Class 10
Output-Output/Base-Derivative Faithfulness continued
3/15/18

1   Kiparsky's critiques of BD correspondence

- Kiparsky (2000) basically has three types of critiques of BD correspondence (w.r.t Arabic):

    1. BD correspondence misses generalizations about the relationships between different types of processes; namely, how epenthesis interacts with word-level processes.
        → This one is fair.
    2. BD correspondence doesn't capture generalization that languages' affixes often divide up into two groups: cyclic affixes (Word level) vs. non-cyclic affixes (Stem level).
        → The picture really isn't that clean. We probably need more than two groups.
        → Furthermore, faithfulness to bases may be substantially more complex.
    3. BD correspondence incorrectly predicts that Tripoli singulatives should show cyclic blocking of syncope. (More generally, it's hard to make restrictive characterizations of what counts as a base.)
        → Maybe not once we look at the syntax (Derivation by Phase).

2   Epenthesis in Levantine Arabic

- Kiparsky (2000:3) shows that, in Levantine and many other Arabic dialects, epenthesis that fixes word-final CC# clusters is systematically opaque with respect to *all* "word-level" processes.

(1)   Invisible for the purposes of stress assignment
        a.   Non-epenthetic final: /katab-at/   [kátabat]   'she wrote'   (transparent antepenult stress)
        b.   Epenthetic final: /katab-t/   [katábit] (*[kátabit]) 'I wrote'   (opaque penult stress)
                                              ↪ *stress should retract here*

(2)   Invisible for the purposes of shortening
        a.   Non-epenthetic final: /ʃaːf-at/   [ʃáːfat]   'she saw'   (transparent retention of length)
        b.   Epenthetic final: /ʃaːf-t/   [ʃífit] (*[ʃáːfit]) 'I saw'   (opaque shortening)
                                              ↪ *shortening should not apply here*

(3)   Invisible for the purposes of emphasis spread (Iraqi Arabic)
        a.   Non-epenthetic final: /rubaṭ-at/   [rubaṭat]   'she fastened'   (spread blocked by *a*)
        b.   Epenthetic final: /rubaṭ-t/   [rubaṭiṭ] (*[rubaṭiṭ]) 'I fastened'   (opaque spread across *i*)
                                              ↪ *emphasis should not spread here*

- Stratal OT can capture this generalization through level ordering.
  - Each of these processes applies in the stem-level and/or word-level strata.
  - Epenthesis (at least of the sort that fixes CC# clusters) happens only at the post-lexical stratum.
    - Therefore, the epenthetic vowel is absent in the earlier strata.
  - Without the epenthetic vowel, the environments for each of these processes are met, and they apply transparently at the stem/word level.
  - Epenthesis applies later in a way that opacifies the original environment.
    - The processes are then either switched off at the post-lexical level (stress) or are neutralizing so it doesn't matter (shortening, emphasis spread).

- For example, a change in ranking between DEPV-IO and *CC# opacifies shortening:

(4)   Post-lexical epenthesis opacifies shortening
        Stem Level — shortening applies transparently

/ʃaːf-t/		*VːCC	DEPV-IO	MAX(μ)-IO	*CC#
a.	ʃáːft	*!			**
b. ☞	ʃáft			*	*
c.	ʃáːfit		*!		

  ↪   Word Level ...
      ↪   Post-lexical Level — epenthesis at the phrasal level

/ʃáf-t/		*VːCC	MAX(μ)-IO	*CC#	DEPV-IO
a.	ʃáft			*!	
b. ☞	ʃífit				*

  ⋆ The $a \rightarrow i$ reduction presumably has to follow/coincide with epenthesis, since it only occurs in open syllables. This suggests there should be general post-lexical raising. I don't know what the data is.

- At best, a BD-correspondence analysis will have to posit separate BD-faithfulness constraints to explain each of these effects, missing that there seems to be some unifying generalization that this kind of epenthesis is invisible in a real sense.

- Furthermore, it is not clear how to account for these facts to begin with.
  - Kiparsky talks about Sympathy Theory (McCarthy 1999, 2003): faithfulness to the losing form that does best w.r.t. a specified low-ranked faithfulness constraint. (Nobody believes in this anymore.)
  - We might do this with "faithfulness among variants" (Kawahara 2002): the epenthetic forms are being faithful to the non-epenthetic forms (which are real variants in at least the stress case).
  - This is the type of opaque interaction that Parallel OT has trouble dealing with in general. Stratal OT is built to deal with this kind of opacity.

⋆ **Take-away:** BD correspondence may sometimes miss big picture generalizations about process interaction in particular languages that Stratal OT does capture.

