Chapter 6

Lexical semantics

1. Traditional semantics
2. Basic semantic relationships
3. Structural semantics
4. Semantic features
5. Prototypes
6. Semantic anomaly
7. Cognitive approaches to meaning

Chapter preview

This chapter first considers some common assumptions about word meaning. The technical terms that linguists use in naming various relationships between words and sentences are introduced. The chapter then examines one way of approaching the problem of lexical meaning called structural semantics. The inherent meaning of nouns, verbs, and modal auxiliaries is next analyzed, using the concept of semantic features. Brief consideration is then given to an alternative approach to semantic features based on the concept of prototypes. Semantic restrictions on the combinations of words and the concept of semantic anomaly are then discussed. The chapter enumerates the different types of figurative language, focusing on how metaphors are recognized and interpreted. The chapter ends with a brief section on cognitive semantics.

Commentary

Semantics is the study of linguistic meaning. We can study meaning on a number of different levels: lexical semantics is the study of the meaning properties of individual words (lexical items) in isolation; sentence semantics is the study of the meaning properties of a sentence, of the semantic relationships among the parts of sentence; and discourse
(utterance) semantics is the study of the meaning of extended discourse (spoken or written), of the semantic relationship among utterances used in context. In this chapter, we will be concerned with the semantics of words, focusing on lexical rather than grammatical meaning (the latter was treated in Chapter 5). However, because of the complexity of semantics, we can only sample a number of different approaches towards lexical semantics, such as structural semantics, semantic features or components, prototypes, and cognitive semantics. Once we have treated the syntax of the sentence, we will consider sentence semantics (Chapter 10), and after that, we will turn to some aspects of discourse semantics (Chapter 11).

1. Traditional semantics

We begin by looking at some of our preconceptions about meaning. This approach to meaning, which can be termed “traditional semantics”, like traditional grammar, tends to be prescriptive and is often embodied in our attitudes towards dictionaries.

The first preconception of traditional semantics is that the meaning of a phrase or a sentence consists of a sum of the meaning of its parts; therefore, if we don't know what a sequence of words means, we assume that we simply have to look the words up in a dictionary. In popular thinking about language, there is one correct and accepted meaning for each word in the language; people generally rely upon dictionaries to provide this “correct” meaning and to act as arbiters of meaning. However, the assumption that there is one “true” meaning for a word is mistaken. Even if such unequivocal meanings existed, dictionary makers would have no direct access to them; they can only consult usage (often aided now by the use of computerized collections of the language) to discover the meanings of a word in the different contexts in which it is used. Word meanings are a matter of both social agreement (see Chapter 1) and use, and are thus imprecise and fluid. Native speakers do not always agree on the meanings of words, even common words, and dictionaries cannot be expected to record individual variation in word meanings. For example, for different speakers, brother-in-law may refer to

- your sister’s husband
- your husband’s brother,
- your wife’s brother, or
- any combination of these meanings.

Meanings may change more rapidly than can be recorded in dictionaries, despite the best efforts of lexicographers; for example, if asked the meaning of the word desultory, most people would respond with the meaning ‘aimless, slow, casual’, as in:

*Dwayne, who’d been lounging in a deck chair, was now making desultory calls on his cell phone.* (COCA: FIC)
Yet many dictionaries, including the *American Heritage Dictionary*, list its meaning as ‘moving or jumping from one thing to another’ based on its origin in Latin *dēsultōrius* ‘leaping’. While this may have been the word’s meaning at an earlier period of the language, it is not, at least judging from contemporary quotations, its current sense.\(^1\) Finally, the traditional view of semantics also ignores many aspects of meaning apart from the meanings of words, such as the function of meaningful phonological features (i.e. stress and intonation), the meaning of the grammatical structure of the utterance, and the significance of the communicative context (pragmatics).

A second assumption of traditional semantics is that the correspondence between a word and a thing is simple and direct. In fact, the relation between a word and the world may be quite complex. For example,

- *disappointment* names an emotional state, but to understand the word we must know that this is the state which results from one’s hopes or expectations of something pleasant not being satisfied. Under normal circumstances, you wouldn’t be ‘disappointed’ that you didn’t get hurt in an accident, but you might be disappointed that you did not get the raise you expected.
- The word *widow* denotes a type of woman, but again we must know something about the history of that woman, that she was married and that her husband has died.
- To understand meanings of the word *stingy* or *lazy*, as well as their negative associations, we must know something about the cultural values of the English-speaking linguistic community.
- Even the meaning of the expression *apple core* – or the image we associate with this meaning – depends upon our knowledge of the way in which apples are typically eaten in our society!

A third assumption of traditional semantics – and perhaps the most problematical one – is that words name things or objects in the real world, that meaning is always in reference to phenomena outside language. In fact, many words do not name things at all, such as words denoting abstractions or nonentities, or function words. Linguists believe that a clear distinction must be made between:

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\(^1\) Another example is the expression *hoi polloi*, from Greek meaning ‘the (ordinary) people’. Again, current usage differs, with the directly opposite meaning of ‘the upper classes’ predominating. Dictionaries tend to list the etymological meaning, while perhaps noting that the expression is used “improperly” with the meaning ‘people of distinction’. One dictionary simply lists both meanings without comment. Imagine the difficulties for a learner of the language when faced with such a contradictory definition! These examples were discussed by Justice (1987, December).
the extension of a word, the set of entities that a word denotes in the world (its referents) – if it denotes any entity at all – and
the intension of a word, the set of properties shared by all the referents of a word, their defining characteristics.

This distinction is important because the extension may be the same while the intension differs: e.g. the same man may be denoted by Mr. Jones, my neighbor, that man mowing the lawn, or an accountant. In contrast, the intension may be the same while the extension differs: e.g. I always names the property of being the speaker, but the extension differs as the speaker shifts or the Prime Minister of England always names the same position within the government of England, but over time, the extension differs.

A final assumption of traditional semantics is that it is possible to treat the meanings of individual words separately. However, words refer to things in the real world not directly, but by means of concepts existing in the mind, or meanings internal to language (linguistic meaning) – what is known as the sense of a word – and words enter into various sense relationships with other words in the language. For example, words expressing movement towards and away from the speaker form a network based on directionality and transitivity:

<table>
<thead>
<tr>
<th>Intransitive</th>
<th>Towards Speaker</th>
<th>Away from Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intransitive</td>
<td>come</td>
<td>go</td>
</tr>
<tr>
<td>Transitive</td>
<td>bring</td>
<td>take</td>
</tr>
<tr>
<td>–</td>
<td></td>
<td>send</td>
</tr>
</tbody>
</table>

Likewise, words expressing vision form a network based on the distinction between chance happening and willful act as well as duration:

<table>
<thead>
<tr>
<th>Longer Duration</th>
<th>Happening</th>
<th>Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorter Duration</td>
<td>see</td>
<td>look (stare, gawk)</td>
</tr>
<tr>
<td></td>
<td>glimpse</td>
<td>glance</td>
</tr>
</tbody>
</table>

In these networks, the meanings of the words are interdependent; it is impossible to know the meaning of look, for example, without also knowing the meaning of the word see.

**Self-Testing Exercise:** Do Exercise 6.1.

### 2. Basic semantic relationships

As speakers of the language, we all have an implicit understanding of a number of semantic relationships that hold between either words or sentences in the language. Let’s examine briefly the technical terms that linguists use to describe the different types of relationships.
1. **Paraphrase**: an utterance is a paraphrase of another when it has the same meaning as another, as *Philip purchased an automobile* is a paraphrase of *Philip bought a car* (we will look at synonymy – sameness of meaning between words – below).

2. **Entailment**, or implication: one utterance entails another when the second is a logically necessary consequence of the first, as *Alan lives in Toronto* entails *Alan lives in Canada*. Note that the relationship of entailment, unlike that of paraphrase, is one-way: it is not the case that *Alan lives in Canada* entails *Alan lives in Toronto*.

3. **Inclusion**: one utterance encompasses another, as *I like fruit* includes *I like apples*. Again, this relationship is unidirectional: *I like apples* does not include *I like (all) fruit*.

   **HINT**: The following example may help you distinguish entailment from inclusion. To say *I am allergic to dairy* INCLUDES *I am allergic to yoghurt, milk, cottage cheese, ice cream, etc.* To say the same thing ENTAILS *I get sick when I eat dairy*.

4. **Contradiction**: a statement or sequence of utterances is logically contradictory; that is, if one is true, the other must be false; *He is an orphan* contradicts *His parents are living* or *I was fatally ill last year* is internally contradictory.

5. **Anomaly**: an utterance has no meaning in the everyday world; it violates semantic rules, for example, *He swallowed a dream* or *The rock giggled*. (We will examine anomaly below, as some apparent anomaly is actually figurative language.)

6. **Lexical ambiguity**: a word or phrase allows more than one meaning in context, as in *an old friend*, which may denote a friend who is aged or a friend whom one has known for a long time (two different meanings of *old*), or *a large bill*, which may denote a large beak of a bird or a large check at a restaurant (two different words *bill*), or *he lost his head*, which may mean that he became discomposed (a metaphorical interpretation) or that he was decapitated (the literal interpretation).2

7. **Denotation/connotation**: words have literal or referential meanings (denotation) but also evoke feelings, attitudes, or opinions (connotations). The following words, whose denotations are similar if not identical, carry differing connotations, either good or bad:

   - *soldier – warrior*
   - *insect – bug*
   - *illness – disease – ailment – condition*
   - *fat – obese – plump – portly – stout – substantial*
   - *relax – loaf*
   - *hound – dog*
   - *generous – extravagant – wasteful*
   - *plan – trick – ruse – stratagem*

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2. Lexical ambiguity differs from structural ambiguity, where no single word in a sentence is ambiguous, but the structure permits more than one interpretation, as in *He found her home* (which may mean either that he found her at home or that he found the home belonging to her). See Chapter 8.
For example, some air blowing through a window is called a draft when it is cold and undesired, but a breeze when it is cool and desired; a plan points to careful foresight, while a scheme suggests deviousness or manipulation.

<table>
<thead>
<tr>
<th>English</th>
<th>French</th>
<th>Latin</th>
</tr>
</thead>
<tbody>
<tr>
<td>fire</td>
<td>flame</td>
<td>conflagration</td>
</tr>
<tr>
<td>fear</td>
<td>terror</td>
<td>trepidation</td>
</tr>
<tr>
<td>rise</td>
<td>mount</td>
<td>ascend</td>
</tr>
<tr>
<td>ask</td>
<td>question</td>
<td>interrogate</td>
</tr>
</tbody>
</table>

These words differ in their register, or level of formality. The English words are most colloquial or informal, the French words are more literary, and the Latin words are most technical or formal.

In any but the most mundane uses of language, connotations are an important aspect of meaning. Words may also carry social meaning, indicators of the identity of the speaker (age, sex, social class, race) or the formality of the context. These are also significant to the meaning of a discourse.

8. **Polysemy**: a word has more than one meaning out of context; the meanings are related to one another, e.g.:

- **court**: ‘enclosed area,’ ‘retinue of a sovereign,’ ‘judicial tribunal’;
- **mouth**: ‘opening through which an animate being takes food,’ ‘the part of a river which empties into a lake or sea’;
- **bug**: ‘insect,’ ‘enthusiast,’ ‘electronic device for eavesdropping,’ ‘design defect in a computer’;
- **fire**: ‘to burn or ignite,’ ‘to shoot a gun,’ ‘to discharge from one’s employment’

9. **Homonymy**: two words sound and are written the same but are different in meaning, e.g.:

- **bark**<sub>1</sub> ‘outer covering of wood’  
- **bark**<sub>2</sub> ‘harsh sound, uttered by a dog’
- **sound**<sub>1</sub> ‘noise’  
- **sound**<sub>2</sub> ‘body of water’  
- **sound**<sub>3</sub> ‘free from defect’
- **band**<sub>1</sub> ‘group of people’  
- **band**<sub>2</sub> ‘thin strip for encircling an object’
- **swallow**<sub>1</sub> ‘to ingest’  
- **swallow**<sub>2</sub> ‘a type of bird’

Homonyms represent different entries in a dictionary, while the different meanings of a polysemous word are listed under a single entry. However, without consulting a dictionary, it is often difficult to distinguish between polysemy and homonymy, that is, when one is dealing with two meanings for a single word or two different words.
HINT: If the two forms belong to different parts of speech, one can usually conclude that they are homonyms, as in the case of grave (A – ‘serious, weighty’) and grave (N – ‘hole for burying a person’).

