

# Exceptions

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# Morphologically Conditioned Phonology: Turkish

## Dative Suffix: Velar Deletion

Nominative	Dative	
bebek	bebe-e	'baby'
inek	ine-e	'cow'

## Aorist Suffix: No Velar Deletion

Past	Aorist	
gerek-ti	gerek-ir	'be necessary'
birak-ti	birak-ır	'leave'

(Inkelas & Zoll 2005)

# Cophonologies (Inkelas & Zoll 2007)

# Cophonologies – Basic Idea

- ▶ Different morphological constructions are associated with different constraint rankings
- ▶ Only general constraints, but different rankings of the same constraints in the same language

# Cophonologies for Turkish

## Dative: Cophonology $\Phi_1$

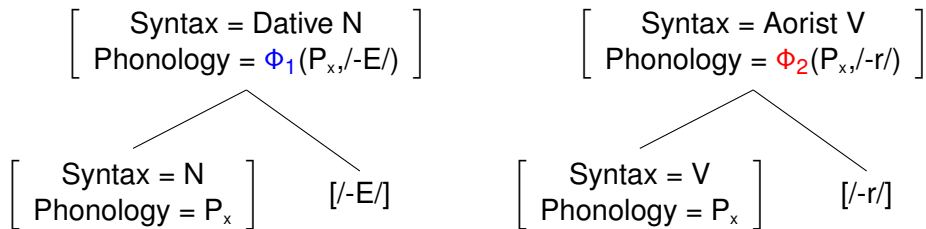
<b>Input:</b> inek-e	*VKV	MAX-C
☞ a. ine-e		*
b. inek-e	*!	

## Aorist: Cophonology $\Phi_2$

<b>Input:</b> gerek-ir	MAX-C	*VKV
a. gere-ir	*!	
☞ b. gerek-e		*

(Inkelas & Zoll 2005)

# Cophonologies and Morphological Constructions



(Inkelas & Zoll 2005)

# Indexed Constraints (Pater 2006)

# Indexed Constraints – Basic Idea

- ▶ General phonological constraints may be cloned to a morpheme-specific variant
- ▶ The morpheme-specific clone appears in the same general ranking as its general copy
- ▶ One grammar, but different versions of the same constraint



# Turkish by Indexed Constraints

## Dative:

Input: inek-e	*VKV <sub>Dat</sub>	MAX-C	*VKV
☞ a. ine-e		*	
b. inek-e	*!		

## Aorist:

Input: gerek-ir	*VKV <sub>Dat</sub>	MAX-C	*VKV
a. gere-ir		*!	
☞ b. gerek-e			*

# Common Hypothesis

- ▶ Only faithfulness constraints can be indexed
- ▶ Markedness reversals are excluded
- ▶ Empirical problems with Turkish and other cases (see below)

# Arguments for Indexed Constraints (Pater 2006)

## Vowel Syncope in Piro (Pater 2006)

a.	/yimaka+lu/	[yimaklu]	‘teaching’
b.	/kama+lu/	[kamlu]	‘handicraft’
c.	/kaku+lu/	[kakoru]	‘a shelter in which a hunter hides’
d.	/hata+nu/	[hatnu]	‘light, shining’
e.	/heta+ya/	[hetya]	‘see there’
f.	/heta+lu/	[hetlu]	‘see it’

## Exceptional Failure of Syncope with -ta,-nu,-wa (Pater 2006)

/meyi+ta/	[meyita]	‘to celebrate’
/hata+ta/	[hatata]	‘to illuminate’
/heta+nu/	[hetanu]	‘going to see’
/meyi+wa+ta/	[meyiwata]	‘to celebrate’ (Matteson: 303)

# -ta,-nu,-wa **Undergo** Syncope

(Pater 2006)

/mey+wa+lu/

[meyiwlu]

‘celebration’

/heta+nu+lu/

[hetanru]

‘going to see him’

/yona+ta+na+wa/

[yonatnawa]

‘to paint oneself’

# Complete Blocking of Syncope with $-wa_2$ (Pater 2006)

/heta+wa+lu/	[hetawalu]	‘going to see him yet’
/n+hiʃinika+wa+lu/	[nuʃinikawalu]	‘I’m still thinking about it’ (Matteson: 74)

# Syncope by Constraints (Pater 2006)

ALIGN-SUF-C Align(Suffix, L, C, R)

The left edge of a suffix coincides with the right edge of a consonant

Input	Output	ALIGN-SUF-C	MAX
heta+ya	hetaya	*!	
	<del>het</del> hetya		*



# Blocking of Syncope by Indexed Constraints (Pater 2006)

- (16) Grammar: ALIGN-SUF(L)-C  $\gg$  MAX  $\gg$  ALIGN-SUF-C  
 Lexicon: /-lu<sub>L</sub>/ /-nu<sub>L</sub>/ /-lu<sub>L</sub>/ /-ya<sub>L</sub>/ /-ta/ /-nu/ /-wa/ /-wa/

Input	Output	ALIGN-SUF(L)-C	MAX	ALIGN-SUF-C
heta+ya <sub>L</sub>	hetaya	*!		*
	☞ hetya		*	
heta+wa	☞ hetawa			*
	hetwa		*!	

