SYNTAX: THE ANALYSIS OF SENTENCE STRUCTURE

OBJECTIVES

- *the game is to say something new with old words*
  
  —RALPH WALDO EMERSON, Journals (1849)

In this chapter, you will learn:
- how we categorize words
- how words can be combined into phrases and sentences according to a systematic schema

Although much can be said with a single word, if language is to express complex thoughts and ideas, there has to be a way to combine words to form sentences. In this chapter, we will consider how this is done by focusing on the component of the grammar that linguists call **syntax**.

As we noted in Chapter 1, speakers of a language are able to combine words in novel ways, forming sentences that they have neither heard nor seen before. However, not just any combination of words will result in a well-formed sentence. English speakers recognize that the pattern in 1 is not permissible even though the same words can be combined in a different way to form the acceptable sentence in 2.

1) *House painted student a the.

2) A student painted the house.

We say that an utterance is **grammatical** if native speakers judge it to be a possible sentence of their language. The study of syntax lies very close to the heart of contemporary linguistic analysis, and work in this area is notorious both for its diversity and for its complexity. New ideas are constantly being put forward and there is considerable controversy over how the properties of sentence structure should be described and explained.

It is widely believed that the syntactic component of any grammar must include at least two subcomponents. The first of these is a **lexicon**, or mental dictionary, that provides a list of the language’s words along with information about each word’s pronunciation, form, and meaning.

The second subcomponent consists of what can be called grammatical system—by which we simply mean a system that can carry out operations on words to combine them and arrange them in particular ways. As we will see a little later in this chapter, the two key structure-building operations are combining elements into phrases and sentences and rearranging the order of elements in a particular sentences.
We will begin our discussion of these matters in Section 1 by introducing some of the most common categories of words found in language and by investigating how they can be combined into larger structural units. Subsequent sections describe other aspects of sentence structure, using examples and phenomena drawn from English and other languages.

QUESTIONS

1. Place an asterisk next to any of the sentences that are ungrammatical for you.

   Can you figure out what makes these sentences ungrammatical?

   a) The instructor told the students to study.
   b) The instructor suggested the students to study.
   c) The customer asked for a cold beer.
   d) The customer requested for a cold beer.
   e) He gave the Red Cross some money.
   f) He donated the Red Cross some money.
   g) The pilot landed the jet.
   h) The jet landed.
   i) A journalist wrote the article.
   j) The article wrote.
   k) Jen is bored of her job.
   l) Jen is tired of her job.

1 CATEGORIES AND STRUCTURE

A fundamental fact about words in all human languages is that they can be grouped together into a relatively small number of classes, called syntactic categories. This classification reflects a variety of factors, including the type of meaning that words express, the type of affixes that they take, and the type of structures in which they can occur.

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1.1 CATEGORIES OF WORDS

Table 5.1 provides examples of the word-level categories that are most central to the study of syntax.

Table 5.1 Syntactic categories

<table>
<thead>
<tr>
<th>Lexical categories</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noun (N)</td>
<td>Harry, boy, wheat, policy, moisture, bravery</td>
</tr>
<tr>
<td>Verb (V)</td>
<td>arrive, discuss, melt, hear, remain, dislike</td>
</tr>
<tr>
<td>Adjective (A)</td>
<td>good, tall, old, intelligent, beautiful, fond</td>
</tr>
<tr>
<td>Preposition (P)</td>
<td>to, in, on, near, at, by</td>
</tr>
<tr>
<td>Adverb (Adv)</td>
<td>silently, slowly, quietly, quickly, now</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nonlexical categories</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determiner (Det)</td>
<td>the, a, this, these</td>
</tr>
<tr>
<td>Degree word (Deg)</td>
<td>too, so, very, more, quite</td>
</tr>
</tbody>
</table>
The four most studied syntactic categories are noun (N), verb (11), adjective (A), and preposition (P). These elements, which are often called lexical categories, play a very important role in sentence formation, as we will soon see. A fifth and less studied lexical category consists of adverbs (Adv), most of which are derived from adjectives.