In the case of polysemy, the meanings are related (either literally or figuratively), though the connection between different meanings may sometimes be difficult to perceive (as in the meanings ‘a series of connected mountains’ or ‘a unit for cooking’ for range). In some cases, the meanings may have become so far apart from one another over time that an originally single word is divided into two dictionary entries (as in pupil ‘a student’ and pupil ‘the opening in the center of the iris of the eye’).

10. **Meronymy**: a word denotes part of a whole, as fender is to car, week is to month, head is to body, branch is to tree, binding is to book.

11. **Presupposition**: what is assumed beforehand by an utterance, or what is taken for granted, is said to be presupposed. Minimally, the existence of the thing or person talked about (the topic) is presupposed, as in My teacher gave a boring lecture, where the existence of teacher is presupposed.

HINT: The test for presupposition is that when an utterance is negated, what is presupposed remains true; what is presupposed “holds up under negation”. When the sentence above is negated – My teacher didn’t give a boring lecture – the teacher is still assumed to exist, though a lecture may or may not have been given (she may have given an exciting lecture or she may have led a discussion).

Individual words may carry or “trigger” presuppositions:

<table>
<thead>
<tr>
<th>“Trigger”</th>
<th>Presupposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have another cup of coffee</td>
<td>addressee has already had a cup of coffee</td>
</tr>
<tr>
<td>You should hit him back</td>
<td>he has hit the addressee</td>
</tr>
<tr>
<td>I responded to him</td>
<td>he has asked the speaker something</td>
</tr>
<tr>
<td>I read the article again</td>
<td>the speaker has already read the article at least once</td>
</tr>
<tr>
<td>I (continued, stopped, finished)</td>
<td>the speaker was drawing in the time immediately preceding the moment of speaking</td>
</tr>
<tr>
<td>I resumed drawing</td>
<td>the speaker was drawing in some time not immediately preceding the moment of speaking</td>
</tr>
<tr>
<td>I {began, started} drawing</td>
<td>the speaker was not drawing in the time immediately preceding the moment of speaking</td>
</tr>
<tr>
<td>They have a bigger house than we do</td>
<td>both their house and our house exist</td>
</tr>
</tbody>
</table>

If what is presupposed does not hold, then presupposition failure occurs, and the communication is pragmatically odd. In a *wh*-question, everything is presupposed except the information requested:

*Where did you put the paper?* (presupposes that the addressee put the paper somewhere).
Indirect questions have the same presupposition: *I asked where she put the paper.* Compare a yes/no question such as *Is Karen attending the conference?*, where only the existence of Karen is presupposed.

Entire propositions may also be presupposed when they are expressed in the complement clauses of what have been termed **factive** expressions:

\begin{itemize}
  \item *It is {tragic, exciting, amusing, terrible, odd, significant, relevant, a bother} that it is raining.*
  \item *I {regret, am happy, remember, concede, understand, hear, notice, resent, accept, appreciate, deplore, tolerate} that it is raining.*
\end{itemize}

Notice that it is impossible to add *but it isn't raining* to the above statements since they presuppose that it is raining. An entire proposition may also be presupposed if it is nominalized (*His refusal to help annoyed me, What annoyed me was his refusal to help*). If the proposition of the complement clause is not presupposed, the expression is **nonfactive**:

\begin{itemize}
  \item *I {believe, guess, think, agree, doubt, fear, imagine, assert, am dreaming} that it is raining.*
  \item *It {appears, seems, is likely, is possible, is certain, is true/false, is probable} that it is raining.*
\end{itemize}

Both factive and nonfactive contrast with counterfactive, which denotes an event that has not occurred and probably will not occur, as in *She pretended to be listening, He wishes that he were rich.*

**HINT:** It is important to distinguish presupposition from entailment. The clearest distinguishing test is that entailment does not hold up under negation. Thus, *Alan does not live in Toronto* does not entail that *Alan lives in Canada* (in fact, he may live anywhere).

**Self-Testing Exercise:** Do Exercise 6.2.

### 3. Structural semantics

One description of the meaning relationships of words in a language is that of the British linguist John Lyons and is called “structural semantics”. Lyons recognizes three major types of relationship: synonymy, hyponymy, and oppositeness.

The concept of **synonymy** is, of course, well-known and intuitively obvious; it denotes sameness in meaning, or sense, as with the words:

- *unhappy/sad* and *huge/enormous*
- *correct/right* and *casual/informal*
- *prisoner/convict* and *present/gift*
- *flourish/thrive* and *donate/contribute*
Synonymy is context-dependent: *pedigree* refers only to animals, while *ancestry*, *genealogy*, and *lineage* refer only to human beings, and *descent* may refer to either; *carcass* refers only to animals, *corpse* only to human beings. Two words may have the same meaning in a particular context, but not necessarily in all contexts, as in the case of *pale/light* or *peel/skin*:

- **Synonymous**  
  - The shirt is *pale/light* in color. 
  - The *peel, skin* of the orange is thick.

- **Not synonymous**  
  - The book is *light, *pale* in weight. 
  - The girl's *skin, *peel* is sunburned.

Synonymy ignores the connotations of words and recognizes only their denotations. In fact, many synonyms differ only in respect to their connotations, as in *horse/steed/nag*. Synonyms may also differ in degree or intensity, as in *rain/showers/sprinkles/downpour*. Synonymy also ignores stylistic aspects – the colloquial, familiar, or formal “register” of the word – or its social or geographic dialect distribution. Consider the following sets of synonyms and note the differences in formality among the terms as well as their distribution in Canadian, US, or British English:³

- *sofa, couch, chesterfield, davenport*  
- *privy, loo, w.c., bathroom, restroom, washroom, toilet*  
- *dear, expensive, costly*

**Hyponymy** is a relation of inclusion or entailment. For example, for the set of terms *red, scarlet, crimson, vermilion, pink, maroon*, and so on, *red* is what Lyons calls a **superordinate term**, and *scarlet*, etc. are what he calls **cohyponyms** (or hyponyms).⁴ The meaning of the hyponym includes the meaning of the superordinate term (*red* includes *scarlet, crimson, etc.*). The meaning of the hyponym entails the meaning of the superordinate term (*scarlet entails red*). However, this relationship works in only one direction: if *roses* is a hyponym of the superordinate term *flowers*, then *I bought some roses* entails *I bought some flowers*, but *I bought some flowers* does not entail *I bought some roses*.

**HINT:** Another way to understand the concept of a superordinate term is as the name of a class of entities, as *musical instrument* is a class term including *piano, violin, flute, guitar, drum, cello, marimbas, accordion*, and so on.

There may be different levels of hyponyms, a hierarchy, as shown in Figure 6.1. The lower one moves in this hierarchy, the more specialized, or “marked”, the terms become.

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³. *Sofa* is the usual term in US English and *davenport* may still be found; *chesterfield* is uniquely Canadian, but is falling out of use. US English favors *bathroom* or *restroom*, while Canadian English prefers *washroom*; the standard term in British English is *toilet*, while *loo* is a slang term.

⁴. The prefix hypo- is Greek for ‘below’. Logically the superordinate term should be called a “hypernym” (from the Greek prefix hyper- meaning ‘above’), though to avoid confusion Lyons uses the corresponding Latin prefix super-.
A number of complexities may arise in the identification of superordinate terms and hyponyms:

- The hyponyms brother and sister have only the technical superordinate sibling, while the hyponyms uncle and aunt have none.
- The only possible superordinate term for the hyponyms cow and bull is cow, which is identical with one of the hyponyms; the term cattle is a collective term, while bovine is only technical.
- For the cohyponyms chair, table, desk, there likewise exists no simple superordinate term, but merely the phrase a piece of furniture.
- Color terms, such as red, green, and pink, also have no obvious superordinate since the term colored sometimes means 'not white' and sometimes 'not transparent'.
- The superordinate term animal (which contrasts with vegetable and mineral) is a hyponym of itself, where it contrasts with human being.

Lyons recognizes three different relationships of oppositeness.

1. **Complementarity** is a relation of contradiction, in which the denial of one term is the assertion of its complementary term. X is not Y and Y is not X (e.g. right is not wrong and wrong is not right). Other examples include the following:

   - single – married   male – female
   - dead – alive   pregnant – not pregnant
   - legal – illegal   on – off
   - asleep – awake   pass – fail
   - true – false/untrue   raw – cooked

Sometimes there are separate lexical items to express the complementary terms, while at other times negative prefixes such as un- or in- occur or the negative particle not is used. Although it may be possible to think of intermediate cases where the denial of one is not, strictly speaking, the assertion of the other, as in the case of mermaid or satyr (which is not strictly either human nor nonhuman), retired (which is not strictly either unemployed nor employed), ambidextrous (which is not strictly either left-handed or right-handed) and divorced (which is not strictly either single nor married), these are not usual. Because
complementary terms denote incompatible extremes, it is abnormal to compare or qualify
them with *more or *less: *more false, *less failing, *somewhat dead. However, we may do so
for humorous purposes when referring not to the quality itself, but to physical, emotional,
or behavioral characteristics associated with a quality, as in more (very) pregnant (referring,
perhaps, to appearance) or more (very) married (referring, perhaps, to behavior).

2. Antonymy (a term Lyons uses in a restricted sense) refers to gradable concepts, which
may be explicitly or implicitly compared, such as:

- big – small/little
- high – low
- proper – improper
- fat – thin
- small – large
- hot – cold
- warm – cool
- smart – dumb
- wet – dry
- old – young/new
- wide/broad – narrow
- thick – thin/narrow
- good – bad
- many – few
- rich – poor
- sweet/bitter
- noisy – quiet
- intelligent – unintelligent

(Note that the prefixes un- and in- may denote antonymy as well as complementarity.) Such
sets of adjectives are called [scalar adjectives](#). In the use of these adjectives, there is always
an implicit comparison to a norm. The norm varies from context to context, e.g.:

- A small elephant is a large animal.
- A large mouse is a small animal.
- A large child is a small adult.
- A quiet concert is a noisy library.

A warm beer and a cold coffee may be the same temperature since the temperature norms for
beer and coffee differ. Depending upon the context, the form that a scalar adjective is paired
with may differ. For example, with animate beings, young is used, while for inanimate things,
new is used, but old is used for both; beer is bitter or sweet whereas fruit is sour or sweet; a
building is tall or low while a person is tall or short. In other instances, terms seem to be inter-
changeable; a river is broad or wide, or an animal may be small or little. Unlike complemen-
tary pairs, antonymous pairs, since they mark points on a scale, typically permit intermediate
stages; thus, between often and seldom, we find occasionally and sometimes, between love and
hate, we find like and dislike, and between hot and cold, we find warm and cool.

