

MUTUAL COUNTERFEEDING IN BARI AS TWO SEPARATE COUNTERFEEDING INTERACTIONS



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1 Overview

- A mutual counterfeeding interaction in Bari (Eastern Nilotic; Yokwe 1987), involving spreading and dissimilation of High tones in post-verbal nouns, can be reinterpreted into two separate counterfeeding interactions (cf. Trommer 2017 for a containment-based OT approach)
- Bari interactions can be generated by theories that can handle simple counterfeeding but not mutual counterfeeding e.g. Serial rule based phonology
- Bari is not an argument in favour of theories that can generate mutual counterfeeding

2 Background

- **Mutual counterfeeding** (Wolf 2011) involves two rules that each can create the environment of the other rule, but neither applies to the output of the other rule.
- Ordering paradox in serial theories: Neither rule feeds the other, while simultaneous application can generate mutual counterfeeding (Chomsky & Halle 1968: fn. 5)

Hypothetical example (Wolf 2011: 89)

- schwa-syncope and h-deletion can feed each other
- h-deletion applies and creates the input for schwa-syncope, which underapplies ((2a)); schwa-syncope applies and creates the input for h-deletion, which does not apply (2b)

- (1) a. **schwa-syncope** $/ə/ \rightarrow \emptyset / \{V, \#\} (C)_ (C)\{V, \#\}$ b. **h-deletion** $/h/ \rightarrow \emptyset / _ \{-voc, \#\}$
- (2) a. $/ehtəmu/ \rightarrow [etəmu]$ b. $/ahəpi/ \rightarrow [ahpi]$

3 Data (Yokwe 1987)

Spreading and Dissimilation

- Word-initial High tones (H) dissimilate to Low tones (L) after a word-final H (3) and word-final H can spread to a following noun with an initial L (4)
- (3) **H#HL** \rightarrow **H#LL**: *dók + kópò* \rightarrow *dók kòpò* 'fetched the cup'
- (4) a. **H#LL** \rightarrow **H#HL**: *bék + ràbà* \rightarrow *bék rábà* 'fixed the platform'
- b. **H#LH** \rightarrow **H#HH**: *tór + bòngó* \rightarrow *tór bòngó* 'tied the dress'
- c. **H#LF** \rightarrow **H#HF**: *mát + wîñî* \rightarrow *mát wîñî* 'drank the medicine'

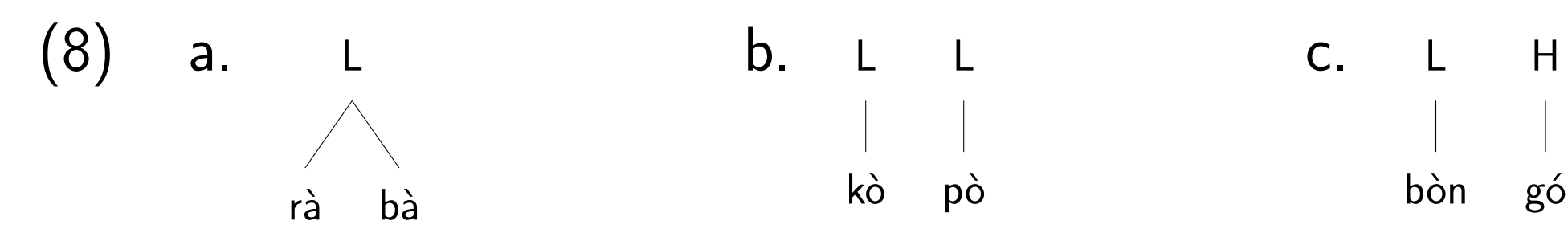
Interactions

- Dissimilation can feed spreading:
- (5) **H#HH** \rightarrow **H#LL** \rightarrow **H#HL**: *dép+kéré* \rightarrow *dép kèrè* \rightarrow *dép kéré* 'held the gourd'
- H-spreading counterfeeds H-Dissimilation:
- (6) **H#LH** \rightarrow **H#HH**: *tór + bòngó* \rightarrow *tór bòngó* * \rightarrow *tór bòngó* 'tied the dress'
- H-Dissimilation counterfeeds H-Spreading:
- (7) **H#HL** \rightarrow **H#LL**: *dók + kópò* \rightarrow *dók kòpò* * \rightarrow *dók kópò* 'fetched the cup'

