

# The disambiguating effects of phonological exceptions in grammar

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# Central Claim

“Exceptions” are both constrained by the grammar and can serve as a constraint on it as well

# Roadmap

1. Briefly define “exception”
2. Identify typological and theoretical predictions made by lexical indexation
3. Present two relevant case studies from Mushunguli
4. Wrap up/future directions

# What do I mean by “exception”?

**“Exception” is a loosely-defined term**

**For this talk, “exceptions” have the following characteristics:**

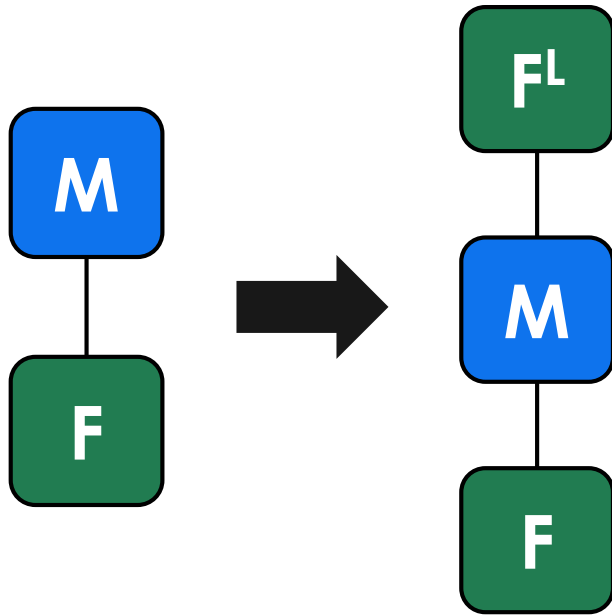
- ▶ **Restricted** sets of morphemes
- ▶ **Unproductive** and **conflicting** patterns
- ▶ Introduce **ranking paradoxes**

# Constraint Indexation

# Constraint Indexation

- ▶ This talk adopts locality-restricted lexical indexation (Pater 2000, 2010)
- ▶ Indexed constraints are clones of more general constraints
- ▶ Indexed constraints can only “see” the morpheme(s) they are indexed to

# Exceptional blocking (indexed Faith)

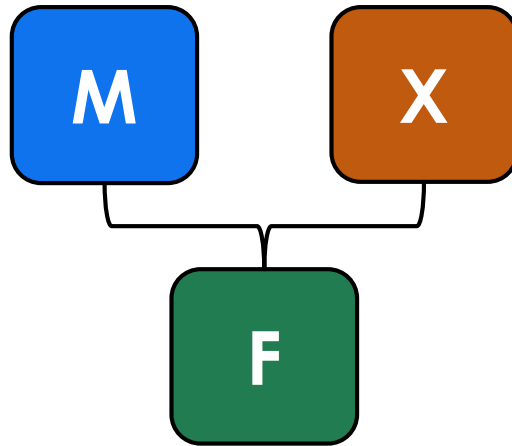


Regular

$/V_1+V_2/$	MAX <sup>L</sup>	*V.V	MAX
$V_1 \cdot V_2$		*!	
$\text{⌈} \emptyset_1 V_2$			*

Exceptional

$/V_1^L+V_2/$	MAX <sup>L</sup>	*V.V	MAX
$\text{⌈} V_1^L \cdot V_2$		*	
$\emptyset_1^L V_2$	*!		*



$/V_1+V_2/$	DEP	*V.V	MAX
$V_1.V_2$		*!	
☞ $\emptyset_1 V_2$			*
$V_1.CV_2$	*!		

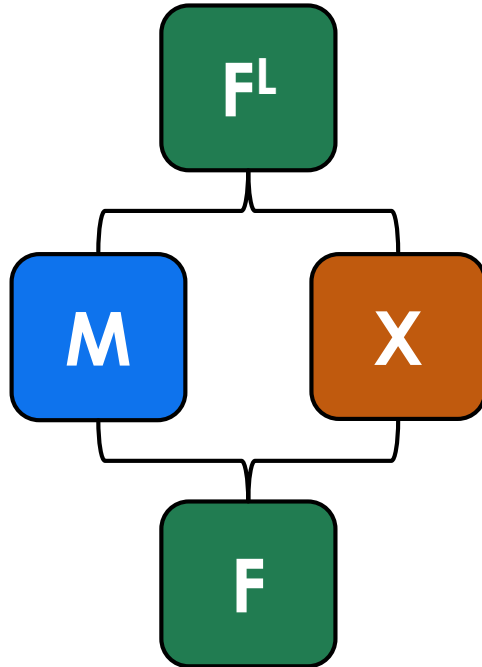
Violation of **F** or **X** can satisfy **M**

