phone
b. *murmur [$_{NP}$ Helen] [$_{NP}$ the news]
*mumble
*mutter
*shriek

Once again, componential analysis reveals a subtle semantic contrast. The first group of verbs (*phone*, *radio*, etc.) have meanings that include the means by which a message was communicated (by phone, by radio, and so on). In contrast, the verbs in the second group all have meanings that describe the type of voice that was used to communicate the message (*murmuring*, *mumbling*, *shrieking*, etc.). For reasons that are not yet fully understood, meaning differences like these help determine the type of complements that particular verbs can select.

2 The Conceptual System

Underlying the use of words and sentences to express meaning in human language is a conceptual system capable of organizing and classifying every imaginable aspect of our experience, from inner feelings and perceptions, to cultural and social phenomena, to the physical world that surrounds us. This section focuses on what the study of this conceptual system reveals about how meaning is expressed through language. We will begin by considering some examples that illustrate the way in which these concepts are structured, extended, and interrelated.

2.1 Fuzzy Concepts

We tend to think that the concepts expressed by the words and phrases of our language have precise definitions with clear-cut boundaries. Some concepts may indeed be like this. For example, the concept expressed by the word *senator* seems to have a clear-cut definition: one is a senator if and only if one is duly elected to a particular legislative body; no other person can be truthfully called a senator.

But are all concepts so straightforward? Consider the concept associated with the word *rich*. How much does a person have to be worth to be called rich? Five hundred thousand dollars? Eight hundred thousand? A million? Is there any figure that we can give that would be so precise that a person who is short by just five cents would not be called rich? It seems not. While one could miss out on being a senator by five votes, it does not seem possible to miss out on being rich by just five cents. Moreover, whereas some

people clearly qualify as rich and others uncontroversially do not, an indefinitely large number of people fall into the unclear area at the borderline of the concept, and it is just not possible to say definitively whether or not they count as rich. This is because the notion of 'richness' does not have clear-cut boundaries; it is what we call a **fuzzy concept.**

This type of fuzziness pervades the human conceptual system. With only a little effort, you should be able to think of many everyday concepts whose boundaries are fuzzy — TALL, OLD, PLAYBOY, STRONG, GRAY-HAIRED, GENIUS, CLEAN, and BARGAIN are just a few examples.

Graded Membership. A second important fact about concepts is that their members can be **graded** in terms of their typicality. Consider first a fuzzy concept such as BASEBALL STAR. Even within the set of people who we can agree are baseball stars, some provide better examples of this concept than others. At the time of this writing, for instance, Alex Rodriguez is a better example of a baseball star than is Derrick Jeter. Although baseball fans agree that both players are stars, Alex Rodriguez has hit more runs, won more awards, set more records, endorsed more products on TV, received more media attention, and so on. This makes him a better example of a star than Derrick Jeter.

Even concepts whose boundaries can be scientifically defined exhibit this type of graded membership. A good example of this involves the concept BIRD, as shown in Figure 6.2 [below]. Even assuming that all English speakers think of birds as 'warm-blooded, egg-laying, feathered vertebrates with forelimbs modified to form wings' (the dictionary definition), they still feel that some of these creatures are more birdlike than others. For instance, robins and magpies are intuitively better examples of birds than are hummingbirds, ostriches, or penguins. Examples like these suggest that concepts have an internal structure, with the best or **prototypical** exemplars (Alex Rodriguez in the case of BASEBALL STARS, robins in the case of BIRDS) close to the core

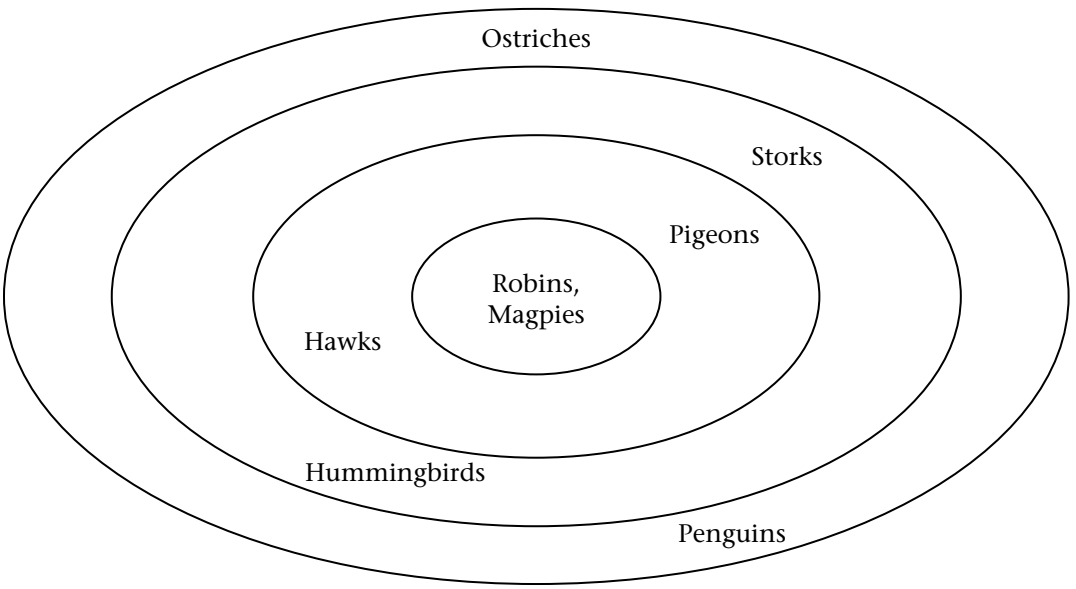


Figure 6.2. Internal structure of the concept BIRD.

and less typical members arranged in successively more peripheral regions.

The existence of fuzzy concepts and of graded membership provides important insights into the nature of the human conceptual system. In particular, it seems that many (perhaps even most) concepts expressed in language are not rigid all-or-nothing notions with precise and clear-cut boundaries. Rather, they are characterized by an internal structure that recognizes degrees of typicality as well as by fuzzy boundaries that sometimes overlap with those of other concepts.

2.2 Metaphor

The concepts expressed by language make up a giant network, with many interconnections and associations. A good example of these interconnections involves **metaphor,** the understanding of one concept in terms of another.

Many people think of metaphor as a literary device reserved for the use of authors and poets. In fact, however, it has a prominent place in the conceptual system shared by all human beings. This can be seen in the way that we use language to talk about even commonplace notions such as 'time.'

The dominant metaphor for talking about time involves treating it as if it were a concrete commodity that can be saved, wasted, and invested, just like other valuable things.

17) a. You're *wasting* my time.
b. This gadget will *save* you hours.
c. How do you *spend* your time these days?
d. I have *invested* a lot of time in that project.
e. You need to *budget* your time.
f. Is that *worth* your while?
g. He's living on *borrowed* time.
h. You don't use your time *profitably.*

What is the basis for this metaphor? There is apparently no objective, inherent similarity between time and commodities such as gold or money. What brings these concepts together is the *perception*, based in part on culture and in part on feelings that all human beings share, that time is like a valuable commodity that can be gained and lost.