3 The 'two types of affixes' generalization

- The Arabic examples look like they break down nicely into two sets:
  - ○ Affixes that don't exhibit cyclic effects → "stem level"; e.g., subject agreement suffixes, the Tripoli singulative
  - ○ Affixes that do exhibit cyclic effects → "word level"; e.g., object clitics, possessors
- In the tradition of Lexical Phonology, Kiparsky (2000) at least implies that this is a cross-linguistically true state of affairs.
  - ○ Stratal OT then correctly and restrictively captures this generalization by stipulating there are exactly two levels (before the post-lexical level).
- But when you dig deeper, it looks like this isn't really true: sometimes, you need more than two.

3.1 English level ordering

- For the most part, English looks like it has two distinct, consistent types of affixes:[1]

(5)   a.   **Level 1** (stem level)
          -al, *-(i)an*, *-ate*, *-ic*, *-(t)ion*, *-ity*, *-ive*, *-ous*, *-y* (N), etc.
    b.   **Level 2** (word level)
          -er (agentive), *-ful*, *-hood*, *-ism*, *-ist*, *-less*, *-like*, *-ly*, *-ness*, *-y* (Adj), etc.

- This correlates with the following (non-phonological) characteristics:
  - ○ Bases of affixation
    - ■ Level 1 can attach to free-standing words and **bound roots**: *prolif-ic*, *frag-ment*, *ed-ible*
    - ■ Level 2 attach only to free-standing words (no words like **frag-ful*)
  - ○ Ordering: Level 1 tend to be inside Level 2

(6)   Affix ordering
    a. ✓ 1>1: *curi-os$_1$-ity$_1$*
    b. ✓ 1>2: *myst-ic$_1$-ism$_2$*
    c. ✗ 2>1: **affix-less$_2$-ity$_1$*
    d. ✓ 2>2: *affix-less$_2$-ness$_2$*

- ○ Productivity:
  - ■ Level 1 affixes are generally lexically restricted; Level 2 are fairly/fully productive.
  - ■ Even clearer: inflectional suffixes (*-s*, *-ed*, *-ing*) are completely productive and leave virtually all stem properties intact (i.e. clearly Level 2).
- ○ Semantic transparency:
  - ■ Level 1 affixes may yield semantically opaque derivatives.
  - ■ Level 2 are relatively transparent.

→ These criteria alone may not fully *motivate* classification into stem- vs. word-level, but at least they correlate with the distinction.

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[1] This discussion is mostly lifted from lecture notes from Adam (Albright 2013).

- **Phonological properties of Level 1 but not Level 2 affixes**
  - ○ Stress attraction: *phonémic* (**phónemic*), *syllábic* (**sýllabic*)
    - ■ Stress in *phonémic, prosódify* is like stress in equivalent monomorphemic words
    - ⇒ **No stress shift with Level 2** (*fr[ɛ]ndli-ness*, not **fr[ə]ndlí-ness*)
  - ○ Trisyllabic shortening: *der[ɪ]vative* (**der[aɪ]vative*)
    - ■ Underlyingly long/tense diphthongs shorten to their "vowel shift correspondents" under Level 1 affixation

(7)   Trisyllabic shortening with Level 1

[aɪ]	div[aɪ]ne	∼	[ɪ]	div[ɪ]nity
[iː]	ser[iː]ne	∼	[ɛ]	ser[ɛ]nity
[eɪ]	prof[eɪ]ne	∼	[æ]	prof[æ]nity
[oʊ]	verb[oʊ]se	∼	[a]	verb[a]sity
[aʊ]	prof[aʊ]nd	∼	[ʌ]	prof[ʌ]ndity

  - ■ Similar dispreference seen in monomorphemic words (though exceptions, like *D[oʊ]berman*)
  - ⇒ **No shortening under Level 2 affixation** (*hope* ∼ **h[a]pe-ful-ly*)
  - ○ Other morphologically restricted alternations for Level 1 only:
    - ■ Velar softening, assibilation and palatalization

(8)   Morphologically restricted alternations

opa[k]*ue*	→	*opa*[s]*ity*
permi[t]	→	*permi*[ʃ]*ion*
permi[t]	→	*permi*[s]*ive*
pira[t]*e*	→	*pira*[s]*y*
analo[g]*(ue)*	→	*analo*[dʒ]*y*
allu[d]*e*	→	*allú*[ʒ]*ion*
elu[d]*e*	→	*elu*[s]*ive*

