Class 9: More issues in process application: multisite optionality

To do
- Project: We'll see some more good project topics today and Thursday, so keep looking around. Meet with me by the end of next week about a topic.
- Homework on last week's material due tomorrow
- Homework on this week's material will be posted tonight; due next Friday
- Study questions on Anderson excerpt; online quiz on CCLE that goes with them (I'll put it up tonight)

1. **Loose end #1 from Tuesday: one type of self-counterfeeding that's really common is morphological truncation**

- In Lardil (which you read about in Prince & Smolensky 1993, based on Hale 1973), /pulumunitami/ → pulumunitam (FREE-V) → [pulumunita] (CODACOND)
    - but this doesn't cause any further deletion
    - See Round 2011, though—there's more it

- Tohono O'odham (variety of O'odham, Uto-Aztecan language from Arizona and Sonora with about 9,600 speakers; Lewis 2009). Data here are from Fitzgerald 2002:

imperfective	*perfective*	
mɨ́ɖ	mɨ́ː	'running'
ǰúɲ	ǰúː	'being a certain time of day or night'
hím	híː	'walking'
húg	húː	'eating object'
nóɗ	nóː	'bending object'
ɲɨ́ɲ	ɲɨ́ː	'waking up'
wúɖ	wúː	'tying object with rope'
ʂíːsp	ʂíːs	'pinning'
híkčk	híkč	'cutting'
bídʂp	bídʂ	'painting object'
híhim	híhi	'walking (pl)'
híhink	híhin	'barking (pl)'
ɲíŋok	ɲíŋo	'speaking (pl)'

o Let's compare basic SPE and OT analyses.

- Wolf 2011 discusses a similar example from Chemehuevi (also Uto-Aztecan) and cites (p. 106) several more truncation cases that would make good **term paper topics** (where not already reanalyzed by Kaplan): Catalan, Hidatsa, Karok, Latvian, Lithuanian, Odawa, Ponapean, Woleaian.

2. Loose end #2: true directionality?

- We saw cases where directional rule application could get us self-feeding vs. self-counterfeeding, self-bleeding vs. self-counterbleeding.
- But there are also some cases where it really seems to be about direction

- Tone sandhi in **Tianjin**, a northern dialect of Mandarin. (Milliken et al. 1997, Chen 2000; see also Kuang 2008)

the tones

tone A	21 or 11	L	[descriptions disagree]
tone B	45 or 55	H	
tone C	13, 213,or 24	LH	
tone D	53	HL	

basic rules

AA → CA	$bing^L$ gao^L	→ $bing^{LH}$ gao^L	'ice cream'
CC → BC	$shui^{LH}$ guo^{LH}	→ $shui^H$ guo^{LH}	'fruit'
DD → AD	si^{HL} lu^{HL}	→ si^L lu^{HL}	'bus route #4'
DA → BA	da^{HL} jie^L	→ da^H jie^L	'street'

- Why *these* rules? Who knows! Tone sandhi tends to be pretty arbitrary synchronically. See Mortensen 2006 for a framework in which to analyze tone sandhi.

o You see the problem: what about /AAA/? /DDD/? /DDA/? /CCC/? /CAA/? /ADD/? /DAA/?

For /DDD/ it depends on the syntactic structure (say Milliken et al.; Chen says always BAD):
$[[su^{HL}\ liao^{HL}]\ bu^{HL}] \rightarrow$ AAD (L.L.HL) 'plastic cloth' (how to prevent *CAD?)
$[shang^{HL}\ [yi^{HL}\ yuan^{HL}]] \rightarrow$ DAD (HL.L.HL) 'House of Lords' (*BAD?)

/AAA/: $[[\ Xi^L\ guan^L\ ]\ Jie^L] \rightarrow$ ACA (L.LH.L) 'Xiguan Street', not *CCA or *BCA
$[\ kai^L\ [fei^L ji^L]] \rightarrow$ ACA (L.LH.L) 'fly an airplane'

/DDA/: $[[si^{HL} ji^{HL}]\ qing^L] \rightarrow$ ABA (L.H.L) 'evergreen'
$[zuo^{HL}\ [dian^{HL}\ che^L]] \rightarrow$ ABA (L.H.L), not *DBA 'take a tram'

[ran out of time to type full data]
/CCC/ → BBC (LH.LH.LH → H.H.LH)
/CAA/ → BCA (LH.L.L → H.LH.L)
/ADD/ → CAD (L.HL.HL → LH.L.HL)
/DAA/ → DCA (HL.L.L → HL.LH.L)

- We'll leave some of this as a paradox—there's an extensive literature you can check out, though.