A Spatial Metaphor. Another very prevalent metaphor in our language involves the use of words that are primarily associated with spatial orientation to talk about physical and psychological states (see Table 6.6).

The basis for these **spatial metaphors** appears to lie in our physical experience. Unhappiness and ill health tend to be associated with lethargy and inactivity, which often involve being on one's back (physically down). In contrast, happiness and good health are often correlated with energy and movement, which involve being on one's feet (physically up).

These few examples illustrate the point that the concepts expressed through language are interrelated in special and intriguing ways. By investigating phenomena such as the use of metaphor to represent abstract concepts in terms of more basic physical and cultural experience, we can gain valuable insights into how language is used to communicate meaning.

2.3 The Lexicalization of Concepts

Do all human beings share the same conceptual system? Do all languages express concepts in the same way? These are questions that have fascinated and puzzled researchers for many decades. At the present time, there is no reason to believe that human beings in different linguistic communities have different conceptual systems. But there is ample evidence that languages can differ from each other in terms of how they express particular concepts.

Table 6.6. Metaphorical Use of Spatial Terms

Emotions: happy is *up;* sad is *down*	
I'm feeling *up.*	I'm feeling *down.*
That *boosted* my spirits.	He *fell* into a depression.
My spirits *rose.*	Her spirits *sank.*
You're in *high* spirits.	He's feeling *low.*
the *height* of ecstasy	the *depths* of depression
That gave me a *lift.*	
Physical health: health *and* life *are up;* sickness *and* death *are down*	
He's at the *peak* of health.	He's *sinking* fast.
Lazarus *rose* from the dead.	He *fell* ill.
He's in *top* shape.	He came *down* with the flu.
	Her health is *declining.*
	She's feeling *under* the weather.

Lexicalization. A notorious example of how languages can supposedly differ from each other in the expression of concepts involves the number of words for snow in Inuktitut. Some times estimated to be in the hundreds, the number is actually much smaller. In fact, one dictionary gives only the four items in Table 6.7 (although other dictionaries give a few more, at least for some varieties of Inuktitut).

As you can see, there is nothing particularly startling about this list of words. In fact, even in English there is more than just one word to describe snow in its various forms — *snow*, *slush*, *blizzard*, and *sleet* come to mind.

These examples illustrate the phenomenon of **lexicalization,** the process whereby concepts are encoded in the words of a language. Inuktitut lexicalizes the concepts 'falling' and 'snow' in a single word (*qana*), while English uses two separate words. While some lexicalization differences may correlate with cultural factors (the relative importance of types of snow in traditional Inuit culture), this is not always so. For example, English has an unusually rich set of vocabulary items pertaining to the perception of light (see Table 6.8). Although English speakers know and use the words in this list, it is hard to see how the variety found in this particular area of vocabulary can be correlated with any significant feature of culture.

As we have tried to emphasize throughout this book, linguistic analysis focuses on the system of knowledge that makes it possible to speak and understand a language. The fact

Table 6.7 Words for 'Snow' in Inuktitut

aput	'snow on the ground'
qana	'falling snow'
piqsirpoq	'drifting snow'
qimuqsuq	'snow drift'

Table 6.8 Some Verbs Pertaining to Light in English

glimmer	glisten
gleam	glow
glitter	flicker
shimmer	shine
flare	glare
flash	sparkle

Table 6.9 Some Verbs Expressing Motion and Manner in English

The rock *rolled* down the hill.
The puck *slid* across the ice.
She *limped* through the house.
The smoke *swirled* through the opening.

that a particular language has more words pertaining to snow or light does not in and of itself provide any insight into the nature of the human linguistic system, and therefore does not merit special attention. However, as we shall see in the next subsection, certain lexicalization differences do shed light on how language expresses meaning.

Motion Verbs. All languages have words that can describe motion through space (in English, *come*, *go*, and *move*, among many others). However, there are systematic differences in terms of how languages express motion and the concepts related to it. In English, for example, there are many verbs that simultaneously express both the concept of motion and the manner in which the motion occurs (see Table 6.9). Notice how each of these verbs expresses both the fact that something moved and the manner in which it moved (by rolling, sliding, limping, and so on). We describe this fact by saying that English lexicalization includes a **conflation pattern** that combines manner and motion into a single verb meaning.

Interestingly, Romance languages (descendants of Latin) cannot express motion events in this way. Thus, while Spanish has a verb *rodar* with the meaning 'to roll', it does not use this verb to express both manner and motion as English does.

18) *La botella rodó en la cueva.
'The bottle rolled into the cave.'

Instead, the motion and its manner have to be expressed separately.

19) La botella entró en la cueva, rodando.
'The bottle entered the cave, rolling.'

Although Spanish does not have the motion plus manner conflation pattern, it does have verbs whose meanings bring together the concepts of motion and path (see Table 6.10). As the English translations show, Spanish verbs of motion express both the concept of movement and the direction of its path — down, up, back, across, out, and so forth. (English too has verbs that can express both motion and path — *descend*, *ascend*, *return*, and so on — but these words are not part of its native vocabulary. Rather, they were borrowed into English from Latinate sources, usually through French.)

Table 6.10 Some Verbs Expressing Motion and Path in Spanish

El globo *bajó* por la chimenea. 'The balloon moved-down through the chimney.'
El globo *subió* por la chimenea. 'The balloon moved-up through the chimney.
La botella *volvió* a la orilla. 'The bottle moved-back to the bank.'
La botella *cruzó* el canal. 'The bottle moved-across the canal.'
La botella *salió* de la cueva. 'The bottle moved-out from the cave.'

Table 6.11 Some Verb Roots Expressing Motion and the Thing Moving in Atsugewi

lup	for movement of a small, shiny, spherical object (a hailstone)
t	for movement of a smallish, flat object that can be attached to another (a stamp, a clothing patch, a shingle)
caq	for movement of a slimy, lumpish object (a toad, a cow dropping)
swal	for movement of a limp linear object, suspended by one end (a shirt on a clothesline, a hanging dead rabbit)
qput	for movement of loose, dry dirt
staq	for movement of runny, unpleasant material (manure, guts, chewed gum, rotten tomatoes)

Yet another conflation pattern is found in the Amerindian language Atsugewi (spoken in northern California), in which verbs can express both motion and the type of thing that moves (see Table 6.11).

We learn two things from these facts. First, the concept of motion is associated with a number of other concepts, including 'path', 'manner of movement', and 'moving thing'. Second, the way in which these concepts are combined for the purposes of lexicalization can differ systematically from language to language. Languages such as English have verbs that conflate motion and manner, while other languages have verbs that conflate motion and path (Spanish) or motion and the type of thing that moves (Atsugewi).

The general picture that is emerging from this type of work is consistent with the key idea underlying componential analysis (Section 1.3). In particular, it seems that at least within certain semantic domains, there may be a small universal set of concepts (motion, manner, path, thing that moves, and so on) and a small set of options for how these concepts can be combined for purposes of lexicalization (see Figure 6.3). Unlike the lexicalization differences involving snow and light discussed earlier, these differences appear to be highly systematic and to reveal some general tendencies about the organization of the human conceptual system and the way in which meaning is expressed in language.

