Ling 406/802
Spring 2005 (Pelletier)
Assignment #3

This assignment is due in class on Monday April 4th. Please type or neatly write as much of this assignment as you can. (I realize that diagrams and funny logic symbols might prove challenging for typing.) This is the third of three Assignments. As a whole, they are worth 25% of your grade. As before, they will be graded on a 3-2-1-0 basis. As with Ass#2, you can work in groups of two, if you wish. When you turn in your assignments, please put both your names and IDs on the assignment. You should ensure that you both do half the work and both end up understanding everything you turn in. This assignment has to do with Chapter 9, and generalized quantifiers.

1. Give the LFs and the translations into PC_{gq} (the predicate calculus with generalized quantifiers) of the following sentences. (From our textbook, p. 510, Exercise 1):

a. Every man runs and smokes.
b. Every man gave a book to the woman. (Just do the most plausible reading: $\forall > \exists$)

2. The word *not* seems to be able to combine with adjectives (for instance, as in *not happy*) and also with generalized quantifiers (for instance, as in *not every dog*). Describe as carefully as you can what the semantic effect of *not* is in each of these cases. (The idea is to say first what the un-negated adjective and the un-negated generalized quantifier are, semantically, and then say what the resulting negated adjective and negated generalized quantifier are. Then you are in a position to say what the required meaning(s) of *not* are.)

3. On p. 518 our authors give a sampling of data concerning "negative polarity items" (NPIs). On pp. 518-520 they discuss some logical properties of quantifiers, particularly being upward or downward monotone in the left and right arguments. They conclude with their rule (55) on p. 521, which basically says "downward entailing-ness licenses NPIs". Consider the determiners (quantifiers) *most, few,* and *zero*. Determine the capacity of each to license the NPIs *any, ever, yet,* and see if each is up- or downward entailing. What do you conclude about the theory of NPI licensing?

4. In Exercise 4, pp. 526-527, the authors solve problem (4) "Every man and a woman smoke", giving its PC_{gq} translation, its model-theoretic interpretation, and a series of "reduction steps" to yield a statement about its final semantic value. Do the same for their (6): "John likes a cat or a dog that sings". (I guess this sentence is ambiguous, but use the meaning where he likes a cat that sings or a dog that sings, as opposed to either liking a cat or liking a dog that sings.)