Unknown ranking between **M** & **X**

**What happens when we try to block deletion?**



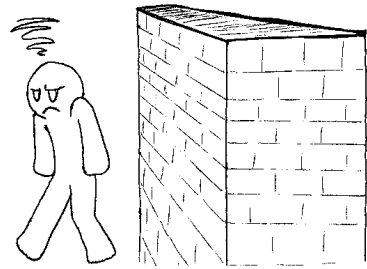
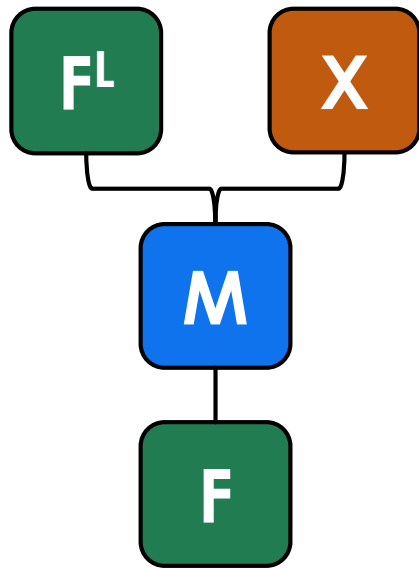
No decision can be made!



$/V_1^L + V_2/$	MAX <sup>L</sup>	DEP	*V.V	MAX
? $V_1^L \cdot V_2$			* ?	
$\emptyset_1^L V_2$	* !			*
? $V_1 \cdot CV_2$		* ?		

The existence of the exception forces disambiguation

# One type of blocking...

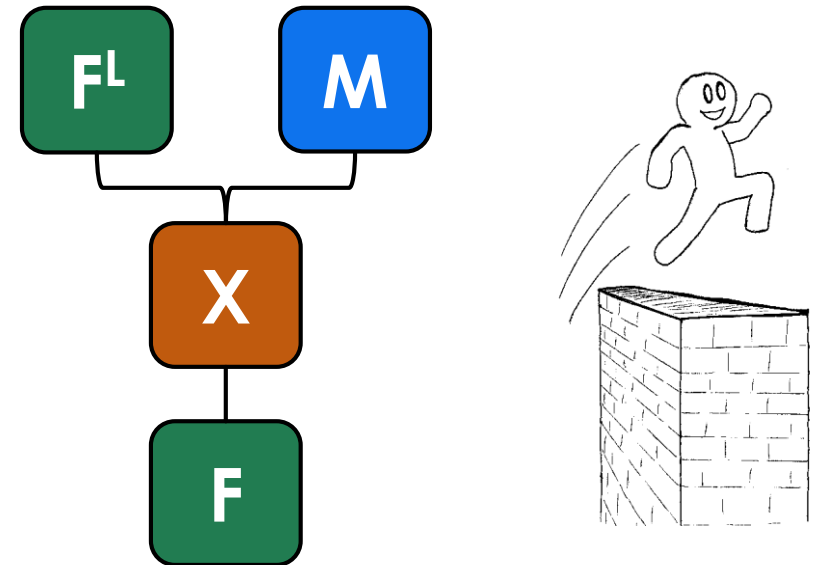


	$/V_1^L + V_2/$	$MAX^L$	<b>DEP</b>	$*V.V$	<b>MAX</b>
☞	$V_1^L \cdot V_2$			*	
	$\emptyset_1^L V_2$	* !			*
	$V_1 \cdot CV_2$		* !		

