Assignment 4 Answer Key
Ling 106

(2) Rewrite rules
a. Use the rewrite rules in section 3.2 of lecture note 3 (on page 5) to derive a tree structure that generates the string One sad sad dog ate candy.

b. Use the rewrite rules in section 4 of lecture note 3 (on pages 5-6) to derive a tree structure that generates the string One sad sad dog ate candy.

S
  det
  one
  adj
  sad
  NP
  B
  adj
  sad
  C
  noun
  D
  Dog
  transitiveVerb
  E
  at
  noun
  candy

(3) Presupposition and entailment
In Chierchia & McConnell-Ginet (1990):

a. Do Exercise 1 (pages 22-23), numbers 3, 5, 6, 8, 9, 10, 13, 14, and 15 only. The question is “does (a) entail (b)”? Justify your answers.

3. Sentence (a) does not entail sentence (b), because (a) can be true at the same time that (b) is false. For example, it may be that Jane’s oatmeal sat out on the counter for some time before she began eating. In that case, we can say “Jane ate oatmeal for breakfast this morning but she didn’t eat something hot for breakfast this morning” without giving rise to a contradiction.

5. Sentence (a) entails sentence (b) because $(a \land \neg b)$ is a contradiction. If (a) is true for everyone, then (b) is necessarily true for John.

6. Sentence (a) does not entail sentence (b). The sentence in (a) tells us nothing about the case in which Alice doesn’t win a fellowship. It may be that Alice wins the lottery or inherits a substantial amount of money, in which case perhaps she will be able to finish her thesis.

8. Sentence (a) entails sentence (b). If (a) is true, (b) must also be true. That is, the conjunction “Only Amy knows the answer but Amy does not know the answer” yields a contradiction.

9. If Mary is a violinist who is Italian, then necessarily there is some Italian who is a violinist. In this case, (a) entails (b).

10. Sentence (a) entails sentence (b). The statement “Some student will not go to the
party, and every student will go to the party” is a contradiction. In other words, if it is true that at least one student will not go to the party, then it is necessarily the case that not every student will go to the party.

13. Sentence (a) does not entail (b). Sentence (b) can be false while (a) is true: “John believes that pigs do not have wings, but pigs have wings”.

14. There is a certain reading of sentence (a) under which it does not entail sentence (b). If one takes the conjunction “Oscar and Jenny” to describe a single financial entity (e.g., husband and wife, business partners), it may be that Oscar and Jenny are rich only with respect to their combined income, and taken individually their respective incomes may not be large enough to meet whatever the qualification is for “being rich”. But if we assume that what is true for both is true for each one independently, then (a) entails (b).

15. Sentence (a) entails sentence (b). If (a) is true, (b) is necessarily true (i.e., it cannot be that (a) is true while (b) is false). If Oscar and Jenny are middle aged, then Jenny is middle aged. The statement “Oscar and Jenny are middle aged, but Jenny is not middle aged” is a contradiction.

b. Do Exercise 2 (pages 27-28), numbers 3, 4, 5, and 6 only. For numbers 4-6, instead of answering the question in the book, answer the question “does (a) presuppose (b)”?

In all cases, justify your answers.

3. Sentence (a) presupposes (b) and entails (c). Only (b) survives in the interrogative form “Did John manage to get the job?” The sentence in (c), when negated and taken together with (a), yields a contradiction.

4. Sentence (a) does not presuppose sentence (b). When (a) is negated (e.g., “Everyone tried to kill Templeton”), we no longer understand (b) to be the case. In fact, the relation between (a) and (b) is mutual entailment. If (a) is true, (b) is necessarily true and vice versa.

5. Sentence (a) presupposes the content of sentence (b). This is shown by the fact that (b) is understood even when (a) is negated (to negate (a) we can simply remove the existing negation): “That John left early bothered Mary” suggests that John left early.

6. Sentence (a) does not presuppose sentence (b). Notice first that sentence (a) does not imply sentence (b). So whether or not the negation of (a) implies (b), (b) is not a presupposition of (a).