  - ⇒ **Don't occur with Level 2:**
    - ◇ *dog* ↛ **do[dʒ]y* (dimin.); *nu[d]e* ↛ **nu[s]ist*; *rabbi[t]* ↛ **rabbi[s]-y* (Adj)
  - ○ And other, more or less lexically idiosyncratic adjustments:
    - ■ *assume* ∼ *assumption*; *conjoin* ∼ *conjunction*; *maintain* ∼ *maintenance*; *giant* ∼ *gigantic*

- Stratal analysis provides an economical characterization of this difference (if it's true)
  - ○ **Stem-level grammar:** regular English stress pattern, palatalize, trisyllabic shortening $\gg \mathcal{F}_{IO}$
  - ○ **Word-level grammar:** $\mathcal{F}_{IO} \gg$ regular English stress pattern, palatalize, trisyllabic shortening
  - → Promotion of faithfulness between strata lets correspondence capture the observation that word-level affixation preserves properties of related forms.

3.2 What about *–ize*?

- Problem is, not all affixes fit neatly into one group or the other.
- For example, *-ize* has some properties of "Level 1" affixes (occurs with bound roots, occurs inside Level 1 affixes, preserves final clusters, shows some irregular alternations) but some properties of "Level 2" affixes (no stress attraction, no trisyllabic shortening).

- **Level 1 properties**
    - Occurs with bound roots:

(9)   *-ize* with bound roots
<div>

bapt-ize	cf. *bapt-ism*
antagon-ize	cf. *antagon-ist-ic*
legitim-ize	cf. *legitim-ate*
emphas-ize	cf. *emphat-ic*
anonym-ize	cf. *anonym-ous*
sensit-ize	cf. *sensit-ive*
mechan-ize	cf. *mechan-ic*, *mechan-ism*
evangel-ize	cf. *evangel-ic-al*
catech-ize	cf. *catech-ism*

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   - Occurs inside other Level 1 affixes: *-iz-ation*, (*-iz-ance*)
   - Preserves final clusters (cf. *iambic*, *hymnal*, *autumnal*)
       - *solemnize* (OED: [sáləmnaɪz]); *autumnize* (OED: [ɔ́ːtəmnaɪz]); *columnize* (predicted [káləmnaɪz], but maybe variation)
   - Triggers some irregular alternations
       - Velar softening: *angli*[s]*ize* (cf. *Angli*[k]*an*), *publi*[s]*ize* (cf. *publi*[k])
       - *dr*[a]*ma* → *dr*[æ]*matize* (∼ *dr*[a]*matize*)
       - Occasional assibilation: Google hits for *democracize*, *legitimacize*

- **Level 2 properties**
   - Does not trigger trisyllabic shortening
       - *v*[aɪ]*tal* → *(re-)v*[aɪ]*talize* (*v[ɪ]*talize*); *imm*[oʊ]*bile* → *imm*[oʊ]*bilize* (*imm[a]*bilize*)
   - Stress remains intact (no rightward shift)
       - *mílitarize*, *álphabetize*, *pálatalize*, *cháracterize*, *cátegorize* (*càtegórize)

- It's not just *-ize*. Similar discrepancies with *-ee*, *-able*, and maybe others.

3.3   Take-away

- The Lexical Phonology/Stratal OT approach of having two distinct, well-defined levels can't explain the split behavior of affixes like *-ize*.
    - Traditional approach of saying that it can be either level doesn't really work either, because properties are consistently split.
- Something more complex must be going.
    - Individually indexed Base-Derivative faithfulness constraints/rankings could do the job:

(10)   Rankings for different affix types

	Stress	**Velars**
"Standard Level I"	STRESS ≫ Base-Deriv $\mathcal{F}$	VELAR SOFTENING ≫ Base-Deriv $\mathcal{F}$
-ize	Base-Deriv $\mathcal{F}$ ≫ STRESS	VELAR SOFTENING ≫ Base-Deriv $\mathcal{F}$
"Standard Level II"	Base-Deriv $\mathcal{F}$ ≫ STRESS	Base-Deriv $\mathcal{F}$ ≫ VELAR SOFTENING

- A Stratal model would have to have a unique level for each type.
→ This begins to look more like Cophonology Theory than the restrictive Stratal OT model Kiparsky wants.

4   Local vs. Remote bases

- So far we've assumed that for any complex form, there's only one possible base to be faithful to (the immediate subconstituent).
- There's evidence that we need more freedom in selecting bases: sometimes it's something other than the immediate subconstituent which must act as the base.
→ This will be easy to formalize in the Parallel OT with BD/OO correspondence model, but not in the Stratal OT model.

