

Ling 120a

Homework 1: Phonemic Analysis

Phonemic Analysis

You must read Chapter 2 of the reader before doing this homework.

For each of the following problems present your analysis of the data given. Your analysis should follow the procedure for phonemic analysis given in Chapter 2 and must contain all of the following elements. You may also want to make a phonetic chart of the vowels and consonants in the problem set before you start (you don't have to turn this in).

1. Collect the environments in which each sound occurs (e.g. word initial, intervocalic, word final, following various consonants, vowels. etc.) and provide a list of environments for each sound [like the list given for Maasai [k], [g] and [ɣ] on page 42 of the reader].
2. If the sounds are phonemes provide minimal pairs or near minimal pairs demonstrating this (you can then skip step 3 below).
3. If the sounds are allophones, do the following:
 - a) State in words the environment(s) in which each allophone occurs. Look for categories of sounds (e.g. natural classes) so that you can provide the most general statement possible.
 - b) Write a rule or rules using standard notation (e.g. $x \rightarrow y / __ z$).
 - c) Give your rule(s) a name. Choose a name that describes well what your rule does and that is easy to remember.
 - d) Say exactly what your rule does in words (prose description).
 - e) Justify your choice of underlying phonemes vs. surface allophones.
 - f) Provide all relevant derivations in order to illustrate your rule(s): e.g. show where the rule applies and where the rule doesn't apply.
 - g) Describe the relevance of you derivations in words (prose description of derivations).

Note: If you choose to type your assignments I strongly suggest you don't try to type the charts of the environments you collect. We don't want you to spend hours working on the formatting and adding the special characters. Instead, leave a space and draw the chart in by hand, or simply say "See page X", and make page X a handwritten chart.

Phonetic fonts: If you would like more information about using phonetic IPA fonts in Word, Bruce Hayes has some helpful information on his webpage on how to do this:

<http://www.linguistics.ucla.edu/people/hayes/120a/PhoneticFonts.htm>

Problem 1 - Georgian: The purpose of this problem is to decide if alveolar [l] and velar [ɫ] are phonemes or allophones in Georgian.

Georgian Data Set.

1.	[tʰamazad]	'prettily'	11.	[xeli]	'hand'
2.	[leto]	'goal'	12.	[xoto]	'however'
3.	[saxtʰji]	'at home'	13.	[ts ^h ets ^h xli]	'fire'
4.	[txena]	'joy'	14.	[vxlets ^h]	'I split'
5.	[kbitʰs]	'tooth'	15.	[ts ^h oli]	'wife'
6.	[zarali]	'loss'	16.	[kleba]	'reduce'
7.	[kaɫa]	'tin'	17.	[ert ^h xetʰ]	'once'
8.	[pepetʰa]	'butterfly'			

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Problem 2 - Italian: The purpose of this problem is to decide if alveolar [l] and palatal [ʎ] are phonemes or allophones in Italian.

Italian Data Set

1.	[fiʎo]	‘son’	1.	[kalore]	‘heat’
2.	[ab:iʎamento]	‘clothing’	2.	[sole]	‘sun’
3.	[aʎo]	‘garlic’	3.	[mela]	‘apple’
4.	[lavorare]	‘work’	4.	[ʎi]	‘the (pl.)’
5.	[toʎe]	‘s/he takes off’	5.	[fiʎo]	‘string’
6.	[valore]	‘value’	6.	[ala]	‘wing’
7.	[tovaʎa]	‘tablecloth’	7.	[akwila]	‘eagle’
8.	[limone]	‘lemon’	8.	[tela]	‘cloth’

Problem 3 - Kimatuumbi

This problem concentrates on the implosive voiced consonants [ɓ, ɗ, ɠ] and the plain voiced consonants [b, d, g] in Kimatuumbi. Implosives involve a special articulatory gesture in which the larynx is lowered, creating a temporary partial vacuum. Are [ɓ, ɗ, ɠ, b, d, g] phonemes or allophones of phonemes in Kimatuumbi?

Kimatuumbi Data Set

1.	[ɓɛɓɛ:lu]	‘male goat’	2.	[ɠundumuka]	‘be scared’
3.	[ɓutuka]	‘flow’	4.	[ɠa:la]	‘storage in roof’
5.	[kɔɓɔkwa]	‘unfold’	6.	[ɓwɔ:mi]	‘life’
7.	[kɔ:ndwa]	‘dig clay’	8.	[ŋga:mbale]	‘fish sp.’
9.	[ɓalaka]	‘luck’	10.	[ɠɔʎɔja]	‘drive fast’
11.	[liɛ:ŋgele]	‘dowry’	12.	[ɓila]	‘without’
13.	[ɠɔʎɔja]	‘straighten’	14.	[ɠuna]	‘murmur’
15.	[kiɓɔla]	‘towards Mecca’	16.	[kitu:mbi]	‘hill’
17.	[kja:ŋgi]	‘sand’	18.	[ɓɔmwa:na]	‘destroy’
19.	[likɔ:ŋgwa]	‘storage structure’	20.	[ɓɔ:ka]	‘leave’
21.	[ɠɔ:mba]	‘shoot a gun’	22.	[ɠɔʎuka]	‘fly’
23.	[ɓala:ŋga]	‘count’	24.	[aliɓika]	‘be out of order’
25.	[midalaanzi]	‘oranges’	26.	[miɠuunda]	‘fields’
27.	[ɠundumuka]	‘be scared’	28.	[ɗuumu]	‘continue’
29.	[nduumu]	‘I should continue’			