

Class 5

Copying in Phonology

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Big questions for today

Question 1: Is there copying in phonology?

Question 2: If so, how do we analyze it? Is it *actually* copying, in a technical sense?

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- 5 Copying: does it really exist?

Nasalization in Johore Malay

The basic pattern

- Consider the following data from Johore Malay:

(1) Nasalization in Johore Malay (Onn 1976:69, 70)

‘to drink’	mĩnõm	*minom, *minõm, *mĩnom
‘to eat’	mākan	*makan, *makān, *mākān
‘to rise’	baŋõn	*baŋon, *bāŋon, *bāŋõn
‘to be luxurious’	mẽwãh	(← /mewah/)
‘supervision’	pəŋãwãsan	(← /pəŋ-awas-an/)
‘central focus’	pənẽŋãhãn	(← /pəŋ-təŋah-an/)

* Vowels and approximants (incl. glottals) are [−cons(onantal)], everything else is [+cons].

What’s going on with nasalization?

Nasalization in Johore Malay

Characterizing the distribution

- We can characterize the distribution as follows:
 - (2) a. Vowels and approximants (w, y, h, ?) must be nasalized if they immediately follow a nasal stop or a nasalized vowel/approximant.
 - b. Otherwise, they must be oral.

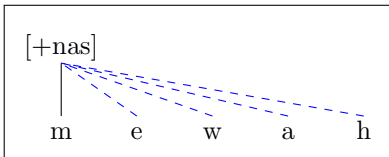
* Onn does not mark approximants as undergoers, but rather treats them as transparent. I'll assume (following McCarthy & Prince 1995:42) that they are undergoers.
- This is an **allophonic distribution**, because nasalization on vowels and approximants is completely predictable.
 - i.e., the language lacks a nasalization contrast on vowels/approximants.
- If we wanted to think of this in terms of processes:
 - (3) **Iterative rightward nasal spreading (a.k.a. *harmony*), blocked by consonantal segments.**

Nasalization in Johore Malay

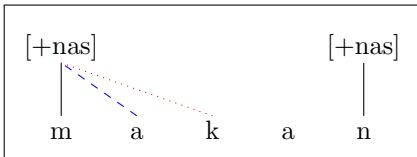
Harmony as spreading

- In Autosegmental Phonology (Goldsmith 1976), harmony is analyzed as **feature spreading**.

(4) /mewah/ → [mẽwãh̃]



(5) /makan/ → [mãkan]



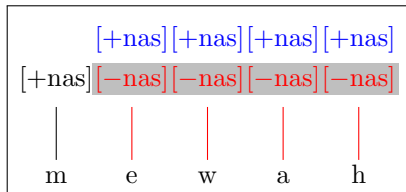
- **Rules** (sequential):
Associate a [+nas] autosegment to a following [−cons] segment (iterative).
- **Constraints** (simultaneous):
Assign a violation for any [−cons] segment which is immediately preceded by a segment associated to a [+nas] autosegment but not itself associated to a [+nas] autosegment.

Nasalization in Johore Malay

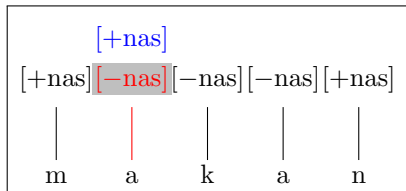
- Alternatively, we could just talk about it in terms of **feature change** under adjacency.
- This can be driven by a context-specific markedness constraint:
 - (6) ***[+nas][−nas, −cons] (*NV)**
Assign a violation * for each non-nasal vowel or approximant which immediately follows a nasal(ized) segment.

Nasalization in Johore Malay

(7) /mewah/ → [mẽwãh̃]



(8) /makan/ → [mãkan]



- Under this approach (either simultaneous or sequential), each segment's feature specification can change in order to satisfy the constraint on adjacent segments.

★ Consistent with underspecification and/or *richness of the base* (Prince & Smolensky [1993] 2004), as long as you get the rest of your constraints right (see below).

- The result is a sequence of **matching feature values**, but they do not belong to the same autosegment/feature matrix.

Is harmony copying?

Analyzing Johore Malay nasalization

- The distribution involves two markedness constraints:

(9) *Context-specific markedness constraint:*

*[+nas][−nas, −cons] (*NV)

Assign a violation * for each non-nasal vowel or approximant which immediately follows a nasal(ized) segment.