4.1   Types of accentual faithfulness in Australian languages

- Stanton (2014, 2015) shows that Australian languages with quantity insensitive left-to-right alternating stress (QI L→R) show cyclic stress effects of one of two types:
    1. Faithfulness to the immediate morphological subconstituent — the *local base* (B_L).
    2. Faithfulness to the root in isolation — the *remote base* (B_R).[2]
- Stanton (following Steriade 1999, Stanton & Steriade 2014, Steriade & Yanovich 2015, *a.o.*) analyzes this by positing that base selection is controlled by violable constraints:

(11)   Base preference constraints (Stanton 2015:55)
    a.   CORRB$_L$: Assign a violation * if a derivative does not correspond with its **local** base.
    b.   CORRB$_R$: Assign a violation * if a derivative does not correspond with its **remote** base.[3]

- For multiply suffixed words, the relative ranking of these constraints will determine which potential base the derivative actually stands in correspondence with.
    - (Higher ranked constraints can potentially override this preference; see below.)

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[2]   Stanton & Steriade (2014) take remote bases to be any lexically related form with higher frequency.
[3]   Stanton (2015) defines it here as "a * if the stem of a complex form doesn't correspond with the stem in isolation".

(12)   Base selection

   a.   Correspondence with local base: CORRB$_L$ ≫ CORRB$_R$

INPUT: /ROOT-AFX$_1$-AFX$_2$/ BASE$_L$: [ROOT-AFX$_1$] BASE$_R$: [ROOT]	CORRB$_L$	CORRB$_R$
a. ☞ [ROOT-AFX$_1$]$_L$-AFX$_2$		*
b. [ROOT]$_R$-AFX$_1$-AFX$_2$	*!	

   b.   Correspondence with remote base: CORRB$_R$ ≫ CORRB$_L$

INPUT: /ROOT-AFX$_1$-AFX$_2$/ BASE$_L$: [ROOT-AFX$_1$] BASE$_R$: [ROOT]	CORRB$_R$	CORRB$_L$
a. [ROOT-AFX$_1$]$_L$-AFX$_2$	*!	
b. ☞ [ROOT]$_R$-AFX$_1$-AFX$_2$		*

- The difference in correspondence does not have any surface ramifications in and of itself. However, when BD-faithfulness constraints outrank markedness constraints, the choice of which base to select will have different results.

4.1.1 Reminder: QI L→R with foot-free constraints

- Stanton (2014) finds 23 Australian languages with QI L→R + no final stress.

(13)   Stress in monomorphemic forms in Warlpiri
   a. $\acute{\sigma}\sigma$ wáti   'man'   (Nash 1980:102)
   b. $\acute{\sigma}\sigma\sigma$ wátiya   'tree'   (Nash 1980:102)
   c. $\acute{\sigma}\sigma\grave{\sigma}\sigma$ mánangkàrra   'spinifex plain'   (Nash 1980:102)
   d. $\acute{\sigma}\sigma\grave{\sigma}\sigma\sigma$ wíjipìtirli   'hospital'   (Berry 1998:37)

- We'll need 5 stress constraints (+ *LAPSE, which is included for completeness, but it does no work):

(14)   a.   STRESSL: Assign a violation * if the initial syllable is unstressed.
        b.   NONFINALITY: Assign one violation * if the final syllable is stressed.
        c.   *CLASH: Assign one violation * for each sequence of two adjacent stressed syllables.
        d.   LAPSE@END: Assign one violation * for each sequence of two unstressed syllables not at the right edge.
        e.   *EXTENDEDLAPSE: Assign one violation * for each sequence of three unstressed syllables.
        f.   *LAPSE: Assign one violation * for each sequence of two unstressed syllables.

(15)   Stress in 5 syllable monomorphemic words

$/\sigma\sigma\sigma\sigma\sigma/$	StressL	NonFin	*Clash	Lapse@End	*ExtLapse	*Lapse
a. ☞ $\acute{\sigma}\sigma\acute{\sigma}\sigma\sigma$						*
b. $\sigma\acute{\sigma}\sigma\acute{\sigma}\sigma$	*!					
c. $\acute{\sigma}\sigma\acute{\sigma}\sigma\acute{\sigma}$		*!				
d. $\acute{\sigma}\acute{\sigma}\sigma\acute{\sigma}\sigma$			*!			
e. $\acute{\sigma}\sigma\sigma\acute{\sigma}\sigma$				*!		*
f. $\acute{\sigma}\sigma\sigma\sigma\sigma$				*!*	**	***

- While all of the QI L→R languages have the same stress pattern in monomorphemic words, they diverge in complex words.

→ The divergence can be explained in terms of which base the language selects.

