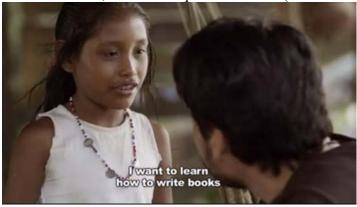**Class 13: More issues in process application: multisite optionality**

**Overview**: What kinds of variation do we expect when there are multiple places/ways for an *optional* process to apply to a single form?

Cases taken from Kaplan 2011, Riggle & Wilson 2005, Vaux 2008. See those papers for various approaches to multi-site optionality.

## 1.   Warao: global optionality
- Language isolate of Venezuela, Guyana, and Suriname
- 28,000 speakers (Herrman 2002).
- 2015 movie, *Dauna. Lo que lleva el rio* (*Gone with the River*), was in Spanish and Warao



- Data 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'

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*Ling 200A, Phonological Theory I. Fall 2022, Zuraw*

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

| hapisapa | | | | |
|---|---|---|---|---|
| ☞ *a*  hapisapa | | | | |
| *b*  hapisaba | | | | |
| *c*  habisapa | | | | |
| ☞ *d*  habisaba | | | | |

## 2.  Another global case

- Eastern Andalusian

  o  Variety of Spanish spoken in part of Southern Spain
  o  Maybe around 2.8 million speakers (Haro & Hajek 2022)



*Photographer Javier Moyano documenting the inhabitants of his home city, Málaga*



*La Mari, singer-songwriter*

- Kaplan 2012: Easter Andalusian metaphony reflects global variation

- Word-final /s/ laxifies preceding V, then usually deletes

  (on the face of it, that looks like counterbleeding, but Kaplan cites Jiménez & Lloret's analysis as reassociation of [spread glottis] from /s/ to V.)

  | spelling (assume reflects underlying /s/) | pronunciation | |
  |---|---|---|
  | *mes* | mɛ́ | 'month' |
  | *tos* | tɔ́ | 'cough' |
  | *mis* | mí | 'my (pl.)' |
  | *tus* | tʊ́ | 'your (pl.)' |



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[2] www.atlasofhumanity.com/andalusia

[3] commons.wikimedia.org/wiki/File:Chambao14.jpg

- 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 ~ kɔ́mɛtɛlɔ | '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 (all-or-none? We need a longer word):
  | | | |
  |---|---|---|
  | *recógelos* | rekɔ́helɔ ~ rekɔ́hɛlɔ ~ rɛkɔ́hɛlɔ | 'pick them' |

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

- Vaux reports, for English *marketability*: (but see Derrick & Gick 2014: if you look at the phonetics, there's a lot more to this):
  [ˌmaɹkətʰəˈbɪlətʰi] ~ [ˌmaɹkəɾəˈbɪləɾi] ~ [ˌmaɹkətʰəˈbɪləɾi] ~ [ˌmaɹkəɾəˈbɪlətʰi]

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

| ˌmaɹkətəˈbɪləti | | | | |
|---|---|---|---|---|
| ☞ *a*   ˌmaɹkətʰəˈbɪlətʰi | | | | |
| ☞ *b*   ˌmaɹkəɾəˈbɪləɾi | | | | |
| ☞ *c*   ˌmaɹkətʰəˈbɪləɾi | | | | |
| ☞ *d*   ˌmaɹkəɾəˈbɪlətʰi | | | | |

### 4. Vata: iterative optionality

- *Ethnologue* classifies as variety of Lakota Dida
- Kru (and therefore Niger-Congo) language of southern Côte d'Ivoire with 98,8000 speakers.





*Rachel Keke, labor leader, elected to*        *Street in city of Lakota*
*France's National Assembly in 2022*
*Is of Dida ethnicity*

- Data taken from Kaplan 2009; originally from Kaye 1982.

- The language has ATR harmony: [+ATR]: [i,u,e,o,ʌ]    [–ATR]: [ɪ, ʊ, 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   ~  ò kʌ́ zʌ̄ pɪ̄  'he will cook food'
  – – –  + →    – – –  + ~  – –  +  +  ~  – +++    ~ ++  +  +

☞ Can we get this one?

| – – – + | | | | |
|---|---|---|---|---|
| ☞ *a*   – – – + | | | | |
| ☞ *b*   – – + + | | | | |
| ☞ *c*   – + + + | | | | |
| ☞ *d*   + + + + | | | | |

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## 5.   Hypercorrection in Dominican Spanish: unique-target optionality

- Data from Bradley 2006. See also Núñez-Cedeño 1994, Bullock & Toribio 2010.

- /s/ typically absent in a syllable coda:

  | *Popular Dominican Spanish* | *Conservative Spanish* | |
  |---|---|---|
  | **s**e.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]:[5]

  | *Hypercorrected* | *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:

  | *Hypercorrected* | *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*:[6] *a**s**.bo.ga.do**s**, etc.

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

- ☞ Any ideas, for each theory?

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[5] 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.

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

## 6. 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 is a good place to start, and next I'd recommend Kaplan 2016 and Bayles, Kaplan & Kaplan 2016.

- /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' |
| /ʒak dəve paʀtiʀ/ | → | [ʒɑk dəve paʀtiʀ] *[ʒɑk dve paʀtiʀ] | 'Jacques had to go' (*[kdv]) |

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

- ❓ Actual result is (supposedly) [ty dəvəne] ~ [ty dvəne][7] ~ [ty dəvne], but *[ty dvne]—discuss.

## 7. 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")

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

⍰ What does Anderson's proposal predict for French /ty vudre kə sə kə lə bədo/[8] 'you would like that what the beadle…'?

<p style="text-align: center; color: blue;">/ty vudre kə sə kə lə bədo/</p>

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

o Recall Klamath: In /…q̓lq…/, deglottalization self-bleeds: […q̓lq …]
o Recall Southern Kikuyu: In /nekakaakeroma/, spirantization of /k/ when next consonant is a voiceless stop self-counterbleeds: [neɣaɣaakeroma]

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

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[8] 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

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