the words that make up that category. For example, the sequence on the mat is a PP, while the sequence is on the mat is a VP.

A grammar is said to be ambiguous if there is a sequence of words with two distinct parse trees. An example appears in figure 8.3. (The dashed lines indicate details that are missing from the diagram.) According to the grammar, the noun phrase with the hat can be attached as a modifier either to the NP2 that has the head noun boy (on the left in the figure) or to the NP2 that has the head noun park (on the right). It is only when semantics are taken into account that the ambiguity disappears. Prior knowledge provides the fact that boys, not parks, have hats. This is precisely the sort of thinking that is described, beginning in the next section.

8.2 Interpreting noun phrases

The goal in this section is to develop a Prolog program that does simple syntactic and semantic processing of noun phrases written in English. This involves two things:

- Parsing the noun phrases according to a given grammar
- Determining what is being referred to by the noun phrases