

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:

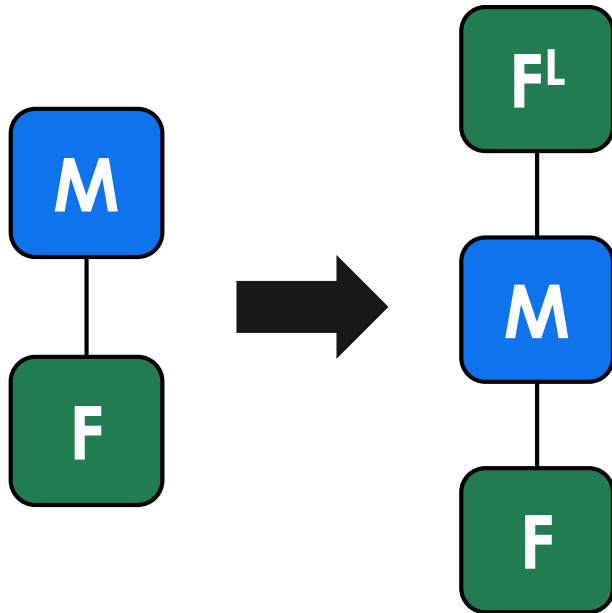
- ▶ **Restricted** sets of morphemes
- ▶ **Unproductive** and **conflicting** patterns
- ▶ Introduce **ranking paradoxes**

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)

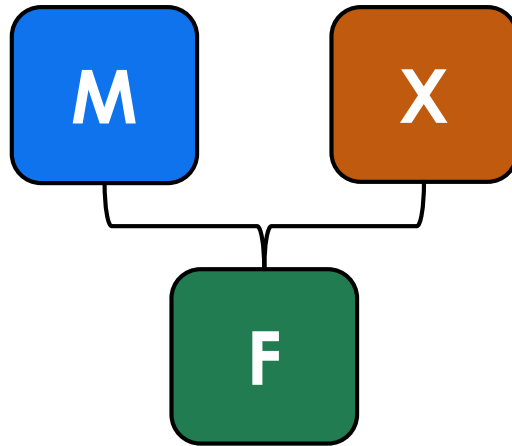


Regular

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

Exceptional

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



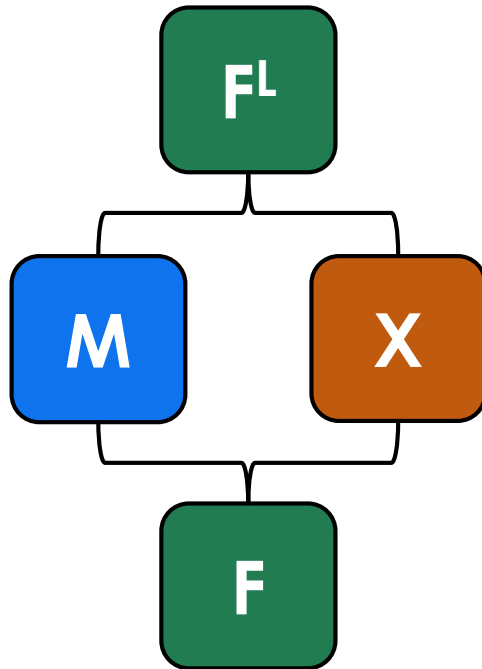
$/V_1+V_2/$	DEP	*V.V	MAX
$V_1.V_2$		*!	
☞ $\emptyset_1 V_2$			*
$V_1.CV_2$	*!		

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

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

What happens when we try to block deletion?

