

## Phonological feature domains and the content of epenthetic vowels

(An argument for representations)

Marc van Oostendorp, Leiden University/HIL, oostendorp@rullet.leidenuniv.nl

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### Overview of this talk

- The interaction between vowel epenthesis and vowel harmony and umlaut
- Dominant/recessive vowel harmony vs. root control
- Some problems for accounts without a worked-out theory of representations
- A theory of segmental integrity
- An extension of the theory to certain derived environment effects

### Icelandic u-umlaut

(1)	barn	`child-ACC SG.'	börn-um	`child-DAT PL.'
	dag	`day-ACC SG.'	dög-um	`day-DAT PL.'
	vatn	`water-ACC SG.'	vötn-um	`wate-DAT PL.r'
	tala	`I speak'	töl-um	`we speak'
	baka	`I bake'	bök-um	`we bake'
	kalda	`cold-ACC SG. MASC.'	köld-um	`cold-DAT.SG.MASC.'

(2)	dag-ur	`day-NOM SG.'
	(/dag+/r/)	
	snarp-ur	`rough-MASC NOM SG.'
	(/snarp+/r/)	

(3)	b a r n	u m
	\	
	[-back]	
	[+round]	

### Winnebago (Dorsey's Law)

(4)	x <sub>o</sub> rojike	`hollow'
	hojisana	`recently'
	hirupini	`twist'
	maaš <sub>a</sub> rac	`you promise'

### Turkish: vowel harmony (front harmony)

(5)	<i>nom.sg.</i>	<i>gen.sg.</i>	<i>nom.pl.</i>	
	ev	ev-in	ev-ler	`house'
	ip	ip-in	ip-ler	`rope'
	kIz	kIz-In	kIz-lar	`girl'
	para	para-nIn	para-lar	`money'



- Languages in which the epenthetic vowel is the only one not to undergo vowel harmony. (In such a language there would be e.g. two [y]'s, one underlying, the other epenthetic. The underlying /y/ would be subject to harmony/umlaut, whereas the epenthetic vowel would not be sensitive to it)

Icelandic\*

(13)	barn	`child-ACC SG.'	barn-[u]m	`child-DAT PL.'
			barn-[y]r	`child-NOM SG.'
			(/barn/+r/)	
	deg	`day-ACC SG.'	deg-ym	`day-DAT PL.'
			deg-[y]r	`day-NOM SG.'
			(/deg/+r/)	

**Problems: rule-based accounts**

- It is not clear how the restriction of 'root-control' should be implemented
- Icelandic is a classic case of opacity. There are two rules (UMLAUT and EPENTHESIS). If they are applied in this order we get Icelandic. But since we have no way to distinguish between target and trigger in the rule, we could also get Icelandic\*.

**Problems: constraint-based accounts (correspondence theory)**

- It is still unclear how 'root-control' should be described. Simple cases such as *ip-ler* could be described by a ranking Faithful(root)>>Faithful(affix). But this ranking is stipulatory and furthermore still does not explain the more complex cases of *altI-gen-ler*, etc

(14) Factorial typology:

Ident(root), Ident(affix) >> Harmony	No harmony
Ident(root)>>Harmony>> Ident(affix)	(Almost) root-controlled harmony
Harmony >> Ident(root), Ident(affix)	Dominant/recessive harmony
Ident(affix)>>Harmony>>Ident (root)	(Almost) affix-controlled harmony; blocked by stipulation.

- Since Icelandic u-umlaut is a case of opacity, it is problematic for 'classical OT'. This problem may have been solved with the introduction of Sympathy theory (Karvonen and Sherman 1997)

(15)

a.

SONCON	Complex onsets rise in sonority, complex codas fall in sonority.
REALIZE-M	For every morpheme in the input, the output must contain at least one segment of that morpheme.
IDENT- <sup>*</sup> O	Corresponding segments in <sup>*</sup> candidate and output must have corresponding feature values.
DEP-IO	Every segment in the output must be present in the input
ANCHOR-R	Any element at the right edge of the input has a correspondent at the right edge of the output.
MAX-IO	Every segment in the input must be present in the output
UMLAUT	*[a C <sub>0</sub> + C <sub>0</sub> y]
IDENT	Corresponding segments in input and output must have corresponding feature values.



**Epenthetic vowels have no morphological domain; epenthetic material is outside of any domain**

(20)

/barn/+um/	INTEGRITY	UMLAUT	FAITH
barnum		*!	
☞börnum			*

(21)

/dag/+r/	INTEGRITY	UMLAUT	FAITH
☞dagur		*	
dögur	*!		*

- |      |                             |  |
|------|-----------------------------|--|
| (22) | HARMONY>>INTEGRITY,FAITH    | All vowels trigger harmony             |
|      | FAITH >>HARMONY (INTEGRITY) | No vowels trigger harmony              |
|      | INTEGRITY>>HARMONY>>FAITH   | Only underlying vowels trigger harmony |

**Strict cyclicity effects**

(23) **Strict Integrity (SI):**

A segment may only dominate features that are strictly within its domain.

A feature F is strictly within the domain of a segment S, if the domain of F is D1 and the domain of S is D2 and D2 is larger than D1.

(24) Winnebago

/xrojike/	SI	HARMONY	FAITH
☞xrojike			
xrojeke	*!		
xerojike		*!	*

(25)

/hangi/	SI	HARMONY
☞hangi		*
hengi	*!	

(26)

/prens/	SI	HARMONY
☞pirens		
pIrens		*!

(27)

/kedi/	KEEP-ASSOCIATION	SI	HARMONY
☞kedi		*	
kedI	*!		*