(10) *Context-free markedness constraint:*

[+nas, −cons] (\tilde{V})

Assign a violation * for each nasalized vowel or approximant.

Analyzing Johore Malay nasalization

- These markedness constraints interact with two faithfulness constraints regulating nasality (or autosegmental spreading, in the other approach):

(11) **Ident[nas]/[+cons]-IO**

Assign a violation * for each underlying [+consonantal] segment whose output correspondent differs in nasality.

(12) **Ident[nas]/[-cons]-IO**

Assign a violation * for each underlying [-consonantal] segment whose output correspondent differs in nasality.

- The following ranking gives us the result we need:

(13) **Ranking:**

IDENT[nas]/[+cons]-IO, *NV \gg * \tilde{V} \gg IDENT[nas]/[-cons]-IO

Analyzing Johore Malay nasalization

- ★ Undominated IDENT[nas]/[+cons]-IO ensures that a [+consonantal] segment never changes its value for nasality.
- Underlying oral consonants never nasalize in response to *NV:

(14) /makan/ ↗ *[mãŋãn]

- Underlying nasals consonants never denasalize to prevent the *NV problem:


(15) /makan/ ↗ *[bakan]

- I'll omit this constraint from the tableaux to make things clearer.

Analyzing Johore Malay nasalization

- $*NV \gg * \tilde{V}$ ensures that nasalized vowels/approximants only appear in the post-nasal environment:

(16) Nasalization in Johore Malay (*with maximally marked input*)


/makān/		*NV	* \tilde{V}	IDENT[nas]/[−cons]-IO
a.	makan	*!		*
b.	 mākan		*	**
c.	makān	*!	*	
d.	mākān		**!	*

- Since IDENT[nas]/[−cons]-IO is ranked below the two markedness constraints, the faithfulness constraint never has an impact. Therefore, the underlying value of nasalization on vowels/approximants is not relevant.

Analyzing Johore Malay nasalization

- Nasalization will spread throughout an entire approximant span, because stopping in the middle (candidate b) would only move the locus of the *NV violation, not get rid of it.

(17) Iterative nasal spreading in Johore Malay

/mewah/		*NV	* \tilde{V}	IDENT[nas]/[-cons]-IO
a.	mewah	*!		
b.	mẽwah	*!	*	*
c.	 mẽwãh		****	****

Question moving forward:

What can these tools tell us about other things that
look (more) like copying?

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Default epenthesis vs. copy epenthesis

Epenthesis


- Cross-linguistically, vowel epenthesis is found as a repair for various types of markedness problems:
 - Syllable structure — repairs codas or complex syllable margins:
 - e.g., CCC clusters in Arabic dialects (McCarthy 1979); (certain types of) codas in Axininca Campa, Japanese, Ponapean (Itô 1989)
 - Geminate avoidance:
 - e.g., English /z/ & /d/ affixes; Lithuanian prefixes (Baković 2005)
 - Minimality augmentation:
 - e.g., Axininca Campa (McCarthy & Prince 1993); Lardil (Hale 1973)

Default epenthesis vs. copy epenthesis

Epenthesis

- We've already seen how epenthesis is analyzed in OT: $M \gg DEP$

(18) Epenthesis as a repair for illicit codas (schematic)

CVC	NoCODA	MAX	DEP
a. CVC	*!		
 b. CVCə			*
c. CV		*!	

Default epenthesis vs. copy epenthesis

Default epenthesis

- In most languages, there is a single epenthetic vowel quality which is used in all circumstances.
 - In Lithuanian and Arabic, it's always [i]
 - In English, it's always [ə] (with some free variation with higher qualities)
 - In Lardil, it's always [a]
- So, not necessarily predictable across languages, but usually consistent within languages.

Default epenthesis vs. copy epenthesis

Copy epenthesis

- But in some languages, there are systematic alternations in the quality of epenthetic vowels, depending on their context.
 - It can depend on adjacent consonants, matching in, e.g., backness (Huave; Kim 2008)
 - More frequently, they fully “**copy**” the quality of a neighboring vowel (across an adjacent consonant).
- ★ This is usually called **copy epenthesis** (vel. sim).

