Accentual defaults in Karuk: Evidence for stratal phonology

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How many default phonological patterns can a language have?

- **Monostratal OT:** Only one, e.g., Alderete (2001); Kenstowicz (2005); McCarthy (2010)
- **Stratal OT:** One/level (stem, word, phrase), e.g., Kiparsky (2008); Bermúdez-Otero (2010)
- **Cophonology Theory:** Many possible, e.g., Anttila (2002); Inkelas and Zoll (2007)

The Karuk language

- Hokan isolate, Northern California
- Polysynthetic (100+ verbal affixes, ∼14 positions)
- Syllables: CV, CVC, CVV, CVVC
- Accentuation = tone (á, áá, áà) + stress (1 per word, coincides w/ TBU)

Objectives

Much complexity and apparent unpredictability in morphologically conditioned accentual phenomena

- How much can be reduced to metrical default(s)?
- What are the defaults and how many are needed?

Core concepts & constraints

Stem-level morphology: Verbal derivational affixes (e.g., directional, valence-changing suffixes)

Word-level morphology: Verbal inflectional affixes (e.g., person prefixes); nominal compounding

***cv́c:** No H tone on short-voweled, closed syllable

FtForm=$(\sigma_v\sigma_{vv})$: a foot has R-aligned long V, L-aligned stress/H tone (conflation of multiple constraints)

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Stem-level default

$\sigma]_{stem}$ – *stem-level suffix*
|
H ← **align H**, resyllabify

Constraint rankings and effects:

*CV́C ≫ Dep-Vμ ≫ SWP

- Lengthen V to avoid CV́C σ
- No evidence of weight-sensitive footing

Word-level default

(CV́C.CVV(C)) ← **default foot**

otherwise → (CV́C.CV(C))$]_{word}$

Constraint rankings and effects:

Dep-Vμ, SWP ≫ *CV́C
FtForm=$(\sigma_v\sigma_{vv})$ ≻ FtForm=$(\sigma_v\sigma_v)$

- Geminate to give CV́ σ a coda
- Can't lengthen V to get ideal foot

Findings

When morphology erases input accentuation, **two different default accentuation patterns** are found, one assigned at the stem level and one at the word level – supports a stratal analysis

Results

- Much accentuation predictable by default
- Two tonal/metrical defaults needed
  - Different alignment constraints
  - Presence/absence of sensitivity to ideal foot
  - Diametrically opposed treatment of codas (source of opacity)

Conclusions

- Defaults match up with stem, word level morphology, supporting Stratal OT approach
- Markedness reversals between levels – problematic for Grammar Dependence
- Stem level constraints – tonally motivated
  Word level constraints – metrically motivated

Stem-level data & analysis

H tone right-aligned to input stem:

(1) *ikrívruh* 'to roll' *-unih* 'down' → *ikriv(rúhu)nih* 'to roll downhill from here'

CV́C **dispreferred** (avoid H on CVC σ):

(2) *ikrívruh* 'to roll' *-sur* 'off' → *ikriv(rúúhsur)* 'to roll away'

(3)

	ikrívruh -unih	*cv́c	Align-R	Dep-Vμ	SWP
a.	íkrivruhunih	*!	**		
b.	ikrívruhunih	*!	*		
c. ☞	ikrivrúhunih				*
d.	ikrivruhúnih		*!		*
e.	ikríivruhunih		*!	*	
f.	ikrivrúúhunih			*!	

(4)

	ikrívruh -sur	*cv́c	Align-R	Dep-Vμ	SWP
a.	íkrivruhsur	*!	**		
b.	ikrívruhsur	*!	*		
c.	ikrivrúhsur	*!			
d.	ikrivruhsúr	*!	*		
e.	ikríivruhsur		*!	*	
f. ☞	ikrivrúúhsur			*	

Word-level data & analysis

Stress/H to σ to left of rightmost long vowel:

(5) *uk(rívruuh)sur* 'she rolled away'

If no long vowel, penultimate stress/H:

(6) *pu'iyka(ráphat)* 'they didn't kill'

CV́C **preferred** (stressed σ should be heavy):

(7) *upip(tákkith)* 'he mended [them]'

(8)

	u- ikrivrúúhsur	Dep-Vμ	SWP	$(\sigma\sigma_{vv})$	AllFt-R	Dep-Cμ	*cv́c
a.	(úkriv)ruuhsur			*!	**		
b. ☞	uk(rívruuh)sur				*		*
c.	ukriv(rúúhsur)			*!			
d.	ukriv(rúúhsuur)	*!					
e.	uk(rívruh)sur			*!	*		*
f.	ukriv(rúhsuur)	*!					*

(9)

	u- piptákith	Dep-Vμ	SWP	$(\sigma\sigma_{vv})$	AllFt-R	Dep-Cμ	*cv́c
a.	u(pípta)kith			*	*!		*
b.	upip(tákith)		*!	*			
c. ☞	upip(tákkith)			*		*	*
d.	upip(táákith)	*!		*			
e.	upip(tákiith)	*!	*				
f.	upip(tákkiith)	*!				*	*

Another puzzle

When is input accent *not* erased by morphology?

- HL realized over exactly 2 μ (CV́CV̀, CV́V̀), but:
  - Not (necessarily) assigned by default
  - Not (necessarily) lexical property of roots
- Explain by special Faith? Added steps?

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