1 Restricted quantification

Using restricted quantifier notation, give the two logical representations for the ambiguous sentences in (1), providing unambiguous paraphrases of their truth conditions. For (2a), you can translate *this class* using an argument symbol (e.g., c).

EX: Every dog devoured a bone.

a. $[EVERY x : DOG(x)][Ay : BONE(y)]DEVOUR(x, y)$
For every dog, there is a bone that it devoured.

b. $[Ay : BONE(y)][EVERY x : DOG(x)]DEVOUR(x, y)$
There is a bone such that every dog dedvoured it.

(1) a. Most students in this class speak two languages.
b. Three investigators described a new technique.
c. John assigned all of his students seven problems.

2 Scope ambiguity?

A. The sentence in (2) is ambiguous in a by now familiar way.

(2) Every woman read two of Kim's stories.

Give unambiguous paraphrases and translations of the two interpretations using restricted quantifier notation. In particular, make sure to explicitly analyze the possessive construction *Kim's stories*, using your translations to show what kind of information each element contributes to the meaning of the whole.

B. Now consider (3), on an interpretation where *her* is understood to be linked to *every woman*. (That is, **ignore** for the moment interpretations in which the pronoun is understood to represent some other female individual in the context.)

(3) Every woman read two of her stories.

On this interpretation of the pronoun, (3) is not ambiguous in the same way as (2). Say which reading is possible and which is impossible. Does our system provide an explanation for this difference between the two sentences? Explain.

In answering this part of the question, you will need to make some explicit assumptions about how to handle the pronoun *her* in (3) on the interpretation in which it is linked to the quantifier *every woman*. Be clear and precise in your explanation, and support your claims as much as you can using additional relevant examples to illustrate your points.

3 And

The standard analysis of the strict semantic meaning of the connective *and* is that it requires the two sentences it conjoins to be true, but it says nothing about what order they come in. This is evident from the truth table we gave for the propositional connective &, the logical translation of *and*:

(4)

p	q	p & q	q & p
1	1	1	1
1	0	0	0
0	1	0	0
0	0	0	0

This analysis correctly accounts for the fact that (5a) and (5b) are synonymous: whenever (5a) is true, then (5b) is also true, and vice-versa.

(5) a. Thelma has a small dog and she has a blue car.
b. Thelma has a blue car and she has a small dog.

This analysis seems to make the wrong predictions for (6a-b), however. Not only are (6a) and (6b) not synonymous, there is also a clear intuition that (6b) is anomalous (this is indicated by the '??').

(6) a. Thelma got into her blue car and she drove into the sunset.
b. ??Thelma drove into the sunset and she got into her blue car.

A. Should we conclude from these facts that English *and* is ambiguous between a meaning that adds extra information about the temporal ordering of its conjuncts (i.e, something equivalent to *and then*) and one that doesn't, or can we maintain our original assumption that *and* requires only that both of the sentences it connects be true, and explain facts like (6a-b) in some other way? If the former, say why; if the latter, say how. Be explicit, backing up your proposals with solid argumentation and providing additional data to support your points as necessary. *Remember the tests we discussed at the beginning of the quarter for distinguishing between semantic information (entailments) and pragmatic information (implicatures)!*

B. Can we make any generalizations about when sentences connected by *and* are interchangeable and when they are not? In other words, are the examples in (5) and (6) completely arbitrary, or are they instances of a larger pattern? If so, what exactly is the pattern, and does it provide some basis for explaining the 'order sensitive' vs. the 'order insensitive' uses of *and*?

To answer this, you will need to construct a bunch of examples of sentences connected by *and*, see what happens when you switch the order of the sentences (as I did in (5)-(6) above). Does a generalization emerges about when *and* is order-insensitive and when it is order-sensitive.