ARAPAHO

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PHONOLOGICAL CONSTITUENCY

Phonological, morphological, and syntactic complexity of Arapaho (and, more broadly, of Algonquian) provides a fruitful ground for investigating prosodic constituency and (non-)isomorphic relations between phonology and other layers of grammar.
How do characteristically long orthographic (morphological?) words like (2) map onto the traditional Prosodic Hierarchy (1)?

How do constituents in (1) map onto the traditional Algonquianist templatic distinctions (Bloomfield 1946)?

How do constituents in (1) and/or Bloomfield’s templatic slots map onto morpho-syntactic constituents or domains?

(Cowell & Moss 2011, C&M henceforth: 250)
A NUMBER OF PHONOLOGICAL CUES FOR DOMAINS

For Arapaho, the following phonological processes cue non-isomorphic domains within complex ‘words’:

- Vowel hiatus resolutions/Onsetless syllables repairs
- Consonant mutations
- Vowel harmony
- Stress
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HIATUS RESOLUTION STRATEGIES

**Resyllabification**

(1) néí.noo  
ne-inoo  
I-mother  
‘my mother’ (C&M: 67)

**Vowel deletion**

(2) SR  h<ón>ooxúú-wu-noo  
UR  <on>óóxuu-óúwu-noo  
<IC> across-swim-1SG  
‘I am swimming across.’ (C&M: 17)

**Glottal epenthesis**

(3) h<é>ét-biiðíhi-noo  
<IC> FUT-eat-1SG  
‘I will eat.’ (C&M: 93)

**Glide epenthesis**

(4) n<on>óóhow-ún  
<IC> see.so-2SG>1SG  
‘You see me.’ (C&M: 18)
If two short vowels are adjacent, they are resyllabified.

Resolutions in (5) only apply if the adjacent morphemes result in more than two vowel morae (Bogomolets 2020, to appear):

(5) Glottal epenthesis
    Glide epenthesis
    Vowel deletion

Resolutions in (5) only apply if at least one of the adjacent morphemes has a long vowel:

(6) VV-V   V-VV   VV-VV
MORPHO-PROSODIC ENVIRONMENT

(5) Glottal epenthesis
Glide epenthesis
Vowel deletion

- What are the environments for each?
- What can they tell us about the morpho-prosodic domains?
MORPHO-PROSODIC ENVIRONMENT

Cross-linguistically, in hiatus environments:

- Glottal consonants are epenthesized at boundaries of morpho-prosodic domains,
- Glides are epenthesized within morpho-prosodic domains (Blevins 2009).

This holds for Arapaho:

- **Glottal epenthesis** marking the left boundary of morpho-prosodic domains.
- Within morpho-prosodic domains Arapaho employs **vowel deletion**.
- **Glide epenthesis** is harder to spot in Arapaho, but when it occurs, it seems to occur within domains rather than at the boundaries (cf. Blackfoot).
MORPHO-PROSODIC ENVIRONMENT

- **Glottal epenthesis** marks the left edge of:
  - Morphological words (7a),
  - Domain within morphological words after left edge-most proclitics (7b).
- **Glottal epenthesis** marks the left edge of a constituent comparable to **Phonological Words** in other languages.

(7a) SR\( _{\text{PhW}}[^{h}\text{é}t\text{-}bii\theta\text{hi}\text{-}n\text{oo}] \)
UR \(<\text{é}\text{-}bii\theta\text{hi}\text{-}n\text{oo}\)
\(<\text{IC}\text{-}FUT\text{-}eat\text{-}1\text{SG}\)
‘I will eat.’ (C&M: 93)

(7b) koo\( _{\text{PhW}}[^{h}\text{heihciic\text{-}e\text{-}n\text{ooh\text{-}owo}] \)
\(\text{koo}\text{=}\text{e-ih-ciic\text{-}i\text{-}nooh\text{-}owo}\text{-}oo\)
\(Q\text{=}2\text{-}\text{PST\text{-}NEG\text{-}by\text{accident\text{-}see}(TA)\text{-}3\text{SG}\)
‘Did you happen to see her [my older sister]?’
Vowel deletion and Glide epenthesis as hiatus resolutions occur within the Phonological Word domain.