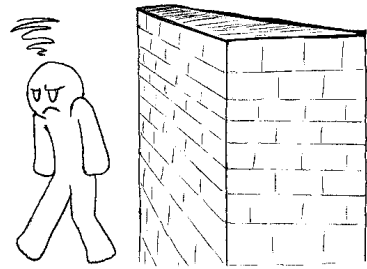
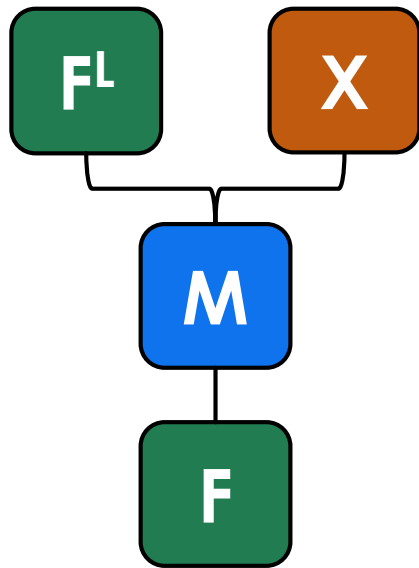
No decision can be made!



$/V_1^L + V_2/$	MAX ^L	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...

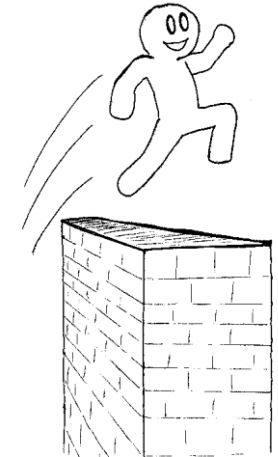
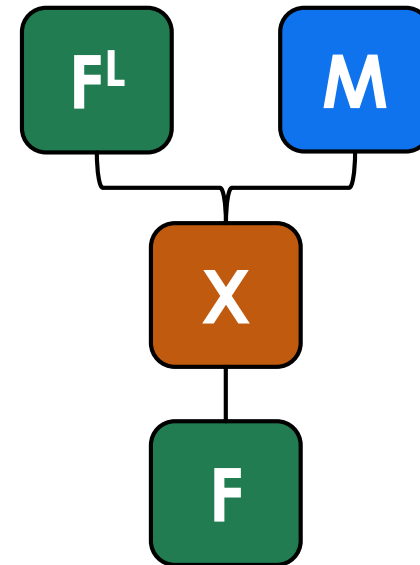


	$/V_1^L + V_2/$	MAX^L	DEP	$*V.V$	MAX
☞	$V_1^L \cdot V_2$			*	
	$\emptyset_1^L V_2$	* !			*
	$V_1 \cdot CV_2$		* !		

“Simple Blocking”
No Repair

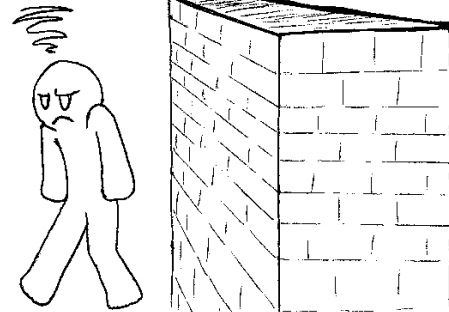
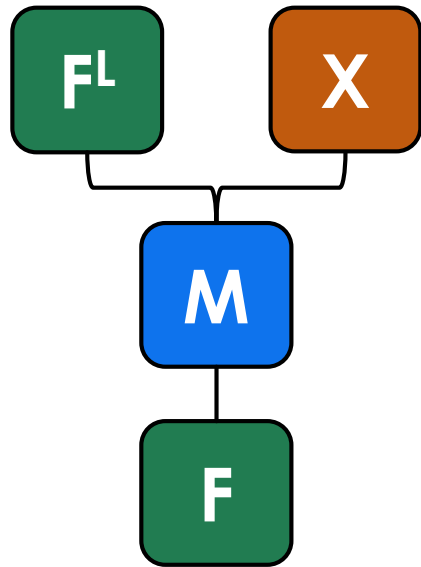
...and another