“Simple Blocking”  
No Repair

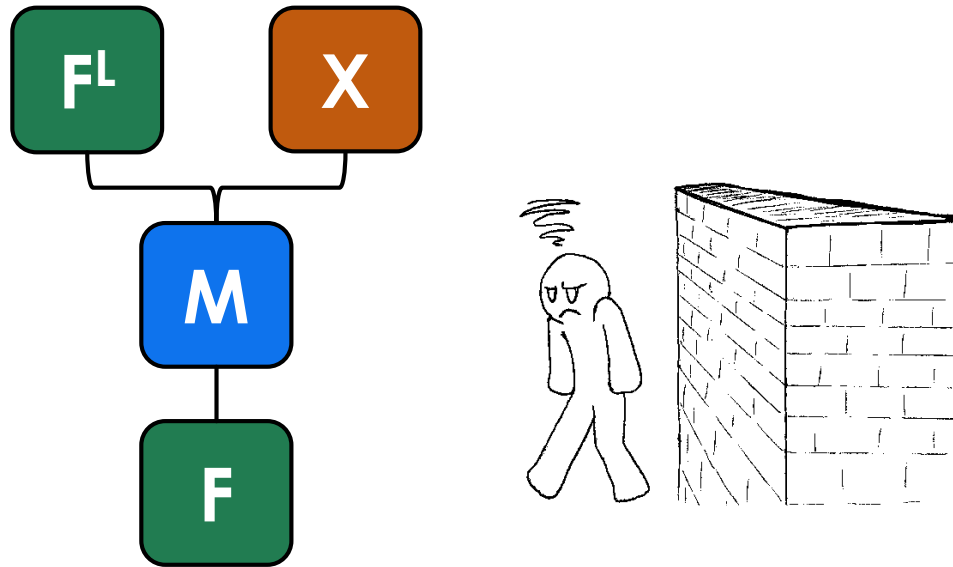
...and another

$/V_1^L + V_2/$	$MAX^L$	$*V.V$	DEP	MAX
$V_1^L.V_2$		* !		
$\emptyset_1^L V_2$	* !			*
$\text{☞ } V_1.CV_2$			*	

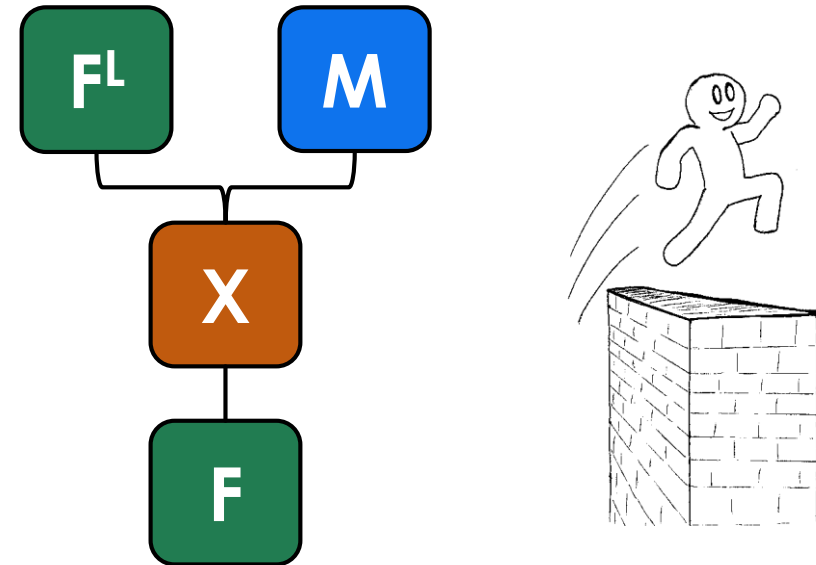


“Walljumping”  
Alternative/marked repair

# Two types of blocking



“Simple Blocking”  
No Repair



“Walljumping”  
Alternative/marked repair

# Consequences of disambiguation

The disambiguation effect has theoretical consequences:

Exceptions predict  
(or rule out)  
**other exceptions**

Exceptions predict  
(or rule out)  
**regular repairs**

# Testing our predictions

Are both typological predictions empirically supported?

**YES**

Are both consequences empirically supported?