Default epenthesis vs. copy epenthesis

Copy epenthesis

- It has been hotly debated in the literature how to analyze copy epenthesis:
 - What exactly are its properties?
 - What sort of formal mechanism best derives those properties?
 - How do we distinguish it from default epenthesis?
- Two main sides of the debate:
 - **Spreading** (Hall 2003, Kawahara 2007)
 - **Correspondence** (Kitto & de Lacy 1999, Stanton & Zukoff 2018)
- ★ I'll show you Selayarese (Malayo-Polynesian; Mithun & Basri 1986), and how it very strongly (in my view, at least) supports the correspondence approach.
 - ...but the best evidence comes from Ho-Chunk (see Stanton & Zukoff 2018).

Copy epenthesis in Selayarese

The basics of stress in Selayarese

- In Selayarese, stress normally falls on the penultimate syllable (Mithun & Basri 1986). (If the stressed syllable is open, the vowel is lengthened.)

(19) Penultimate stress in Selayarese (Mithun & Basri 1986:212–219)

- [sikú:ra] ‘how many?’
- [sampú:lo] ‘ten’
- [kasú:^mba] ‘dye for coloring clothes or cake’
- [ká:si] ‘white cloth’
- [kás:i] ‘sour’
- [séʔla] ‘salt’

Copy epenthesis in Selayarese


Analyzing Selayarese default stress

- Penultimate stress can be modeled by the interaction of *LAPSER[IGHT] and NONFIN[ALITY].

(20) Constraints to generate penultimate stress (cf. Gordon 2002)

- *LapseR:** Assign one violation * if neither of the final two syllables is stressed.
- NonFin:** Assign one violation * if the final syllable is stressed.

(21) Deriving penultimate stress

/sikura/	*LAPSER	NONFIN
a. [sí:kura]	*!	
 b. [sikú:ra]		
c. [sikurá:]		*!

Copy epenthesis in Selayarese

Unexpected antepenultimate stress

- There is a class of words that unexpectedly bear antepenultimate stress:

(22) Antepenultimate stress in Selayarese (Mithun & Basri 1986:237)

- | | | | | | |
|----|-------------------------|----------|----|-------------------------|--------------|
| a. | [só: ^m bala] | ‘a sail’ | e. | [kí:kiri] | ‘metal file’ |
| b. | [ká:tala] | ‘itch’ | f. | [hál:asa] | ‘suffer’ |
| c. | [bó:tolo] | ‘bottle’ | g. | [lá: ^m bere] | ‘long’ |
| d. | [bé:rasa] | ‘rice’ | h. | [tú:lisi] | ‘write’ |

Copy epenthesis in Selayarese

Unexpected antepenultimate stress

(22) Antepenultimate stress in Selayarese (Mithun & Basri 1986:237)

- | | | | |
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| c. [bó:tolo] | ‘bottle’ | g. [lá: ^m bere] | ‘long’ |
| d. [bé:rasa] | ‘rice’ | h. [tú:lisi] | ‘write’ |

- Each of these words share several properties:
 - The last two vowels are identical
 - These vowels are separated by a coronal continuant /s,r,l/
 - The final vowel is absent before vowel-initial suffixes:
 - e.g., [lá:^mbere] ‘long’ → [la^mbé:r-aŋ] ‘longer’ (Mithun & Basri 1986:238)

What do you think is going on here?

Copy epenthesis in Selayarese

Unexpected antepenultimate stress *because it's copy epenthesis*

⇒ These final vowels are **epenthetic**.

↪ Their status as epenthetic vowels (somehow) influences stress placement.

Copy epenthesis in Selayarese

Questions for analysis

Question 1 How do we derive epenthesis?

Question 2 How do we make the epenthetic vowel a copy?

Question 3 How do we explain the stress pattern?

Copy epenthesis in Selayarese

Deriving epenthesis


- Epenthesis in Selayarese is a syllable-structure repair.
 - Selayarese (like many langs.) places restrictions on codas (cf. Itô 1989).
 - Word-finally, the only licit codas are [ŋ] and [ʔ].
 - Word-medially, codas consisting of nasals homorganic to following stops, and the first half of geminates, are also allowed.
- Epenthesis inserts a vowel after a would-be illicit coda — i.e., *a coda C that comes with its own place feature* — to create a licit CV syllable.