Languages may also contain nonlexical or functional categories, including determiners (Det), auxiliary verbs (Aux), conjunctions (Con), and degree words (Deg). Such elements generally have meanings that are harder to define and paraphrase than those of lexical categories. For example, the meaning of a determiner such as the or an auxiliary such as would is more difficult to describe than the meaning of a noun such as hill or vehicle.

A potential source of confusion in the area of word classification stems from the fact that some items can belong to more than one category. [Note: The problem with word classification arises primarily because of the attempt to analyze words in isolation, that is, out of context; when one takes into account how a word is being used in a sentence or phrase, much of the problem disappears.]

3) 

*comb* used as a noun:
The woman found a comb.
*comb* used as a verb:
The boy should comb his hair.

4) 

*near* used as a preposition:
The child stood near the fence.
*near* used as a verb:
The runners neared the finish line.

How then can we determine a word’s category?

**Meaning**

One criterion involves meaning. For instance, nouns typically name entities, including individuals (*Harry, Sue*) and objects (*book, desk*). Verbs, on the other hand, characteristically designate actions (*run, jump*), sensations (*feel, hurt*), and states (*be, remain*). Consistent with these tendencies, *comb* in 3 refers to an object when used as a noun but to an action when used as a verb.

The meanings associated with nouns and verbs can be elaborated in various ways. The typical function of an adjective, for instance, is to designate a property or attribute of the entities denoted by nouns. Thus, when we say *that tall building*, we are attributing the property ‘tall’ to the building designated by the noun.

In a parallel way, adverbs typically denote properties and attributes of the actions, sensations, and states designated by verbs. In the following sentences, for example, the adverb *quickly* indicates the manner of Janet’s leaving and the adverb *early* specifies its time.

5)
Janet left quickly.
Janet left early.

A word’s category membership does not always bear such a straightforward relationship to its meaning, however. For example, there are nouns such as difficulty, truth, and likelihood, which do not name entities in the strict sense. Moreover, even though words that name actions tend to be verbs, nouns may also denote actions (push is a noun in give someone a push). Matters are further complicated by the fact that in some cases, words with very similar meanings belong to different categories. For instance, the words like and fond are very similar in meaning (as in Mice like/are fond of cheese), yet like is a verb and fond an adjective.

**Inflection**

Most linguists believe that meaning is only one of several criteria that enter into determining a word’s category. As Table 5.2 shows inflection can also be very useful.

**Table 5.2** Lexical categories and their inflectional affixes

<table>
<thead>
<tr>
<th>Category</th>
<th>Inflectional affix</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noun</td>
<td>plural -s</td>
<td>books, chairs, doctors</td>
</tr>
<tr>
<td></td>
<td>possessive -’s</td>
<td>John’s, (the) man’s</td>
</tr>
<tr>
<td>Verb</td>
<td>past tense -ed</td>
<td>hunted, watched, judged</td>
</tr>
<tr>
<td></td>
<td>progressive -ing</td>
<td>hunting, watching, judging</td>
</tr>
<tr>
<td>Adjective</td>
<td>comparative -er</td>
<td>taller, faster, smarter</td>
</tr>
<tr>
<td></td>
<td>superlative -est</td>
<td>tallest, fastest, smartest</td>
</tr>
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for distinguishing among different categories of words. (For a discussion of inflection, see Chapter 4, Section 5.) However, even inflection does not always provide the information needed to determine a word’s category. In English, for example, not all adjectives can take the comparative and superlative affixes (*intelligenter, ~ fulest) and some nouns cannot be pluralized (*moistures, *knowledges).

**Distribution**

A third and often more reliable criterion for determining a word’s category involves the type of elements (especially functional categories) with which it can co-occur (its **distribution**). For example, nouns can typically appear with a determiner, verbs with an auxiliary, and adjectives with a degree word, in the sort of patterns illustrated in Table 5.3.