4 Analysis

Observation

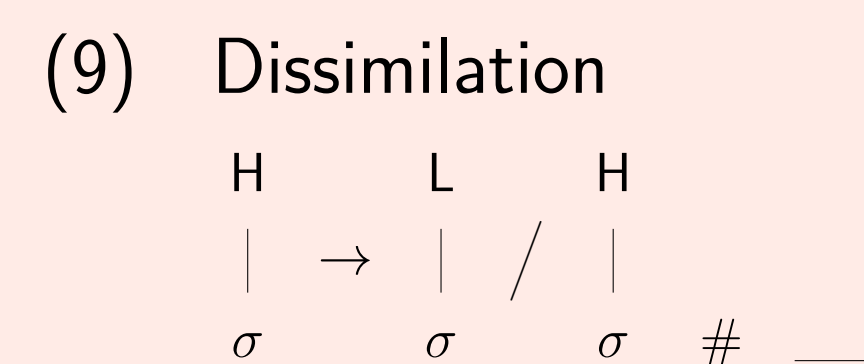
- In (4a) and (5), L is multiply linked to two syllables, see (8a)
- In /HL/ \rightarrow /LL/ sequences, there are two distinct Ls (8b)
- In /LH/ (4b) and /LF/ (4c), there is a distinct L followed by an H (8c)



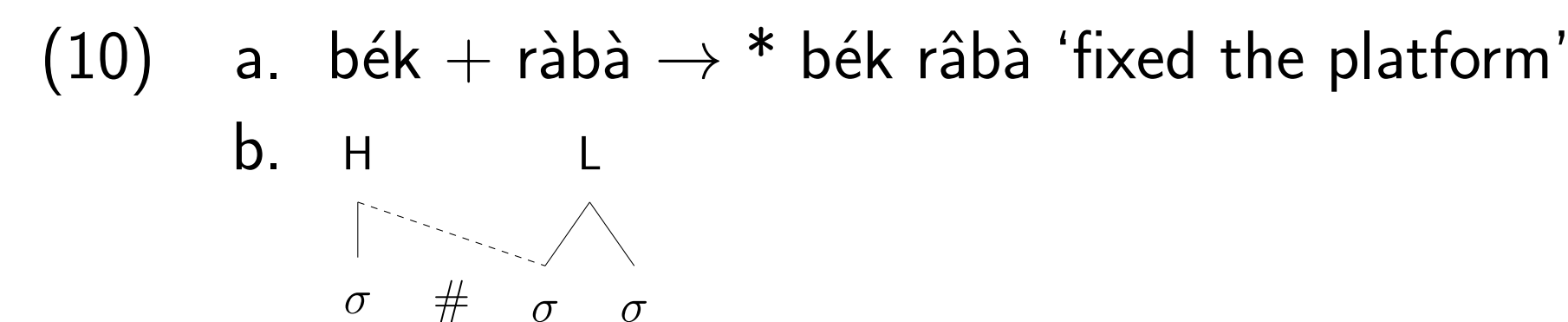
\rightarrow Spreading applies to /LL/ only if the sequence consists of one multiply associated L