# Non-Blocking with 2 Suffixes (Pater 2006)

- (17) Grammar: MAX-L2 >> ALIGN-SUF(L1)-C >> MAX >> ALIGN-SUF-C  
 Lexicon: /-lu<sub>L1</sub>/ /-nu<sub>L1</sub>/ /-ya<sub>L1</sub>/ /-ta/ /-nu/ /-wa/ /-wa<sub>L2</sub>/

Input	Output	MAX-L2	ALIGN-SUF(L1)-C	MAX
heta+nu+lu <sub>L1</sub>	hetanulu		* !	
	☞ hetanru			*
heta+wa <sub>L2</sub> +lu <sub>L1</sub>	☞ hetawalu		*	
	hetawlu	* !		*

# Problem for Cophonologies

- ▶  $wa_1$  undergoes syncope,  $wa_2$  does not
- ▶ This must be due to morphology which is more “outside”
- ▶ Both  $wa_1$  and  $wa_2$  should behave the same

# Finnish /a+i/ Allomorphy (Pater 2006)

- |    |                |  |                            |
|----|----------------|--|----------------------------|
| a. | /tavara+i+ssa/ | [tavaroissa]                           | 'thing (plural-inessive)'  |
| b. | /jumala+i+ssa/ | [jumalissa]                            | 'God (plural-inessive)'    |
| c. | /itara+i+ssa/  | [itaroissa] ~ [itarissa]               | 'stingy (plural-inessive)' |
|    |                |  |                            |
| a. | /taitta-i/     | [taittoi] ~ [taitti] *[toitto] *[titi] | 'break (past)'             |
| b. | /anta-isi/     | [antaisi]                              | 'give (conditional)'       |

# Finnish /a+i/ Allomorphy by Indexed Constraints (Pater 2006)

Input	Output	*[ai] <sub>L</sub>	MAX	IDENT	*[ai]
/taitta-i <sub>L</sub> /	taittai	* !			**
	☞ taitti		*		*
	☞ taittoi			*	*
	titti		** !		
	toittoi			** !	

# Problem for Cophonologies

The /a+i/ effects cannot be restricted to the morpheme boundary

# Predictions of the Cophonology Approach (Inkelas & Zoll 2007)

*Stem scope*: the scope of morphologically conditioned phonology is the stem formed by the word-formation construction in question.

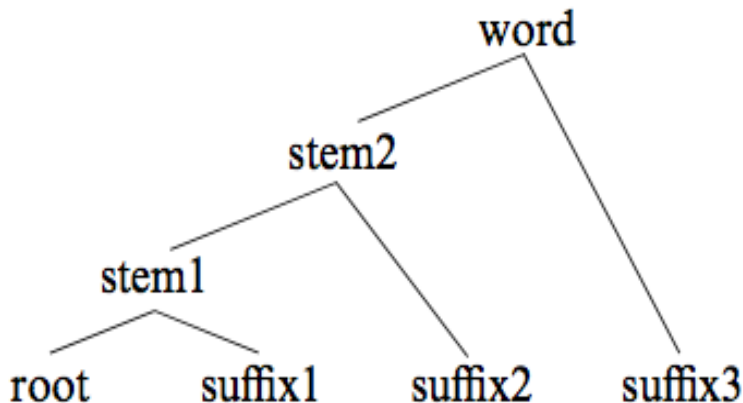
*Locality*: the phonological pattern tied to a particular stem will never refer to morphological structure internal to the stem (“bracket erasure”).

# Arguments for Cophonologies

(Inkelas & Zoll 2007)



# Stem Scope (Inkelas & Zoll 2007)



# Affixation: No Overwriting

a.	ba-goo-bir	+	-ii	→	bagoobirii
	L L H		H		L L H H
	'from-Gobir'		-ethonym		'a Gobir man'
b.	ba-zamfara	+	-ii	→	bazamfarii
	L L L L		H		L L L H
	'from-Zamfara'		-ethonym		'a Zamfara man'

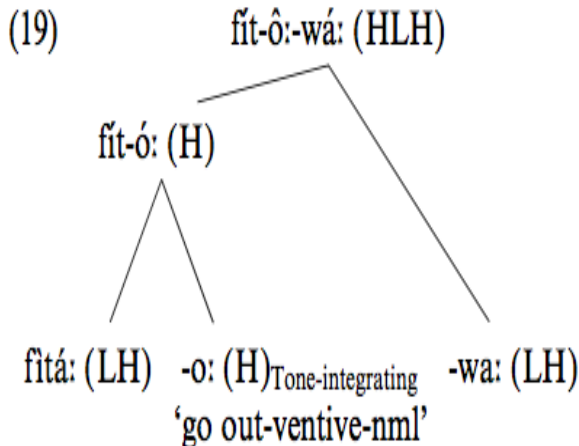
(Hausa recessive affixes, Inkelas 1998)

# Tonal Template: Overwriting

a.	ba-katsina	+	-ee	→	bakastsinee
	L L H L		HL		H H H L
	'from-Katsina'		-ethonym		'a Katsina man'
b.	ba-zamfara	+	-ee	→	bazamfaree
	L L L L		HL		H H H L
	'from-Zamfara'		-ethonym		'a Zamfara man'

(Hausa dominant affixes, Inkelas 1998)

# Locality of Cophonology (Inkelas & Zoll 2007)



- ← Non-tone-integrating cophonology
- ← Tone-integrating cophonology replaces LH melody with H melody

## Literature

- ▶ Inkelas, Sharon & Zoll, Cheryl (2007) Is grammar dependence real? a comparison between cophonological and indexed constraint approaches to morphologically conditioned phonology. *Linguistics*, 45(1):133-171.
- ▶ Inkelas, Sharon & Cheryl Zoll (2005) *Reduplication: Doubling Morphology*. Cambridge University Press.
- ▶ Pater, J. (2006) The locus of exceptionality: Morpheme-specific phonology as constraint indexation. In Bateman, L., O'Keefe, M., Reilly, E., and Werle, A., editors, *Papers in Optimality Theory III*, pages 259-296. GLSA, Amherst, MA.