With scalar pairs, one is “unmarked” (positive, unbiased) and one is “marked” (negative,
biased). The unmarked member will fit more naturally into the following slots than
will the marked member:

- How ________ is it?
- Twice as ________
- Half as ________
Again, the markedness can be context-dependent; for example, in summer one might ask
*how hot is it?*, while in winter one might ask *how cold is it?*. Scalar adjectives differ as to
whether they are uni- or multidimensional:

- **unidimensional** e.g. *hot – cold, tall – short, wet – dry*
- **multidimensional** e.g. *attractive – unattractive, big – small, rich – poor*

We can also distinguish between the **normal scalar adjective** and the **end-of-scale scalar
adjective** by using the following slots:

<table>
<thead>
<tr>
<th>Normal</th>
<th>End-of-scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>very</strong></td>
<td><strong>absolutely</strong></td>
</tr>
<tr>
<td>e.g. <em>big, tasty, interesting, beautiful, old, cold, hot</em></td>
<td>e.g. <em>enormous/huge, delicious/scrumptious,</em></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

The end-of-scale adjective is much more varied and connotationally rich than the
normal adjective.

3. **Converseness** denotes a kind of reversal, expressed by:

- **verbs expressing reciprocal actions**
  - *buy/sell, rent/rent (lease), lend/borrow, give/receive*
- **verbs expressing reverse actions**
  - *zip/unzip, tie/untie, wrap/unwrap, connect/disconnect, appear/disappear, exhale/inhale, progress/regress, inflate/deflate*
- **expressions of time and space**
  - *in front of/behind, in back of, north of/south of, outside/inside*
- **kinship terms**
  - *husband/wife, brother/sister*
- **professional relationships**
  - *teacher/student, employer/employee, host/guest, master/servant, lawyer/client*

All converse terms permit reversal; for example, *Andy bought the car from Christy* entails
and is entailed by *Christy sold the car to Andy* or *Bill is Trudy's son* entails and is entailed by
*Trudy is Bill's mother*. Logically *The bike is in front of the garage* entails *The garage is behind
the bike*; however, the second sentence is perspectivally odd since we tend to place the figure
in respect to the ground rather than the ground in respect to the figure.

Syntactically, active sentences and their corresponding passives denote converseness,
though, again, the correspondences may sound odd because of the tendency for the topic
of the discourse to be expressed in the subject position (e.g. *Sandy ate the strawberries*
entails *The strawberries were eaten by Sandy*). Comparative expressions, though they usu-

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5. These have been seen as a special case of converseness called “reversive” (Cruse, 1986). Priva-
tive verbs such as *zip/unzip* or *tie/untie* are discussed in Chapter 4.
ally contain scalar adjectives, are themselves converse (e.g. The castle is larger than the fort implies The fort is smaller than the castle). We must be careful to distinguish true cases of converseness from apparent ones:

- **ask/answer**: an answer is only expected, not necessary
- **command/obey**: a command is not always obeyed
- **seek/find**: seeking does not necessarily result in finding
- **try/succeed**: trying does not necessarily result in succeeding

*Teach/learn* may also be a case of apparent converseness if one assumes that teaching does not necessarily imply learning.

A special kind of converseness is called **symmetry**. An example is *married*; while it is possible to say *Helen is married to David* and *David is married to Helen*, it is also possible to say *Helen and David are married*. Other examples of symmetry are *be {synonymous with, identical to, different from, adjacent to, related to, neighbors with, the same size as}*.

The term *sister* can be symmetrical when the sex of both referents is female (*Dora is the sister of Sally, Sally is the sister of Dora, and Sally and Doris are sisters*), but when the sex differs, the symmetrical term *sibling* must be used (e.g. *Lois is the sibling of Don, Don is the sibling of Lois, and Don and Lois are siblings*).\(^6\)

**Self-Testing Exercise:** Do Exercise 6.3. A concept related to that of hyponymy is that of the semantic field. Read about this in Exercise 6.4.

### 4. Semantic features

Componential analysis is an attempt to give a semantic analysis of words in terms of *semantic features* or *components* (Katz & Fodor, 1963). It consists in determining the basic components constituting the semantic content, or sense, of a word. These components, sometimes called *semantic primitives*, are assumed to be the most basic notions expressed by linguistic meaning, the “givens” of the semantic system which cannot be broken down further by semantic analysis. Furthermore, they are thought to be universal, not language specific, part of the cognitive and perceptual system of the human mind. According to the linguist Manfred Bierwisch, “all semantic structure might finally be reduced to components representing the basic dispositions of the cognitive and perceptual structure of the human organism”. These components combine in different ways to form the meaning of

---

\(^6\) A verb such as *agree with* would appear to be symmetrical (e.g. *Tom agreed with Paul, Paul agreed with Tom*, and *Tom and Paul agreed*), but note that the relation may be unidirectional (when Tom and Paul agree, it may be that Tom agrees with Paul, but that Paul does not necessarily do anything). This type of unidirectional relationship is called “reciprocity”; other examples include *collide with, concur with, cooperate with, fight with*. 
individual words; thus, features are the shared semantic characteristics of words. Every word in the language consists of a unique bundle of semantic features. Semantic features combine in different ways in different languages; that is, they are lexicalized differently, resulting in the varied vocabularies of different languages.

Semantic features are usually presented as a matter of opposition, paired positive and negative features, denoting the presence or absence of the particular feature in the meaning of the word.

**NOTE ON NOTATION:** Semantic features are theoretical elements, not part of the vocabulary of the language. But since we have no metalanguage (special language for talking about language), we must use the words of English to represent features. To indicate that we are referring to a feature rather than a word of the language, we capitalize the feature and place it in square brackets. Thus, the feature of ‘humanness’ is represented as [±HUMAN]. The feature label that we use can be understood as only accidentally resembling a word of English.

The determination of semantic features is a kind of “factoring out” of semantic components. This process can be seen most clearly in a semantic feature analysis of a livestock paradigm (see Table 6.1).7

<table>
<thead>
<tr>
<th>man</th>
<th>boar</th>
<th>bull</th>
<th>cock</th>
<th>dog</th>
<th>stallion</th>
<th>ram</th>
</tr>
</thead>
<tbody>
<tr>
<td>woman</td>
<td>sow</td>
<td>cow</td>
<td>hen</td>
<td>bitch</td>
<td>mare</td>
<td>ewe</td>
</tr>
<tr>
<td>child</td>
<td>piglet</td>
<td>calf</td>
<td>chick</td>
<td>puppy</td>
<td>foal</td>
<td>lamb</td>
</tr>
<tr>
<td>boy</td>
<td>shoat</td>
<td>bullock</td>
<td>chick</td>
<td>dog puppy</td>
<td>colt</td>
<td>ram lamb</td>
</tr>
<tr>
<td>girl</td>
<td>gilt</td>
<td>heifer</td>
<td>chick</td>
<td>bitch puppy</td>
<td>filly</td>
<td>ewe lamb</td>
</tr>
<tr>
<td>crowd</td>
<td>drove</td>
<td>herd</td>
<td>flock</td>
<td>pack</td>
<td>herd</td>
<td>flock</td>
</tr>
</tbody>
</table>

The table is read as follows: all of the words in the second row, for example, share the features [–MALE] and [±ADULT], while all of the words in the third column share the feature [+BOVINE], and so on. While the words in the first column share the feature [+HUMAN], those in the other columns share the feature [–HUMAN]. However, for each word to be distinguished from every other word by at least one feature, [–HUMAN] is much too broad a category, suggesting that we need the further distinctions [+SWINE], [+BOVINE], and so on. But if we add one of these positive features to a column, we must, for completeness, also add all the others as negative features to that column, leading to a very cumbersome feature analysis. A second difficulty is deciding which is the positive and which is the negative member. Sometimes the choice is arbitrary, but often the positive term is more

---

7. Some of the words in this table are not part of everyday speech but are part of the specialized vocabulary of people in animal husbandry. We give them here for illustrative purposes only.
inclusive or more generalized than the negative term. For example, *dog*, which we analyze as 
\([+\text{ADULT}], [+\text{MALE}]\) is often used to refer to both male and female canines (thus 
\([\pm\text{MALE}]\)) and young and old canines (thus \([+\text{ADULT}]\)). Likewise, the term *man* may be 
\([\pm\text{MALE}]\) in the sense of “mankind” and \([+\text{ADULT}]\) in its use, for example, on the door of a 
washroom. The positive feature often has more extended and metaphorical meanings than the negative feature, as can be seen with *stallion*, *cock*, or *bull* (*bitch* and *cow* are perhaps exceptions to this generalization).

Other sets of words can likewise be differentiated by the use of semantic features. For example, we could distinguish types of clothing as in Table 6.2a or bodies of water (6.2b). Departing from the livestock paradigm, it becomes clear how arbitrary the choice of supposedly universal features becomes, since the clothing terms given in (6.2a) could certainly be analyzed with quite a different set of features, for example, with a feature such as \([\pm\text{SLEEVE}]\) rather than one such as \([\pm\text{UPPER BODY}]\). Once more specialized garments such as *vest*, *nightgown*, or *turtleneck* are included, it would become necessary to add many more specific semantic features. Another weakness evident in the examples in (6.2b) is that, although the eight terms are all distinguished by at least one feature, there is not a sense that the features used satisfactorily capture the meaning of the terms since, for example, *bay* and *inlet* contain some feature of \([+\text{INDENTATION}]\).

There are two conclusions to be drawn from this discussion:

- in theory, every word can be accounted for by a unique set of features
- features (or feature matrices) can be used to compare words and talk systematically about sense relations.

For example, we can define more precisely certain relationships that we have already discussed. Two synonymous words – \(W_1\) (\(W = \text{word}\)) and \(W_2\) – are analyzable in terms of the same semantic components. Polysemy and ambiguity both involve a word’s having more than one complex of components assigned to it, either out of or in context. Antonymy (in the broad sense, not Lyons’ restricted sense) is a case where \(W_1\) and \(W_2\) share the same features except that for \(W_1\) the feature is \([+]\) and for \(W_2\) the same feature is \([–]\). Hyponymy may be defined as follows: \(W_1\) is a hyponym of the superordinate term \(W_2\) if all features of \(W_1\) are features of \(W_2\) but not vice versa. For example, in the case of *woman*, the superordinate term *adult* contains all of the features of the hyponym *woman*, but *woman* does not contain all features of *adult* (i.e. \([+\text{MALE}]\))

<table>
<thead>
<tr>
<th>Woman (W_1)</th>
<th>Adult (W_2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[+HUMAN]</td>
<td>[+HUMAN]</td>
</tr>
<tr>
<td>[+GROWN]</td>
<td>[+GROWN]</td>
</tr>
<tr>
<td>[–MALE]</td>
<td>[±MALE]</td>
</tr>
</tbody>
</table>

That is, all features of \(W_1\) are features of \(W_2\) but not vice versa.
Table 6.2. Componential Analysis of (a) Types of Garments and (b) Bodies of Water

### a. garments

<table>
<thead>
<tr>
<th></th>
<th>coat</th>
<th>jacket</th>
<th>shirt</th>
<th>blouse</th>
<th>skirt</th>
<th>pants</th>
<th>shorts</th>
</tr>
</thead>
<tbody>
<tr>
<td>[+]UPPER BODY</td>
<td>[+]UPPER BODY</td>
<td>[+]UPPER BODY</td>
<td>[+]UPPER BODY</td>
<td>[−UPPER BODY]</td>
<td>[−UPPER BODY]</td>
<td>[−UPPER BODY]</td>
<td>[−UPPER BODY]</td>
</tr>
<tr>
<td>[±FULL LENGTH]</td>
<td>[−FULL LENGTH]</td>
<td>[−FULL LENGTH]</td>
<td>[−FULL LENGTH]</td>
<td>[±FULL LENGTH]</td>
<td>[±FULL LENGTH]</td>
<td>[±FULL LENGTH]</td>
<td>[±FULL LENGTH]</td>
</tr>
<tr>
<td>[±MALE]</td>
<td>[±MALE]</td>
<td>[±MALE]</td>
<td>[−MALE]</td>
<td>[−MALE]</td>
<td>[±MALE]</td>
<td>[±MALE]</td>
<td></td>
</tr>
<tr>
<td>[+OVER GARM.]</td>
<td>[+OVER GARM.]</td>
<td>[−OVER GARM.]</td>
<td>[−OVER GARM.]</td>
<td>[−OVER GARM.]</td>
<td>[−OVER GARM.]</td>
<td>[−OVER GARM.]</td>
<td></td>
</tr>
</tbody>
</table>