2.4 Grammaticization

Of the indefinitely large set of concepts expressible in human language, a relatively small subset enjoys a special status. These are the concepts that are expressed as affixes and nonlexical (functional) categories in one language or another. Some of the

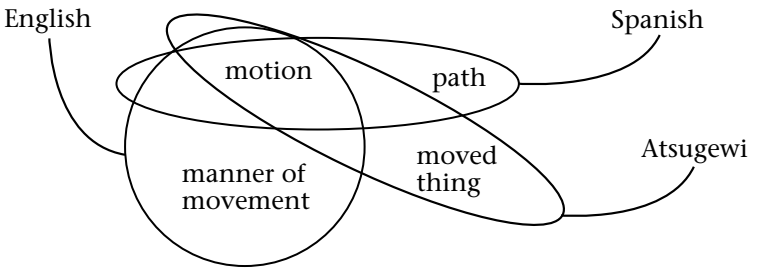


Figure 6.3. Systematic differences in conflation patterns.

Table 6.12 Some Concepts Associated with Affixes and Nonlexical Categories in English

Concept	Affix
Past	*-ed*
More than one	*-s*
Again	*re-*
Negation	*in-, un-*
Concept	**Nonlexical Category**
Obligation	*must*
Possibility	*may*
Definite, specific	*the*
Indefinite, nonspecific	*a*
Disjunction	*or*
Negation	*not*
Conjunction	*and*

concepts that are treated this way in English are listed in Table 6.12.

Concepts that are expressed as affixes or nonlexical categories are said to have been **grammaticized.** Some concepts, such as negation, tense, and number, are highly grammaticizable and are expressed as affixes or special nonlexical categories in most languages. But grammaticization is not restricted to just these familiar concepts, as we will see next.

Evidentiality in Hidatsa. In the Siouan language Hidatsa, each statement is accompanied by a morpheme to indicate the evidence for its truth (see Table 6.13). (Morphological contrasts of this sort express **evidentiality.**)

Choice of the appropriate sentence-ender is extremely important in Hidatsa. Speakers who utter a false sentence marked by the morpheme *-ski* are considered to be liars. Had they used the morpheme *-c*, on the other hand, it would be assumed that they simply made a mistake.

While English has ways of indicating these contrasts (by using expressions such as *perhaps*, *I heard that*, and *I guess*), it does not have a grammatical system of morphemes that obligatorily encodes this information in every sentence. By investigating the grammaticization options found in different languages, it may eventually be possible to identify the factors that determine which concepts are singled out for association with affixes and nonlexical categories.

Table 6.13 Evidentiality Morphemes in Hidatsa

ski	THE SPEAKER IS CERTAIN OF THE STATEMENT'S TRUTH Waceo iikipi kure heo -ski. 'The man (definitely) carried the pipe.'
c	THE SPEAKER BELIEVES THE STATEMENT TO BE TRUE Waceo iikipi kure heo -c. 'The man (supposedly) carried the pipe.'
wareac	THE SPEAKER REGARDS THE STATEMENT TO BE COMMON KNOWLEDGE Waceo iikipi kure heo -wareac. 'The man carried the pipe (they say).'
rahe	THE STATEMENT IS BASED ON AN UNVERIFIED REPORT FROM SOMEONE ELSE Waceo wiira rackci heo -rahe. 'The man roasted the goose (it is rumored).'
toak	THE TRUTH OF THE STATEMENT IS UNKNOWN TO BOTH SPEAKER AND LISTENER Waceo cihpa rakci heo -toak. 'The man roasted the prairie dog (perhaps).'

3 SYNTAX AND SENTENCE INTERPRETATION

The two preceding sections have focused on the meaning conveyed by the individual words and phrases that make up a sentence. In this section, we turn to the problem of sentence interpretation, with an emphasis on how the positioning of words and phrases in syntactic structure helps determine the meaning of the entire sentence, consistent with the following principle.

20) The **Principle of Compositionality:**
The meaning of a sentence is determined by the meaning of its component parts and the manner in which they are arranged in syntactic structure.

Syntactic structure is relevant to meaning in a variety of ways. For purposes of illustration, we will consider four aspects of its contribution to the interpretation of sentences—constructional meaning, the representation of structural ambiguity, the assignment of thematic roles, and the interpretation of pronouns.

3.1 Constructional Meaning

There is reason to believe that structural patterns are themselves capable of carrying meaning above and beyond the meaning of their component parts. One example of this **constructional meaning** can be seen in "the caused-motion construction" exemplified in *21*.

21) a. Seymour pushed the truck off the table.
b. Mabel moved the car into the garage.
c. Perry pulled the dog into the swimming pool.

As these examples help illustrate, the caused-motion construction consists of a structural pattern (NP V NP PP) that is used to express the meaning 'X causes Y to go somewhere'. Thus, the first sentence describes a situation in which Seymour causes the truck to go off the table by pushing it; the second sentence is used for situations in which Mabel causes the car to go into the garage; and so on.

22) *The caused-motion construction*
Form: NP V NP PP
Meaning: 'X causes Y to go somewhere'

Striking evidence for the existence of a constructional meaning comes from sentences such as the following.

23) a. Boris sneezed the handkerchief right across the room.
b. The judges laughed the poor guy out of the room.
c. Morley squeezed the shirt into the suitcase.

There is clearly nothing in the meaning of verbs such as *sneeze*, *laugh*, and *squeeze* that implies caused motion. Yet when they occur in the NP V NP PP pattern, the resulting sentence has a meaning in which X causes Y to go somewhere. Thus, sentence *23a* means that Boris caused the handkerchief to fly across the room by sneezing; *23b* means that the judges forced someone out of the room by laughing at him; and so on.

How can this be? It seems that part of the meaning of these sentences comes from the construction itself: in *23a*, for instance, the verb *sneeze* provides the meaning 'involuntarily expel air from the mouth and nose', while the structural pattern tells us that this action caused the handkerchief to be propelled across the room. Without both types of information, the sentence could not mean what it does.

Another example of constructional meaning can be found in patterns such as the following.

24) a. Jerry sent Lou a present.
b. The company gave its employees a bonus.
c. The secretary handed Mary a message.
d. Marvin threw Harry the ball.

These sentences are instances of the so-called ditransitive construction that is typically associated with the meaning 'X causes Y to have Z'. Thus *24a*, for instance, describes a situation in which Jerry causes Lou to have a present by sending it to her.

25) *The ditransitive construction*
Form: NP V NP NP
Meaning: 'X causes Y to have Z'

An indication that the structure itself contributes part of the meaning associated with ditransitive constructions comes from sentences such as *Jerry baked Lou a cake*. This sentence describes a situation in which Lou ends up with a cake, even though there is clearly nothing in the meaning of *bake* that implies that one person causes another person to have something. This part of the sentence's meaning comes from the structure itself—another example of constructional meaning.

3.2 Structural Ambiguity

Some sentences are structurally ambiguous in that their component words can be combined in more than one way. A simple example of this is found in the phrase *wealthy men and women*, where *wealthy* can be seen as a property of both the men and the women or of just the men alone. These two interpretations or **readings** are depicted in Figure 6.4 (Con = conjunction). Figure 6.4a corresponds to the reading in which *wealthy* modifies both *men* and *women*. This is shown by having the adjective combine with a category that includes both nouns. In Figure 6.4b, on the other hand, the adjective combines only with the N *men*. This structure corresponds to the reading in which *wealthy* applies only to the men.

