"Initial prominence and progressive vowel harmony in Tutrugbu"

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- Vowel harmony systems where vowels in correspondence must be identical with respect to some feature [+F] ([Round], [ATR], [Height], [Nasal], etc.)

- "How to derive directionality is a persistent question in OT"
  - Directly: a primitive
  - Indirectly: epiphenomenal from prominence

- (7) Surface: Left-to-right agreement for [ROUND] harmony (root excluded)
  - [+R] → ɒ- kaá- ba- wu → ɔ-koó-bo-wu ‘2S-still-VENT-climb’
  - [-R] → a- kaá- ba- wu → e-keé-be-wu ‘3S-still-VENT-climb’

- Direct: trigger = not (necessarily) prominent, just leftmost
- Indirect: trigger = prominent

- Thesis: "ultimately arguing in favor of the prominence-based analysis as a better account of language-internal facts, as well as the larger typology of prefix-initiated harmony patterns"; "that progressive directionality is more generally derivable from prominence. In other words, progressive directionality is epiphenomenal (see also Kaplan 2008)" (p. 19)

(2) underlying vowel inventory  surface vowel inventory

\[
\begin{array}{c|c|c}
  i & u & i \\
  \varepsilon^H & \varepsilon^H & u \\
  e & o & e \\
  \varepsilon & \varepsilon & \varepsilon \\
  a & a & a \\
\end{array}
\]

(3) ATR vowel classes and harmonic pairings

\[
\begin{array}{c|c}
  [-ATR] & [+ATR] \\
  a & e \\
  \varepsilon & o \\
  \varepsilon^H & u \\
  \varepsilon^H & i \\
  \varepsilon & \varepsilon \\
\end{array}
\]

- Evidence for /ɛ^Hɔ^H/ as [+HIGH] (i.e. /i u/)
  - [+ATR] counterparts are /i u/
  - like /i u/, they are both non-undergoers and non-triggers of [Round] harmony
  - 'true' /ɛ ɔ/ pattern as [-High]
  - In sister language Tafi, correspond to (more straightforward phonemes) /i/ and /ɔ/ Tutrugbu [kɛ^H-le] ‘CM5-air’ vs. [kí-lê] in Tafi
• **Morph order**: Agr-TAMP-Root [Tense/Aspect/Mood/Polarity]

• **Pre-condition for [ROUND] harmony**: both trigger and target must be [-High]

• (10) High vowels are non-undergoers
   - ɔ-tɛꜩ-ɓa-ba '2S-NEG-FUT-come'
   - /ɔ-ɓa-ba/

• (12) High vowels are not triggers
   - bɔ ꩦ-ɓa-ɗi ~ bu-ɓa-ɗi '1P-FUT-know'
   - /bɔ-ɓa-ɗi/

• Even if both are [+High]:
   - /bʊ-ɗi-du/ ɓu-ɗi-wu '1P-NEG-climb'
   - /bʊ-ɗi-ba/ bɔ ꩦ-ɓe-ɗe ‘1P-NEG-come’

• **Our question**: is prefix-initiated harmony here due to prefix being in a prominent position (domain edge), or from a general left-to-right progressive harmonizing mechanism

• 1] **Strong prominence hypothesis** (Baković 2000): No directionality  Falsified

• *Regressive* Karaja ATR harmony from rightmost [+ATR] vowel (Ribeiro 2002: 482)
   - a. /Ø-ɗ-ɗu=ren/ → rofu ꩦhoreri '3-CTFG-ANTI-curse=CTFG-PROG'
     *rofu ꩦhoreri
   - b. /Ø-ɗ-e=ren/ → rofu ꩦhore '3-CTFG-ANTI-curse=CTFG-IMPERF'
   - c. /b-e-ɗe=ikud=he/ → bede heikuni ‘2-INTR-look=IMPF=EMPH’

• 3] **Pure directionality hypothesis**: "Problematically, the pure directionality hypothesis does not attempt to answer why the harmony patterns attested in the world’s languages typically originate at edges, roots, and other linguistically significant positions."