4.1.2   Local base languages: Diyari

- In Diyari, in all complex forms:
  - ○ Monosyllabic suffixes are stressless (16a–c), but
  - ○ Polysyllabic suffixes are stressed like stems (16b–c)

(16)   Diyari stress (Stanton 2015:56; see Austin 1981, Poser 1989, Berry 1998, Alderete 2009)
      a. $\acute{\sigma}\sigma\text{-}\sigma\text{-}\sigma$ máda-la-nthu   'hill-CHARAC-PROP'
      b. $\acute{\sigma}\sigma\sigma\text{-}\sigma\text{-}\grave{\sigma}\sigma$ púluru-ni-màta   'mud-LOC-IDENT'
      c. $\acute{\sigma}\sigma\sigma\text{-}\grave{\sigma}\sigma\text{-}\grave{\sigma}\sigma\text{-}\sigma$ yákalka-yìrpa-màli-rna   'ask-BEN-RECIP-PART'

→ The way to explain this: Diyari is always faithful to the local base.

- In forms where there is a single 1σ suffix, the CORR constraints are not at stake, because the local base and remote base are one in the same.
- But these forms show that:
  1. A single 1σ suffix can't bear stress due to NONFINALITY
  2. You can't fix lapses (extended or non-final) by placing a stress on an unstressed syllable of the base, due to IDENT[stress]-BD

(17) 2σ root + 1σ suffix

INPUT: $/\sigma\sigma\text{-}\sigma/$ BASE$_L$: $[\acute{\sigma}\sigma]$ BASE$_R$: $[\acute{\sigma}\sigma]$	CORRB$_L$	CORRB$_R$	NonFin	IDENT[stress]-BD	*Lapse
a. ☞ $[\acute{\sigma}\sigma]_{\text{L/R}}\text{-}\sigma$					*
b. $[\acute{\sigma}\acute{\sigma}]_{\text{L/R}}\text{-}\sigma$				*!	
c. $[\acute{\sigma}\sigma]_{\text{L/R}}\text{-}\acute{\sigma}$			*!		

(18) 3σ root + 1σ suffix

INPUT: $/\sigma\sigma\sigma\text{-}\sigma/$ BASE$_L$: $[\acute{\sigma}\sigma\sigma]$ BASE$_R$: $[\acute{\sigma}\sigma\sigma]$	C-B$_L$	C-B$_R$	NONFIN	ID[str]-BD	LAPSE@END	*EXTLAPSE
a. ☞ $[\acute{\sigma}\sigma\sigma]_{L/R}\text{-}\sigma$					*	*
b. $[\acute{\sigma}\sigma\acute{\sigma}]_{L/R}\text{-}\sigma$				*!		
c. $[\acute{\sigma}\sigma\sigma]_{L/R}\text{-}\acute{\sigma}$			*!		*	

- Once we get to a form with two 1σ suffixes, though, the CORR constraints become crucial.
  - If you had the option of corresponding with the remote base, you could get a perfect stress pattern w/o violating IDENT[stress]-BD, because you could stress the first 1σ suffix.
  - The fact that you can't do this means (under this approach) that CORRB$_L$ ≫ CORRB$_R$, i.e. you have no choice but to correspond with the local base.

(19) 2σ root + 1σ suffix + 1σ suffix

INPUT: $/\sigma\sigma\text{-}\sigma\text{-}\sigma/$ BASE$_L$: $[\acute{\sigma}\sigma\text{-}\sigma]$ BASE$_R$: $[\acute{\sigma}\sigma]$	CORRB$_L$	CORRB$_R$	LAPSE@END	*EXTLAPSE
a. ☞ $[\acute{\sigma}\sigma\text{-}\sigma]_L\text{-}\sigma$		*	*	*
b. $[\acute{\sigma}\sigma]_R\text{-}\acute{\sigma}\text{-}\sigma$	*!			

- This sort of case doesn't disambiguate between approaches, because Stratal OT will always show "correspondence with the local base".

4.1.3   Remote base languages: Dyirbal

- On the other hand, stress in Dyirbal complex forms requires something different: stems of complex forms are faithful to the stress of their isolation forms, subject to the influence of some M constraints.

(20)   Dyirbal complex forms (Stanton 2015:56; Dixon 1972, Berry 1998)
   a. $\acute{\sigma}\sigma\grave{\sigma}\text{-}\sigma$ búrgurùm-bu   'jumping ant-ERG'   (cf. búrgu**rum**)
   b. $\acute{\sigma}\sigma\sigma\text{-}\grave{\sigma}\text{-}\sigma\sigma$ mándalay-mbàl-mbila   'play-COM-LEST'
   c. $\acute{\sigma}\sigma\sigma\text{-}\grave{\sigma}\text{-}\sigma\text{-}\sigma$ bánagay-mbà-rri-ɲu   'return-COM-REFL-P/P'

- Dyirbal differs from Diyari in two ways:

  ○ First (and not what we care about): *EXTENDEDLAPSE ≫ IDENT[stress]-BD

(21)   3σ root + 1σ suffix

INPUT: /σσσ-σ/ BASE_L: [σ́σσ] BASE_R: [σ́σσ]	C-B_R	C-B_L	NONFIN	*EXTLAPSE	ID[str]-BD	LAPSE@END
a. [σ́σσ]_{L/R}-σ				*!		*
b. ☞ [σ́σσ́]_{L/R}-σ					*	
c. [σ́σσ]_{L/R}-σ́			*!			*

  ▪ But this makes 3σ roots really interesting...