Another case of structural ambiguity is found in sentences such as the following.

26) Nicole saw people with binoculars.

In one interpretation of 26, the people had binoculars when Nicole noticed them (the phrase *with binoculars* modifies the noun *people*); in the other interpretation, Nicole saw the people by using the binoculars (the PP modifies the verb). These two readings are represented in Figure 6.5. In Figure 6.5a, the PP with binoculars occurs inside the NP headed by the N people, reflecting the first reading for this sentence. In Figure 6.5b, on the other hand, the PP is part of the VP headed by the verb saw. This corresponds to the interpretation in which with binoculars describes how Nicole saw the people.

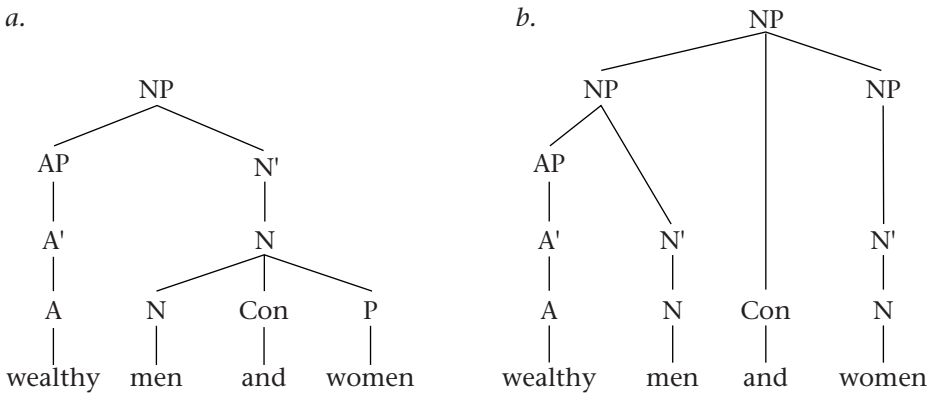
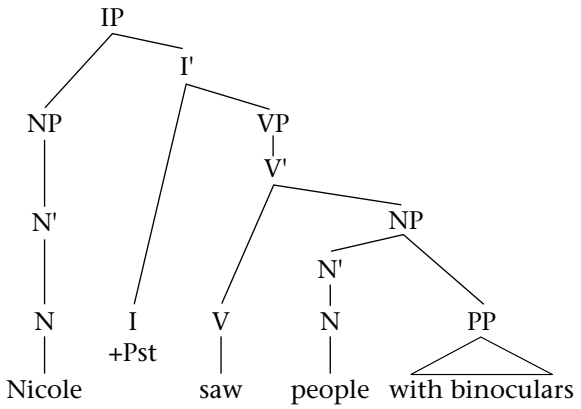


Figure 6.4. An ambiguous phrase. The structure on the left indicates that both the men and the women are wealthy; the structure on the right indicates that only the men are wealthy.

a.



b.

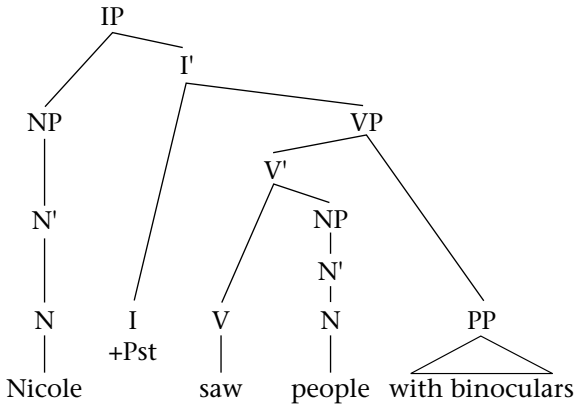


Figure 6.5. An ambiguous sentence. In the first structure, the people have the binoculars; in the second structure, Nicole uses the binoculars to see the people.

In sum, the manner in which words are grouped together in syntactic structure reflects the way in which their meanings are combined. Sometimes, as in the examples we have just considered, identical strings of words can be combined in either of two ways, creating structural ambiguity that can be neatly captured with the help of tree structures.

3.3 Thematic Roles

Another aspect of semantic interpretation involves determining the role that the referents of NPs play in the situations described by sentences. Consider in this regard the sentence in 27.

27) The courier carried the document from Boston to Seattle.

It would be impossible to understand this sentence if we could not identify the courier as the person who is responsible for carrying something, the document as the thing that is carried, Boston as the point of origin, and Seattle as the destination. Linguists often use **thematic roles** to categorize the relation between a sentence's parts and the event that it describes. In most linguistic analyses, at least

Table 6.14 Thematic Roles

Agent	the entity that performs an action
Theme	the entity undergoing an action or a movement
Source	the starting point for a movement
Goal	the end point for a movement
Location	the place where an action occurs

Table 6.15 Some Words and the Thematic Roles Implied by Their Meanings

purchase	<agent, theme>
walk	<agent>
to	<goal>
from	<source>
at	<location>

the following thematic roles are recognized (see Table 6.14).

Examples of these thematic roles can be seen in sentences such as the following.

28) a. The courier carried the document from
agent *theme*
Boston to Seattle.
source *goal*

b. The athletes practiced in the Astrodome.
agent *location*

The notion of movement used in the definition of **theme, source,** and **goal** is intended to involve not only actual physical motion but also changes in possession, as in 29, and identity, as in 30.

29) Terry gave the skis to Mary.
agent *theme* *goal*

30) The magician changed the ball into a rabbit.
agent *theme* *goal*

As you may recall, we observed a similar set of contrasts in the manifestation of the GO concept discussed in Section 1.3. This is no coincidence. Thematic roles can be traced to particular aspects of word meaning, and the presence of GO in a verb's meaning is specifically linked to the presence of a theme role and a goal role.

Thematic Role Assignment. How does the grammar ensure that the appropriate thematic role is associated with each NP in a sentence? As we have just seen, thematic roles originate in word meaning. Thus, if the sentence *Marvin purchased a pen at the bookstore* contains an **agent** and a theme, it is because the verb *purchase* has the type of meaning that implies an entity that does the purchasing (an agent) and an entity that gets purchased (a theme). Similarly, *the bookstore* is taken to denote the **location** of the action because of the meaning of the preposition *at*. Information about the thematic roles assigned by a particular lexical item is recorded in a **thematic grid,** as depicted in Table 6.15.

The thematic roles implied by the meanings of lexical items are assigned to NPs based on their position in syntactic structure, with each NP receiving a single role. As a first example of this, let us consider the complement of a preposition. In such cases, the process of thematic role assignment can be summarized as follows:

31) A P assigns a thematic role to its complement NP.

The operation of this convention is illustrated in Figure 6.6.

Matters are slightly more complicated in the case of Vs. Here we must distinguish between the theme role, which is assigned to the verb's complement, and the agent role, which is assigned to its subject.