Copy epenthesis in Selayarese

Deriving epenthesis

- CODA COND[ITION] (Itô 1989) is the markedness constraint that enforces the restriction on possible codas.
 - As long as CODA COND \gg DEP, illicit codas will get repaired by epenthesis.

(23) CODA COND repaired by epenthesis (stress and vowel quality withheld)

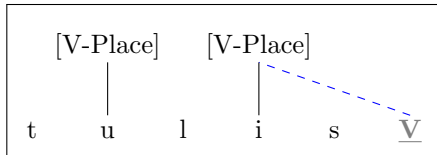
/tulis/	CODA COND	MAX	DEP
a. .tu.lis.	*!		
 b. .tu.li.sV.			*
c. .tu.li.		*!	

Copy epenthesis in Selayarese

Deriving epenthetic vowel quality: spreading

- In the traditional, autosegmental approach to copy epenthesis, the quality of the epenthetic vowel is determined by spreading the V-Place node from the nearest vowel:

(24) /tulis/ → *tulisi*



- Intuitively, this feels like a sequence of operations: *epenthesis* > *spreading*
 - But it can be done simultaneously with constraint-based approaches to autosegmental phonology.

Copy epenthesis in Selayarese

Deriving antepenultimate stress: rule/process ordering

- The antepenultimate stress in these words is accounted for by saying that stress applies *before* epenthesis:

		<i>Epenthetic V#</i>	<i>Underlying V#</i>
		/tulis/	/sikura/
(25)	Rule 1: Penultimate stress	tú:lis	sikú:ra
	Rule 2: V epenthesis	tú:lisV	—
	Rule 3: V-Place spreading	tú:lisi	—
		[tú:lisi]	[sikú:ra]

- People have tried to do this simultaneously by making epenthetic V's “invisible” or “unstressable” in various (mostly unsatisfactory) ways...

Copy epenthesis in Selayarese

The problem with invisibility/ordering: more data

- Problem is, the epenthetic vowels aren't always invisible to stress.
- In (26–27), stress lands on the penultimate syllable despite the presence of an epenthetic vowel (underlined) in the penult (26), or in the antepenultimate and final syllables (27).

(26) Internal epenthesis in loanwords (Broselow 2008:3)

- [kará:tu] ‘card’ not *[ká:ratu] (source: Indonesian [kártu])
- [surú:ga] ‘sugar’ not *[sú:ruga] (source: Indonesian [súrga])

(27) Internal and external epenthesis in loanwords (Broselow 2008:4)

- [solodé:re] ‘weld’ not *[só:lodere] (source: Indonesian [sóldeɾ])
- [karatí:si] ‘ticket’ not *[ká:ratisi] (source: Indonesian [kárcis])

Copy epenthesis in Selayarese

The problem with invisibility/ordering: more data

- If we apply the same grammar as before, we again predict antepenultimate stress, but this is now incorrect.

		<i>Final Epenthesis</i>	<i>Medial Epenthesis</i>
		/tulis/	/kartu/
(28)	Rule 1: Penultimate stress	tú:lis	ká:rtu
	Rule 2: V epenthesis	tú:lisV	ká:rVtu
	Rule 3: V-Place spreading	tú:lisi	ká:ratu
		[tú:lisi]	*[ká:ratu]

- The same goes for “invisibility” to stress — now we don’t want them to be invisible.

Copy epenthesis in Selayarese

The solution: correspondence

- Let's go back to the OT analysis.
 - Assume that epenthesis is motivated by CODA COND \gg DEP.
 - Assume that default penultimate stress is motivated by *LAPSER and NONFIN.
- Stanton & Zukoff's (2018) solution (based on Kitto & de Lacy 1999):
 - (29) a. The epenthetic vowel [**C** for “copy”] wants to have the same value for stress (or length) as the vowel it shares its features with [**H** for “host”].
 - b. The constraint encoding this desire outranks *LAPSER, but ranks below NONFIN.
 - c. So, the language allows retraction of stress to the antepenult just in case it can avoid a stress mismatch between copy and host.

Copy epenthesis in Selayarese

The solution: correspondence

- The constraint demanding stress identity (29a) is:

(30) **Ident[stress]-HC**: Assign one violation * for each copy-host pair that do not have identical values for **stress**.