Rule-based analysis

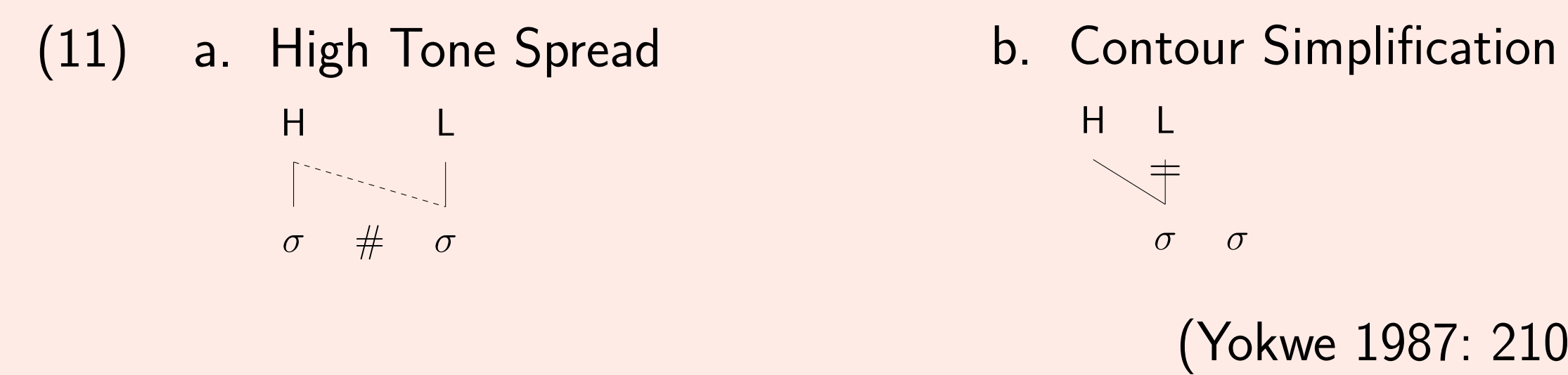
- Dissimilation changes an H to L after a word-final H:



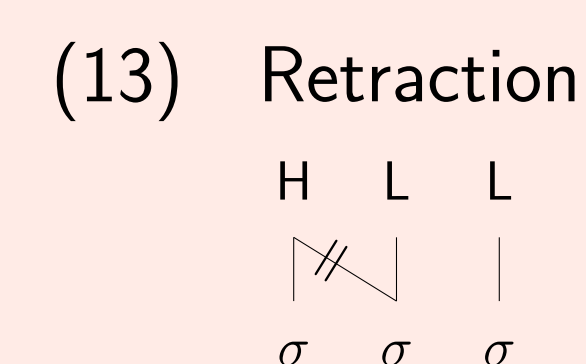
- Spreading would create a falling tone but there is a general restriction against falling tones on non-final syllables in Bari (Yokwe 1987: 209):



- What looks like spreading involves actually two operations: Linking H and de-linking L



- Splitting-up "H-spreading" allows us to order an additional rule in between
 - According to the earlier observation: Spreading to a TBU that was (not multiply) linked to an underlying H is not allowed
- (12) **H#HL** \rightarrow **H#LL** * \rightarrow **H#HL**:
dók + kópò \rightarrow *dók kòpò* * \rightarrow *dók kópò* 'fetched the cup'
- In some environments, H is de-linked from a HL contour syllable (instead of L as with Contour Simplification)
 - Retraction (cf. e.g. Bresnan & Kanerva 1989) reverses the effect of High Tone Spread



5 Derivations

(14) UR	(5)	(6)	(7)
Dissimilation:		—	
High tone spread:			
Retraction:	—	—	
Contour Simplification:			—

Interactions

- In (5) Dissimilation **feeds** H-Spread; H-Spread **feeds** Contour Simplific.
- In (6) H-Spread **feeds** Contour Simplific.; Contour Simplific **counterfeeds** Dissimilation
- In (7) Dissimilation **feeds** H-Spread; H-Spread **feeds** Retraction; Retraction **bleeds** Contour Simplific. and **counterfeeds** H-Spread

Summary

- Re-interpretation of mutual counterfeeding is successful:
 - 1) The possibility of multiply linked tones can differentiate between contexts (this differentiates Bari from the Wolf 2011 example)
 - 2) Spreading can be split into two operations: Linking and de-linking a tone
- OT with local constraint conjunction (OT-LCC; Smolensky 1995; Moreton & Smolensky 2002) can also deal with Bari interactions (ask me about it in the discussion)

6 Conclusion

- Bari interactions can be reinterpreted as two separate cases of counterfeeding
- Serial rule based phonology can derive the data
- Bari interactions should be amenable to other theories that can derive counterfeeding but not mutual counterfeeding, e.g. OT-Containment (Trommer 2017), OT-LCC
- Bari interactions cannot be accounted for by simultaneous rule application

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