Answers to Practice Test 1

Two questions I am likely to ask:

1. State the Principle of Compositionality.
   Answer: The meaning of a whole is a function of the meanings of its parts and of the way they are syntactically combined.
   (That’s the statement in Partee 1995. In Lecture 1 it’s the same except it starts with “The meaning of an expression is ..” Either is fine. You should memorize one of them.)

2. Explain briefly in your own words the following statement: “Restrictive relative clauses are semantically just like intersective adjectives.” (That requires saying something about how intersective adjectives work semantically – what kinds of meanings they have, and what they combine with and how.)
   (Answer:) I don’t want to write out an answer to this one, because I don’t want you to memorize it. But you should say something about an intersective adjective being semantically a one-place predicate denoting a set of entities and that it combines with a common noun phrase, also denoting a set of entities, by set intersection, and then giving an example of a restrictive relative clause and indicating how it does the same.

Sample logic translation problems.

3. Which of the following formulas, if any, gives a correct translation for the English sentence Every dog barks? (In all of these questions, there may be no correct translation, just one, or more than one.)
   a. \( \forall x (\text{Dog}(x) \land \text{Bark}(x)) \)
   b. \( \forall x (\text{Dog}(x) \rightarrow \text{Bark}(x)) \)
   c. \( \exists x (\text{Dog}(x) \land \text{Bark}(x)) \)
   For the ones you consider incorrect, say why. One good way is to describe a state of affairs, or model, in which the wrong formula would be true where the English sentence would be false, or vice versa.
   Answer: Only b is correct. In a model in which there are 10 dogs and 10 cats and every dog barks and no cat barks, the English sentence is true, but formula a is false, because formula a says that everything in the universe is a dog and barks. Formula c says that some dogs bark, not that every dog barks.

4. Which of the following formulas, if any, gives a correct translation for the English sentence If anyone smiles, everyone is happy? (Again: none, one, or more than one.)
   (Justification optional, but helpful.)
   a. \( \forall x (\text{smile}(x) \rightarrow \forall y \text{happy}(y)) \)
   c. \( \forall x \text{smile}(x) \rightarrow \forall y \text{happy}(y) \)
   b. \( \exists x \text{smile}(x) \rightarrow \forall y \text{happy}(y) \)
   Answer: Formulas a and c are correct. Formula b says “If everyone smiles, everyone is happy,” whereas the English sentence and the correct formulas say that it takes only one smiling person to make everyone happy. Note: If you are a non-native speaker of English and have any uncertainty about the meaning of a given English sentence, either
come and check with me during the test, or write down a clear paraphrase of what you take the meaning of the sentence to be, and I’ll then check whether you’ve answered the question correctly according to your interpretation of the English sentence.

5. For each of the two interpretations of the ambiguous sentence *Every critic liked some painting*, tell which one of the two given formulas gives the correct translation.

The two formulas: (i) \( \forall x (\text{critic}(x) \rightarrow \exists y (\text{painting}(y) \& \text{like}(x, y))) \)

(ii) \( \exists y (\text{painting}(y) \& \forall x (\text{critic}(x) \rightarrow \text{like}(x, y))) \)

The two interpretations:
(a) There is some painting which all the critics liked.
(b) Each of the critics liked at least one painting, not necessarily the same one.

Answer: (a) – (ii) and (b) – (i).

**Adjectives, relative clauses, possessives. Sample sorts of questions.**

6. If you want to argue that *alleged* is non-subsective but not privative, what sorts of facts would you give as evidence?

Answer: *alleged* is non-subsective because not every *alleged genius* is a *genius*. *Alleged* is not privative because an *alleged genius* may be a *genius*.

7. Which of the following syntactic structures gives a better basis for a compositional semantic interpretation of a phrase like *the boy who loves Mary*? Describe informally in one or two sentences how the compositional semantics works for the correct structure.

(i) 
```
NP
  \|--
 Det  CNP
       |  
       the  CNP REL
             |  
             boy  who loves Mary
```

(ii) 
```
NP
  \|--
 NP  REL
     |  
     Det  CNP
          |  
          who loves Mary

     \|--
     the  boy
```
Answer: Structure (i). For the argument, review your notes from Lecture 1. The argument is spelled out explicitly in Partee (1995), in the discussion on p. 321 of why structure (7c) gives the right kind of structure for restrictive modifiers in NPs.

8. The possessive phrases Barbara’s mother and Barbara’s book illustrate an interesting puzzle of compositionality: where does the “possessive relation” come from? In two or three sentences, say something about how the difference in interpretation relates to the difference in the semantic type of the head noun.

One possible answer (but it could be shorter): The noun mother is a relational noun, and its meaning is similar to the meaning of a transitive verb – it denotes a set of ordered pairs of entities. The noun book is just a simple one-place predicate. When a possessive like Barbara’s combines with a relational noun like mother, the noun provides the relation. When a possessive combines with a plain noun, the relation must come from somewhere else – perhaps from the construction (“ownership” is a common interpretation of possessives when the context doesn’t suggest anything more specific), perhaps indirectly from the noun (book suggests the ‘author’ relationship, since books saliently have authors), perhaps from the context (maybe the context makes it clear that it means the book Barbara is reading right now.)

The reading. One or two questions relating to the two readings, Larson 1995 and Partee 1995. (Note: For Partee 1995, I won’t ask about anything beyond page 331 – we’ll study the second half of the paper later.) Nothing too subtle or technical or tricky, but I do want to make sure you’ve read the assigned readings. For instance:

9. Larson (1995) treats determiners like some, every, no in a model-theoretic semantics as having interpretations of which of the following types? (i) truth values (ii) sets of entities (iii) binary relations on sets of entities.
(Non-)Answer: I won’t tell you. Read Larson.

10. Partee (1995) cites as two useful strategies in doing semantics Lewis’s Advice and Cresswell’s “Most Certain Principle”. Which is which below?
(i) “In order to say what a meaning is, we may first ask what a meaning does, and then find something that does that.”
(ii) “For two sentence α and β, if α is true and β is false, α and β must have different meanings.”
(Non-)Answer: I won’t tell you. Read Partee.