Chapter 3: Semantics

Chapter Overview and Objectives
This chapter introduces students to concepts from three areas pertaining to linguistic meaning: sense, reference, and truth. After completing this chapter, students should be able to:

- Identify the semantic feature(s) that distinguish or unify a related set of words (e.g., man, boy).
- Identify cases of lexical ambiguity and overlap.
- Identify a superordinate of a given hyponym (or vice versa).
- Label a set of antonyms as binary, gradable, or converse.
- Identify a prototype and a stereotype of a common term such as car.
- Identify cases of coreference, anaphora, and deixis.
- Label a sentence as analytic, contradictory, or synthetic.
- Determine the truth relation (presupposition or entailment) that holds between a given pair of sentences.

Key Terms and Concepts
- lexical decomposition
- semantic features
- sense
- speaker-sense
- linguistic-sense
- lexical ambiguity
- synonymy
- hyponym
- superordinate
- overlap
- gradable antonym
- conversantonyms
- speaker-reference
- linguistic-reference
- referent
- extension
- prototype
- stereotype
- anaphora
- deixis
- analytic sentence
- contradictory sentence
- synthetic sentence
- entailment
- presupposition
- presupposition trigger

Commentary on Chapter 3
The relationships explored in Chapter 3 can be defined in three ways: the relation of words to words (sense); the relation of words to world (reference); and the relation of sentences to sentences and sentences to world (truth). It is useful to start out by comparing semantics to pragmatics: where pragmatics is concerned with context-dependent meaning, semantics is concerned with context-independent meaning.

Probably the most difficult material in this chapter is the section on entailment and presupposition, so you may want to plan to spend extra time on that and go over some additional practice problems. Students may grasp entailment more easily if you point out that it operates at the sentence level in the same way that the hyponym-superordinate relationship operates at the word level. In fact, if sentence A entails sentence B, sentence A often contains a hyponym of a superordinate found in sentence B (e.g., John bought a new Ford F150 entails John bought a new truck; Ford F150 is a hyponym of the superordinate truck.) Students may grasp presupposition more easily if you remind them that it contains the prefix {pre}, meaning 'before,' and refers to a proposition that must be true before another proposition can be judged true or false.
Suggested Answers to Exercises

Exercise A, p. 28
1. a. [± kin]  
   b. [± human]  
   c. [± male]  
   d. [± concrete]  
   e. +
2. The listener’s semantic representation of doctor includes the semantic feature [ + male].

Exercise B, p. 30-31
1. a. saunter, amble, stride  
   b. chat, whisper, mumble  
   c. relative
2. a. +

Exercise C, pp. 33-34
1. a. overlap (all are [ + furniture])  
   b. animal, vertebrate, mammal,  
   c. synonymy  
   d. overlap (all are [ + printed])
2. lexical ambiguity (bar can be either a tavern or a test given to future lawyers).

Exercise D, p. 35
1. a. prototype: Ford Taurus  
   b. prototype: ranch house, bungalow
2. b. prototype
3. c. both sense (definition) and reference (picture)
4. +
5. c. Robin is a hyponym of bird
6. b. stereotype of dog

Exercise E, p. 36
1. a. Himself is an anaphor and can only be interpreted as referring to George.
   b. +
2. d. none of the above (i.e., deictically only)
3. anaphora
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**Exercise F, p. 37**
1. d. deixis
2. a. D. Go to me.
   b. Come contains the meaning of movement toward the speaker; go contains the meaning of movement away from the speaker.
   c. Go to me contains words with conflicting deictic components: Go (motion away from the speaker) conflicts with to me (motion toward the speaker).
3. +
4. deictically only
5. anaphorically only

**Exercise G, p. 39**
1. a. synthetic
   b. analytic
2. b. contradictory
3. +
4. contradictory
5. synthetic
6. a. C    c. A    e. S
   b. A    d. C    f. S

**Exercise H, p. 41-42**
+ A.2 entails A.1.
+ B.1 presupposes B.2.
   C. I presupposes C.2. H.1 presupposes H.2
   E. I and E.2 entail each are (they are J.2 entails J.1.
paraphrases).

**Exercise I, p. 43**
1. afford does not presuppose intentionality, but decide does.
2. manage presupposes intentionality, but normally no one would intentionally step on chewing gum.