**YES\***

# Mushunguli Exceptions

# Mushunguli

- ▶ Mushunguli (Somali Chizigula, ISO [xma]) is an endangered Somali Bantu language
- ▶ Hiatus at prefix+stem and prefix+prefix boundaries
  - ▶ Less common: stem+suffix boundaries
- ▶ Lots of feature/position-sensitive hiatus repairs



# Lightning Round: Hiatus Resolution

## Coalescence

/a + V<sub>2</sub>/

becomes mid w/ place of V<sub>2</sub>

/ka+iva/ → [ke:va]

'(s)he heard'

**Exception to  
coalescence**

## Glide Formation

/i + V/ & /u + V/

become glides

/u+iva/ → [wi:va]

'it (cl 3) heard'



## Simplification

/V<sub>i</sub> + V<sub>i</sub>/

becomes V<sub>i</sub>

/si+iv+is+a/ → [sivi:sa]

'I heard a lot'

**Exception to glide  
formation**


$/a+i/ \rightarrow [e], \text{ not } \emptyset i$

- ▶ Deletion is a repair that we need to rule out in this context

**\*V.V**    **MAX-V**

└──────────┘

**IDENT(high)**

$/a_1+i_2/$	MAX-V	*V.V	ID(HI)
$a_1.i_2$		* !	
 $e_{1,2}$			*
$\emptyset_1 i_2$	* !		

- ▶ Status of deletion in the language is otherwise unclear

## Exception 1: Non-coalescing stems

- ▶ A handful of high-vowel initial stems exceptionally fail to undergo coalescence, but repair hiatus in all other contexts

### **Regular (-iv- 'hear')**

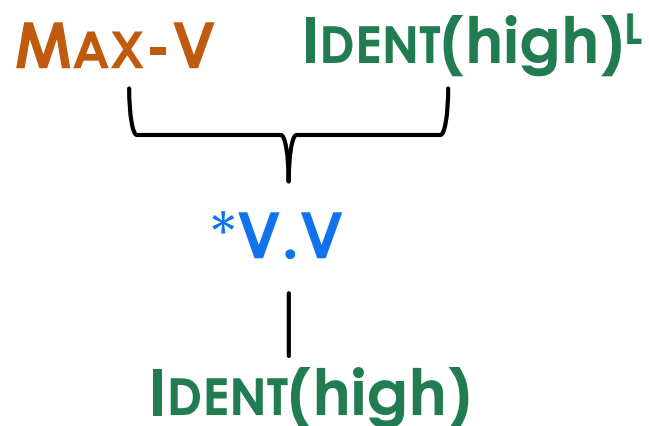
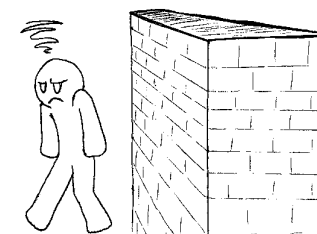
/ka-iv-a/      **ke:va**      's/he heard'

### **Exceptional (-it- 'go')**

/ka-it-a/      **ka.i:ta**      's/he went'

# Disambiguation

- ▶ The existence of the non-coalescing stems forces disambiguation
- ▶ This is the **simple blocking** ranking



$/a_1+i_2^L/$	ID(HI) <sup>L</sup>	MAX-V	*V.V	ID(HI)
$a_1.i_2^L$			*	
$e_{1,2}^L$	* !			*
$\emptyset_1.i_2^L$		* !		

# Consequences

- ▶ Because *MAX* is undominated, deletion is **never a viable hiatus resolution strategy**
- ▶ Fortunately, most hiatus repairs can be analyzed as coalescence
  - ▶  $V_i V_i$  simplification = vacuous coalescence
  - ▶ Low + mid  $\rightarrow$  mid = “mostly” vacuous coalescence

## Glide Formation: #V+V

Recall: prevocalic high vowels become corresponding glides

**u+V → wV**

**i+V → jV**

**u+edi → wedi** 'good (cl 3)'

**i+edi → jedi** 'good (cl 9)'

Post-consonantal is a little different

# Glide formation: #CV+V

Back vowels: secondary articulation

ku+iva → k<sup>w</sup>i:va 'to hear'

mu+iva → m<sup>ʷ</sup>i:va 'you pl heard'

Front vowels: **deletion?**

si+asama → sa:sa:ma 'I gaped'

vi+edi → vedi 'good (cl 8)'

How do we handle this?

