

[Exercises adapted from Larson (2010)]

1 Categories

State the categories of each word in each of the sentences in (1).

- (1) a. Homer came home tired.
- b. Homer heard Maggie clearly.
- c. Lisa picked Maggie up.
- d. Marge thinks Bart chased Lisa.

2 Patterns

The following set of sentences is potentially infinite, making use of a recurring pattern. **What is the pattern?** (That is, how would you describe how to get from one sentence to the next? Here, “pattern” means ‘generalization in terms of words/categories’.)

- (2) Bart laughed.
- (3) Bart laughed and-then Bart laughed again.
- (4) Bart laughed and-then Bart laughed again and-then Bart laughed again.
- (5) Bart laughed and-then Bart laughed again and-then Bart laughed again and-then Bart laughed again.
- (6) ...

3 Ambiguity

Consider the sentence *Homer saw her duck*. It has two meanings, which correspond to two different sentence patterns. **What are the two patterns?** (What “sentence pattern” means here is a string of the categories. The sentence pattern of *Pat screams* is “N V”, for example.

4 Japanese

The following examples are from Japanese. Assume that the Japanese parts of speech are the same as the parts of speech of the English gloss. **What are the sentence patterns?**

(Note: The little particles *-ga*, *-o*, and *-ni* are used in Japanese to indicate a word's status as a subject, direct object, or indirect object, respectively.)

- (7) Taroo-ga Pochi-o mita.
Taroo-NOM Pochi-ACC saw
'Taroo saw Pochi.'
- (8) Taroo-ga Hanako-ni Pochi-o ageta.
Taroo-NOM Hanako-DAT Pochi-ACC gave
'Taroo gave Pochi to Hanako'

5 PSRs and Trees I

Here is a set of phrase structure rules for English. These rules generate the sentences in (10):

- (9)
- | Grammar |
|---------------------------------|
| $S \rightarrow N V$ |
| $S \rightarrow N V N$ |
| $S \rightarrow N V N N$ |
| $N \rightarrow \textit{Homer}$ |
| $N \rightarrow \textit{Marge}$ |
| $N \rightarrow \textit{Lisa}$ |
| $N \rightarrow \textit{Bart}$ |
| $N \rightarrow \textit{Maggie}$ |
| $N \rightarrow \textit{SLH}$ |
| $V \rightarrow \textit{ran}$ |
| $V \rightarrow \textit{saw}$ |
| $V \rightarrow \textit{sleeps}$ |
| $V \rightarrow \textit{fed}$ |
| $V \rightarrow \textit{crawls}$ |
| $V \rightarrow \textit{gave}$ |
| $V \rightarrow \textit{chased}$ |
| $V \rightarrow \textit{sent}$ |

- (10)
- Bart ran.
 - Homer sleeps.
 - Maggie crawls.
 - Homer chased Bart.
 - Lisa saw Maggie.
 - Maggie fed SLH.
 - Marge gave Homer Maggie.
 - Homer sent Bart SLH.

A. What tree diagram do the rules give for the sentence *Maggie fed SLH*?

B. Give four other sentences of English that these rules generate (i.e. find examples different from the ones in (10)).

6 PSRs and Trees II

The sentences below show new patterns, different from the ones in (10) above.

- (11)
- a. Homer talked to Marge.
 - b. Homer talked about Bart.
 - c. Maggie crawled to Lisa.
 - d. SLH ran from Homer
 - e. Homer talked to Marge about Bart.
 - f. Maggie crawled from Lisa to Marge.

A. What new rules must be added to the rules in (9) in order to produce these sentences?

B. What tree diagram do your new rules give for the sentence *Homer talked to Marge about Bart*?

7 PSRs and Trees III

The sentences in (12) show yet another sentence pattern, different from the ones in the previous two questions.

- (12)
- a. Homer talked to Bart yesterday.
 - b. Marge gave Homer Maggie quickly.
 - c. Homer chased Bart recently.

A. What new rules must be added in order to produces these sentences?

B. What tree diagrams do your new rules give for the sentences *Homer talked to Bart yesterday* and *Homer chased Bart recently*?