**Supplementary Exercises, pp. 44-46**
1. a. F (reference and truth)  e. F (entails)  j. F (deictic)
   F (gradable)  f. T  k. T
   T  g. T  l. F (overlap)
   F (structural)  h. F (anaphoric)
   i. F (presupposes)
2. Deixis; the note does not establish a point of reference for the time when it was written (it means 'Back in 20 minutes from now,' but the reader doesn't now what 'now' refers to).
3. The clerk is treating east and west (non-deictic terms) like left and right (deictic terms). However, east and west each have only one interpretation, regardless of what direction the customer is traveling from.
4. Lexical ambiguity: *bear* can mean either 'give birth to' or 'tolerate.'

5. a. *girl*  
   b. *[adult]*

6. Deixis; the owner isn't sure "which" left the vet is referring to: the left ear as she is facing the cat, or the left ear as she is standing behind the cat.

7. d. both (a) and (c)

8. prototype (i.e., pointing to a typical member of the extension)

9. none of the above. This is a problem in deixis. Since the reader is unsure of when the "first" Tuesday night was, it's unclear when "every other" Tuesday night is.

10. Entailment; technically, pitching three no-hitters entails pitching two no-hitters. (Of course, in ordinary conversation, the addressee would be expected to state exactly how many no-hitters, in which case "two" would not count as a correct answer. On the other hand, notice that an entailed, rather than an exact, number is expected in other situations: for example, if a bartender asks "Are you 21?" of a customer who is 25, the correct response is "Yes," since being 25 entails being 21.)

11. When presupposes "I may come in for an interview."

12. Presupposition; the definite pronoun *the* presupposes the existence of a broken headlight, thereby perhaps leading respondents to think that they should have seen one, even if they didn't.

13. Presupposition; note that either a *yes* or *no* response carries the same presupposition ('At one time I beat my wife'). This phenomenon is related to the fact that a sentence and its denial have the same set of presuppositions.

14. Lexical ambiguity; *work* can have the sense of either 'be employed' or 'expend energy.' The first sentence relies on the listener assigning the meaning 'be employed.' The punch line adds the meaning 'expend energy.' This might also be analyzed as a contradictory sentence, since the humor relies on seeing that someone can simultaneously work and not work.

15. *Mom* is traditionally a personal term of endearment, used toward someone for whom the speaker feels affection, so it has a positive, somewhat sentimental connotation. However, the behavior of the mother referred to in this news story clearly violates this stereotype.

16. Mary is treating a binary term (*none of your business*) as gradable (by using *extremely*).

17. *Dead/alive* are binary antonyms and thus cover every possibility on this continuum; no "expert opinion" is required to state this obvious fact. Compare a sentence containing gradable antonyms: *Al Qaeda Leader is Brilliant or Stupid.*

18. *Next* presupposes a previous item in a series, but in this case there has not yet been one.

**Exploratory Exercises, p. 46**

1. Answers will vary. Note, for example, that a recent L.L. Bean catalogue uses *lemon, peach,* and *lime* to refer to light shades of 'yellow,' 'orange,' and 'green,' respectively—all concrete objects found in nature.

2. See answer to Exploratory Exercise 1 in Chapter 4.

3. The clerk was probably trying to tell the customer whether to turn left or right as the customer approached the store. Deixis would be involved because the decision about whether to turn left or right would depend on whether the customer were traveling north or south on Airline Highway.
Chapter 4: Syntax

Chapter Overview and Objectives
This chapter introduces students to concepts related to the study of syntax, especially from perspective of generative grammar: categories, left-to-right ordering, hierarchical (constituent) structure, transformations, and constraints. After completing this chapter, students should be able to:

- Apply tests to argue that particular words belong to different categories.
- Use terms such as dominate, directly dominate, sister, and daughter to identify the relationships among various nodes in a tree.
- Use PS rules to construct tree diagrams for simple phrases or structures.
- Draw tree diagrams to reflect the structural ambiguity of a phrase like American history teacher.
- Use the passive test to determine whether or not a PP is part of a direct object in a sentence like Ralph put the note on the door.
- Infer selectional and subcategorization restrictions from a given set of data.
- Understand the arguments for positing an X-bar category, i.e., an intermediate category between XP and X.
- Understand the arguments for positing underlying structures.
- Identify violations of various constraints on transformations.

