

Midterm 2020

Ling 525

March 9, 2021

This midterm is due . . .

1 Part one: Entailments

In part one of the midterm (and this review), each problem contains a pair of sentences. Let's call the first sentence (a) and the second (b). For each pair of sentences:

- 1.1. **First**, say whether sentence (a) **entails** sentence (b) or is **is entailed** by (b), or **both**, or **neither**. Saying they entail each other means you think they are logically equivalent.
- 1.2. If you say neither: (a) does not entail (b) and is not entailed by it), then you're done. For example, suppose we have
 - a. Every dog barked.
 - b. No dogs barked

Here neither sentence entails the other, so you say "neither sentence entails the other." and you're done

- 1.3. If you say (a) entails (b) or (b) entails (a) or they are equivalent, then provide a **failed cancellation** of the entailed sentence. For example, suppose we have
 - a. Sam got married.
 - b. Sam married Susan.

I claim that (b) entails (a). To defend that claim, I construct the following failed cancellation.

(1) # Sam married Susan but he didn't get married.

This sounds contradictory, so cancellation fails to be felicitous, and that's evidence that (b) entails (a), so I've defended my claim. Suppose, just for fun, I tried the cancellation the other way, testing whether (a) entails (b):

Sam got married but didn't marry Susan.

That's fine (no contradiction), and that means that *Sam got married* does not entail *Sam married Susan*.

Note the # marking *Sam married Susan but he didn't get married*. This symbol generally means "pragmatically anomalous". The sentence as a whole contradicts itself and since we don't in normal communicative situations make self-contradictory statements, we call the statement pragmatically anomalous, that is, not used in normal communicative situations. That's different from syntactically anomalous (**The seven brothers likes one another*) or semantically anomalous (? *John frightened sincerity*). When your attempt to cancel an entailment results in a contradiction, please signal that you have noticed this by marking the sentence with #.

If you say the two sentences entail each other, then you can cancel either one. One cancellation is sufficient.

Finally, discuss any **issues** that arose in formulating your answer. For example, (a) one or both of the sentences was ambiguous and you had to choose a reading, or (b) you had to make a specific assumption about the exact meaning of a word in (a) or (b).

2 Part one of the practice exam

- 2.1. (a) Reginald ate red snapper and tuna.
(b) Reginald ate tuna.
- 2.2. (a) Sue mailed herself a brown package.
(b) Sue mailed herself a package.

- 2.3. (a) Fred rented a bicycle from Lena.
 (b) Lena rented a bicycle to Fred.
- 2.4. (a) I hit the vase with the hammer.
 (b) The hammer hit the vase.
- 2.5. (a) The mosquito died.
 (b) Alan killed the mosquito.
- 2.6. (a) Every house with more than two bedrooms sold that month.
 (b) Every house with more than one bedroom sold that month.
- 2.7. (a) It's very cold.
 (b) It's cold.
- 2.8. (a) No bagels were sold.
 (b) No sesame bagels were sold.
- 2.9. (a) Lucille may not have given the king a headache.
 (b) The king may not have been given a headache by Lucille.
- 2.10. (a) Not everyone enjoyed the party.
 (b) Someone didn't enjoy the party.

3 Logic section of the practice exam

Consider the truth table for

p	q	$\sim p$	$\sim q$	$(\sim p \rightarrow \sim q)$
T	T	F	F	T
T	F	F	T	T
F	T	T	F	F
F	F	T	T	T

Answer the questions below about the following expressions.

- (a) $q \rightarrow p$
 (b) $\sim (p \rightarrow (q \rightarrow p))$
 (c) $\sim p \rightarrow (p \rightarrow q)$
 (d) $\sim (q \& \sim p)$

- 3.1. Which of the above expressions is logically equivalent to $(\sim p \rightarrow \sim q)$? Prove your answer by showing truth tables for all of the above expressions.
- 3.2. Point out any of these expressions that are tautologies or contradictions and explain why using the truth tables.

4 Translation section of the practice exam

Translate the following sentences into predicate logic of the sort introduced in Allwood, Anderson, and Dahl, and further discussed in chapters 2 & 3 of Kearns. For any ambiguous sentences, give all the readings, and paraphrase them, saying which logical translation goes with which reading. Except where indicated otherwise, translate definite NPs and proper names using single letter constants. If you have an issue about how to translate a word, please **discuss** it and justify your decision, rather than just, say, ignoring the word and losing unnecessary points. If you feel that a word is being used inconsistently and you need to give it more than one translation (such as when you translate transitive and intransitive *eat* as EAT and EAT2), please explain why.

- 4.1. Either Lee or Sandy wrecked the car.
- 4.2. Bill mixed the rice and the beans.
- 4.3. Rob talked to an angry solicitor.
- 4.4. A tall building was destroyed by the earthquake.
- 4.5. The bicycle was near the curb.
- 4.6. Tolstoy write no novels that sold well. (Treat *sell well* as a single predicate SELL-WELL).
- 4.7. Bill laughs at every bad joke.
- 4.8. Some Democrat from Virginia won the straw poll.
- 4.9. Bianca was surprised by Lucien.
- 4.10. The grocer selected a shiny eggplant.