Linguistics 219 Winter 2018
Phonological Theory III B. Hayes

Homework #5: Cyclic Stress in Indonesian

Due Wednesday May 30 in class

Cohn (1989) [1] explains the patterning of stress in a dialect of Indonesian as it relates to morphology. We will cover only a subset of the data, leaving out various complications involving prefixed forms, schwa, reduplication, and compounding.

In brief, stress is predictable if you know (a) number of syllables in the word; (b) the number of suffixes (zero, one, or two). The following forms are representative. I've saved space by using acute and grave accents to depict primary and secondary stress, instead of IPA [ˈ] and [ˌ]. [c] and [j] are palatal affricates, [ñ] a palatal nasal. I had to fill in one missing datum, but I'm pretty sure this form would be correct.

	0 Suffixes	*1 Suffix*	*2 Suffixes*
1 syllable	[cát] 'print'		
2 syllables	[cári] 'search'	[[cát] kan] (conjectured by BH)	
3 syllables	[bicára] 'speak'	[[carí] kan] 'search for'	[[[cat] kán] ña] 'print it'
4 syllables	[bìjaksána] 'wise'	[[bicará] kan] 'speak about'	[[[càri] kán] ña] 'search for it'
5 syllables	[kòntinuási] 'continuation'	[[bìjaksaná] an] 'regulations'	[[[bicàra] kán] ña] 'speak about it'
6 syllables	[òtobiográfi] 'autobiography'	[[kòntinuasí] ña] 'the continuation'	[[[bìjaksàna] án] ña] 'the regulations'
7 syllables	[àmerikànisási] 'Americanization'	(not given)	(not given)

For convenience, below are the same data given as formulae; 1 = main stress, 2 = secondary stress, 0 = stressless.

[1] Cohn, Abigail (1989) Stress in Indonesian and bracketing paradoxes. *Natural Language and Linguistic Theory* 7:167-216. Based on a UCLA M.A. thesis.

	0 Suffixes	*1 Suffix*	*2 Suffixes*
1 syllable	[1]		
2 syllables	[1 0]	[[1] 0]	
3 syllables	[0 1 0]	[[0 1] 0]	[[[0] 1] 0]
4 syllables	[2 0 1 0]	[[0 0 1] 0]	[[[2 0] 1] 0]
5 syllables	[2 0 0 1 0]	[[2 0 0 1] 0]	[[[0 2 0] 1] 0]
6 syllables	[2 0 2 0 1 0]	[[2 0 0 0 1] 0]	[[[2 0 2 0] 1] 0]
7 syllables	[2 0 0 2 0 1 0]		

I think with current-day theory it is easier to get this than pattern it was for Cohn. Briefly outline an analysis in classical OT and verify it with representative tableaux. (A sensible write-up might cover monomorphemic forms first, then suffixed …)

For the stress constraints, feel free to use a fairly standard set like CULMINATIVITY (every word has a main stress), EMPLOY SYLLABIC TROCHEES, FTBIN (*monosyllabic foot), ALL-FEET-R/L, ALIGN(Word, L/R, Foot, L/R), *UNFOOTED, if you wish. To get the cyclic effects, I suggest you use OO-Correspondence constraints and ponder your choice of base.

Unlike the others this is not necessarily an open-ended problem; you probably will find the solution I found pretty quickly.

Be sure you can handle the following candidate set, at least. Use some sort of software (e.g., my own OTSoft, http://linguistics.ucla.edu/people/hayes/otsoft/, or OTHelp) to generate your tableaux and verify your analysis. OTSoft (and, I believe) will give you reliable ranking argumentation using Brasoveanu and Prince's FReD algorithm. I can help with OTSoft if you need it.

One other option is to do the problem in maxent on a spreadsheet, aiming at essentially-perfect fit.

A spreadsheet with what I think are suitable candidates is available at the course web site; feel free to add more if you think they are needed. Here is a hard copy version.

Input	Candidate	Winner
s	(x)	1
	.	
s s s	. (x .)	1
	(x .) .	
s s s s	(x .)(x .)	1
	. . (x .)	
	. (x .) .	
s s s s s	(x .) . (x .)	1
	. (x .)(x .)	
	. . . (x .)	
s s s s s s	(x .)(x .)(x .)	1
	. . . . (x .)	
	(x .) . . (x .)	

	. . (x .)(x .)	
s s s s s s s	(x .) . (x .)(x .)	1
	(x .)(x .) . (x .)	
	(x .) . . .(x .)	
[[s s] s]	. (x .)	1
	(x .) .	
	(x)(x .)	
	(x .) .	
[[s s s] s]	(x .)(x .)	
	. . (x .)	1
	. (x .) .	
[[[s s] s] s]	(x .)(x .)	1
	. . (x .)	
	. (x .) .	
[[s s s s] s]	(x .) . (x .)	1
	. (x .)(x .)	
	. . . (x .)	
	(x .)(x)(x .)	
	(x .)(x .) .	
[[[s s s] s] s]	(x .) . (x .)	
	. (x .)(x .)	1
	. . . (x .)	
	(x .)(x)(x .)	
	(x .)(x .) .	
[[s s s s s] s]	(x .)(x .)(x .)	
	. . . . (x .)	
	(x .) . . (x .)	1
	. . (x .)(x .)	
	(x .) . (x .) .	
	(x .) . (x)(x .)	
[[[s s s s] s] s]	(x .)(x .)(x .)	1
	. . . . (x .)	
	(x .) . . (x .)	
	. . (x .)(x .)	
	(x .) . (x .) .	
	(x .) . (x)(x .)	