  ○ Second (what we care about): CORRB_R ≫ CORRB_L

(22)   3σ root + 1σ suffix + 2σ suffix

INPUT: /σσσ-σ-σσ/ BASE_L: [σ́σσ́-σ] BASE_R: [σ́σσ]	CORRB_R	CORRB_L	ID[str]-BD	LAPSE@END	*LAPSE
a. ☞ [σ́σσ]_R-σ́-σσ		*		*	**
b. [σ́σσ́]_R-σ-σ́σ		*	*!		
c. [σ́σσ́-σ]_L-σ́σ	*!				

- You could have gotten a perfect stress pattern with perfect BD-identity if only you were allowed to correspond with the local base (candidate c).
- But BD-faithfulness is still playing a role, ruling out the perfect stress pattern with imperfect BD-identity (candidate b).
→ Therefore, we need correspondence to the remote base to be possible, and (in order to get the difference with Diyari) to be grammatically controlled, i.e. something like these distinct CORR constraints.

4.2   Markedness-conditioned base selection in English

- So far, the CORR constraints have not really interacted with the other constraints, so we could imagine the choice between local vs. remote base being determined through some other sort of mechanism.
- However, once we look at English, we see that we actually do get interactions ("split-base effects") that require base selection to be done via violable constraints.

- If correspondence is established via constraint, we predict the following type of ranking to be possible:

(23) $\mathbb{F}_{BD} \gg \mathbb{M}_1 \gg \text{CORRB}_X \gg \text{CORRB}_Y \gg \mathbb{M}_2$

- What does this ranking generate?
  - In the general case (i.e. if faithfulness to B_X and B_Y fares the same w.r.t. $\mathbb{M}_1$), you correspond with and be faithful to B_X, even if it means violating $\mathbb{M}_2$.
  - Just in case faithfulness to B_Y satisfies $\mathbb{M}_1$ but faithfulness to B_X does not, you correspond with B_Y.
  - *Corollary*: B_Y must exist in order to satisfy $\mathbb{M}_1$ if faithfulness to B_X would violate $\mathbb{M}_1$.

⇒ **Summary:** You can pick the "wrong" base if it does better on markedness.

↪ Stress in complex words in English sometimes works like this (Stanton & Steriade 2014, Stanton 2015).

- In long simplex words, English normally stresses the first syllable not the second.
  - e.g. *Mèditerránean* not **Medìterránean*
  - STRESSL ≫ *LAPSE

(24)   Initial stress by default in *Mediterranean*

INPUT: /Mediterranean/ BASE_L: none BASE_R: none	CORRB_L	CORRB_R	STRESSL	*LAPSE
a. ☞ *Mèditerránean* (200100)				**
b. *Medìterránean* (020100)			*!	*

- When a complex word has the right type of base with the right type of stress pattern, this preference can be reversed.
  - Specifically, if a local base has #01...
  - e.g. *orìginálity* ≻ **òriginálity* because of *oríginal*

(25)   Stress in *origin* and its derivatives

i.	*órigin*	[ɔ́rədʒɪn]	(100)
ii.	*oríginal*	[ərídʒən-əl]	(010-0)
iii.	*orìginálity*	[ərìdʒən-ǽl-ɪri]	(020-1-00) cf. *Mèditerránean* (200100)

- This shows us that CORRB_L ≫ CORRB_R, because **òriginálity* could have been faithful to **òrigin*.

(26)   Non-initial stress in *originality* due to CORRB_L

INPUT: /origin-al-ity/ BASE_L: [ərídʒən-əl] (010-0) BASE_R: [ɔ́rədʒɪn] (100)	CORRB_L	CORRB_R	STRESSL	*LAPSE
a. *òriginálity* [ɔ̀rədʒɪn]_R-ǽl-ɪri ([200]-1-00)	*!			**
b. ☞ *orìginálity* [ərìdʒən-ǽl]_L-ɪri ([020-1]-00)		*	*	*

- However, the preference for correspondence to the local base over the remote base can be overridden by markedness pressures.
  - Namely, if correspondence + faithfulness to the local base would cause a clash but correspondence + faithfulness to the remote base wouldn't, you correspond with the remote base.
  - e.g. *apòstolícity* (*àpostòlícity) is faithful to remote base *apóstle* rather than local base *àpostólic* to avoid a clash.