32) A V assigns a theme role (if it has one) to its complement NP.

A V assigns an agent role (if it has one) to its subject NP.

This is exemplified in the structures in Figure 6.7. In accordance with 32, the theme (th) role is assigned to the V's NP complement,

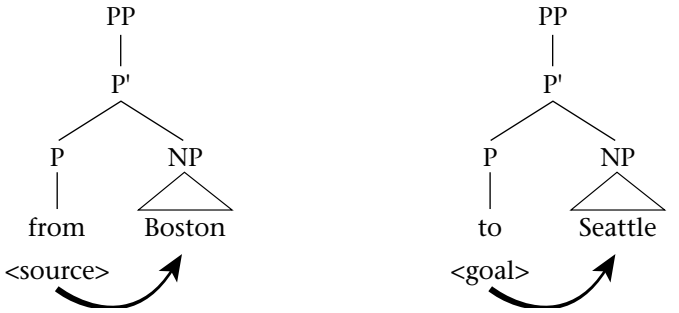


Figure 6.6. Thematic role assignment by prepositions.

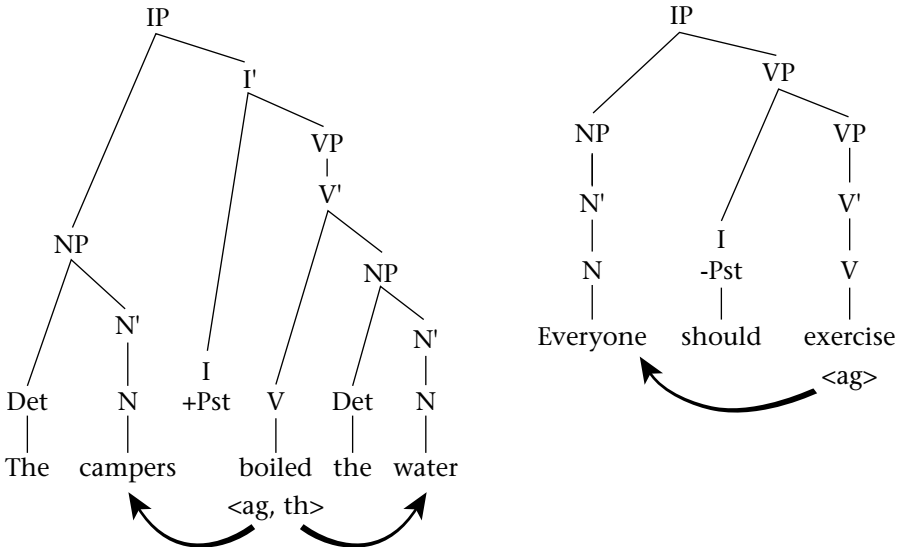


Figure 6.7. Thematic role assignment by verbs.

while the agent (ag) role is assigned to its subject.

The structure in Figure 6.8 illustrates the assignment of thematic roles in a sentence that contains a P in addition to a V. Here, the P *at* assigns its location (loc) role to its complement NP (*the bookstore*), while the verb *purchase* assigns its theme role to the complement *a pencil* and its agent role to the subject *Marvin*.

Deep Structure and Thematic Roles

In the examples considered to this point, it is unclear whether an NP receives its thematic role on the basis of its position in deep structure or surface structure. This is because our example sentences are all formed without the help of the Move operation, so that each NP occupies the same position in both deep structure and surface structure. But now consider a sentence such as 33, which is formed with the help of *Wh* Movement.

33) Which book should the students read?

This sentence has the deep structure depicted in Figure 6.9. Since the theme role is assigned to the complement of V, it follows that the NP *which book* in the above

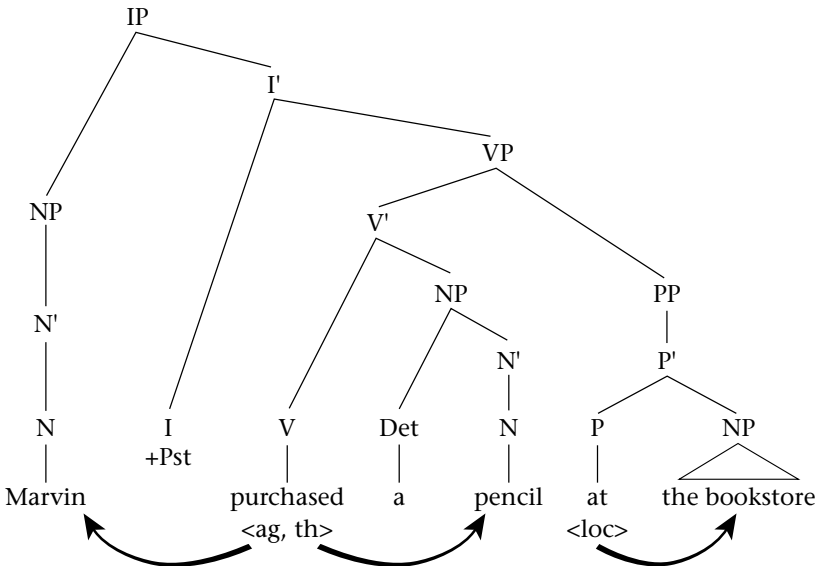


Figure 6.8. Thematic role assignment in a complex sentence.

b.

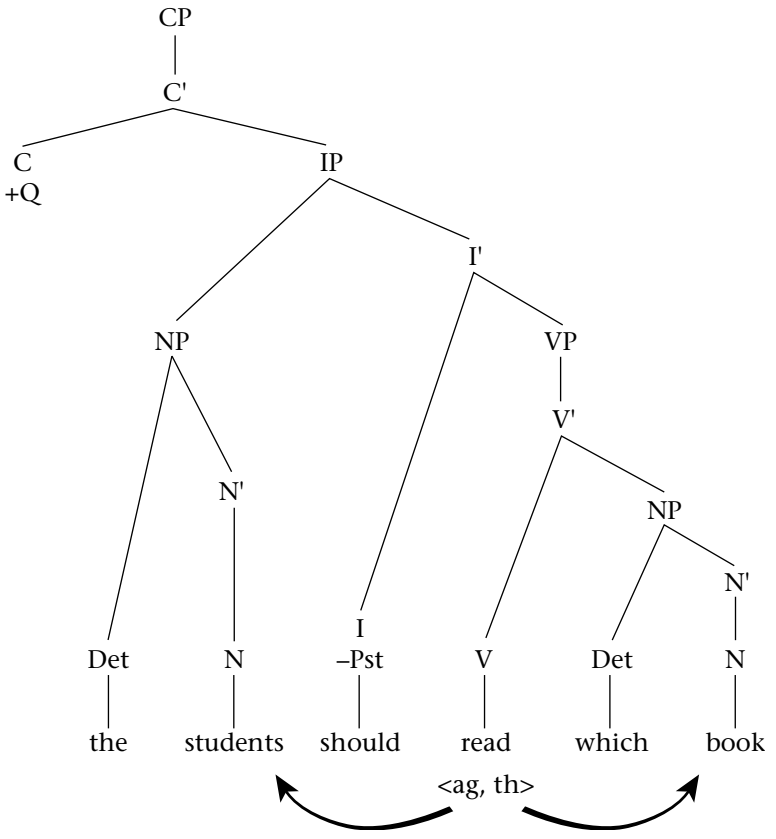


Figure 6.9. Thematic role assignment in a *wh* question.

example receives this role by virtue of its position in deep structure, not surface structure (where it occurs in the specifier of CP position).