Key Terms and Concepts

<table>
<thead>
<tr>
<th>lexical categories</th>
<th>active sentence passive</th>
<th>wh-Movement underlying</th>
</tr>
</thead>
<tbody>
<tr>
<td>phrasal categories</td>
<td>sentence</td>
<td>structure surface structure</td>
</tr>
<tr>
<td>phrase structure (PS) rules</td>
<td>subcategorization</td>
<td>NP-Movement Coordinate</td>
</tr>
<tr>
<td>tree diagram</td>
<td>restriction selectional</td>
<td>Structure Constraint Unit</td>
</tr>
<tr>
<td>nodes</td>
<td>restriction X-bar syntax</td>
<td>Movement Constraint</td>
</tr>
<tr>
<td>dominate</td>
<td>pro-form substitution</td>
<td>Subjacency Constraint Tensed</td>
</tr>
<tr>
<td>daughter node</td>
<td>specifier adjunct</td>
<td>S Constraint yes-no question</td>
</tr>
<tr>
<td>sister node</td>
<td>complement</td>
<td>tag question</td>
</tr>
<tr>
<td>recursion</td>
<td>transformation</td>
<td></td>
</tr>
<tr>
<td>constituent</td>
<td>structural ambiguity</td>
<td></td>
</tr>
</tbody>
</table>

Commentary on Chapter 4
When starting Chapter 4, it is worth pointing out that whereas pragmatics and semantics deal with meaning, syntax deals with structure: that is, the items that can appear in a sentence and how they can be ordered and combined. You may find yourself having to remind students of some basic terminology, depending on their background (e.g., adjective, auxiliary verb, preposition, etc.).

Probably the most difficult, or at least abstract, material in this chapter is the section on transformations. One way to motivate the idea of transformations is to point out that it allows us to capture two kinds of knowledge that speakers have about sentences like (1-2):

\[ John \text{ kicked } Ted. \]

\[ Ted \text{ was kicked by } John. \]
Speakers of English can readily label (1-2) as different sentences. That is, (1) is not the same sentence as (2); it has some of the same words, but they appear in a different order. On the other hand, speakers of English can also readily agree that (1-2) are the "same" sentence at a more abstract level. That is, they describe the same state of affairs; any scenario in which (1) is true is also a scenario in which (2) is true. More technically, they have the same agent ("doer of the action") (John), the same patient ("thing acted upon") (Ted), and the same action (kicked). Thus, we want our model of syntactic knowledge to capture the fact that sentences (1-2) are different on one level but the same on another level. The concepts of underlying structure and surface structure allow us to do just that.

The material on constraints on transformation is rather advanced and may be skipped if you are teaching a more introductory section of students.

**Suggested Answers to Exercises**

**Exercise A, p. 49**
1. +
2. An NP can contain no more than one determiner; some and those must both be analyzed as determiners.
3. Categories: only words in the verb category can be made past tense; only words in the adjective category can be made superlative; only words in the noun category can be made plural.
   b. Unlike an adjective, a possessive pronoun cannot co-occur with a determiner (*Hand me the my book.)

**Exercise B, p. 51**

<table>
<thead>
<tr>
<th></th>
<th>a.</th>
<th>d.</th>
<th>g.</th>
<th>j.</th>
<th>b.</th>
<th>e.</th>
<th>h.</th>
<th>k.</th>
<th>c.</th>
<th>f.</th>
<th>i.</th>
<th>l.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>S</td>
<td>PP</td>
<td>VP</td>
<td>S</td>
<td>+</td>
<td>PP</td>
<td>VP</td>
<td>VP</td>
<td>NP</td>
<td>VP</td>
<td>VP</td>
<td>VP</td>
</tr>
</tbody>
</table>

All of these items can be generated by the PS rules on p. 56.

**Exercise C, p. 52**
1. a. V-i and PP₂ are sisters.
   b. PP₂ directly dominates Prep₂-NP₃.
   c. VP-, dominates all of the nodes beneath it; it directly dominates V-, and PP₂.
   d. No, except that they are both dominated by S. They are not sisters because they are not directly dominated by the same node.
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2. a. The children laughed at the clown. S

   NP    VP
   Det N V
   PP

   The children laughed at the clown

b. A very small package arrived.