• **Prominence** (Walker 2011, Kaplan 2015, i.a.):
  - **Morphological**:
    - (1) **Root vowel** dictates harmony (or Stem)
  - **Phonological**:
    - Domain edge value wins
    - (2) **Left-edge vowel** dictates harmony
    - (3) **Right-edge vowel** dictates harmony
    - Metrically prominent value wins
    - (4) **Stressed** vowel dictates

• 2] **Weak prominence hypothesis** (Hyman 2002, 2008, this study)
"If the weak prominence hypothesis is correct, then word-internal progressive harmony may only originate from morphological stems, stressed syllables, and initial syllables. Crucially, the weak prominence hypothesis predicts that progressive harmony may not be triggered by a position other than these prominent positions, in contrast to the regressive harmony seen in Karaja, which can be triggered from any position."
• Three diagnostics for progressive harmony  (p. 12)
  o 1. Does [+F] trigger left-to-right harmony?
  o 2. Does [+F] occur in weak positions in the absence of [+F] in strong positions?
  o 3. When in weak positions, does [+F] trigger left-to-right harmony?

• Karaja exemplifies all three for regressive harmony
  o First, [+ATR] triggers leftward harmony
  o Second, [+ATR] occurs in weak positions in the absence of [+ATR] in strong positions
  o Third, [+ATR] triggers leftward harmony from weak positions.

• Finding: Tutrugbu progressive harmony is only from prominent position - the initial vowel
  o Supports prominence hypothesis over directionality hypothesis

• Initial syllable prominent:
  - contrast licensing: more contrastive phonemes allowed in initial position
  - Initial syllable maintained in hiatus contexts
    o V1 glides
      /a-mɔ́bɔ̃i na/ → [amɔ́bɔ̃i na] 3S-see CM4-sheep DEF “S/he saw the sheep.”
    o V1 glides
      a-tɛ́H-a- [atɛ́H-a]  ‘3S-NEG-PROG-come’
      o-t-ɔtsi   [otɔtsi]  ‘2S-NEG-PROG-crawl’
    o V2 assimilates
      bɔ́ɛ́H-ba      [bɔ́ɛ́H-ba]  ʰ[bɛba]  ‘1P-NEG-PROG-come’
      bu-i-wū      [bu-i-wū]  ʰ[bɛwu]  ‘1P-NEG-PROG-climb’
  - no medial [+round] suffixes in Tutrugbu:
    o Expected under prominence, unexpected gap under directionality
    o In fact, family-internal perfect correlation between labial harmony and lack of medial [+Round]
      o Language Labial harmony Underlying [+round] medial
        Lang type 1 yes (initial V) no (only from harmony)
        Lang type 2 yes (root) no (only from harmony)
        Lang type 3 no yes
Harmony systems:

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<thead>
<tr>
<th>Morphological</th>
<th>Prominence</th>
<th>Directionality</th>
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<tbody>
<tr>
<td>Root</td>
<td>Stem</td>
<td>Stress</td>
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<tr>
<td>Trigger</td>
<td>Become like...</td>
<td>root vowel</td>
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<tr>
<td>Non-undergoer</td>
<td>Don't change...</td>
<td>Root-control</td>
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</tbody>
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Topics to discuss:
- **Are there other types of prominence relevant here?**
  - Contrastive accent (focus/given)
  - Lexical accent systems?
  - Edges of other domains than p-word?
  - Heavy syllables?
  - Inherent (e.g. /a/ vs. /i/)
  - Head of a foot
  - Prominent syllable harmony (e.g. first-last, all heads of feet)
- **Root-prominence** - "Harmony derived from the prominence of roots over affixes is widely attested and uncontroversial (Clements 1976; Kirchner 1993; Baković 2000)." (p.11)
  - But the opposite holds for tone dominance.
- What to do about /ɛ/ vs. /ɛH/?
  - Unity of pattern, non-unity of gesture
- Should prominence be **calibrated to type of harmony** (nasality, height, round, atr):

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<tbody>
<tr>
<td>a. a_x-b_o_x-m_o_x</td>
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<td>b. a_x-b_a_x-m_a_x</td>
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<td>c. o_x-b_o_x-m_o_x</td>
<td>*!</td>
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<td>*</td>
<td>**</td>
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<td>d. a_x-b_o_y-m_o_y</td>
<td>*!</td>
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<tr>
<td>e. a_y-b_a_y-m_o_x</td>
<td>**!</td>
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<tr>
<td>f. a_x-b_a_x-m_o_y</td>
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(41)