



8 Syntax

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

Oettinger (1966)

In an early observation on the difficulties of getting computers to process natural language, Anthony Oettinger used the example above to illustrate how we tend to interpret sentences based on an expected structure and when we arrive at a problematic interpretation, we are able to go back and try to use a different structure. This process brings to light the importance of recognizing the underlying structure of sentences in order to make sense of them. If we keep thinking that the structure of the second expression is the same as the first in the example, we will definitely miss something. (For a helpful analysis, see Figure 8.9, on page 122.)

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

Syntactic rules

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

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

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

A Generative Grammar

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

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