### b. bodies of water

<table>
<thead>
<tr>
<th></th>
<th>lake</th>
<th>sea</th>
<th>ocean</th>
<th>river</th>
<th>brook</th>
<th>pond</th>
<th>bay</th>
<th>cove</th>
</tr>
</thead>
<tbody>
<tr>
<td>[−FLOWING]</td>
<td>[−FLOWING]</td>
<td>[−FLOWING]</td>
<td>[−FLOWING]</td>
<td>[+FLOWING]</td>
<td>[+FLOWING]</td>
<td>[−FLOWING]</td>
<td>[−FLOWING]</td>
<td>[−FLOWING]</td>
</tr>
<tr>
<td>[−SALINE]</td>
<td>[+SALINE]</td>
<td>[+SALINE]</td>
<td>[−SALINE]</td>
<td>[−SALINE]</td>
<td>[−SALINE]</td>
<td>[±SALINE]</td>
<td>[±SALINE]</td>
<td>[±SALINE]</td>
</tr>
<tr>
<td>[±LARGE]</td>
<td>[±LARGE]</td>
<td>[±LARGE]</td>
<td>[±LARGE]</td>
<td>[−LARGE]</td>
<td>[−LARGE]</td>
<td>[±LARGE]</td>
<td>[±LARGE]</td>
<td>[−LARGE]</td>
</tr>
</tbody>
</table>
4.1 Feature analysis of nouns

In Chapter 5, various subclasses of nouns were introduced, including count, concrete, and collective nouns. However, these are not mutually exclusive categories. Nouns can be count/concrete/collective (e.g. team), noncount/abstract/noncollective (e.g. truth), count, concrete/noncollective (e.g. pear), noncount/concrete/collective (e.g. police), and so on. The use of a set of semantic features thus provides for a better means for analyzing nouns into subclasses as it allows for cross-categorizations of this type. We will analyze nouns with the following set of semantic features:

$\{\pm\text{COMMON}\}, \{\pm\text{COUNT}\}, \{\pm\text{CONCRETE}\}, \{\pm\text{COLLECTIVE}\}$

The features $\{\pm\text{COMMON}\}$, $\{\pm\text{COUNT}\}$, $\{\pm\text{CONCRETE}\}$, and $\{\pm\text{COLLECTIVE}\}$ were defined in Chapter 5. The meaning of the features $\{\pm\text{HUMAN}\}$ and $\{\pm\text{MALE}\}$ is self-evident. $\{\pm\text{ANIMATE}\}$ usually refers to animal rather than vegetable life, with a secondary meaning of ‘living’. Thus, *tree* and *beef* should be analyzed as $[–\text{ANIMATE}]$, the first not being animal life and the second not being living. In Table 6.3 are some examples of the componential analysis of different sample nouns. Note that there is a hierarchy of features: if something is $[–\text{ANIMATE}]$, then $[\text{HUMAN}]$ and $[\text{MALE}]$ are irrelevant; if $[–\text{CONCRETE}]$, then $[\text{ANIMATE}]$ is irrelevant. For some terms, the semantic analysis depends on our conception of the object: a university, for example, may be thought of in terms of the concept ($\text{university}_1$), the collective body of people constituting the university ($\text{university}_2$), or the physical structure ($\text{university}_3$).

Using these semantic features, however, we could not distinguish between the terms *father* and *man*. Certain classes of nouns, such as kinship terms, require a different kind of feature, namely relational features. The term *father* could be analyzed in the following way:

\[
\begin{align*}
X \ [+\text{PARENT OF}] Y \\
X \ [+\text{ANIMATE}] \ [\pm\text{HUMAN}] \ [+\text{ADULT}] \ [+\text{MALE}] \\
Y \ [+\text{ANIMATE}] \ [\pm\text{HUMAN}] \ [\pm\text{ADULT}] \ [\pm\text{MALE}]
\end{align*}
\]

The term *daughter* would be analyzed as follows:

\[
\begin{align*}
X \ [+\text{OFFSPRING OF}] Y \\
X \ [+\text{ANIMATE}] \ [\pm\text{HUMAN}] \ [\pm\text{ADULT}] \ [–\text{MALE}] \\
Y \ [+\text{ANIMATE}] \ [\pm\text{HUMAN}] \ [+\text{ADULT}] \ [\pm\text{MALE}]
\end{align*}
\]

Scalar adjectives, which are always understood in respect to a norm, also lend themselves to an analysis using relational features:

\[
\begin{align*}
\text{high:} \quad Y \ [+\text{GREATER THAN}] \ \text{Norm} \\
Y \ [+\text{DIMENSION OF}] X \\
Y \ [+\text{VERTICAL}]
\end{align*}
\]
### Table 6.3. Feature Analyses of Sample Nouns

<table>
<thead>
<tr>
<th>Noun</th>
<th>Feature 1</th>
<th>Feature 2</th>
<th>Feature 3</th>
<th>Feature 4</th>
<th>Feature 5</th>
<th>Feature 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>butter</td>
<td>[+COMMON]</td>
<td>[-COUNT]</td>
<td>[+CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cabbage</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[+CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>weather</td>
<td>[+COMMON]</td>
<td>[-COUNT]</td>
<td>[+CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sunrise</td>
<td>[+COMMON]</td>
<td></td>
<td>[+CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>experience</td>
<td>[+COMMON]</td>
<td></td>
<td>[-CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Rockies</td>
<td>[-COMMON]</td>
<td>[-COUNT]</td>
<td>[+CONCRETE]</td>
<td>[-ANIMATE]</td>
<td>[+COLLECTIVE]</td>
<td></td>
</tr>
<tr>
<td>leftovers</td>
<td>[+COMMON]</td>
<td></td>
<td>[-CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cook</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[+CONCRETE]</td>
<td>[+ANIMATE]</td>
<td>[+HUMAN]</td>
<td>±MALE</td>
</tr>
<tr>
<td>aide</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[-CONCRETE]</td>
<td>[+ANIMATE]</td>
<td>[+HUMAN]</td>
<td>±MALE</td>
</tr>
<tr>
<td>measles</td>
<td>[+COMMON]</td>
<td></td>
<td>[-CONCRETE]</td>
<td>[-ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>whale</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[+CONCRETE]</td>
<td>[+ANIMATE]</td>
<td>[-HUMAN]</td>
<td>±MALE</td>
</tr>
<tr>
<td>lioness</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[+CONCRETE]</td>
<td>[+ANIMATE]</td>
<td>[+HUMAN]</td>
<td>±MALE</td>
</tr>
<tr>
<td>clergy</td>
<td>[+COMMON]</td>
<td>[-COUNT]</td>
<td>[+CONCRETE]</td>
<td>[+ANIMATE]</td>
<td>[+HUMAN]</td>
<td>±MALE</td>
</tr>
<tr>
<td>university1</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[-CONCRETE]</td>
<td>[+ANIMATE]</td>
<td>[+HUMAN]</td>
<td>±MALE</td>
</tr>
<tr>
<td>university2</td>
<td>[+COMMON]</td>
<td>[+COUNT]</td>
<td>[+CONCRETE]</td>
<td>[+ANIMATE]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>university3</td>
<td>[+COMMON]</td>
<td></td>
<td>[+CONCRETE]</td>
<td>[+ANIMATE]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Verbs could also be analyzed using relational features; we will turn to this type of verbal analysis in Chapter 10.

**Self-Testing Exercise:** Do Exercise 6.5.

### 4.2 Feature analysis of verbal predicates

It is possible to characterize the inherent temporal nature of the situation named by the verb by using a number of semantic features. This temporal nature is referred to as “inherent aspect” or “situation aspect.” As the use of the term “aspect” suggests, inherent aspect interacts with verbal aspect (perfective/imperfective aspect), which was discussed in Chapter 5. There are a number of ways in which inherent aspect can be defined, but it is sufficient for our purposes to identify four semantic features for verbal predicates:

1. **[±STATIVE]:** this feature recognizes whether the situation denoted by the verb involves change [–STATIVE] or not [+STATIVE]; it is said that a [–STATIVE] (or dynamic) situation requires the input of energy, whereas a [+STATIVE] situation does not;
2. **[±DURATIVE]:** this feature recognizes whether the situation goes on in time [+DURATIVE] or occurs at a moment in time (punctual/instantaneous) [–DURATIVE];
3. **[±TELIC]:** this feature recognizes whether the situation has an endpoint or goal which is necessary for the situation to be what it is [+TELIC] or has no necessary conclusion [–TELIC]; and
4. **[±VOLUNTARY]:** this feature recognizes whether the situation is a matter of an agent’s voluntary or willful action [+VOLUNTARY] (intentional) or not [–VOLUNTARY].

On the basis of these features, different situation types are identifiable. The best-known typology is that of Zeno Vendler (1967), which distinguishes four situation types: states, activities, accomplishments, and achievements. Each situation can be analyzed by a unique combination of semantic features, as shown in Table 6.4.

---

8. Terminology in this area is quite confusing, so in recent years the term “situation” has come to be used as a neutral term to denote any state, event, process, act, or activity named by a verb.
9. The German word “Aktionsart” ‘type of action’ is also commonly used.
10. This feature is, strictly speaking, not a matter of the temporal qualities of a situation, but it has traditionally been treated with inherent aspect.
Table 6.4. Features of Situation Types

<table>
<thead>
<tr>
<th>State</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. love, resemble</td>
<td>e.g. push, run</td>
</tr>
<tr>
<td>[+STATIVE]</td>
<td>[-STATIVE]</td>
</tr>
<tr>
<td>[+DURATIVE]</td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td>[-TELIC]</td>
<td>[-TELIC]</td>
</tr>
<tr>
<td>[-VOLUNTARY]</td>
<td>[+VOLUNTARY]</td>
</tr>
<tr>
<td>accomplishment e.g. dress, use up</td>
<td>achievement e.g. kick, blink</td>
</tr>
<tr>
<td>[-STATIVE]</td>
<td>[-STATIVE]</td>
</tr>
<tr>
<td>[+DURATIVE]</td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td>[+TELIC]</td>
<td>([+TELIC])</td>
</tr>
<tr>
<td>[+VOLUNTARY]</td>
<td>[+VOLUNTARY]</td>
</tr>
</tbody>
</table>

**States** denote unchanging situations such as emotional, cognitive, and physical states, conditions, or qualities. States are continuous over the entire time period in which they exist. Examples of states are the predicates in *Philip {loves, suspects, resembles, expects, doubts} Brigit*. Stative expressions can be identified by a number of formal properties:

- A state is generally expressed in the simple, not the progressive form, because the progressive indicates a situation which is ongoing and changing: *Philip is loving Brigit.*
- A state lasts in time indefinitely, for a given period of time, with no necessary end; it answers the question “for how long?”.
- A person cannot be commanded, forced, or persuaded to be in a state because a state is not a matter of volition or will: *Love Brigit! *His mother forced him to love Brigit.*
- For the same reason, no manner adverbs can accompany a stative expression: *Philip loved Brigit {deliberately, studiously, attentively, carefully}.
- A state cannot occur in a pseudocleft sentence since a state is not “done”: *What Philip did was love Brigit.*
- A state starts and stops, but it cannot be finished: *Philip {started, stopped, *finished} loving Brigit.*

Other examples of states (taken from Vendler) are the following:

- know
- be married
- like/dislike
- have
- desire
- hate
- believe
- dominate
- see
- possess
- want
- rule
- be X
- think that
- know that/how
- believe that/in
- understand
- see

**Activities** are dynamic situations which go on in time (potentially indefinitely). Examples of activities are the predicates in *Jesse is {reading, pushing the cart, daydreaming, talking with Janice, staring at the picture, sitting on the bed}*. 
An activity lasts for a period of time and answers the question “for how long?”.

