

Assignment 1 (due Thursday, January 31 in class)

I. Identifying entailments

For each of the following sentence pairs, say whether the (a)-sentence entails the (b)-sentence. Be sure to **justify** your answers by applying the tests for entailment that we discussed in class, and providing the relevant test sentences that support your conclusions.

(Note: where proper names are repeated in (a) and (b), assume that they refer to the same individual in each case. Also assume that temporal expressions, such as *today*, or the present tense morpheme, receive a constant interpretation.)

- (1) a. Today is sunny.
b. Today is warm.
- (2) a. Mabel ate oatmeal for breakfast this morning.
b. Mabel ate breakfast this morning.
- (3) a. Mabel ate oatmeal for breakfast this morning.
b. Mabel ate something hot for breakfast this morning.
- (4) a. Michelle and Barack are married.
b. Michelle and Barack are married to each other.
- (5) a. Terry already knows that Susan is from Mars.
b. Susan is from Mars.
- (6) a. Terry already thinks that Susan is from Mars.
b. Susan is from Mars.
- (7) a. Someone will not get an 'A' in this course.
b. Not everyone will get an 'A' in this course.
- (8) a. Not everyone will fail this course.
b. Someone will fail this course.

Next, consider the following pair of sentences:

- (9) a. Kim lied to Robin.
b. Kim said something to Robin that was not true.

Is it possible for (9a) to be true and (9b) to be false? Is it possible for (9b) to be true and (9a) to be false? If your answer for either question is "yes", then briefly describe a scenario in which the one sentence is true and the other is false. Based on your answers to the previous two questions, state whether any entailment relationships exist between (9a) and (9b).

II. Semantic ambiguity

A word is **semantically ambiguous** just in case it is associated with two or more distinct meanings. Words like *bank* provide clear cases of semantic ambiguity:

- (1) *bank* = 'financial institution where money is held' **or**
'raised earth along the side of a river'

A sentence is **semantically ambiguous** just in case it is associated with two or more distinct truth conditions. If a sentence is semantically ambiguous, then we should be able to construct a scenario that satisfies one of its associated truth conditions, but not the other (and vice versa).

For example, the following sentence is semantically ambiguous: its two truth conditions can be unambiguously paraphrased by (2a) and (2b).

- (2) The child didn't eat two meatballs.
a. The child ate fewer than two meatballs.
b. There are two meatballs that the child didn't eat.

Here is a scenario that satisfies the truth conditions paraphrased by (2a), but not (2b): the child began with two meatballs on his plate, but only ate one of them. Here is a scenario that satisfies the truth conditions paraphrased by (2b), but not (2a): the child began with five meatballs on his plate, but only ate three of them.

The following sentences are semantically ambiguous. For each, provide unambiguous paraphrases for the different truth conditions associated with the sentence. Then, provide relevant scenarios showing that the sentence is indeed semantically ambiguous.

- (3) I gave Susan more books than Jonathan.
(4) Julie found a bat in the attic.
(5) Pete didn't wear the necktie in order to please Nora.

Next, consider the following pair of sentences:

- (6) a. Olga is a beautiful dancer.
b. Olga is beautiful.

Sentence (6a) is semantically ambiguous—provide unambiguous paraphrases and relevant scenarios, just as you did for (3)–(5). Then, answer the following questions: Does (6a) entail (6b)? How does the fact that (6a) is semantically ambiguous affect your answer to the previous question?

III. Identifying denials

Recall our definition of **denial** from last week's lectures:

Sentence *A* is the **denial** of sentence *B*: it is impossible for *A* and *B* to both be true, and it is also impossible for *A* and *B* to both be false. (*A* and *B* have opposite truth conditions.)

For each of the following, determine whether the (b)- or (c)-sentence constitutes the correct denial of the (a)-sentence. Then provide a brief explanation of the reasoning that supports your conclusion.

- (1) a. John always eats his dessert.
 b. John always doesn't eat his dessert.
 c. John doesn't always eat his dessert.
- (2) a. Not a single drop of beer was spilled.
 b. A single drop of beer was spilled.
 c. Some beer was spilled.

Note: Be careful! These may be trickier than they first appear. In particular, remember that denial (like entailment) is ultimately a relationship between sentence meanings, not sentence forms.