Now some optionality issues when there are multiple targets...
Cases taken from Kaplan 2011, Riggle & Wilson 2005, Vaux 2008—good sources for term-paper topics. See those papers for various approaches to multi-site optionality.

3.   Warao: global optionality

Language isolate of Venezuela, Guyana, and Suriname; 28,100 speakers [Lewis 2009]. From Osborn 1966.

- Little raw data, but Osborn is very definite about the generalization:
    "/p/ has allophones [p b]. The voiced allophone [b] is heard more frequently than the voiceless [p] in most words. In every word, except for a few words noted below, alternation between [b] and [p] is presumably possible, since many alternations of this order have been heard. Thus in /paro+parera/ *weak*, both the initial and medial phoneme /p/ is heard as [b] generally, and as [p] infrequently. In words like the one cited, with two or more occurrences of /p/, **the allophones are consistently [b] or [p] for each utterance of the word**. If the first occurrence of /p/ in the word is [b], the following occurrence(s) will be [b]. If the first occurrence is [p], the following occurrence(s) will be [p]. The following are examples of words with two occurrences of /p/: poto+poto *soft*, apaupute *he will put them*, kapa+kapa *kind of banana*." (p. 109)

- I.e., [**p**aro-**p**arera] ~ [**b**aro-**b**arera], but not *[**p**aro-**b**arera] or *[**b**aro-**p**arera].

- Also, for a non-reduplicative case, [ha**p**isa**p**a] ~ [ha**b**isa**b**a] 'other side'

o   How might we try to capture this variation in OT? SPE?

As discussed by Riggle & Wilson, Kaplan, it would be nice to have more than two non-reduplicated words...

4.   A better global case, from Kaplan 2012

- Eastern Andalusian metaphony (vowel harmony).
- Word-final /s/ laxifies preceding V, then usually deletes
    - on the face of it, looks like counterbleeding, but Kaplan cites Jiménez & Lloret's analysis as reassociation of [spread glottis] from /s/ to V.

mes	mɛ́	'month'
tos	tɔ́	'cough'
mis	mɪ́	'my (pl.)'
tus	tʊ́	'your (pl.)'

- Laxness spreads to preceding stressed V, if non-high:

    lejos   lέhɔ   'far'

    tesis   tέsɪ   'thesis'

- If other Vs intervene, they participate too, all-or-none:

    treboles   trέβolɛ ~ trέβɔlɛ   'clovers'

    cómetelos   kɔ́metelɔ ~ kɔ́metɛlɔ   'eat them (for you)!'

- Similarly, non-high Vs before the stress can laxify, all-or-none:

    cotillones   kotiʒɔ́nɛ ~ kɔtiʒɔ́nɛ   'cotillions'

    monederos   moneðέɾɔ ~ mɔnɛðέɾɔ   'purses'

- Finally, the pretonic Vs lax only if the post-tonic ones do:

    recógelos   rekɔ́helɔ ~ rekɔ́hɛlɔ ~ rɛkɔ́hɛlɔ   'pick them'

5.   Local optionality—also hard to find good cases (besides French; see below)

- Vaux report, for English *marketability*:

    [mɑɹkətʰəbɪlətʰi] ~ [mɑɹkərəbɪləɾi] ~ [mɑɹkətʰəbɪləɾi] ~ [mɑɹkərəbɪlətʰi]

o   Can any of our ideas for SPE+variation get this? OT+variation ideas?

6.   Vata: iterative optionality

Ethnologue classifies as dialect of Lakota Dida, a Niger-Congo language of Côte d'Ivoire with 98,8000 speakers. Data taken from Kaplan 2009; originally from Kaye 1982.

- The language has ATR harmony: [+ATR]: [i,u,e,o,ʌ]   [–ATR]: [ɪ, ω, ɛ, ɔ, a]

- [+ATR] optionally spreads to the final syllable of a preceding word:

    /ɔ̀ nɪ sàká pɪ̀/ → ɔ̀ nɪ sàká pɪ̀ ~ ɔ̀ nɪ sàkʌ́ pɪ̀   'he didn't cook rice'
    - - -- + → - - -- + ~ - - -+ +

- If all the words are monosyllabic, this is potentially self-feeding. There are various options, all possible...

    /ɔ̀ ká zā pɪ̄/ → ɔ̀ ká zā pɪ̄ ~ ɔ̀ ká zʌ̄ pɪ̄ ~ ɔ̀ kʌ́ zʌ̄ pɪ̄ ~ ȯ kʌ́ zʌ̄ pɪ̄ 'he will cook food'
    - - - + → - - - + ~ - - + + ~ - + + + ~ - + + +

o   Can we get this one?