(27)   Stress in *apostle* and its derivatives

a.	*apóstle*	[əpásl̩]	(010)
b.	*àpostólic*	[æ̀pəstál-ɪk]	(201-0)
c.	*apòstolícity*	[əpàs(t)əl-ís-ɪri]	(020-1-00)

- We can derive this with the ranking *CLASH ≫ CORRB$_L$

(28)   Clash-driven correspondence with (and faithfulness to) remote base in *apòstolícity*

INPUT: /apostle-ic-ity/ BASE$_L$: [æ̀pəstál-ɪk] (201-0) BASE$_R$: [əpásl̩] (010)	*CLASH	C-B$_L$	C-B$_R$	STRESSL	*LAPSE
a. ☞ *apòstolícity* [əpàs(t)əl]$_R$-ís-ɪri ([020]-1-00)		*		*	*
b. *àpostòlícity* [æ̀pəstàl-ís]$_L$-ɪri ([202-1]-00)	*!		*		*

- But this only works when there is actually a remote base whose stress pattern can help avoid a clash.
  - Stress (position) doesn't alternate in *álcohòl* vs. *àlcohólic*, so there's no way to avoid the clash when you add *-ity*.

(29)   Stress in *alcohol* and its derivatives

a.	*álcohòl*	[ǽlkəhàl]	(102)
b.	*àlcohólic*	[æ̀lkəhál-ɪk]	(201-0)
c.	*àlcohòlícity*	[æ̀lkəhàl-ís-ɪri]	(202-1-00)

(30)   Clash can't be avoided in *alcoholicity* due to BD faithfulness

INPUT: /alcolhol-ic-ity/ BASE$_L$: [æ̀lkəhál-ɪk] (201-0) BASE$_R$: [ǽlkəhàl] (102)	ID[stress]-BD	*CLASH	C-B$_L$	C-B$_R$	*LAPSE
a. *àlcohòlícity* [æ̀lkəhàl]$_R$-ís-ɪri ([202]-1-00)		*	*!		*
b. ☞ *àlcohòlícity* [æ̀lkəhàl-ís]$_L$-ɪri ([202-1]-00)		*		*	*
c. *àlcoholícity* [æ̀lkəhəl-ís]$_L$-ɪri ([200-1]-00)	*!			*	**

★ Something further needs to be said about what's going on with the alternation on *-ic-* suffix (Stanton & Steriade 2014).

4.3 Summary

- The distinctions among the Australian languages show that we need at least a parametric difference across languages in whether you correspond to the local base or the remote base.
- The differences in stress patterns within English that depend on what types of bases you have available to you shows that this parameterization must also be available within a single language.

$\rightarrow$ These can both be achieved if correspondence is established via the grammar by ranked, violable constraints.

$\star$ Standard versions of Stratal OT are ill-equipped to deal with these sorts of issues.

5 Syntactic structure and bases in BD correspondence

- Kiparsky (2000:11) argues that the distinct behaviors of the singulative vs. possessor suffixes in Tripoli Arabic runs counter to the predictions of BD correspondence vis-à-vis the Free Base Generalization.
  - $\rightarrow$ Both have a freestanding output form with a subset of morphosyntactic features, yet only one (possessors) exhibits cyclic blocking of syncope.

(31)   *a*-syncope applies normally in singulatives

Type	Base		Singulative/Individualized	
Collective	báʔar	'cattle'	báʔr-a	'a cow'
Count	láħam	'meat'	láħm-a	'piece of meat'
Noun of instance	dáfur	'kicking'	dáfr-a	'a kick'

(32)   *a*-syncope underapplies with object clitics and possessors

a.   Object clitics

'he hit' (3sg.m subj)	ḍárab	
'she hit' (3sg.f subj)	ḍárb-et	(*ḍárab-et)
'we hit' (1pl subj)	ḍráb-na	(*ḍaráb-na)
'he hit you' (3sg.m subj + 2sg obj)	ḍár**ab**#ik	(*ḍárb#ik)

b.   Possessors

|		
'mare' (nom.sg)	fáras	
'my mare' (nom.sg-1sg.poss)	fár**as**#i	(*fárs#i)

- In the Stratal approach, this difference falls out from the stem- vs. word-level affix distinction.
  - The singulative is stem level
  - The object clitics and possessors are word level.
- In the BD correspondence approach, if the only factor in determining which categories have bases is the Free Base Generalization, then we can't account for the difference.
  - But if we supplement it with syntactic facts, maybe we can rescue it.