# Levels

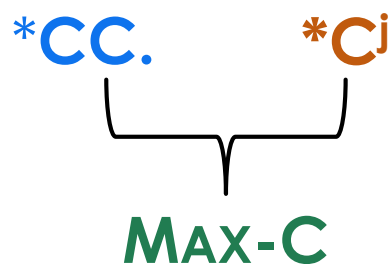
- ▶ Building deletion into the analysis is impossible without greatly weakening generalizations re: exceptions and regular forms.
- ▶ A solution: glide formation is general, and some other mechanism cleans up the CG onset (post-cyclically)

$/C_i+V/ \rightarrow |C_jV| \rightarrow [CV]$   
 (glide deletion)



$$/C_i+V/ \rightarrow |C_jV| \rightarrow [CV]$$

- ▶ The (important) choices are: delete, palatalize, or nothing
- ▶ The relevant constraints form another partial order:



	$ C_jV $	$*C_j$	$*CC.$	$MAX-C$
	$C_jV.$		$*!$	
☞	$C\emptyset V.$			$*$
	$C^jV.$	$*!$		

Again, we have “no” evidence for the ranking of **M** and **X**

## Exception 2: Palatalization

All class 5 prefixes are /di-/

**Most** class 5 prefixes exhibit the glide deletion pattern

<b>SUBJ</b>	/di+asama/	<b>d</b> -a:sa:ma	'it (cl5) gaped'
<b>OBJ</b>	/si+ <b>di</b> +aza/	si- <b>d</b> -a:za	'I lost it (cl 5)'

But one does not

# CL 5 Demonstrative

- ▶ CL 5 demonstrative prefix is also /di-/, but in /di+V/ contexts it exhibits **palatalization** instead of glide deletion

<b>/di+C/</b>	<b>/di+no/</b>	<b>di-no</b>	'this (cl 5)'
---------------	----------------	--------------	---------------

<b>/di+V/</b>	<b>/di+angu/</b>	<b>ɟ-angu</b>	'my'
	<b>/i-di-o/</b>	i- <b>ɟ</b> -o	'that (prox)'
	<b>/di-etu/</b>	<b>ɟ-etu</b>	'our'

## 'eat'

- ▶ The verb 'eat' is also /-di-/, but only surfaces that way in simplification contexts; otherwise, it too **palatalizes**

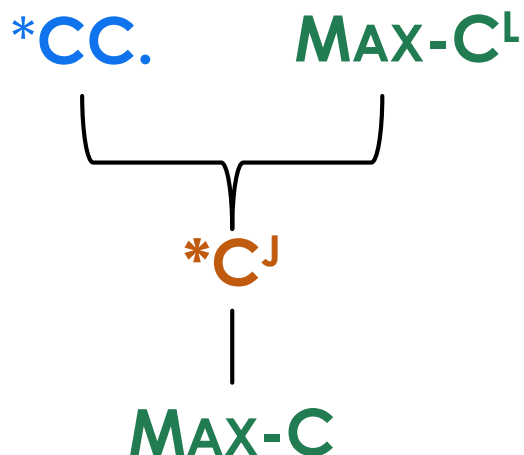
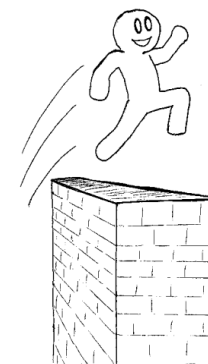
/...**di+i**.../      /si+**di**+is+a/      si-**d**-i:s-a      'I ate a lot'

/...**di+V**.../      /si+**di**+a/      si-**j**-a      'I ate'

/na+ni+**di**+e/      nani:-**j**-e      'I will eat'

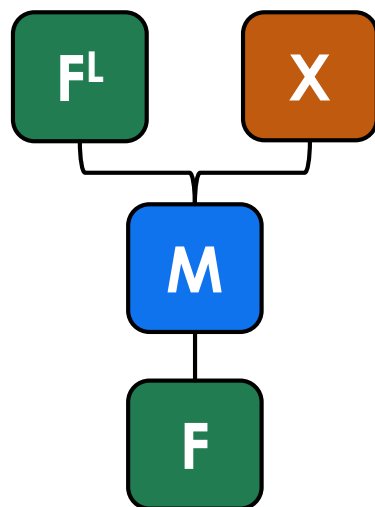
# Disambiguation for palatalization

- ▶ This is an example of a walljumping exception
- ▶ When deletion is blocked, an alternative applies