7.   **Hypercorrection in Dominican Spanish: unique-target optionality**

(Vaux calls this "Basic Optionality")
Dialect of the Indo-European language from Spain with 328 million speakers worldwide. Data from Bradley 2006. See there for original data sources, esp. Núñez-Cedeño 1994, which I didn't get a chance to consult. If you fancy this as a term-paper topic, check out Bullock & Toribio 2010.

- /s/ typically absent in a syllable coda:

Popular Dominican Spanish	*Conservative Spanish*	
se.co	**s**e.co	'dry'
ca.**s**o	ca.**s**o	'case'
e.tú.pi.do	e**s**.tú.pi.do	'stupid'
do	do**s**	'two' (p. 3)

- Hypercorrection can insert a coda [s] (in the "hablar fisno" speech style):[1]

Dominican fisno	*Conservative*	
in.vi**s**.tado	in.vi.ta.do	'guest'
co.mo**s**	co.mo	'like'
e.tú**s**.pi.do	e**s**.tú.pi.do	'stupid'
de.de**s**	de**s**.de	'since' (p. 4)

- And there can be variation of where the [s] is inserted:

Dominican fisno		*Conservative*	
a**s**.bo.ga.do ~ a.bo**s**.ga.do ~ a.bo.ga**s**do ~ a.bo.ga.do**s**		a.bo.ga.do	'lawyer' (p. 4)

- But, apparently there can only be one inserted *s*:[2] *a**s**.bo.ga.do**s**, etc.

- This claim is not really documented or discussed in the literature. Bradley cites personal communication with Núñez-Cedeño, the main describer of the phenomenon.

o Any ideas, for each theory?

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[1] though not before an otherwise intervocalic tap or trill, which would be phonotactically illegal, and not if it would create a closed penult in a word with antepenultimate stress.

[2] See p. 24 for discussion of an apparent counterexample given by Harris.

8. Optionality and self-bleeding: French schwa-deletion

Indo-European language from France and surroundings with 67.8 million speakers worldwide.

- There's a big literature on this; Dell 1970[3] is a good place to start.

- /ə/ optionally deletes, except when it would create a bad consonant cluster.

/suvəniʀ/	→	[suvəniʀ] ~ [suvniʀ]	'to remember'
/pasəʀa/	→	[pasəʀa] ~ [pasʀa]	'will pass'
/paʀvəniʀ/	→	[paʀvəniʀ] *[paʀvniʀ]	'to reach' ([ʀv] bad coda, [vn] bad onset)
/sufləʀa/	→	[sufləʀa] *[suflʀa]	'will blow' ([VflʀV] unsyllabifiable)
/ãʀi dəve paʀtiʀ/	→	[ãʀi dəve paʀtiʀ] ~ [ãʀi dve paʀtiʀ]	'Henri had to go'
/ʒɑk dəve paʀtiʀ/	→	[ʒɑk dəve paʀtiʀ] *[ʒɑk dve paʀtiʀ]	'Jacques had to go' ([kdv])

- o What does basic SPE predict for this form (pretend the rule is obligatory): /ty dəvəne/ 'you were becoming'

- o Actual result is (supposedly) [ty dəvəne] ~ [ty dvəne][4] ~ [ty dəvne], but *[ty dvne]—discuss.

9. If time—Anderson 1974's solution

- Find all segments eligible for the rule and circle them.
- For each circled segment, underline the smallest environment that lets the segment meet the rule's structural description.
- If the rule is optional, you may uncircle some of the eligible segments and de-underline their environments.
- If any circled segment is contained in some other circled segment's underlined environment, uncircle (and de-underline the environments of) <u>as few segments as possible</u> to get rid of these overlaps.
- Now apply the rule simultaneously to the remaining circled segments.

(Of course, circling and underlining themselves have no theoretical status—this is just a convenient way to say "identify targets and environments")

- o What does Anderson's proposal predict for French /ty vudre kə sə kə lə bədo/[5] 'you would like that what the beadle…'?

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[3] Dell, François (1970). *Les règles phonologiques tardives et la morphologie dérivationnelle du français*. MIT dissertation.

[4] Some speakers have said they don't like this one...

[5] I got this from an online appendix to David Odden's *Introducing Phonology* (2005: Cambridge UP): www.ling.ohio-state.edu/~odden/IntroducingPhonology/Theory%20Discussion.html

o Does Anderson's proposal help with the non-optional cases we saw Klamath? Kikuyu? Tianjin?

Next time: Process interaction—beyond (counter){f,bl}eeding

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