- The rankings in (29b) are:

(31) **Ranking**: NONFIN \gg IDENT[stress]-HC \gg *LAPSER

- To derive penultimate stress in cases like [kará:tu], we also need *CLASH (32) \gg IDENT[stress]-HC.

(32) ***Clash**: Assign one violation * for each sequence of two adjacent stressed syllables.

Copy epenthesis in Selayarese

The solution: correspondence

(33) Antepenult stress with final epenthesis: [tú:li_i] (22h)

/tulis/	NONFIN	*CLASH	ID[stress]-HC	*LAPSER
☞ a. [tú:li _i]				*
b. [tulí:s _i]			*!	
c. [tulisí:]	*!		*	
d. [tulí:sí:]	*!	*!		

- If you stress only the penult (optimal candidate (33a)):
 - Copy & host match for stress (both unstressed) satisfy ID[stress]-HC
 - The final syllable remains unstressed satisfy NONFIN
 - There are no adjacent stresses satisfy *CLASH
 - The final two syllables are unstressed violate *LAPSE

→ Any other stress pattern violates one of the higher-ranked constraints.

Copy epenthesis in Selayarese

The solution: correspondence

(34) Penult stress with medial epenthesis: [kará:tu] (26a)

/kartu/	NONFIN	*CLASH	ID[stress]-HC	*LAPSER
a. [karatú:]	*!			
b. [ká:rá:tu]		*!		
☞ c. [kará:tu]			*	
d. [ká:rátu]			*	*!

- When the penult is epenthetic, there's no way to simultaneously satisfy NONFIN, *CLASH, and ID[stress]-HC.
- This means that violation of the lowest-ranked of those three constraints — ID[stress]-HC — is unavoidable.
- Default penult stress (34c) thus re-emerges, because the motivation for retraction (avoiding ID[stress]-HC violation) is moot.

Copy epenthesis in Selayarese

The solution: correspondence

- The exact same interaction derives default penult stress in the double epenthesis cases too:

(35) Penult stress with medial & final epenthesis: [solodé:re] (27a)

/solder/	NONFIN	*CLASH	ID[stress]-HC	*LAPSER
a. [sol <u>o</u> dé:r <u>e</u>]	*!	*!		
b. [só:ló:dere]		*!		
☞ c. [sol <u>o</u> dé:r <u>e</u>]			*	
d. [soló:dere]			*	*!

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Correspondence

What is IDENT[stress]-HC

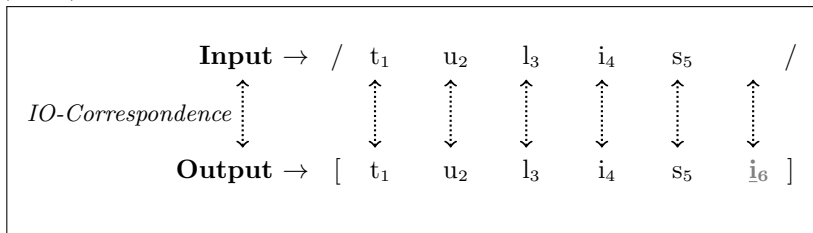
What is Ident[stress]-HC?

Correspondence

Normal faithfulness = Input-Output Correspondence

- Standard faithfulness constraints are *Input-Output* [IO] faithfulness constraints.
 - They are evaluated over a **correspondence relation** (McCarthy & Prince 1995, 1999) that holds between input *segments* and output *segments*.
- GEN assigns correspondence relations between segments.
 - ↪ Surface-identical candidates can differ in their correspondence indices.

(36) /tulis/ → *tulisi*

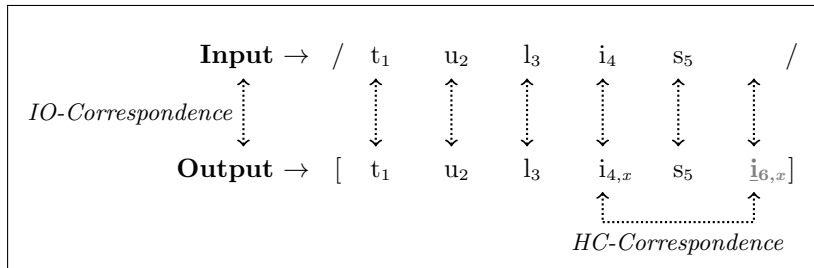


Correspondence

Host-Copy Correspondence

- (Some version of) IO-correspondence/faithfulness is uncontroversial in OT.
 - ★ What *is* controversial is whether any **other** correspondence relations exist.
- ⇒ If you buy the need for IDENT[stress]-HC in copy epenthesis, then we need at least one other correspondence relation: **Host-Copy Correspondence**.