5.1 Possible syntactic differences between the two types in Arabic

⋆ I'm not claiming that this is the exactly right morphosyntax for these categories. But something like this could help explain things.

- If possessors are specifiers of DP, but the singulative is below D, then the possessors will be *outside* the phase headed by D but the singulative will be *inside*.

(33)   Arabic DP
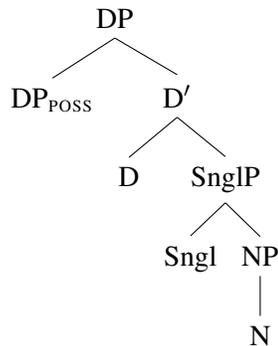
- If base-hood is somehow related to phase-hood, then this could potentially explain the difference.

5.2 [twɪŋklɪŋ] vs. [twɪŋkl̩ɪŋ] and Derivation by Phase (Marvin 2003)

- In English, there are some minimal pairs like the following:

(34)   Minimal pairs

Vaguely related noun			Gerund		(base verb)
[twɪŋklɪŋ]	'brief moment'	vs.	[twɪŋkl̩ɪŋ]	'act of glimmering'	(cf. verb [twɪŋkl̩])
[laɪtnɪŋ]	*lightning*	vs.	[laɪtn̩ɪŋ]	*lightening*	(cf. verb [laɪtn̩] *lighten*)

- The pairs differ in their syntactic structure.
  - ○ In both types, *-ing* is functioning as a nominalizer (*n*).
  - ○ The gerunds are obviously built from verbal bases.
    - → The verbal bases have a syllabic final consonant.
  - ○ The nouns are root formations of some sort.

(35)   [twɪŋklɪŋ] vs. [twɪŋkl̩ɪŋ]
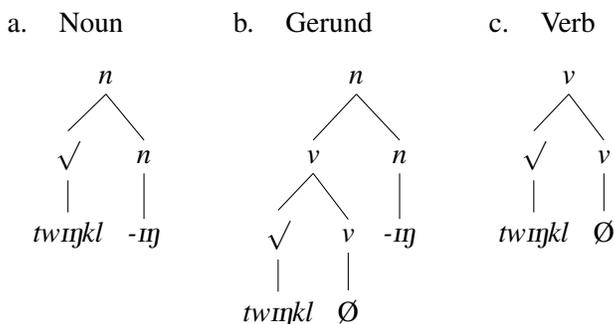
- In the verb: /twɪŋkl-Ø/ → [twɪŋkl̩] (*l* /_# = vocalization)

- Putting aside BD correspondence/Stratal OT: if we assume that the phonological form of words is built up by spell-out of the complement of phase heads + the phase head (or with the phonology of the phase head visible), we get the difference between the noun and the gerund (Marvin 2003).
  - Gerund:
    - 1st phase (*v*): /twɪŋkl-Ø/ → [twɪŋkl̩] (*l* /_# = vocalization)
    ↪ 2nd phase (*n*): /twɪŋkl̩-ɪŋ/ → [twɪŋkl̩ɪŋ] (vocalization maintained)
  - Noun:
    - Only phase (*n*): /twɪŋkl-ɪŋ/ → [twɪŋklɪŋ] (*l* /_V = no vocalization)

- Michaels (2007) shows that this sort of analysis can help explain a difference in the exponent of causatives built to unaccusatives vs. causatives built to unergatives/transitives.
  - Basically: unaccusatives allow direct phonological modification of the root (≈ final gemination), unergatives/transitives require a separated exponent (suffixal *-ikk* ≈ addition of least marked geminate + epenthesis).
  - In unaccusatives, there's no *v*, so the causative takes the root as its complement.
  - In unergatives/transitives, there is a *v*, so causative is separated from the root by a phase boundary.

5.3   Why is this relevant?

- Derivation by Phase alone isn't going to be sufficient for explaining all aspects of cyclicity; there are plenty of instances where phonological information from an earlier phase is changed in a later phase.
- But maybe phase(-mate)-hood can be added as a criterion for determining bases in BD correspondence (or for that matter, in determining what can count as a cyclic domain in Stratal OT).
- The distribution of cyclic effects in the Arabic case might follow from supplementing the Free Base Generalization as follows:

(36)   **The Free Base Generalization + Phases**
       In order for something to serve as a base for the purpose of Base-Derivative correspondence:
       a.   It must be a well-formed (i.e. actual or possible) output word,
       b.   It must be a sub-tree of the derivative, and
       c.   One of the heads contained only in the derivative must be a phase head.

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