In sum, an NP's initial position in syntactic structure (the result of the Merge operation) determines its thematic role. The Move operation may subsequently transport the NP to another position (as is the case with *wh* words), but the original thematic role remains unchanged. The relationship between syntactic structure and the part of a sentence's meaning represented by thematic roles is thus very intricate, reflecting the structural relations manifested in deep structure rather than position in surface structure.

3.4 The Interpretation of Pronouns

Syntactic structure also has an important role to play in the interpretation of pronouns, including pronominals such as *he*, *him*, *she*, and *her* and reflexive pronouns such as *himself* and *herself* (see Table 6.16). A defining property of pronouns is that their interpretation can be determined by another element, called the **antecedent.** As the following sentences help show, pronominals and reflexive pronouns differ in terms of where their antecedents can occur.

34) a. [$_{IP}$ Claire knew that [$_{IP}$ Alexis trusted *her*]].
b. [$_{IP}$ Claire knew that Alexis trusted *herself*]].

Notice that *her* can refer either to Claire or to someone not mentioned in the sentence, but that *herself* refers only to Alexis. This reflects the fact that a reflexive pronoun must typically have an antecedent in the smallest IP containing it.

A somewhat more abstract feature of syntactic structure enters into the interpretation of the reflexive pronouns in sentences such as 35, which has the tree structure shown in Figure 6.10. (Pronouns are treated as N-type categories that head NPs; to save space, some word-level category labels are omitted. Possessor NPs occur in the specifier position within larger NPs.)

35) That boy's teacher admires himself.

Although there are two NPs in the same IP as *himself* (namely, *that boy* and *that boy's teacher*), only one (*that boy's teacher*) can serve as antecedent for the reflexive pronoun. Thus, the person who is admired in 35 must have been the boy's teacher, not the boy.

Principles A and B. The principle needed to ensure this interpretation makes use of the notion **c-command,** which is defined as follows.

36) NP_a c-commands NP_b if the first category above NP_a contains NP_b.

Although c-command might appear to be a rather technical notion, the underlying idea is very simple. Figure 6.11 illustrates the type of configuration in which c-command occurs. When trying to determine c-command relations, you can either use the definition in

Table 6.16 Subject and Object Pronouns in English

	Pronominals		Reflexives	
	SG	PL	SG	PL
1st person	I, me	we, us	myself	ourselves
2nd person	you	you	yourself	yourselves
3rd person	he, him she, her it	they	himself herself itself	themselves

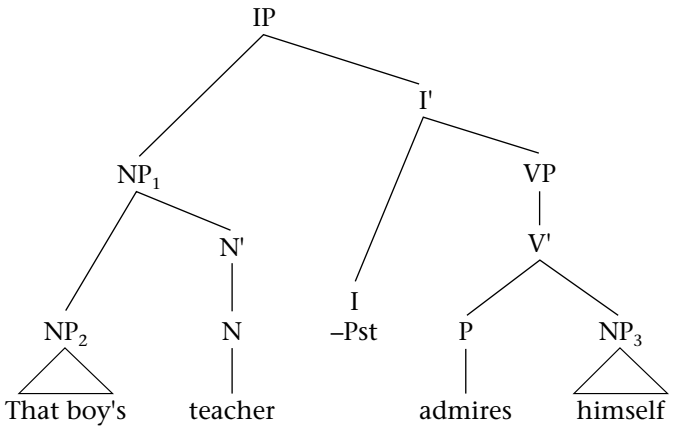


Figure 6.10. Structure containing a reflexive pronoun.

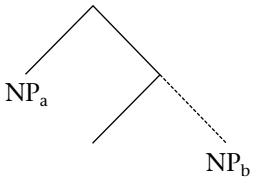


Figure 6.11. The c-command configuration.

36 or apply the template in Figure 6.11 to the tree structure being analyzed.

We can now formulate the constraint on the interpretation of reflexives, called **Principle A,** as follows. (The "minimal IP" is just the smallest IP containing the pronoun.)

37) *Principle A*

A reflexive pronoun must have an antecedent that c-commands it in the same minimal IP.

When using Principle A, the key step involves determining whether a potential antecedent c-commands the reflexive pronoun. Compare in this regard the status of the NPs *that boy* and *that boy's teacher* in Figure 6.12. Since the first category above the NP *that boy's teacher* (namely, IP) contains the reflexive, this NP c-commands *himself* according to our definition and can therefore serve as its antecedent. As we have already seen, the sentence has this interpretation.

Now let us consider the interpretation of pronominals. As the following example shows, the interpretation of the pronominal *him* contrasts sharply with that of the reflexive *himself* in the structure that we have been considering. Thus, *him* can refer to the boy, but not to the boy's teacher—the opposite of what we observed for *himself*.

38) That boy's teacher admires him.

How are we to account for these facts? The relevant constraint, called **Principle B**, is stated in 39.

39) *Principle B*

A pronominal must not have an antecedent that c-commands it in the same minimal IP.

To see how this principle works, consider the structure in Figure 6.13. In this structure, NP_1 (*that boy's teacher*) c-commands *him* since the first category above it (namely, IP) also contains *him*. Principle B therefore prevents NP_1 from serving as antecedent for *him*. In contrast, NP_2 (*that boy's*) does not c-command *him* since the first category above it (namely,

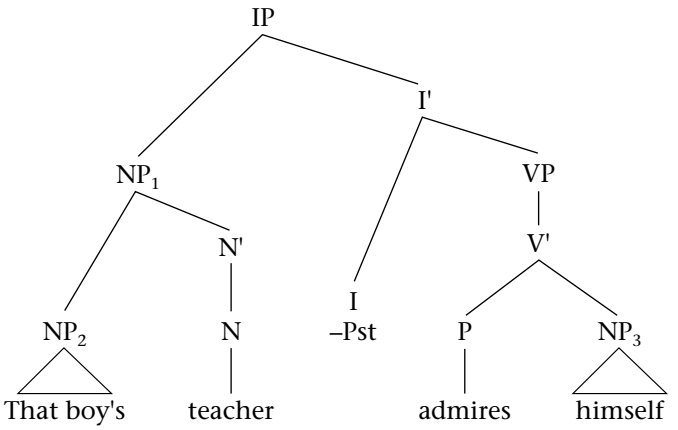


Figure 6.12. Structure illustrating c-command relations. NP_1 c-commands NP_3 but NP_2 does not.