Vowel deletion occurs between:
- Initials and finals (8),
- Between some prefixes (9)

\[(8)\] SR \(\text{PhW}[h<\text{ón}>\text{ooxúú-wu-noo }]\)

\[(9)\] koo \(\text{PhW}[\text{héíniisi3ei}]?\)

UR \(<\text{on}?>\text{óóxuú-óúwu-noo}\)

\(<\text{IC}>\text{across-swim-1SG}\)

‘I am swimming across.’ (C&M: 17)

koo = e-ii-niisi3ei

Q = 2-IPFV-work(AI)

‘Do you(S) work (i.e., do you have a job)?’ (C&M: 94)
Glide epenthesis in Arapaho can look unusual:

- No /w/-epenthesis,
- PA *y>Arapaho /n/ (Goddard 2015: 346) (10)
- /y/-epenthesis: underlying vs. epenthetic /y/? (11); cf. also Goddard (2015: 346): “AR y inserted between long front vowels after PA *(h)k > Ø”.

Glide epenthesis can be hard to spot in Arapaho, but when it occurs, it:

- Occurs within the PhW domain,
- seems to occur between morphemes that are the closest morpho-phonologically: e.g. under infixation (10) and within complex noun stems (11).

(10) n<on>óóhow-ún
<lc>see.so-2SG>1SG
‘You see me.’ (C&M: 18)

(11) bei'ci3ei-yookuu
bei'ci3ei-ooku
metal-eye
‘spectacles’ (Cowell, p.c.)
Note that Gros Ventre shows /n/-epenthesis in environments parallel to (11), cf (12):

(11) bei’ci3ei-yookuu  
    bei’ci3ei-ooku  
    metal-eye  
    ‘spectacles’ (Cowell, p.c.)

(12) nisééihii-nóθa?  
    nisáhi:-óθa?  
    wild(AI)-horse  
    ‘wild horse‘ (Cowell, in prep.)
HIATUS RESOLUTIONS: HIERARCHY

Hiatus resolutions ordered from the simplest/most straightforward environment to the most obscure:

- **Resyllabification**: applies to any two short vowels:
  \[(13)\quad V-V \rightarrow .VV.\]

- **Glottal epenthesis** - a left-edge resolution: applies at the left edge of **Phonological Words**:
  \[(14)\quad \text{Proclitics } \text{PhW}[h...\]

- **Vowel deletion**: applies within PhW:
  - between initials and finals,
  - between some prefixes,
  - doesn’t apply between suffixes/ Root-Suffix junctures???
  \[(14)\quad \text{Proclitics } \text{PhW}[h...\text{vowel deletion }\]

- **Glide epenthesis**: ?? applies within PhW - to the most “tightly bound” morphemes:
  - Infix-Prefix/Proclitic; Infix-Root junctures,
  - within complex (compound) stems.
PHONOLOGICAL ANALYSIS?

(2) \[ \text{PhP}[^{CG}\text{CG}[^{PhW}\text{koo}^{\text{PhW}}\text{heihciicéeθnoohówoo}]^{\text{CG}}\text{nebi}]? \]
\[ \text{koo}=\text{e}-\text{ih}-\text{cii}-\text{cee}\theta-\text{i}-\text{noohow}-\text{oo} \]
\[ Q=2-\text{PST}-\text{NEG}-\text{by accident}-\text{see(TA)}-3\text{SG} \]
\[ \text{I}-\text{older.sister} \]
\[ \text{‘Did you happen to see my older sister?’} \]

(C&M: 250)

**PhW:**
- Glottal epenthesis at the left edge,
- Domain of regressive vowel harmony.

**CG:**
- Stress domain,
- Domain of progressive vowel harmony.

**PhP:**
- Intonational unit.
PHONOLOGICAL ANALYSIS?

\[(2) \quad \text{PhP}\_{\text{CG}}[\text{PhW}[\text{PStem}[\text{céeθnoohówōo}]])] \quad \text{nēbi}?\]

\[\text{koo}=e\text{-ih-cii-cееθi-noohow-oo} \quad \text{ne-bi[h]}\]

\[Q=2\text{-PST-NEG-by accident-see(TA)-3SG} \quad \text{l-older.sister}\]

‘Did you happen to see my older sister?’ (C&M: 250)

**PhW:**
- Glottal epenthesis at the left edge,
- Domain of regressive vowel harmony.

**CG:**
- Stress domain,
- Domain of progressive vowel harmony.

**PhP:**
- Intonational cues.

➢ Smaller domains within PhW?
  - Domain of glide epenthesis? **PStem**?
NEXT STEPS

- More data for each of the resolutions → define phonological and morpho-syntactic environments more precisely.
- Specific patterns within each of the hiatus resolution strategies:
  - E.g. in case of vowel deletion, which vowel deletes? (cf. Casali 1997 for a cross-linguistic discussion)
- Mapping of the traditional Algonquianist templatic slots onto the prosodic constituents.
- Mapping of the traditional Algonquianist templatic slots and prosodic constituents onto morpho-syntactic constituents or domains.
THANK YOU!
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REFERENCES


