

Name: _____
Section: _____

**Linguistics 001
Spring 2009
Homework 9**

Due: MONDAY, April 27 (10 points)
DO NOT FORGET IT IS DUE MONDAY

Part I: Animal Communication

You may have heard of Alex the Talking Parrot, whose "conversational" skills have become famous. Watch his performance in the following video:

http://www.youtube.com/watch?v=R6KvPN_Wt8I

Now, read this excerpt from an article on Rico the dog:

"A 9-year-old border collie who apparently understands a vocabulary of 200 words—most of them in German—has led scientists to conclude that the remarkable dog has language-learning ability comparable, in some ways, to a human toddler. Their findings raise anew the question of whether language is strictly a human trait...Fischer's team at the Planck Institute set out to test the dog's word skills. In a series of controlled experiments, he correctly retrieved, by name, a total of 37 out of 40 items randomly chosen from his toy collection. Next, the researchers tested Rico's ability to learn new words through fast-mapping. The German scientists placed a new toy among seven familiar toys. In a separate room, the owner asked Rico to fetch the new item, using a name the Border collie had never heard before. Rico correctly retrieved the new item in seven of 10 such tests. He apparently uses a process of elimination ... to surmise that new words tend to refer to objects that do not already have names. After a month without access to these target toys, Rico retrieved them, upon request, from groups of four familiar and four completely novel toys in three out of six sessions."

1. Describe the sorts of mental abilities that each of these two animals must use to succeed at the tests they were given.
2. How may these mental abilities be related to Universal Grammar and the language faculty?
3. Does Alex show evidence for the use of language structure (i.e. principles governing the order of symbols, like human syntax) in production or generation?
4. Rico is capable, like human infants, of "fast-mapping": learning a word which he has not heard before. When asked to fetch a new toy, he chooses one which has not been named yet. Which of the following is supported by this fact? Explain.
 - Rico has a "mutual exclusivity bias", a bias to assume things only have one name
 - Rico has a near-unlimited signal set: i.e. his command of language shows the ability to refer to nearly anything

Part II: Morphophonology review

Consider the following data from Turkish. The vowels you haven't seen are:

- <u> is a high back unrounded vowel
- <y> is a high front rounded vowel
- <œ> is a mid front rounded vowel

alet 'tool'	sehir 'city'	elma 'apple'	gemi 'ship'
aleti 'his/her tool'	sehiri 'his/her city'	elmasi 'his/her apple'	gemisi 'his/her ship'

- There are two allomorphs of the 3rd.sg. possessive (“his/hers/its”) suffix. What are they?

Some allomorphy is phonologically conditioned. A good example is the plural suffix in English, which has three common forms, depending on the final sound in the root.

- plural → /-s/ after [+voiceless]
- /-əz/ after /s, z, ʃ, ʒ, tʃ, etc./
- /-z/ elsewhere

- Write out a similar rule to explain the distribution of the two allomorphs in Turkish.

Now consider this data:

bebek 'baby'	ekmek 'bread'
bebei 'his/her baby' (*bebeki, *bebesi)	ekmei 'his/her bread' (*ekmeki, *ekmesi)

- Write a phonological rule to explain the distribution of /k/. Which rule applies first: the /k/-rule, or the insertion of the possessive suffix?

Lastly, consider some more instances of the same suffix, with different shapes.

gemi 'ship'	göl 'lake'	at 'horse'	kol 'arm'
gemisi 'his ship'	göly 'his/her lake'	at <u>u</u> 'his/her horse'	kolu 'his/her arm'

- What natural class (hint: look at an IPA chart) do all the suffixal vowels belong to?
- This is more phonologically-conditioned allomorphy. Explain how the other features (frontness/backness, roundness/unroundness) get chosen for this vowel.