corrected version: 9/16/01

Name:_____

Problem set 1: 24.900

Due Wednesday, 9/19/01 .

Please do Parts 3 and 4 on the sheets provided. Use your own paper for your other answers.

Part 1: Kids

a. What problem faced by children acquiring language does the Saffran *et al*. experiment (possibly) shed light on? How does the experiment bear on this problem? Be concise, but very specific.

b. In a clever twist on the Saffran *et al*. experiment, Gary Marcus of NYU and three colleagues did a similar experiment with a group of similarly-aged (actually, slightly younger) infants. (*Science*, January 1, 1999). Once again, a two-minute stream of synthesized speech was played to the infants. Once again, the speech stream was composed of three-syllable nonsense words, made from synthesized speech, with no cues identifying the word boundaries. Once again, the children were played different recordings in a later presentation which they could control by gazing at or looking away from a blinking light.

   This time, however, the nonsense words in the first presentation were not randomly chosen sequences of syllables, but conformed to simple rules, or templates. One group of infants, for example, heard a string of nonsense words in which the second two syllables were identical (*ga ti ti, li na na*). Another group heard words in which the first and third syllables were identical (*ti ga ti, na li na*).

   The key recording in the *second* presentation did not consist this time of the same words rearranged, but consisted of *entirely new words* that followed the same rule as the first set of words. Could infants distinguish new words that followed the rule from new words that did not? Strikingly, they could. The infants preferred novel second presentations over familiar second presentations. But "familiar" here meant -- not containing the same "words" -- but containing new words that followed the old rule. In their words: "Infants [can] extract abstract algebra-like rules that represent relationships between placeholders (variables), such as “the first item X is the same as the third item Y,” or more generally, that “item I is the same as item J...In addition to having the capacity to represent such rules, our results appear to show that infants have the ability to extract those rules rapidly from small amounts of input and to generalize those rules to novel instances."

   What general problem of language acquisition might *this* result bear on? What specific rule or process discussed in class does the rule in this experiment resemble?

Part 2: English

a. Consider the English words in question 1 on p. 173 of CL, but don't answer the book's questions. Instead, segment each word into morphemes, separating morphemes with a dash ("-"), e.g: *industri-al-iz-ation-al*.

b. Draw tree diagrams (like those found in the chapter) for the words in (j), (k), (q) and (s). If you are unsure about the difference between nouns, verbs, adjectives, etc., contact an instructor or recitation leader for help (e-mail is fine).

Name:_____

Part 3: Kinyambo

The following data come from *Kinyambo,* a Bantu language spoken in Tanzania.

Strategy tip: As you solve any morphology problem like this one, keep in mind the order of affixes as you work towards a solution. In other words, you should do parts A and B simultaneously. Also, your answers to A and B should allow you to do part C easily. If they do not, you have missed something. Go back and try again!

1.	nakajuna	'I helped'
2.	barakoma	'they will tie'
3.	nitukoma	'we are tying'
4.	narajuna	'I will help'
5.	nituchumba	'we are cooking'
6.	nimujuna	'you (pl.) are helping'
7.	orasoma	'you (sg.) will read'
8.	baratura	'they will put down'
9.	nimukichumba	'you (pl.) are cooking it'
10.	bakakinaga	'they lost it'
11.	arakinaga	'she will lose it'
12.	nibatura	'they are putting down'

A. What are the morphemes which mean:

1. I	_____	5. we	_____
2. you (sg.)	_____	6. you (pl.)	_____
3. she	_____	7. they	_____
4. it	_____		

8. Future _____
9. Past _____

10. Present Progressive _____ (e.g. *we are trying, you are helping, etc.*)

11. help	_____	14. read	_____
12. tie	_____	15. put down	_____
13. cook	_____	16. lose	_____

B. What is the order of morphemes in Kinyambo (*hint: The vertical spacing of the examples in part A was significant, though not the order of examples).* It will be useful to call "you" in "you are cooking it" the subject of the sentence, and "it" the object.

C. What is the meaning (in English) of the following Kinyambo words:

17. *akakisoma* _____
18. *ninachumba* _____

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Part 4: Tagalog

The following data are from Tagalog (stress the second syllable), a language of the Austronesian group, spoken in the Philippines.

[Source: Gleason's *Workbook in Descriptive Linguistics*, with a correction due to Norvin Richards, as well as a few modifications.]

Data:

Note: The dotless question mark "ʔ" is a consonant called a *glottal stop*. The symbol "ŋ" represents the sound written "ng" in English *sing*.

1	sumulat	write!
2	sumulat	wrote
3	susulat	will write
4	sumusulat	is writing
5	sulatin	be written!
6	sinulat	was written
7	susulatin	will be written
8	sinusulat	is being written
9	hahanap	will seek
10	hanapin	be sought!
11	hinahanap	is being sought
12	hinanap	was sought
13	bumabasa	is reading
14	bumasag	broke
15	dumatiŋ	arrived
16	ʔumabut	reach!
17	ʔumabut	reached
18	ʔaʔabut	will reach
19	ʔumaʔabut	is reaching
20	ʔabutin	be reached!
21	ʔinabut	was reached
22	ʔaʔabutin	will be reached
23	ʔinaʔabut	is being reached
24	ʔumibig	love!
25	ʔumibig	loved
26	ʔumiʔibig	is loving
27	ʔiʔibig	will love
28	ginawaʔ	was done
29	lumapit	approach!
30	tinawag	was called

Question 1: List the roots:

_____	'write'	_____	'reach'
_____	'seek'	_____	'love'
_____	'read'	_____	'do'
_____	'break'	_____	'approach'
_____	'arrive'	_____	'call'

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Question 2: List the affixes that create the various verb forms. Either give the "sound" of the affix, or describe how the sound is determined (using the appropriate technical term). **<u>Also</u>: indicate whether each affix is a prefix, a suffix, or an infix. If it is an infix, indicate where it is attached.**

Some verb forms involve <u>two</u> affixes. In some cases, it might be important to attach the affixes in a particular order. For each verb form that involve two affixes, state whether the order matters and justify your statement. The way to do this is to show the wrong form you would get if you applied the affixes in the wrong order (mark the form with an asterisk to indicate it is "wrong"). If the order does not matter, demonstrate this fact. Use the verb "write" in your examples.

Note: The term *passive* refers to forms like *be written!*, *will be written*, *is being written* etc.

Active:

commands

past

future

present

Passive:

commands

past

future

present

Question 3: Translate into Tagalog

_____	'call!'	_____	'is calling'
_____	'approached'	_____	'will arrive'
_____	'will be sought'	_____	'is called'
_____	'be done!'	_____	'was read'