Homework 8, due April 9, 2008 at the beginning of class

Part 1: Practice with χ^2 *(6 points).* In Homework 4, you looked at the frequency of 'g-dropping' in a series of sociolinguistic interviews. In this exercise, you'll return to that data and see if the independent factor you examined (Part of Speech) has a statistically significant effect on 'g-dropping.'

1. If you haven't already done so, calculate the frequency of 'g-dropping' for Progressives vs. Nouns in the ING.xls spreadsheet. Show the distribution of your **observed data** by filling in Table (a).

2. What is the **null hypothesis**?

3. Copy your marginals (A3-C3 and C1-C2) and percentages (D1-D3) to Table (b). Then calculate the values for A1-B2 in Table (b). (These values represent what the **expected** distribution would be if your null hypothesis were correct.)

Table (a): Observed

	1. Velar	2. Aveolar	3. Total
A. Progressives			
B. Nouns			
C. Total			
D. Percent	C1/C3=	C2/C3=	

Table (b): Expected

	1. Velar	2. Aveolar	3. Total
A. Progressives			
B. Nouns			
C. Total			
D. Percent			

4. Once you have both tables filled in, calculate **(observed-expected)^2/expected** for each cell, and sum the total for your χ^2:

   (A1)_____ + (A2)_____ + (B1)_____ + (B2)_____ = (χ^2)_____

5. How many degrees of freedom are there? _____

6. The probability of your χ^2 is between _____ and _____.

(Note: You may use an online interactive chi-square calculator to double-check your answers to (4)-(6).)
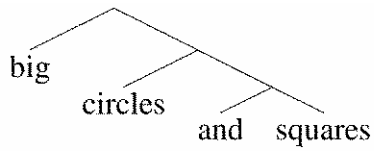
7. Write 2-3 sentences summarizing your results:

Part 2: Structural ambiguity *(4 points):* As we discussed in class, the sentence *I fed the cats with big fluffy tails* is **structurally ambiguous** – i.e., it can have two different interpretations, depending its internal constituent structure. I have written an **unambiguous paraphrase** below for each interpretation.

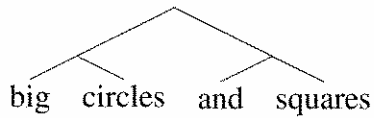> **I fed the cats with big fluffy tails.**
> Interpretation 1:   I fed the cats that had big fluffy tails.
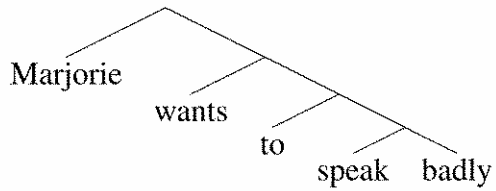> Interpetation 2:   I used big fluffy tails to feed the cats.

The following phrases/sentences are also structurally ambiguous. I have drawn two trees for each sentence/phrase. Write an unambiguous paraphrase next to each tree. You can include pictures with your paraphrases if you wish.
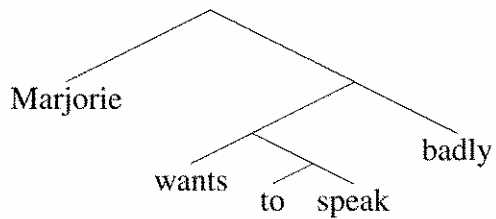
a)

b)

c)

d)

Extra credit *(up to 2 points):* Draw two trees for each of these structurally ambiguous sentences (from p. 7 of your Week 6 handout). Label each tree with an unambiguous paraphrase.

a) **I fed the cats with a shovel.**   b) **Squad Helps Dog Bite Victim**