- An activity does not take any definite time nor have any definite end and hence cannot be “finished”, though like states, activities can begin and end.
- An activity goes on in a homogeneous way; it is constant over the period of time in which it happens.
- With an activity, one can “spend a certain amount of time V-ing”.
- An activity may be either continuing (e.g. argue, talk, walk) or changing (e.g. grow, improve, decline).
- A test for activities is that if one stops V-ing, then one has V-ed (if Jesse stops pushing the cart, then he has pushed the cart).

Other examples of activities from Vendler are the following:

| run   | swim     | think about |
| walk  | watch    | housekeep  |
| look  | observe  | keep in sight |
| pull  | gaze upon | follow with one’s eyes |
| pay attention to | scrutinize | focus one’s eyes on |

Although activities are frequently [+voluntary], they may also be [–voluntary], as is the case with, e.g. The water is flowing, Her arm is bleeding, The child is growing. Such activities cannot be commanded.

Accomplishments are dynamic situations with a terminal point or “climax” which is logically necessary for them to be what they are, as in the examples Sybil {wrote a letter, went to the store, cooked dinner}.

- In an accomplishment, it is necessary for the endpoint to be reached (i.e. the letter to be produced, the store to be reached, and the dinner to be completed) for the accomplishment to occur.
- A test for accomplishments is that if one stops V-ing, then one has not V-ed: if Sybil stops writing the letter, then she has not written a letter; she has simply worked on a letter.
- An accomplishment, unlike a state and an activity, can be “finished”: if Sybil finishes writing the letter, then she has written a letter.
- Because of its necessary endpoint, an accomplishment takes a certain amount of time and answers the question “how long did it take?”.
- With an accomplishment, one Vs “in a certain amount of time”, not “for a certain amount of time”.
- An accomplishment does not go on in a homogeneous way, but consists of an activity phase and a terminal point, which are different in nature.
- An accomplishment is ambiguous with almost; if Sybil almost wrote a letter, then she may have written a partial letter or she may not have even begun the letter (just thought about it).
Other examples of accomplishments drawn from Vendler are the following:

- run a mile
- draw a circle
- recover from an illness
- write a letter
- get exhausted
- get ready
- paint a picture
- make a chair
- see Carmen
- build a house
- write/read a novel
- play a game of chess
- deliver a sermon
- give/attend a class
- grow up
- watch (the passage of Venus across the sun)

Accomplishments can be [+VOLUNTARY], e.g. run a mile, get ready, or [–VOLUNTARY], e.g. get exhausted, grow up.

Achievements are dynamic situations that are conceived of as occurring instantaneously, as in Roger {reached the top of the mountain, flicked the switch on, solved the problem}. They are punctual acts or changes of state. [TELIC] is not really a relevant category here because achievements, since they are punctual, end as soon as they begin (though they are often described as [+TELIC]).

- An achievement occurs at a single moment in time and answer the question “at what time?”.
- The progressive is either incompatible with an achievement (*She is recognizing a friend) or denotes the repetition of the achievement either by a singular subject (He is kicking the ball) or multiple subjects (The guests were arriving gradually).
- An achievement is incompatible with start and stop (*She stopped recognizing a friend); stopping and starting are themselves achievements.

Some achievements can also answer the question “how long did it take?”, as in the case of solve the problem:

\[ \text{How long did it take for Roger to solve the problem?} \]
\[ \text{It took Roger an hour to solve the problem.} \]

This does not imply that at every point during that hour he was necessarily working on the problem. This behavior of achievements seems to suggest that they fall into two subclasses: those that are truly instantaneous (such as kick, flick, tap) and those that involve a preliminary process such as find (generally preceded by looking for) or reach the top (generally preceded by working one’s way towards the top). When the process leading up to the endpoint and the endpoint are named by the same verb, the progressive is possible: He

---

11. The meaning of an accomplishment with an expression of duration is quite different. For example, It took Sybil an hour to write a letter implies that at every point during that hour she was working on the letter.
died at 5:00/He is dying, The plane arrived at 5:00/The plane is arriving. Other examples of achievements from Vendler are the following:

- die
- topple the tree
- understand
- win the race
- spot (something)
- get married
- recognize
- find
- know
- start V-ing
- stop V-ing
- notice
- realize
- lose
- see
- cross the border
- resume V-ing
- catch a dog
- be born
- ?think of

Achievements are often [-VOLUNTARY] (e.g. find, spot, catch a dog), though they can be [+VOLUNTARY] as well (e.g. cross the border, kick the ball, tap the window).

**HINT:** In Vendler’s lists given above, the verbs understand, see, and know occur in both the categories of states and of achievements. As states, these verbs denote an unchanging condition (e.g. I understand German, I see poorly, I know how to tune a car), while as achievements, they denote the dynamic event of coming into a state (e.g. Now I understand what you mean, I see a parking spot over there, Now I know what to do). This exemplifies the “multivalency” of verbs in English, that fact that they are often able to name more than one situation type.

You may have noticed that it is often not just the verb alone, but also other parts of the predicate that figure in the determination of situation type. First, the addition of a nominal object may contribute the notion of goal and thus change an activity into an accomplishment:

- She sang. (activity) > She sang a song. (accomplishment)
- I worked. (activity) > I worked the crossword puzzle. (accomplishment)

Moreover, the count qualities of the object are significant; with mass and indefinite plural objects, the activity status is unchanged, while with definite plural objects, the activity is converted into an accomplishment:

**Activity**
- Mass noun
  - She sang folk music.
- Indefinite plural
  - She sang songs.

**Accomplishment**
- Definite plural
  - She sang two songs.

Prepositional phrases which denote either a spatial goal or temporal limit may also convert an activity into an accomplishment:

- He walked. (activity) > He walked {to the store, from dawn to dusk}. (accomplishment)
Particles such as *up*, *down*, *out*, *off*, and *through* may have the same effect:

*She used the paper.* (activity)  >  *She used up the paper.* (accomplishment)

However, not all prepositional phrases and particles change an activity into an accomplishment:

*He walked in the woods. I worked at/on the crossword puzzle.*
*He walked along/on.*
*I worked on the machine.*

The count qualities of the subject may affect the situation type as well:

<table>
<thead>
<tr>
<th>achievement</th>
<th>The runner crossed the line.</th>
</tr>
</thead>
<tbody>
<tr>
<td>accomplishment</td>
<td>Two runners crossed the line.</td>
</tr>
<tr>
<td>activity</td>
<td>Runners crossed the line.</td>
</tr>
</tbody>
</table>

For these reasons, we speak of *situation type* rather than *verb type*.

### Table 6.5. Feature Analyses of Sample Situations

<table>
<thead>
<tr>
<th>Situation</th>
<th>Feature Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>push the buzzer</em></td>
<td>[+TELIC]</td>
</tr>
<tr>
<td><em>take a nap</em></td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td><em>play the piano</em></td>
<td>[+VOLUNTARY]</td>
</tr>
<tr>
<td><em>lie down</em></td>
<td>[+VOLUNTARY]</td>
</tr>
<tr>
<td><em>hope for</em></td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td><em>set the table</em></td>
<td>[+VOLUNTARY]</td>
</tr>
<tr>
<td><em>hurt</em></td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td><em>do homework</em></td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td><em>crack eggs</em></td>
<td>[+TELIC]</td>
</tr>
<tr>
<td><em>sleep</em></td>
<td>[+VOLUNTARY]</td>
</tr>
<tr>
<td><em>doodle</em></td>
<td>[+TELIC]</td>
</tr>
<tr>
<td><em>unwrap the package</em></td>
<td>[+VOLUNTARY]</td>
</tr>
<tr>
<td><em>trip on the step</em></td>
<td>[+DURATIVE]</td>
</tr>
<tr>
<td><em>go bald</em></td>
<td>[+TELIC]</td>
</tr>
<tr>
<td><em>write poetry</em></td>
<td>[+VOLUNTARY]</td>
</tr>
</tbody>
</table>

---

12. This is in the sense 'My hand hurts', not 'He hurt me'.
Table 6.5 presents feature analyses of different situations: *hurt* and *hope for* are states; *doodle, crack eggs, write poetry, play the piano,* and *sleep* are activities; *push the buzzer, lie down, trip on the step* are achievements; and *take a nap, set the table, unwrap the package, do homework,* and *go bald* are accomplishments. Note that for the achievements the feature [TELIC] is put in parentheses as it is not entirely relevant.

The situation type interacts in complex ways with verb aspect, as suggested in the previous chapter. Here it is sufficient to emphasize that changing the aspect of an expression does not alter its situation type. Thus, *she was singing* and *she sang* are both activities, although the first is viewed imperfectively (as ongoing) while the second is viewed perfectly (as a whole or “bounded”). In contrast, *she sings* is an activity which is viewed habitually, that is, is seen as happening in bound segments on different occasions; this constitutes the situation type of habit. Any situation type can be seen as occurring on different occasions over time (as a habit), e.g. *He writes poems* (accomplishment), *He crosses the border everyday* (achievement), *She runs* (activity), *He enjoys every movie he sees* (state).


4.3 Feature analysis of modals

Another application of semantic features is in the analysis of the modal meaning, which is most often expressed by the modal auxiliaries and their phrasal equivalents:

- *will (would)*: *have to,* often pronounced /hæftə/
- *can (could)*: *have got to,* often pronounced /hævgətə/
- *shall (should)*: *ought to,* often pronounced /əʊtə/
- *may (might)*: *need to*
- *must*: *be supposed to,* often pronounced /spəstə/
- *be able to*

Modal meaning refers to matters of possibility and necessity and can be analyzed using two features:

1. [+EPISTEMIC]: epistemic meaning which is a matter of belief (inference, deduction), such as potentiality, possibility, probability, prediction, or certainty; or
2. [+DEONTIC]: deontic meaning is a matter of action, such as permission, duty, responsibility, obligation (weak or strong), or command.

Epistemic meanings answer the question “How do you know?”, while deontic meanings answer the question “What should I do?”. Epistemic modality relates to the entire proposition: *It may rain* = ‘it is possible that it will rain’. Deontic modality is subject-oriented: *You

---

13. Some scholars consider habits to be states, but because they are volitional and consisting of multiple events, they are better understood as a separate situation type.
may leave the table = 'you are permitted to leave the table'. Sentences with modal auxiliaries or their phrasal equivalents are either epistemic or deontic in meaning, or ambiguous between the two readings. Each of the modals may denote both types of meaning, as shown in Table 6.6.