**Table 5.3** Distributional properties of Nouns, Verbs, and Adjectives

<table>
<thead>
<tr>
<th>Category</th>
<th>Distributional property</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>occurrence with a determiner</td>
<td>a car, the wheat</td>
</tr>
<tr>
<td>V</td>
<td>occurrence with an auxiliary</td>
<td>has gone, will stay</td>
</tr>
<tr>
<td>A</td>
<td>occurrence with a degree word</td>
<td>very rich, too big</td>
</tr>
</tbody>
</table>

Of course, a verb cannot occur with a determiner or degree word in these sorts of patterns and a noun cannot occur with an auxiliary.

6) a verb with a determiner: *the destroy
a verb with a degree word:
*very arrive

a noun with an auxiliary:
“will destruction

Distributional tests for category membership are simple and highly reliable. They can be used with confidence when it is necessary to categorize unfamiliar words.

QUESTIONS

2. Indicate the category of each word in the following sentences.

a) That glass suddenly broke.

b) A jogger ran toward the end of the lane.

c) These dead trees are blocking the road.

d) The detective hurriedly looked through the records.

e) The peaches never appear quite ripe.

f) Jeremy will play the trumpet and the drums in the orchestra.

1.4 TESTS FOR PHRASE STRUCTURE

The words that make up a sentence form intermediate structural units called phrases. How can linguists be sure that they have grouped words together into phrases in the right way? The existence of the syntactic units, or constituents, found in tree structures can be independently verified with the help of special tests. We will briefly consider three such tests here. Not every test will work for every constituent.

The substitution test

Evidence that phrases are syntactic units comes from the fact that they can often be replaced by an element such as they, it, or do so. This is illustrated in 13, where they replaces the NP the children and do so replaces the VP stop at the corner. (This is called a substitution test.)

13)

[NP The children] will [VP stop at the corner] if they see us do so. (they - the children; do so = stop at the corner)

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The substitution test also confirms that a PP such as at the corner is a unit since it can be replaced by a single word in a sentence such as 14.

14)

The children stopped [PP, at the corner] and we stopped there too.

(there substitutes for at the corner)

Elements that do not form a constituent cannot be replaced in this way. Thus, there is no word in English that we can
use to replace *children stopped*, for example, or *at the*.

**The movement test**

A second indication that *at the corner* forms a constituent is that it can be moved as a single unit to a different position within the sentence. (This is called a **movement test**.) In 15, for instance, *at the corner* can be moved from a position after the verb to the beginning of the sentence.

15)

They stopped [PP at the corner]. \(\Rightarrow\) [PP *At the corner*], they stopped.

Of course, *at the*, which is not a syntactic unit, cannot be fronted in this manner (*Mt the, they stopped corner*).

**The coordination test**

Finally, we can conclude that a group of words forms a constituent if it can be joined to another group of words by a conjunction such as *and*, *or*, or *but*. (This is known as the **coordination test**, since patterns built around a conjunction are called **coordinate structures**.) The sentence in 16 illustrates how coordination can be used to help establish that *stopped at the corner* is a constituent.

16)

The children [VP *stopped at the corner*] and [VP *looked both ways*].

**QUESTIONS**

6. Apply the substitution test to determine which of the bracketed sequences in the following sentences form constituents. Rewrite each sentence with the substitution. Is the sequence a constituent?

a) [The tragedy] upset the entire family.
b) They hid [in the cave].
c) The [computer was very] expensive.
d) [The town square and the civic building] will be rebuilt.
e) Jane has [left town].

7. Apply the movement test to determine which of the bracketed sequences in the following sentences form constituents. Rewrite each sentence so that the bracketed sequence has been moved. Is the sequence a constituent?

a) We ate our lunch [near the river bank].
b) Steve looked [up the number] in the book.
c) The [island has been] flooded.
d) I love [peanut butter and bacon sandwiches].
e) The environmental [movement is gaining momentum].
f) The goslings [swam across] the lake.