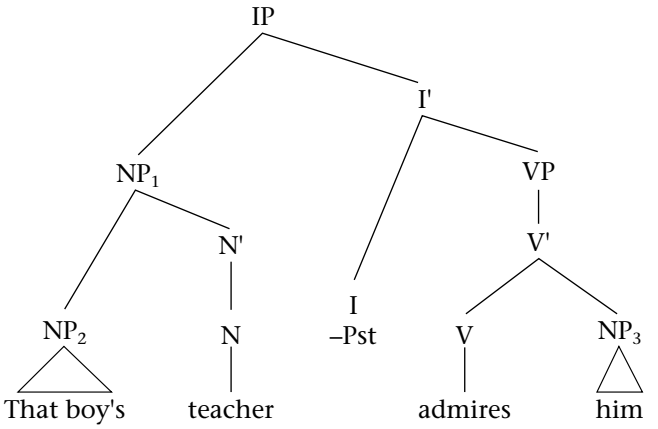


Figure 6.13. Structure containing a pronominal.

NP_1) does not contain the pronoun. Thus, nothing prevents the interpretation in which *him* and *that boy* refer to the same person.

There is much more that can and should be said about the interpretation of pronouns. However, the examples we have just considered suffice to illustrate the crucial point in all of this, which is that syntactic structure plays an important role in the interpretation of both pronominals and reflexive pronouns. For more on this subject, go to **bedfordstmartins.com/linguistics/semantics** and click on **pronouns**.

4 Other Factors in Sentence Interpretation

Syntactic structure provides only some of the information needed to interpret a sentence. Other necessary information comes from **pragmatics,** which includes the speaker's and addressee's background attitudes and beliefs, their understanding of the context in which a sentence is uttered, and their knowledge of how language can be used to inform, to persuade, to mislead, and so forth. This section focuses on the role of pragmatics in sentence interpretation.

4.1 The Role of Beliefs and Attitudes

As we saw in the preceding section, the grammar includes a structural principle (Principle B) that regulates the interpretation of pronominals such as *he* and *they*. However, as the following sentences show, nonlinguistic knowledge and beliefs can also play an important role in selecting the antecedent for a pronominal.

40) a. The judge denied the prisoner's request because he was cautious.
b. The judge denied the prisoner's request because he was dangerous.

These two sentences have identical syntactic structures, differing only in the choice of the adjective in the second clause (*cautious* in the first sentence versus *dangerous* in the second). Yet most people feel that *he* refers to the judge in *40a* but to the prisoner in *40b*. Why should this be?

The crucial factor involves our beliefs about people in our society and their likely characteristics and behavior. All other things being equal, we are more likely to believe that a judge is cautious and a prisoner dangerous than vice versa. This in turn leads us to interpret the pronoun as referring to the judge in the first sentence in *40* but to the prisoner in the second.

Presupposition. There are many other ways in which a speaker's beliefs can be reflected in language use. Compare in this regard the following two sentences.

41) a. Have you stopped exercising regularly?
b. Have you tried exercising regularly?

Use of the verb *stop* implies a belief on the part of the speaker that the listener has been exercising regularly. No such assumption is associated with the verb *try*.

The assumption or belief implied by the use of a particular word or structure is called a **presupposition.** The following two sentences provide another example of this.

42) a. Nick admitted that the team had lost.
b. Nick said that the team had lost.

Choice of the verb *admit* in *42a* indicates that the speaker is presupposing the truth of the claim that the team lost. No such presupposition is associated with the choice of the verb *say* in *42b*, where the speaker is simply reporting Nick's statement without taking a position on its accuracy.

Still another type of presupposition is illustrated in *43*.

43) a. Abraham Lincoln was assassinated in 1865.
b. Abraham Lincoln was murdered in 1865.

Notice that use of the verb *assassinate* in *43a* involves the assumption that Abraham Lincoln was a prominent person, but that no such presupposition is associated with the verb *murder*.

4.2 Setting

As noted at the beginning of this section, the pragmatic factors relevant to sentence interpretation can include knowledge of the context in which a sentence is uttered, including its physical environment or **setting.**

All languages have forms whose use and interpretation depend on the location of the speaker and/or hearer within a particular setting. Called spatial **deictics,** these forms are exemplified in English by words such as *this* and *here* (proximity to the speaker) versus *that* and *there* (proximity to the hearer and/or distance from the speaker). Thus, if Steve and Brian are sitting across from each other at a table, each would refer to a plate directly in front of him as *this plate* and to a plate in front of the other or a plate distant from both as *that plate*. Without an understanding of how the setting in which a sentence is uttered can influence the choice of words such

Table 6.17 Languages with a Three-way Deictic Distinction

Language	'this'	'that'	'that over there'
Spanish	este	ese	aquel
Japanese	kono	sono	ano
Korean	i	ku	ce
Palauan	tia	tilecha	se
Turkish	bu	ʃu	o

as *this* and *that*, it would be impossible for speakers of English to use or interpret these forms correctly.

As the preceding examples show, English makes a two-way distinction in its expression of deictic contrasts. However, many languages have a three-way system that may be sensitive to distance from the speaker, the addressee, or both (depending on the language). (See Table 6.17.) An even more complex system is found in the Amerindian language Tlingit, which makes a four-way distinction: *yáa* 'this one right here', *héi* 'this one nearby', *wée* 'that one over there', and *yóo* 'that one far off'.

Determiners are not the only type of element whose use and interpretation require reference to features of the setting. In English, for example, deictic contrasts are also crucial to the understanding of such commonly used verbs as *come* and *go*. Notice in this regard the striking difference in perspective found in the following two sentences.

44) a. The bear is coming into the tent!
b. The bear is going into the tent!

Whereas *come* with a third person subject implies movement toward the speaker (hence we can infer that the person who utters *44a* is in the tent), *go* with the same type of subject suggests movement away from the speaker.

4.3 Discourse

An additional source of contextual information relevant to sentence interpretation can be found in **discourse,** the connected series of utterances produced during a conversation, a lecture, a story, or some other speech act. The importance of discourse stems from the fact that individual sentences commonly include elements whose interpretation can only be determined with the help of information in preceding utterances. For instance, each of the italicized words in the following passage relies for its interpretation on information encoded in a preceding sentence.

45) A little girl went for a walk in the park. While *there, she* saw a rabbit. Since *it* was injured, *she* took *it* home.

We interpret *there* with reference to *in the park*, *she* with reference to *a little girl*, and *it* with reference to *a rabbit*.

One of the most important contrasts in the study of discourse involves the distinction between new and old information. **Old** (or **given**) **information** consists of the knowledge that the speaker assumes is available to the addressee at the time of the utterance, either because it is common knowledge or because it has been previously mentioned in the discourse. In contrast, **new information** involves knowledge that is introduced into the discourse for the first time. Consider the contrast between the following two sentences.

46) a. The man is at the front door.
b. A man is at the front door.

The choice of *the* as the determiner for *man* in *46a* suggests that the referent of the phrase is someone who has already been mentioned in the discourse and is therefore known to the addressee (old information). In contrast, the choice of the determiner *a* in

46b implies that the referent is being introduced into the discourse for the first time (new information).

Notice that both sentences in *46* use *the* as the determiner for *front door* and that the indefinite determiner *a* would not be natural in this context. This is because the setting for the conversation is likely to include only one front door. Since this information is likely to be known to both the speaker and the addressee (i.e., it is old information), *the* is the right determiner to use in this context.

Topics. Another important notion for the study of discourse is that of **topic,** which corresponds to what a sentence or a portion of the discourse is about. Consider the following passage.