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

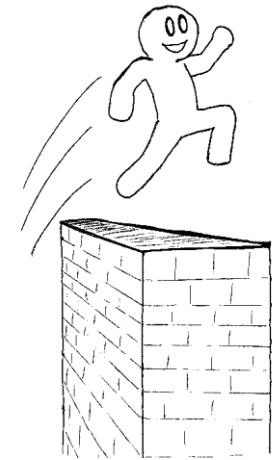
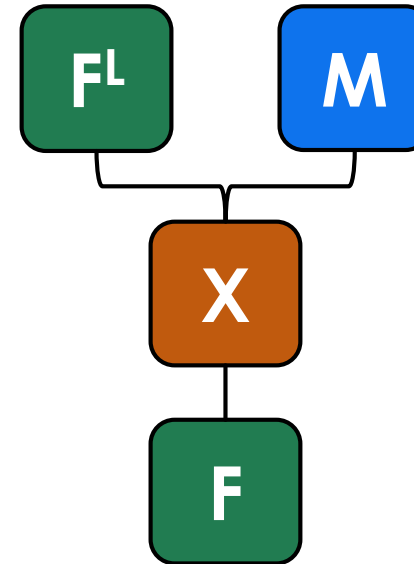


“Walljumping”
Alternative/marked repair

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 + V₂/

becomes mid w/ place of V₂

/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_i + V_i/

becomes V_i

/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')

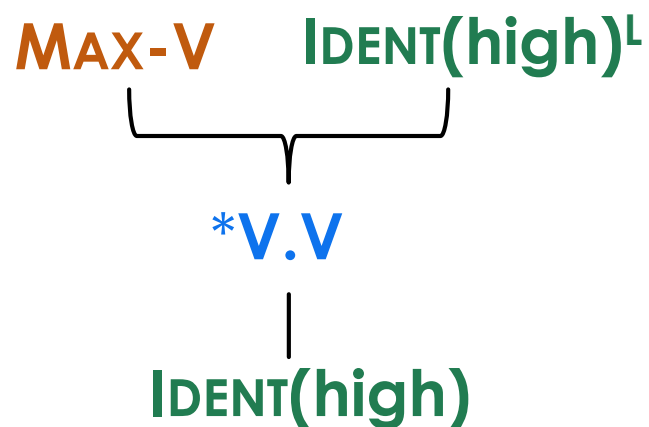
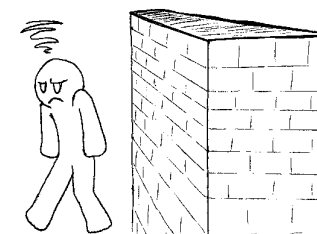
/ka-iv-a/ **ke:va** 's/he heard'

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



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

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^wi:va 'to hear'

mu+iva → m^ʷi: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?

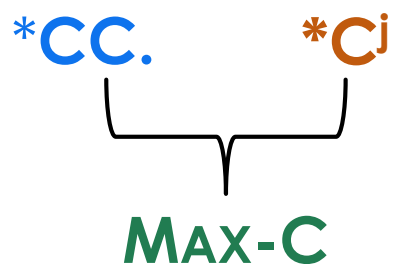
Levels

- ▶ 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

SUBJ	/di+asama/	d -a:sa:ma	'it (cl5) gaped'
OBJ	/si+ di +aza/	si- d -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

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

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

'eat'

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

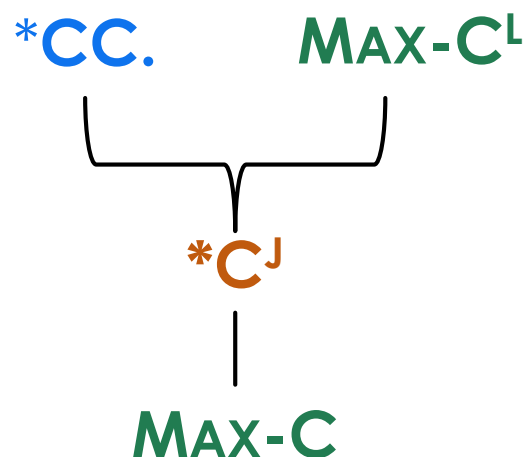
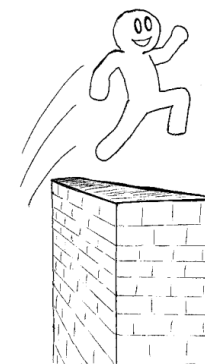
/...**di+i**.../ /si+**di**+is+a/ si-**d**-i:s-a 'I ate a lot'