Table 6.6. Epistemic and Deontic Meanings of the Modal Auxiliaries

<table>
<thead>
<tr>
<th>[+EPISTEMIC]</th>
<th>[+DEONTIC]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>may</strong></td>
<td></td>
</tr>
<tr>
<td>He may commit suicide.</td>
<td>You may go to the movies.</td>
</tr>
<tr>
<td>Sally may have left.</td>
<td>May I be excused from the table?</td>
</tr>
<tr>
<td><strong>must</strong></td>
<td></td>
</tr>
<tr>
<td>I must be dreaming.</td>
<td>I must convince him to reform.</td>
</tr>
<tr>
<td>The wet weather must be the result of La Niña.</td>
<td>You must not do that.</td>
</tr>
<tr>
<td><strong>will</strong></td>
<td></td>
</tr>
<tr>
<td>John will know the answer.</td>
<td>I will certainly be there.</td>
</tr>
<tr>
<td>She will be home soon.</td>
<td>I will marry you.</td>
</tr>
<tr>
<td><strong>shall</strong></td>
<td></td>
</tr>
<tr>
<td>I shall be in my office today.</td>
<td>Lesley shall see to it.</td>
</tr>
<tr>
<td>We shall finish it by tomorrow.</td>
<td>He shall be there.</td>
</tr>
<tr>
<td><strong>can</strong></td>
<td></td>
</tr>
<tr>
<td>Oil can float on water.</td>
<td>You can come in now.</td>
</tr>
<tr>
<td>Winters can be very cold here.</td>
<td>Can I be excused from the table?</td>
</tr>
<tr>
<td>She can sing beautifully.</td>
<td></td>
</tr>
<tr>
<td><strong>should</strong></td>
<td></td>
</tr>
<tr>
<td>We should be home soon, children.</td>
<td>You should see that movie.</td>
</tr>
<tr>
<td>You should know our decision soon.</td>
<td>I should go.</td>
</tr>
<tr>
<td><strong>would</strong></td>
<td></td>
</tr>
<tr>
<td>He would know, if anyone does.</td>
<td>Would you please be more attentive.</td>
</tr>
<tr>
<td>Would it be safe to travel there?</td>
<td>Would you open the door for me?</td>
</tr>
<tr>
<td><strong>could</strong></td>
<td></td>
</tr>
<tr>
<td>She could have known.</td>
<td>She could help you more often.</td>
</tr>
<tr>
<td>She could die.</td>
<td>As a child I could climb trees.</td>
</tr>
<tr>
<td><strong>might</strong></td>
<td></td>
</tr>
<tr>
<td>That might be the correct answer.</td>
<td>You might check into it.</td>
</tr>
<tr>
<td>You might have killed yourself.</td>
<td>You might have been more helpful.</td>
</tr>
<tr>
<td><strong>ought to</strong></td>
<td></td>
</tr>
<tr>
<td>According to the information on the board, the plane ought to be here.</td>
<td>The children ought to go to bed now.</td>
</tr>
</tbody>
</table>

(Continued)

14. Positive *can* is somewhat rare in the epistemic sense, though negative *can* is frequently epistemic, as in *It can't be five o'clock already*. 
Table 6.6. (Continued)

<table>
<thead>
<tr>
<th><strong>have to</strong></th>
<th><strong>have got to</strong></th>
<th><strong>be supposed to</strong></th>
<th><strong>be able to</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>This has to be the right house.</td>
<td>This has got to be the one he was referring to.</td>
<td>It is supposed to rain today.</td>
<td>This car is able to go very fast.</td>
</tr>
<tr>
<td>I have to finish my paper today.</td>
<td>I have got to be more efficient with my time.</td>
<td>I am supposed to be there now.</td>
<td>He is able to wiggle his ears.</td>
</tr>
</tbody>
</table>

The different modals are distinguished by the intensity or strength of epistemic or deontic meaning they express. Note that the past-tense forms *would*, *could*, *should*, and *might* do not express past-time meaning (except in indirect speech), but rather different degrees of epistemic or deontic meaning.

While the distinction between epistemic and deontic is often quite obvious:

- *I must leave now* = ‘I am obliged to leave now’ ([+DEONTIC])
- *I must be dreaming* = ‘it is possible that I am dreaming, I think I am’ ([+EPISTEMIC])
  
  NOT ‘I am under an obligation to be dreaming’ ([+DEONTIC])

it may also be more subtle:

- *She will be home soon* = ‘I predict that her arrival is imminent, I think it is’ ([+EPISTEMIC])
- *I will marry you* = ‘I intend to marry you, this is my intended course of action’ ([+DEONTIC])
  
  NOT ‘I predict I will marry you in the future’ ([+EPISTEMIC])

Note that permissive *may* is often replaced by *can* for many speakers. The ‘ability’ sense of *can* (as in *She can sing beautifully*), which cannot be expressed by *may*, is sometimes put in a separate category of “dynamic modality” but for our purposes will be interpreted as epistemic. For most North American speakers, the modal auxiliary *shall* is now quite rare, having been replaced by *will*, so the examples given above may not be very meaningful.

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15. Unlike deontic modality, which expresses social constraints, and epistemic modality, which expresses inferential constraints, ‘ability’ refers to constraints within the individual (person or thing) denoted by the subject.

16. The use of *shall* and *will* in dialects which contain both modals is controlled by a complicated set of rules known as the “Wallis Rules” (originally formulated by John Wallis, who wrote a
however, we can still see the contrast between *will* and *shall* in the questions *Will we eat before we leave?*, which asks for a prediction, and *Shall we eat before we leave?*, which asks for a recommendation. Finally, *had to* is the only way to express obligation in the past (because *must* is unpaired).

Sentences may also be ambiguous between epistemic and deontic readings. For example:

- *They must (have to) be married* may mean either that the speaker surmises, perhaps from appearances, that the couple is married ([+EPISTEMIC]) or that the couple is obliged to be married, perhaps in order to do something ([+DEONTIC]). In contrast, *They have to get married* can be only deontic in meaning.

- The sentence *You might have said something* can mean that the speaker believes either that the hearer did probably say something ([+EPISTEMIC]) or that the hearer should have said something ([+DEONTIC])

- A sentence appearing in a departmental memorandum read *A student whose file of essays is incomplete may not be considered for appeal*; this can interpreted epistemically as a statement of a possible outcome or deontically as a statement of an impermissible course of action.

- *Bill won’t go* is either the speaker’s prediction about Bill’s not going ([+EPISTEMIC]), ‘I don’t believe he will go’, or the speaker’s report of Bill’s statement about his volition ([+DEONTIC]), ‘Bill says that he is unwilling to go’.

Below are some further examples of ambiguous modals. Try to paraphrase the two readings in each case:

- *You must help your mother.*
- *Frank may go out to buy a newspaper.*
- *She must not care.*
- *You may see him.*

**HINT:** if you put the sentence in the perfect, only the epistemic reading is possible; thus *You must have helped your mother* can only be a surmise about what happened (hence epistemic), not a suggestion about what would be appropriate for you to do (hence deontic).

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grammar of English – in Latin – in the seventeenth century). In declarative sentences, in the 1st person *shall* makes a prediction (e.g. *I shall be there in an hour*), while *will* expresses the speaker’s intention (e.g. *I will marry you*). In the 2nd and 3rd persons, the situation is reversed so that *shall* expresses obligation, while *will* expresses a prediction (e.g. *you shall help your mother* vs. *he will be there in an hour*). In interrogative sentences, the modals operate differently: in the 1st and 3rd persons, *shall* is deontic and *will* is epistemic, while in the 2nd person *shall* is epistemic and *will* is deontic.
Epistemic and deontic meaning can be expressed by parts of speech other than the modal auxiliaries, as exemplified below:

1. modal verbs:
   - I assume that he's left. ( [+EPISTEMIC] )
   - I suggest that he learn the answer. ( [+DEONTIC] )
   - I suggest that he knows the answer. ( [+EPISTEMIC] )
   - I insist that he do it. ( [+DEONTIC] )
   - I insist that he did it. ( [+EPISTEMIC] )
   - I [guess, think] that you're right. ( [+EPISTEMIC] )
   - We recommend that he step down. ( [+DEONTIC] )

   I expect him to go is ambiguous: either ‘it is possible that he will go’ ( [+EPISTEMIC] ) or ‘I place him under some obligation to go’ ( [+DEONTIC] ).

2. modal adjectives:
   - It is obligatory to understand modals. ( [+DEONTIC] )
   - It isn't necessary to read that chapter. ( [+DEONTIC] )
   - It is possible to understand modals. ( [+EPISTEMIC] )
   - It is probable that the results are known. ( [+EPISTEMIC] )

3. modal adverbs: probably, possibly, certainly

4. modal nouns:
   - It is your {duty, obligation} to look after your parents. ( [+DEONTIC] )
   - There is a {likelihood, probability, possibility} of rain today. ( [+EPISTEMIC] )

5. epistemic parentheticals:
   - You are right, I {guess, think, suspect, believe, reckon, feel, assume}.
   - Your cat will come back, I'm {certain, sure, confident}.


4.4 Postscript on semantic features

The goal of analyzing all words of a language in terms of combinations of semantic features has never been met. Once one departs from the clear-cut cases of livestock terms or even concrete nouns and verbs, it becomes quite difficult to decide what the primitive components of meaning are, which concepts cannot be further analyzed, when one should stop making distinctions, and so on. No one has yet determined all the possible semantic components of a one language (let alone a universal list). To do so, it would probably be necessary to postulate many semantic components that occur in only one word. But components are
supposed to be recurrent, so such unique features undercut the purpose of semantic feature analysis. Moreover, many aspects of meaning are not binary and are not susceptible to analysis into binary features. We also saw that for different parts of speech, we had to postulate very different kinds of semantic features. Furthermore, in any particular use of a word, only some or perhaps none of the postulated semantic features may be relevant. As we will see below, in cases of metaphorical language, it appears that only certain features of a word may be important: in a sentence such as He's a pig (meaning 'he has terrible table manners'), the intrinsic feature of [+ANIMATE], [–HUMAN], [+SWINE] are not relevant to the intended meaning; rather, the emphasis is on certain behavioral characteristics. We seem to use different features for different purposes, such as to identify something, to give synonyms or definitions, or to make inferences. It is uncertain how clearly features are marked, especially in our passive vocabulary. In fact, there is little evidence that semantic features have any psychological reality, that when we use words, we “think” of any of the constituent components, or even that the features are relevant in our understanding of the meaning of the word.

5. Prototypes

An alternative to feature analysis, which is intended to have psychological validity is called prototype theory (proposed by psychologist Eleanor Rosch, 1973). It argues that we understand the meaning of a word because we have a prototypical concept of the category to which the thing belongs. A prototype is a good, clear exemplar of a category. All members of the category are judged in relation to this prototype. That is, it is not a case of ascertaining whether an entity possess the attributes characterizing a category or not, but how closely it approximates an optimal instance of the category. The result is graded membership in a category: things are more or less good exemplars of a category. When members can be ranked in this way, the set is said to be “fuzzy”. Thus, for example, we have a prototypical concept of a sport (perhaps soccer) and we understand all other sports in relation to this prototype. Core members would be those sports most closely resembling the prototype, such as rugby, football, basketball, hockey, baseball, and volleyball, whereas more peripheral members would include those which are not as easily, or quickly, identified as a sport, including golf, table tennis, curling, and badminton. The defining characteristics of a sport would seem to have something to do with physical activity regulated by a set of rules, involving competition between individuals or teams. Less “sport-like” and hence more peripheral would be shuffleboard, archery, arm wrestling, kite flying, square dancing, apple bobbing, skeet shooting, etc., which may not have all of the essential attributes. The core members elicit more shared attributes than the more peripheral members.

17. A prototype has also been understood both as a subcategory (exhibiting a certain set of attributes) and as an abstraction of a category.
Another example might be the category of birds. Core members would be birds such as robins, sparrow, starlings, jays, and eagles, whereas more peripheral members would be emus, ostriches, penguins, and chickens.