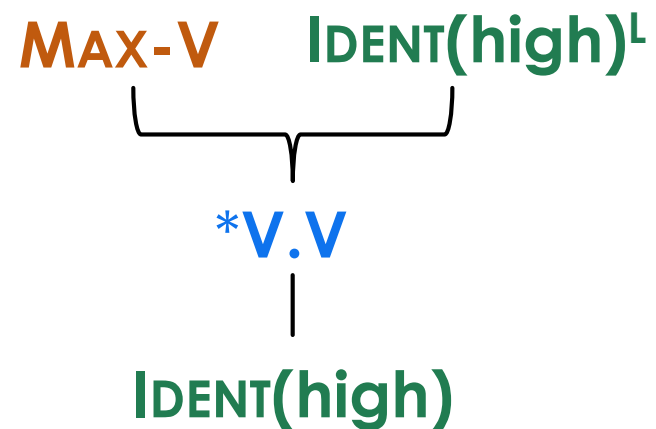


$ dj^LV $	MAX-C <sup>L</sup>	*CC.	*C <sup>J</sup>	MAX-C
$dj^LV.$		*!		
$d\emptyset^LV.$	*!			*
$\text{[hand]} j^LV.$			*	

# Typological Predictions

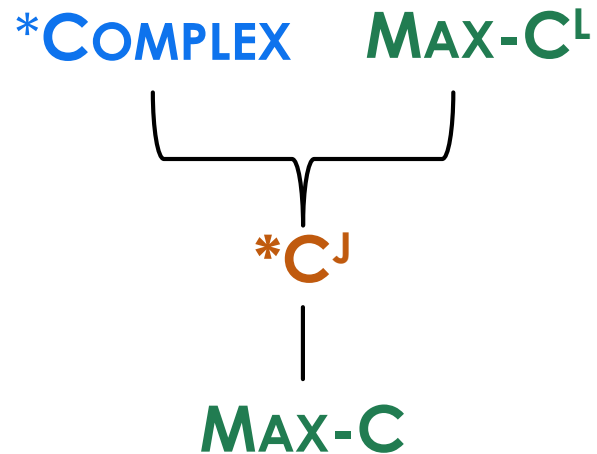


“Simple Blocking”  
No Repair

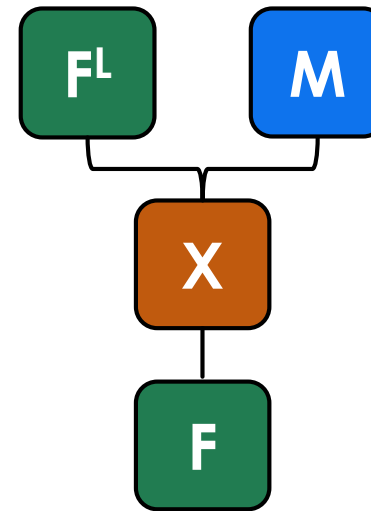


Non-coalescing stems

# Typological Predictions



Palatalization



“Walljumping”  
Alternative/Marked repair

# Two Consequences

## Exceptions predict other exceptions?

- ▶ **Yes:** strategies ruled out by one set of exceptions restrict the possible forms of other exceptions

## Exceptions predict general patterns?

- ▶ **Yes\*:** because indexed constraints are part of the grammar, the rankings they determine affect the rest of the grammar



# Future Directions

- ▶ We don't know much about the typology of exceptions cross-linguistically
- ▶ Low linguistic diversity
- ▶ Long-term project: building a catalog of exceptions (and other phenomena under the umbrella)

# Summary

- ▶ Lexical indexation predicts that different types of exceptions can exist, and that exceptions can influence other patterns in the language
- ▶ The Mushunguli case studies support these predictions

The “breakdown” of a system is a reflection of how it truly functions

# Thank you!

(SEND ME YOUR EXCEPTIONS!!!)

# Acknowledgements

▶ Thanks to...

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