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

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

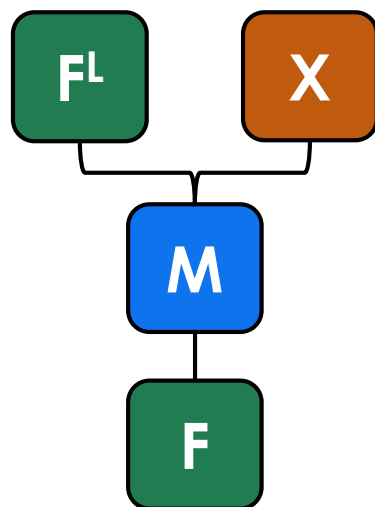
Disambiguation for palatalization

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

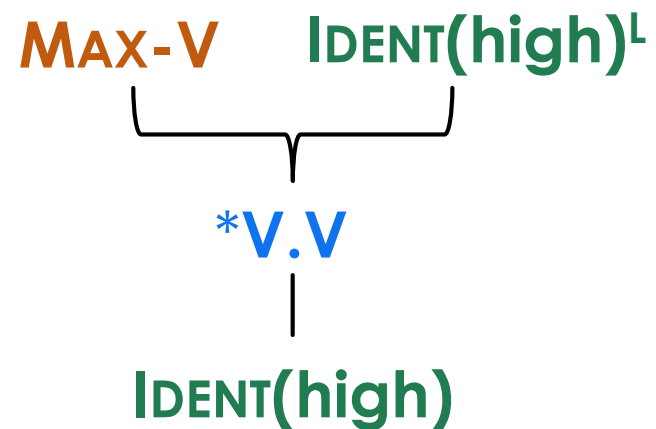


$ dj^LV $	MAX-C ^L	*CC.	*C ^J	MAX-C
$dj^LV.$		*!		
$d\emptyset^LV.$	*!			*
$\text{[hand]} j^LV.$			*	

Typological Predictions

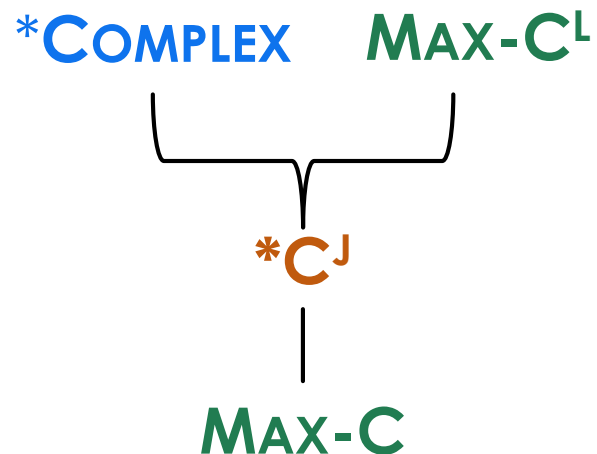


“Simple Blocking”
No Repair

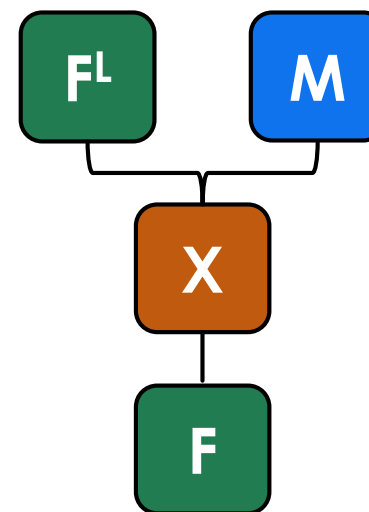


Non-coalescing stems

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

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