47) Once upon a time there was a merchant with two sons. The older son wanted to be a scholar. He spent his time reading and studying. As for the younger son, he preferred to travel and see the world.

The first sentence in this passage introduces a merchant and his two sons as new information. A topic (the older son) is selected in the second sentence and maintained in the third, in which *he* refers back to the older son. The final sentence then switches to a new topic (the younger son), providing some information about him. This switch is facilitated by the expression *as for*, which can be used in English to mark new topics.

There is a strong tendency in language to encode the topic as subject of a sentence. This is why (as mentioned in Section 1.2) it is natural to interpret the active sentence in *48a* as being about the police and the passive sentence in *48b* as being about the burglar (see also Section 5.3 of Chapter 5 [Syntax]).

48) a. The police chased the burglar.
b. The burglar was chased by the police.

In some languages, a special affix is used to identify the topic. The following sentences from Japanese illustrate this phenomenon (NOM = nominative, the subject marker; TOP = topic marker; QUES = question marker).

49)
Speaker A: Dare-ga kimasita-ka?
Who-NOM came-QUES?
Speaker B: John-ga kimasita.
John-NOM came.
Speaker A: John-wa dare-to kimasita-ka?
John-TOP who-with came-QUES?
'Who did John come with?'

The topic marker in Japanese (the suffix *-wa*) is distinguished from the subject marker (*-ga*) by its use to mark old or background information. This is why speaker B responds to A's first question by using the subject marker on the NP *John*. Because this NP provides new information (in answer to A's question), the topic marker would be inappropriate. However, once it has been established that John is the person who came, the corresponding NP can then bear the topic marker. This is precisely what happens in speaker A's final utterance, in which the NP *John* (now associated with previously established information) is marked by the topic suffix *-wa*.

4.4 Conversational Maxims

In addition to background beliefs, the setting, and the discourse, there is at least one other major type of information that enters into the interpretation of utterances. This information has to do with the "rules" for conversation — our understanding of how language is used in particular situations to convey a message. For example, if I ask you, *Would you like to go to a movie tonight?* and you respond by saying *I have to study for an exam*, I know that you are declining my invitation even though there is nothing in the literal meaning of the sentence that says so. Moreover, I recognize that this is a perfectly

appropriate way to respond. (Notice that the same could not be said of a response like *I have to scratch my arm* or *It's a bit warm in here*.)

As speakers of a language, we are able to draw inferences about what is meant but not actually said. Information that is conveyed in this way is called **conversational implicature.** The ease with which we recognize and interpret implicature stems from our knowledge of how people in our linguistic community use language to communicate with each other.

The general overarching guideline for conversational interactions is often called the **Cooperative Principle**.

50) *The Cooperative Principle*
Make your contribution appropriate to the conversation.

More specific **conversational maxims** or guidelines ensure that conversational interactions actually satisfy the Cooperative Principle as shown in Table 6.18. These maxims are responsible for regulating normal conversation but, as we will see, each can be suspended under certain circumstances to create particular effects.

Relevance. The **Maxim of Relevance** gives listeners a bottom line for inferring the intent of other speakers. For example, it is because of this maxim that we are able to interpret the utterance *I have to study for an exam* (in response to the question *Would you like to go to a movie?*) as a no.

Failure to respect the Maxim of Relevance creates a peculiar effect. For example, if someone asks you *Have you finished that term paper yet?* and you respond *It's been raining a lot lately, hasn't it?* you violate the Maxim of Relevance by not responding in a relevant way. But by giving this response, you signal that you want to change the topic of conversation.

Quality. The **Maxim of Quality** requires that the statements used in conversations have some factual basis. If, for example, I ask *What's the weather like?* and someone responds *It's snowing*, I will normally assume that this statement provides reliable information about the current weather.

In order to achieve irony or sarcasm, however, it is sometimes possible to abandon the Maxim of Quality and say something that one knows to be false. Thus, if two people live in the middle of a sweltering desert and one person insists on asking every morning, *What's the weather like?* it might be appropriate for the other person to respond sarcastically, *Oh, today it's snowing, as usual*, perhaps with a particular facial expression or intonation to indicate that the statement was not intended as a true report of the facts.

Table 6.18 Some Conversational Maxims

The Maxim of Relevance Be relevant.
The Maxim of Quality Try to make your contribution one that is true. (Do not say things that are false or for which you lack adequate evidence.)
The Maxim of Quantity Do not make your contribution more or less informative than required.
The Maxim of Manner Avoid ambiguity and obscurity; be brief and orderly.

Considerations of politeness can also justify suspension of the Maxim of Quality. For instance, in order to avoid hurt feelings, you might congratulate a fellow student on a presentation, even though you thought it was the worst thing you ever heard.

Quantity. The **Maxim of Quantity** introduces some very subtle guidelines into a conversation. Imagine, for example, that someone asks me where a famous American author lives. The nature of my response will depend in large part on how much information I believe to be appropriate for that point in the conversation. If I know that the other person is simply curious about which part of the country the author lives in, it might suffice to respond, *in Mississippi*. On the other hand, if I know that the person wants to visit the author, then much more specific information (perhaps even an address) is appropriate.

The Maxim of Quantity can be suspended in order to mislead a conversational partner. For example, if someone asks me where Mary is and I know that Mary does not want any visitors, I might respond by saying, *I think she went downtown or something*, even though I know precisely where she is. In responding in this way, I am not being untruthful since I have said nothing false, but by giving less information than is appropriate, I am violating the Maxim of Quantity and hence being misleading.

Manner. The **Maxim of Manner** imposes several constraints on language use, two of which will be exemplified here. First, imagine that I refer to a particular person as *the man who Mary lives with*. A listener would be justified in concluding that the man in question is not Mary's husband. This is because, by the Maxim of Manner, a briefer and less obscure description, *Mary's husband*, would have been used if it could have correctly described Mary's companion.

Second, imagine that an employer asks me about a former student of mine who has applied for a job and I say, with some sarcasm, *You will be fortunate indeed if you can get him to work for you*. By using a sentence that can be interpreted in two very different ways (*You will be glad to have him on your staff* versus *It is not easy to get him to do any work*), I violate the Maxim of Manner by using an ambiguous structure. Since the maxims are violated only for specific purposes, the employer would be justified in doubting the sincerity of my recommendation.

Summing Up. The study of **semantics** is concerned with a broad range of phenomena, including the nature of meaning, the role of syntactic structure in the interpretation of sentences, and the effect of **pragmatics** on the understanding of utterances. Although much remains to be done in each of these areas, work in recent years has at least begun to identify the type of relations, mechanisms, and principles involved in the understanding of language. These include the notions of **extension** and **intension** in the case of word meaning, **thematic roles** in the case of NPs, and **c-command** in the case of pronouns. Other factors known to be involved in an utterance's interpretation include **constructional meaning,** the speaker's and hearer's background beliefs (as manifested, for example, in **presuppositions**), the context provided by the setting and the **discourse,** and the **maxims** associated with the **Cooperative Principle.**

For more information on the sources used in this chapter, go to **bedfordstmartins.com/linguistics/semantics** and click on **Sources.**

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