   S
   NP    VP
   Det AP N Y
   I Adj

   A very small package arrived

c. Haste makes waste. S

   NP    VP
   Det V NP
   N

   Haste makes waste

d. A meteor hit that red car.

   NP    VP
   Det N V
   Det AP N
   Adj

   A meteor hit that red car
Exercise D, p. 53 NP

Det T''''''''pp

Prep NP

Det N PP

Prep NP Det N

PP

Prep NP Det N

PP

Prep NP

Det N PP

Prep NP

Det N

the table by the chair in

Exercise E, p. 55

1. a. +
   b.

   foreign student orgn.
   ‘organization of/for foreign students’

   second language teacher
   ‘teacher of a second language’

   big truck driver
   ‘driver of a big truck’

   foreign student orgn.
   ‘student organization that is foreign’

   second language teacher
   ‘second teacher of language’

   big truck driver
   ‘truck driver who is big’
2. a. not structurally ambiguous (*bank* is lexically ambiguous)
   b. 'Dr. Smith is a professor of European history.'
      'Dr. Smith is a history professor who is European.'
   c. not structurally ambiguous (*plant* is lexically ambiguous)
   d. 'Jane hid the letter that Dan wrote.'
      'Jane hid the letter so that Dan couldn't find it.'
   e. 'Muffy saw some old men and old women.'
      'Muffy saw some women and old men.'
   f. neither structurally nor lexically ambiguous
   g. 'It can be a nuisance to visit relatives.'
      'Relatives who are visiting can be a nuisance.'

**Exercise F, pp. 56-58**

1. Passive versions differ in their grammaticality if the PP is moved to subject position:
   
   **A**
   
   AT: * The note on the door was put by Ralph.
   
   B1: The key to the door was found by Ralph.
   
   A2: The note was put on the door by Ralph.
   
   B2: * The key was found to the door by Ralph.
   
   The PP *on the door* must remain part of the VP in order to yield a grammatical passive; it behaves like *at home* in the examples on pp. 62-63 of the textbook. The PP *to the door* must remain with the NP *the key* in order to yield a grammatical passive; it behaves like *of the accident* in the textbook examples.

2. c; it does not demonstrate any difference in behavior between the two sentences.

3. d. Only VP can be omitted. (In A, N is omitted; in B, NP; in D, Aux-V; in E, Aux; and in F, V.)

4. a. Only items belonging to identical categories can be conjoined by *and*. (In B, NP and PP are conjoined; in F, an adverb and an NP are conjoined.)

**Exercise G, p. 59-60**

1. *kill* requires a [+ living] object.

2. *+

3. d. must be followed by NP, can be followed by PP.

4. c. must be followed by a [+ animate] NP.

5. The antecedent for *who* must be [+ human]; the antecedent for *which* must be [-human].

**Exercise H, p. 63**

1. c. 'the professors of English from France.' X-bar syntax states that complements occur closer to the head than adjuncts, regardless of whether they precede or follow the head. Thus, in the phrase *The French English professors, French* is an adjunct and corresponds to 'from France,' and *English* is a complement and corresponds to 'of English.'

**Exercise I, p. 67**

1. A. neither rule B.
   
   I-Movement

C. wh-Movement

D. I-Movement and wh-Movement
2. To form a negative or emphatic sentence, place not or so/too, respectively, immediately to the right of the tensed verb.

**Exercise J, p. 68**
1. Reflexive pronouns (e.g., himself) require an antecedent within the same clause as the pronoun. The presence of himself in the dependent clause is evidence that the antecedent (Franklin) originated within the same clause.

**Exercise K, p. 69**
1. +
2. Test A shows that *down the street* is a PP, but *away the magazine* isn't.
   - A. *Down the street* John walked.
   - B1. *Away the magazine* John threw.
   - Test B shows that *threw away* is a two-word verb, but *walked down* isn't.
   - A2. John *threw the magazine away*.
   - B2. *John walked the street down*.
3. d. both (a) and (b)

**Exercise L, pp. 71-72**
1. a. +
   b. Tensed S
   c. Unit Movement
   d. Subjacency
   e. Coordinate
   f. Subjacency
   g. Subjacency