If we consider what makes a cup a cup and not a bowl, we would focus on physical characteristics (handle or not), function (for drinking or eating out of), and possible contents (tea vs. noodles). Or if we consider the concept of jewelry, we would certainly judge necklaces, pins, and rings to be core members; there might be some disagreement about items such as wristwatches, tie-clasps, and cufflinks, while many would probably reject altogether items such as eyeglasses, medic-alert bracelets, and belt buckles. Thus, our prototype of jewelry seems to have the notion of ‘purely ornamental, nonfunctional’ as central. In an experiment, subjects were asked to rank things as good or bad members of a particular category (e.g. fruit, sport, vegetable, vehicle, even numbers, odd numbers, female, plane geometry) and their responses were timed: they were faster with familiar, typical things, thus suggesting the validity of prototypes (Armstong, Gleitman, & Gleitman, 1983).

The concept of prototype is related to what is called the basic level term. This is the level at which people normally conceptualize and name things. Thus, “chair” is a basic level term and occurs most frequently, while “kitchen chair” occurs on a lower level and “furniture” on a higher level. Basic level terms tend to be structurally simple, while those on a lower level are frequently compounds and those at a higher levels may be morphologically deviant, denoting conceptually vague and undifferentiated entities. A basic level term maximizes the number of attributes shared by members of each category and minimizes the number of attributes shared by different categories. It is often easier to specify the attributes of a basic level category than of the higher-level (superordinate) category. The features of the superordinate term that emerge are so general that they often do not define the category. A basic level term has to do with “what things are called”; in contrast, a prototype has to do with “what words refer to” (Taylor 2003, p. 53). In respect to what I am reading, I would refer to it with the basic level term “book” (regardless of whether it is a novel, a textbook, a book of poetry, a non-fiction book, etc.) because this is the level in a categorization hierarchy at which a book is normally named. In respect to “reading matter”, I would apply it to prototypical instances such as books and magazines rather than cereal cartons or packing lists.

Let’s look at one extended example of prototypes. If we consider the concept of “vehicles”, we might first divide the concept into three divisions – land, air, and water vehicles – and then list the core and peripheral members as a means of arriving at the defining characteristics of the category (see Table 6.7). It is obvious that there would be a fair amount of disagreement among speakers concerning both the members of this category and the division into core and peripheral. The general definition of ‘a conveyance for the transport

18. Oddly, while the range of acceptability for categories like fruit was quite large, there was also a range for even and odd numbers, which should not logically be rankable.
of people or cargo’ would undoubtedly be unproblematic (but very vague and abstract). However, for some speakers, the prototype of a vehicle includes the concept of movement over land, so neither air nor water conveyances are considered “vehicles”. Many speakers might include in their prototype a notion of running on wheels or tires and thus exclude water conveyances and perhaps trains as well. Most speakers view a vehicle as motor-ized or capable of moving independently, thus excluding conveyances propelled through human or animal power, such as wagons or rickshaws; conveyances such as wheelchairs or go-carts, which may or may not be motorized, also create a problem. Students asked to perform this exercise with the concept of vehicle have actually come up with a wide variety of defining characteristics for vehicles – such as that a vehicle must be enclosed or that it must be something one sits in – suggesting that individual speakers may have quite divergent prototypes of categories.

### Table 6.7. Core and Peripheral Members of the Category “Vehicle”

<table>
<thead>
<tr>
<th>Type</th>
<th>Core Members</th>
<th>Peripheral Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>car</td>
<td>truck</td>
</tr>
<tr>
<td></td>
<td>motorcycle</td>
<td>scooter</td>
</tr>
<tr>
<td></td>
<td>limousine</td>
<td>van</td>
</tr>
<tr>
<td></td>
<td>bus</td>
<td>ambulance</td>
</tr>
<tr>
<td></td>
<td>hearse</td>
<td>taxi</td>
</tr>
<tr>
<td></td>
<td>tractor</td>
<td>go-cart</td>
</tr>
<tr>
<td></td>
<td>combine</td>
<td>train</td>
</tr>
<tr>
<td>Air</td>
<td>airplane</td>
<td>helicopter</td>
</tr>
<tr>
<td></td>
<td>spaceship</td>
<td>satellite</td>
</tr>
<tr>
<td>Water</td>
<td>ferry</td>
<td>yacht</td>
</tr>
<tr>
<td></td>
<td>tanker</td>
<td>motorboat</td>
</tr>
<tr>
<td></td>
<td>ship</td>
<td>tugboat</td>
</tr>
<tr>
<td></td>
<td>hovercraft</td>
<td>steamboat</td>
</tr>
<tr>
<td></td>
<td>hydrofoil</td>
<td>tugboat</td>
</tr>
</tbody>
</table>

**Self-Testing Exercise:** Do Exercise 6.8.

### 6. Semantic anomaly

One of the basic semantic concepts mentioned at the beginning of the chapter was semantic anomaly. How is it that speakers of the language are all able to recognize that certain expressions, say, *the birth of a peanut* or *the birth of a lamp*, are meaningless? At the same time, how is it also possible that we can provide an interpretation – a figurative interpretation – for other expressions, say, *the birth of the morning*, *the birth of a nation*, or *the birth of linguistics*, which on the surface are equally anomalous, since only animate beings are born?
6.1 Selectional restrictions

Semantic anomaly follows from restrictions on the compatibility or combinability of words. Not only does a word contain certain semantic features, but it may also require that words with which it cooccurs contain certain features. These are called its selectional restrictions. Frequently a verb selects features in its noun arguments (subject or object) and an adjective selects a noun. In Table 6.8, we see examples of selectional restrictions for certain words. Even keeping in mind that we are considering only absolutely literal uses of

<table>
<thead>
<tr>
<th>Example</th>
<th>Selectional Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>trot – requires [+QUADRUPED] subject</td>
<td>{The horse, *the money, *the spider} trotted home.</td>
</tr>
<tr>
<td>fly – requires [+WINGED] subject</td>
<td>{The airplane, the bird, *the goat} flew north.</td>
</tr>
<tr>
<td>sing – requires [+HUMAN] or [+AVIAN] subject</td>
<td>{The woman, the bird, *the motor} sang sweetly.</td>
</tr>
<tr>
<td>talk, think, dream – require [+HUMAN] subject (or possibly [+ANIMATE])</td>
<td>My dog is talking to me/thinking about his dinner/dreaming about cats.</td>
</tr>
<tr>
<td>pray – requires [+HUMAN] [+±COLLECTIVE] subject</td>
<td>The man, the nation, <em>the treaty</em> is praying for peace.</td>
</tr>
<tr>
<td>pregnant – requires [+ANIMATE] and [–MALE] subject</td>
<td>Mary, the mare, <em>the bull</em> is pregnant.</td>
</tr>
<tr>
<td>terrify – requires [+ANIMATE] object</td>
<td>The thunder terrified {the dog, the child, *the house}.</td>
</tr>
<tr>
<td>anger – requires [+ANIMATE] object</td>
<td>Intruders anger {dogs, homeowners, *houses}.</td>
</tr>
<tr>
<td>drink – requires [+ANIMATE] subject and [+LIQUID] object</td>
<td>{The child, *the glass} drank {the milk, *the candy}.</td>
</tr>
<tr>
<td>melt – requires [+SOLID] object or subject</td>
<td>The sun melted {the candy, *the smoke, *the water}. The candy melted.</td>
</tr>
<tr>
<td>fall – requires [+CONCRETE] subject</td>
<td>{The book, *the truth} fell to the floor.</td>
</tr>
<tr>
<td>shatter – requires [+SOLID] subject or object</td>
<td>The hammer shattered {the rock, *the pudding}. The rock shattered.</td>
</tr>
<tr>
<td>tall – requires [+VERTICAL] object</td>
<td>{The building, the person, *the road} is tall.</td>
</tr>
<tr>
<td>long – requires [+HORIZONTAL] object</td>
<td>{The ribbon, *the tree} is long.</td>
</tr>
</tbody>
</table>
language, we can see that there are certain limitations with selectional restrictions. For example, although *fly* typically requires a [+WINGED] subject, we can also say (non-literally) *The paper flew out the window, Dust flew into my face*, where the subject does not have the requisite feature. We can either change the selectional restriction to something broader (e.g. [+CAPABLE OF BEING LIFTED BY WIND]) or simply say that prototypically the verb *fly* requires a [+WINGED] subject.

When selectional restrictions are violated, when there is an incompatibility in the selectional restrictions of a word and the inherent features of a word in combination with it, we have semantic anomaly. There is generally an implied rather than an explicit contradiction, as in *The rooster laid an egg*: *lay an egg* requires a [–MALE] subject, while *rooster* is [+MALE]. (Compare the explicit contradiction of *The rooster is a hen*, where *rooster* is [+MALE] and *hen* is [–MALE].)

### 6.2 Figurative language

To this point, we have been concerned with literal or “normal” uses of language, because figurative uses of language (personification, metaphor, etc.) routinely violate or break selectional restrictions. With figurative uses of language, as opposed to true anomaly, however, we can supply some interpretation. We do this, it seems, by allowing certain semantic features to override others in context. Compare the following three sentences:

- **Literal**: An intruder attacked me.
- **Metaphorical**: Envy attacked me.
- **Anomalous**: The rock attacked me.

Both the second and third sentences violate the selectional restriction that *attack* requires a [+ANIMATE] subject, but the second one permits interpretation, while the third one does not.

**Types of figurative language.** Let’s first consider some of the different ways in which selectional restrictions may be violated. When these violations are interpretable, we are dealing with types of figurative language:

1. **Oxymoron** (paradox) refers to expressions which contain an explicit contradiction, such as delicious torment, living death, sweet sorrow, silent scream, cold comfort, good grief, pleasing pain, or the Shakespearean “I must be cruel only to be kind”. Other more mundane and apparently paradoxical expressions include soft rock, taped live, resident alien, or sanitary landfill.

2. **Tautology** refers to expressions which are “true by definition”, offering no new information, such as *A gander is a male goose* or *An orphan is a parentless child*. Most
dictionary definitions are tautologies of sorts. Other examples of tautologies include the following:

- exclusive prerogative: Boys will be boys.
- new innovation: Business is business.
- past history: He is his father’s son.
- end result: What will be will be.
- main protagonist: It ain’t over till it’s over.
- scrutinize carefully: His moustache is on his upper lip.

The purpose of a tautology such as free gift seems to be to emphasize or highlight the feature [+FREE] inherent in the word gift by expressing it in a separate word. However, in the case of an expression such as boys will be boys we appear not to have a true tautology, but an apparent tautology, since the second instance of boy is not understood in respect to its core inherent features [+HUMAN], [+MALE], [–ADULT], as is the first instance of boy, but in respect to certain behavioral characteristics of boys, for example, loudness, rowdiness, carelessness, and so on. (Which of the above are true tautology and which apparent tautology?)

3. **Synesthesia** refers to expressions which combine a word from one sensory domain with a word from another sensory domain, such as cold response, sweet sound, cool reception, sharp rebuke, flat note, quiet color, or soothing color. A common type of synesthesia is the use of a color terms (from the visual domain) in conjunction with an emotional states (blue/black mood, green with envy, yellow with cowardice, red with anger). Again, it appears that secondary features of a word are brought to the forefront so that, for example, the soothing or calming features of quiet, not its feature of low audition, are emphasized in quiet color.

4. **Synecdoche** refers to expressions which refer to a thing by naming part of it, such as a new face or new blood (= a new person). A typical kind of synecdoche is the naming of something by naming the material of which it is composed, such as a cork, an iron, a glass, and more recently plastic (= credit card).

