

Zoque Phonemes

Due in class Thursday 10/1/09

1. This problem is based on the data from Zoque, a language of Mexico. Do some reading first:

- Chapter 2 of the textbook, to become familiar with the kind of analysis expected.
- pp. 315-316 of the textbook to get an idea of what kind of writeup is expected. It would also be a good idea to look at:
<http://www.linguistics.ucla.edu/people/hayes/120a/writeup.pdf>

a. Organize all the sounds in the data into a phonetic chart, similar to pp. 20-21 in the text. Here is a partial review of the IPA symbols:

- [k^j g^j x^j] are palatalized velars
[t̥ d̥] are the voiceless and voiced palato-alveolar stops
(not strict IPA)
[t͡s̺ d͡z̺] are the voiceless and voiced alveolar affricates
[ɲ] is the voiced palato-alveolar nasal (not strict IPA)
[t͡ʃ̺ d͡ʒ̺] are palato-alveolar affricates
[a] is a low central unrounded vowel
[j] is a voiced palatal approximant

2. Several Zoque phonemes have more than one allophone recorded in the data. In particular, the following sets: [p b], [t̥ d̥], [t͡s̺ d͡z̺], [t͡ʃ̺ d͡ʒ̺], [k^j g^j x^j], and [x^j] can be grouped into single phonemes. These sounds are the focus of this problem; the others do not have to be analyzed.

a. For each group of allophones, make a chart showing the contexts in which each allophone occurs, as in section 2.10.3 of the text. For example, for [p,b] your chart would begin as follows:

[p]	[b]
/ x ^j ___ u 27	/ n ___ a 5,10,14
/ # ___ i 33	/ m ___ a 11,12
/ # ___ e 34	/ m ___ j 13
/ t ___ a 34	

(and so on)

b. Select a basic form for each phoneme. Your selection should be made so as to keep the phonological rules as simple as possible. Write phonological rules that correctly predict which allophones occur in which environment. Note: you should not need to write more than two or three rules. By expressing the rules in features, you can get a small number of rules to handle several phonemes each.

c. Select suitable example words for each of the following phones: [p b k k^j g g^j ts, dz, tʃ, dʒ, x x^j]. Write these words in phonemic form and do a phonological derivation of the surface forms. See the textbook, p. 40, for a way to do this.

d. English has a number of “copy words”, like *pompom*, *doodoo*, and *beriberi*. Could #45 be a copy word in Zoque? Explain.

Hint: You may assume that affricates count as a kind of stop. That is, assume that affricates bear the features [+stop,+affricate] and that stops in the narrow sense bear the features [+stop,-affricate].

Zoque Data

1	[həjə]	‘flower’	33	[piŋu]	‘he picked it up’
2	[haja]	‘husband’	34	[petpa]	‘he sweeps’
3	[kaŋ]	‘jaguar’	35	[poʔk]	‘knot’
4	[kaʔndʒi]	‘turkey’	36	[pjoŋu]	‘he burned it’
5	[kʰenba]	‘he sees’	37	[pjuŋu]	‘he scattered it’
6	[kʰenduʔju]	‘he was astonished’	38	[pjəŋu]	‘he broke it’
7	[kʰenaxu]	‘they looked’	39	[pəndaʔm]	‘men’
8	[kʰiʔmdamu]	‘you went up’	40	[pəndʒəkʰi]	‘image of a man’
9	[kəʔ]	‘hand’	41	[saʔsa]	‘beautiful’
10	[linba]	‘to slash’	42	[suni]	‘pretty’
11	[mbama]	‘my clothing’	43	[ʃohʃaxu]	‘they cooked it’
12	[mbata]	‘my mat’	44	[tatah]	‘father’
13	[mbjən]	‘you’re a man’	45	[tiŋdiŋ]	‘thick’
14	[minba]	‘he comes’	46	[təpkʰeʔtu]	‘he jumped’
15	[mindamu]	‘you came’	47	[təʔŋgu]	‘bell’
16	[mingʰetu]	‘he also came’	48	[tux]	‘rain’
17	[mjaŋdamu]	‘you went’	49	[ʔsamdoʔju]	‘he wanted to speak’
18	[ndatah]	‘my father’	50	[ʔsamdamnaju]	‘he chatted’
19	[ndzima]	‘my calabash’	51	[tsehtsu]	‘he cut brush’
20	[ndʒin]	‘my pine’	52	[ʔəhtʃaxu]	‘they cut it’
21	[ndʒehtsu]	‘you cut brush’	53	[ʔəknaʔʔju]	‘he frightened him’
22	[nəʔtuxu]	‘he’s shooting’	54	[təʔəj]	‘little’
23	[nəmgʰeʔtu]	‘he also said’	55	[winsaʔu]	‘he came to life’
24	[nəʔs]	‘armadillo’	56	[wixʰtu]	‘he walked’
25	[nduxu]	‘you shot’	57	[xuʔkʰi]	‘vulture’
26	[ndʒiŋu]	‘you bathed’	58	[jatsi]	‘wicked’
27	[nixʰpu]	‘he planted it’	59	[ʔandʒiʔu]	‘goatee’
28	[ŋgama]	‘my field’	60	[ʔanemutʃ]	‘tortilla’
29	[ŋgəʔ]	‘my hand’	61	[ʔaŋdzoŋu]	‘he answered’
30	[ŋgʰengʰeʔtu]	‘I also saw it’	62	[ʔuj]	‘don’t’
31	[ŋgʰenu]	‘I saw it’	63	[ʔjatsi]	‘his brother’
32	[ŋgʰiunu]	‘you fell’	64	[ʔəŋdʰoʔju]	‘he got sleepy’