(37) /tulis/ → *tulisi*



Correspondence

Output-Output Correspondence

- HC-Correspondence (Stanton & Zukoff 2016a,b, 2018; cf. Kitto & de Lacy 1999) is one proposed type of **Output-Output Correspondence**.
 - Base-Derivative (BD) Correspondence (Benua 1997): correspondence between a derivative and its morphological “base”.
 - Optimal Paradigms (OP) Correspondence (McCarthy 2005): correspondence between forms in a paradigm.
 - Base-Reduplicant (BR) Correspondence (McCarthy & Prince 1995): correspondence between the reduplicant and its output base.
 - Surface correspondence (Rose & Walker 2004): similarity-driven correspondence between output segments (a way to do harmony and long-distance assimilation/dissimilation).
- The same faithfulness constraints apply across each dimension of OO-Correspondence.

Correspondence

Output-Output Correspondence

- OO-Correspondence is, by and large, a way of accounting for types of **opacity** in a *simultaneous* framework.
- This usually contrasts with derivational/*sequential* approaches, and/or representational approaches.
- ★ The debate usually comes to down a competition between overgeneration (OO-Correspondence) vs. undergeneration (derivational theories), which often devolves into disagreements about whether crucial data points are real (or correctly interpreted) or not.

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Reduplication

Reduplication

- “Reduplication”: a morphological processes that “copies” phonological content from the stems it applies to.
 - “Reduplicants” (the copy) can be either total (copies the whole stem) or partial (copies a phonologically-defined sub-part of the stem).
 - The “base” is the output string that the reduplicant attaches to.
- Reduplication is a fertile testing ground for phonological theory, because it’s got lots of weird properties and it must be computed on-line.
- If you want more materials, check out some old handouts of mine:

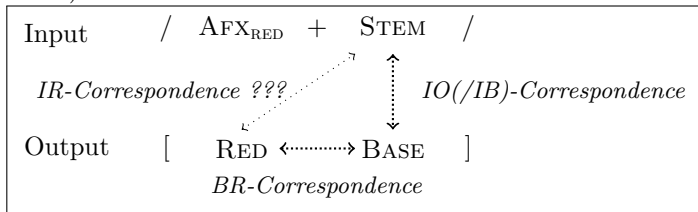
<https://www.samzukoff.com/topics-in-phonology-reduplication>

Reduplication

Base-Reduplicant Correspondence Theory

- The concept of correspondence (McCarthy & Prince 1995) — in contrast to “Containment”, Prince & Smolensky’s ([1993] 2004) original approach to faithfulness — was born out of apparent reduplication-phonology interactions.

(38) Base-Reduplicant Correspondence Theory [BRCT] (McCarthy & Prince 1995:4)



Reduplication

Base-Reduplicant Correspondence Theory

- The rationale was that certain phonological processes *misapplied* just in case reduplication was involved.
- Many (but not all) of the putative interactions could not be derived by sequential interaction.
- ★ I'm going to show you the knock-down piece of evidence in favor of BRCT: nasalization in Johore Malay!
 - But note that some people (who advocate other theories...) don't think this pattern is real.

Nasalization in Johore Malay reduplication

Overapplication of nasalization in Johore Malay reduplication

- Recall that Johore Malay has an allophonic process of iterative rightward nasal spreading, blocked by consonantal segments.
- ⇒ If nasal spreading applied normally in reduplication, we'd expect that nasal vowels/approximants *should only appear* when there is a nasal stop preceding the span to initiate spreading. **This appears *not* to be the case:**

(39) Nasalization in reduplication (Onn 1976:180; McCarthy & Prince 1995:42)

a.	hamõ	hã mõ-hãmõ	‘germ/germs’
b.	waŋĩ	wã ŋĩ-wãŋĩ	‘fragrant/(intensified)’
c.	aŋã	ã ŋã-ãŋã	‘reverie/ambition’
d.	aŋẽ	ã ŋẽ-ãŋẽ	‘wind/unconfirmed news’

- The initial vowel (39c,d) or the initial approximant+vowel (39a,b) are nasalized despite not being preceded by a nasal stop.