5. **Metonymy** refers to expressions which denote a thing by naming something associated with it:

- the bar (= the legal profession)  the law (= the police)
- the church (= religion) runners (= athletic shoes for running)
- (man of) the cloth (= clergyman, priest) rush hour (= commuting time before and after work)
- the crown, the throne (= the king) the bench (= the judiciary)
- backbencher (= member of parliament without power) a suit (= a businessman, and perhaps businesswoman)

6. **Personification** refers to expressions which attribute human qualities to nonhuman or inanimate objects, such as The idea grabbed me, The vending machine ate my money.
7. **Metaphor** refers to expressions which transfer a word from one conceptual domain to another, such as the following, which all violate the selectional restrictions given in Table 6.8 for the relevant words:

\[
\begin{align*}
\text{Stock prices are falling.} & \quad \text{The bell sang out when struck.} \\
\text{There was a pregnant pause.} & \quad \text{He flew into a rage.} \\
\text{The bad news shattered her.} & \quad \text{She was away a long time.} \\
\text{That is certainly a tall order.} & \quad \text{He eagerly drank up the new ideas.}
\end{align*}
\]

A typical type of metaphor is the use of body parts to name the parts of other entities:

- lip of a glass, mouth of a river
- eye of a storm, shoulder of a road
- heart of a problem, ribs of a ship
- legs of a table, head of a committee
- neck of a bottle, guts of a machine

The transference of terms from the physical domain to the mental domain, as in *grasp the point, get a joke,* or *wrestle with an idea,* is also very common; in fact, much of our Latinate vocabulary denoting cognitive processes, such as *translate, deduce, abstract, explain, compose, conceive,* and *affirm,* originally denotes physical processes. The use of animal terms to denote human beings held in low esteem is also typical: *a rat, wolf, snake (in the grass), pit bull, tiger,* and so on.

**The interpretation of metaphors.** In metaphor, selectional restrictions may be violated in one of two ways, depending on whether the noun or the verb must be interpreted metaphorically:

- The noun is interpreted metaphorically: *Ralph is married to a gem, Juliet is the sun, Billboards are warts on the landscape.*
  
  The verb *be* selects subjects and objects with the same semantic features; thus, *gem, sun,* and *warts* are incompatible with the verb and are read figuratively.

- The verb is interpreted metaphorically: *My car drinks gasoline, Craig ate up the compliments, Kevin is married to his work, The moonlight sleeps upon the bank.* The selectional restrictions of the subjects or objects of these sentences are incompatible with the features of *drink, eat, be married,* and *sleep,* and thus the verbs are read figuratively.

Sometimes, however, there is no apparent violation of selectional restrictions in the immediate context, as in *They have swerved from the path or He bit off a larger bite than he could chew.* The larger context will undoubtedly reveal a violation of selectional restrictions.

While the interpretation of metaphors is a difficult matter, it seems that in general we interpret them by selecting only some, but not all of the features of a word, and often not the core but rather the peripheral features and transferring them to the other domain. Thus, for *the vending machine ate my money,* it is not the feature of ‘consuming for nutriment’ for *eat* which is evoked, but the features of ‘consuming’ without giving anything obvious in return. By substituting these features, we arrive at the literal meaning: *the vending machine used up*
my money. However, such a reading overlooks the specifically figurative meaning – that of attributing human qualities to a machine – which motivates the use of the figurative expression. We transfer the features of eating (of intentional action) onto the inanimate subject to arrive at the metaphorical meaning, thus animating or personifying an inanimate object.

Looking specifically at the novel metaphors of literary works, linguist Tanya Reinhart (1980) has proposed a system for analyzing metaphors which takes into account this two-part process of literary and metaphorical reading. She uses as an example the following metaphor from T. S. Eliot’s “The Love Song of J. Alfred Prufrock”:

The yellow fog that rubs its back upon the window-panes …

We first assign this metaphor a “focus interpretation”,19 which yields its “literal” meaning, what the metaphor is about. In this reading, the features of rubbing one’s back which are relevant in context are transferred to the movement of fog. Thus, the fog is seen to be moving and touching up against the window panes. Literally, the fog is swirling up against the window panes. But there is also a “vehicle interpretation”, in which the features of cats relevant in context – such as their fuzziness, yellowness, sensuousness, even stealth – are transferred to the fog. This evokes the intended image of the fog as a cat. Notice that the vehicle interpretation is much more open-ended than the focus interpretation.20

Reinhart discusses a second metaphor from the same poem:

I have seen the mermaids riding seawards on the waves …

In the focus interpretation, the relevant features of riding – the rising and falling motion – are transferred to the mermaids’ movement. Literally, the mermaids are advancing by sitting on the waves. In the vehicle interpretation, the relevant features of horses – their force, their nobility, their need to be tamed, and so on – are transferred to waves. This evokes the image of the waves as horses.


7. Cognitive approaches to meaning

Another approach to the understanding of metaphors is provided by George Lakoff and Mark Johnson in their book *Metaphors We Live By* (1980). They argue that not only is language metaphorical, but the cognitive processes underlying language are themselves

19. This has also been called the “tenor”.

20. Another way to see this distinction is to associate the tenor interpretation with the concept that is being described, the “target domain” (i.e. fog in this case) and the vehicle interpretation with the comparison or analogy that is being made, the “source domain” (i.e. cats in this case).
metaphorical. That is, “a metaphor is essentially a device that involves conceptualizing one domain of experience in terms of another” (Lee, 2001, p. 6). For example, consider metaphors such as the following:

- I won the argument.
- He retreated from his initial position.
- She buttressed her position with several examples.
- He shot down all my arguments.

Here, we conceptualize arguing (the target domain) in terms of warfare (the source domain). What is conceptualized in terms of what is not random. Source domains tend to relate to concrete and more immediate areas of human experience, whereas target domains are more abstract. Quite systematic mappings or correlations between conceptual domains underlie coherent sets of structural metaphors; metaphors come together in “a coherent system of metaphorical concepts and a corresponding coherent system of metaphorical expressions of those concepts (Lakoff & Johnson 1980, p. 9). Importantly, these coherent mappings permit us to interpret metaphors. For example, loss of consciousness is associated with being or going down (e.g. fall into a coma, be under a spell, drop off to sleep) while gaining consciousness is associated with being or going up (e.g. come out of a coma, wake up). That is, we conceptualize consciousness in terms of the spatial orientation. Other examples of metaphors based on unifying cognitive mappings are the following:

- ideas are objects (to be sensed)
  - building: The argument is shaky.
  - food: That notion is half-baked.
  - people: He is the father of linguistics.
  - plants: The seeds of the idea were planted.

- time is money
  - I've invested a lot of time.
  - You're running out of time.
  - He's living on borrowed time.
  - Put aside some time this evening.
  - I haven't enough time.
  - You've wasted my time.
  - Can you spare me a moment.
  - That cost me a day's delay.

- love is a physical force
  - There isn't any electricity between us.
  - They gravitated towards each other.

- love is patient
  - Their relationship is {sick, healthy}.

- love is madness/illness
  - She drives me crazy.
  - Love is blind.

- love is magic
  - She cast her spell.

- love is war
  - He made a conquest.
  - She has to fend off suitors.
  - He made an advance.
  - She rebuffed his advances.
time is a line
  the days ahead/behind  Don't look back/ahead.
  the weeks to come    That is behind us.
  We set the meeting back/forward.

In some cases (e.g. ‘consciousness is up’) these mappings are based on our bodily experience of the world. And there are other metaphors based on a systematicity of mapping between the ‘up-down’ domain and some other domain, such as moral goodness/badness (e.g. he has high standards, he’s sunk into depravity) or physical health/illness (e.g. she’s in peak form, she fell ill). We saw above the mapping between body parts and other domains (e.g. head of a pin, shoulder of a road) and between the physical and cognitive domains (e.g. grasp the idea, get the joke). Note that mapping works in one direction – from up-down to health but not the reverse. These types of mapping can license the creation of novel metaphors and indeed new vocabulary.

Lakoff and Johnson (1980) also argue that metonymy (see above) operates by very similar cognitive processes, but in this case involving connections within a single domain rather than across domains. Thus, for example, a pervasive kind of metonymy involves conceptualizing a person by means of the object or place associated with that person:

  The stroller needs to get off at the next stop (= ‘the person with the stroller’).
  The fish-and-chips was a good tipper (= ‘the person who ordered fish-and-chips at the restaurant’).
  The taxis are on strike (= ‘cab drivers’)
  He is a hired gun (= ‘assassin’)
  The green car is driving too fast (= ‘person in the green car’)
  High level talks are taking place between Washington and Beijing (= ‘representatives of the governments of the US and China’).

This view of metaphor and metonymy forms the germ of a more fully-developed theory of meaning called “cognitive semantics”, which has been developed in recent years. According to this approach, “because of our physical experience of being and acting in the world … we form basic conceptual structures which we then use to organize thought across a range of more abstract domains” (Saaed, 2009, p. 366). These conceptual structures are called “image schema” and include such abstract concepts as up-down, front-back, part-whole, inside-outside (container-contained), force, path, balance, and containment. For example, the “Path schema”, which is based on our experience of moving in the world and of witnessing the movement of other items, underlies the following metaphors:

  at the end of his life  past his prime
  embark on a new life   get side-tracked in life
  get on (in life)       be in a dead-end job
  give him a good start in life  get off on the wrong foot
  at the mid-point in his life    at a good point in his life

Paths generally involve directional movement, a beginning and an end, as well as places along the way.
The “Force schema” involves a force acting on an entity; the force may continue or it may encounter a blockage (a barrier), which then may be removed. It is possible to analyze the meaning of the deontic and epistemic senses of the modal auxiliaries (see above) using the Force schema. A force-dynamic view of deontic meaning – which relates to action – seems intuitively obvious: deontic meanings refer to internal and external sociophysical forces. For example, deontic (obligatory) must as in You must leave now involves a compelling force directing the subject towards an act; deontic (permissive) may as in You may turn in your paper tomorrow involves a potential but absent barrier, or the elimination of a barrier. However, a force-dynamic view of epistemic meaning – which relates to belief – is not as intuitively obvious. Sweetser (1990) argues that epistemic meaning involves a metaphorical extension from social and physical force to the world of reasoning. For example, epistemic may as in Jane may visit today involves a metaphorical extension of the potential but absent barrier meaning seen in deontic may (i.e. here it is the absence of the barrier preventing the conclusion being reached that Jane will visit); epistemic must as in Barry must be home by now involves a force compelling the speaker to reach the conclusion that Barry is home.

In conclusion, the overarching view of cognitive linguistics is that the meanings of words are a reflection of general conceptual organization (mappings between and within conceptual domains) and principles of linguistic categorization (prototypicality, core and peripheral meanings). Words act as a set of instructions to create meaning (often multiple meanings) in particular contexts, and thus no strict distinction can be made between semantics and pragmatics (which we will discuss in Chapter 11).


Chapter summary

Now that you have completed this chapter, you should be able to:

1. identify semantic relationships such as entailment, inclusion, contradiction, anomaly, ambiguity, connotation/denotation, hyponomy, polysemy, meronymy, and presupposition;
2. recognize the structural relations of synonymy, hyponymy, antonymy, complementarity, and converseness between words;
3. analyze nouns using seven inherent features and verbal predicates using four inherent features;
4. determine whether modal forms are epistemic, deontic, or ambiguous, and give paraphrases of these readings;
5. recognize and name different kinds of figurative language – oxymoron, paradox, tautology, apparent tautology, metonymy, synecdoche, personification, and synesthesia;
6. give a vehicle and focus interpretation of a novel metaphor; and
7. identify image schema that underlie metaphors in the language.

**Recommended additional reading**


The modal auxiliaries in English have been treated extensively; for good discussions, see Palmer (1990), Frawley (1992, Chapter 9), and Leech (2004, Chapter 5). More advanced readings can be found in Facchinetti, Krug, and Palmer (Eds.) (2003).

Discussions of inherent aspect, or situation types, may be found in Vendler (1967, “Verbs and Times”), Frawley (1992, Chapter 4), Smith (1997, Chapters 2–3), Kearns (2000, Chapter 9), and Brinton (2009 [1988], Chapter 1).

A dictionary of terms in semantics is Cruse (2006).