Nasalization in Johore Malay reduplication


Deriving overapplication with BRCT

★ How does this nasalization come to be?

→ It would have to be some sort of *overapplication*.

- BRCT can derive this with a high-ranked IDENT[nas]-BR constraint:

(40) Overapplication of nasalization in Johore Malay reduplication

/RED, hamə/	IDENT[nas]-BR	*NV	* \tilde{V}
a. hamə-hamə		*!* (mə, mə)	
b. hamə-ham $\tilde{ə}$	*! (ə)	*! (mə)	*
c. ham $\tilde{ə}$ -ham $\tilde{ə}$		*! ($\tilde{ə}$ -h)	**
d. ham $\tilde{ə}$ -h \tilde{a} m $\tilde{ə}$	*!* (ha)		****
e.  h \tilde{a} m $\tilde{ə}$ -h \tilde{a} m $\tilde{ə}$			*****

- The need for BR-identity outweighs the desire to not have nasalized vowels/approximants (* \tilde{V}).

Nasalization in Johore Malay reduplication

Process ordering won't work

- Unlike most other overapplication cases, this pattern **cannot** be derived using rule ordering or the like (McCarthy & Prince 1995:43ff.). It's sometimes called **“re-copying”** (Kiparsky 2010).
- The problem arise because nasalization is triggered *across the base-reduplicant juncture*.
 - If nasalization applies before copying, nasalization won't spread onto the [ha] of the base or the reduplicant:

(41) Nasalization > Copying

Input	/ RED-hamə /
Rule 1: Nasalization	RED-hamẽ
Rule 2: Copy	hamẽ -hamẽ
Output:	*[<u>ha</u> mẽ- <u>ha</u> mẽ]

Nasalization in Johore Malay reduplication

Process ordering won't work

- If copying applies first, you'll get spreading onto the base-initial [ha], but it won't get copied onto the reduplicant.

(42) Copying > Nasalization

Input	/ RED-hamə /
Rule 1: Copy	hamə -hamə
Rule 2: Nasalization	hamə̃- hām̃
Output:	*[ha mə̃-hām̃]

- No matter what you do, nasalization will never get copied onto the reduplicant-initial [ha], because the trigger is in the copy.

⇒ This requires **simultaneous** interaction of copying & nasalization.

- BRCT is the only theory I know of that can do that. (Maybe Raimy 2000.)

Nasalization in Johore Malay reduplication

The only way out: deny the facts

- Kiparsky (2010) and others (e.g. Inkelas & Zoll 2005 *Morphological Doubling Theory*, McCarthy, Kimper, & Mullin 2012 *Serial Template Satisfaction in Harmonic Serialism*) think the data isn't actually correct (...because they need it to not be).
 - Kiparsky went and did some informal fieldwork, and said he didn't hear the nasalization on the initial span, or maybe there are confounds (there aren't).
 - Michael Kenstowicz and Donca Steriade told me they've both done their own informal fieldwork, and they say they heard it (at least sometimes). (I think Michael might have tapes.)
- ★ So, one of you should go and do some real fieldwork and settle this question!

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Copying

Does it really exist?

If we need BRCT and other types of
OO-Correspondence, is there actually a
“copying” operation in phonology?

Copying

Copying as correspondence and faithfulness

- I think the answer is yes, sort of.
 - Why is there BR-Correspondence in reduplicated forms? Why is there HC-Correspondence in copy epenthesis?
 - We could look to IO-Faithfulness:
 - The reduplicant and the copy actually do correspond to the input; multiple correspondence is penalized by INTEGRITY-IO (McCarthy & Prince 1995; cf. Saba Kirchner 2010, 2013).
 - Shared correspondence to the same input segment triggers correspondence between output segments (Struijke 2000, Stanton & Zukoff 2016b).
- If DEP-IO \gg INTEGRITY-IO, you get *splitting* (\approx copying); otherwise you get default epenthesis. (Reduplicants are just null morphemes that need to get phonological content; cf. Kurisu 2001).
- But it's actually still just correspondence in the end...

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