‘Initial’ geminates initially and medially
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Aims

- **Main claim:** if a geminate is underlyingly moraic (Ham 2001) and if moraic onsets exist (Topintzi 2006), then tautosyllabic onset geminates should also be available
- **Empirically verify** this with data from Pattani Malay and Marshallese
- **Advantage:** fills in a logical possibility and also accounts for initial geminates, whose representation has so far been a problem in moraic theory

The theory

- **Standard medial-geminate representation – the ‘flopped structure’** (Hayes 1989): 
  \[
  \begin{array}{c}
  \sigma \\
  \mu \\
  \end{array}
  \quad
  \begin{array}{c}
  C \\
  V \\
  \end{array}
  \]
- **Problem:** initial geminates \(\rightarrow\) no coda available \(\rightarrow\) no ‘flopped’ structure available
- **Some alternatives & their problems:**
  - Davis (1999): \(\mu\) is unlinked to higher prosodic structure, thus cannot contribute to weight for e.g. WiMinimality
  - Curtis (2003): resembles representation of unsyllabified consonants, but no evidence for lack of syllabification

A prediction

- **Moraic onset geminates will also be possible medially**
- **Importantly,** they will render the CV syllable heavy, rather than the preceding one as in the flopped CVC.CV
- **Empirical evidence:** Marshallese (see below)

Pattani Malay initial geminates

- Consonant length only contrasts initially; vowel length is not phonemic. In open syllables \( V = \text{long} \), in closed ones \( V = \text{short} \). Exception: \( /i/\equiv\text{always short} \)
- **Stress in non-geminated words (1a):** primary on final \( \sigma \); secondary on remaining ones (1a.i.), unless they include \( /i/\) in which case they are stressless (1a.ii.k)
- **Stress in geminated words (1b):** primary always on first \( \sigma \) (1b.i); secondary stress on remaining syllables
- The data (Yupho 1989, H&G):
  - (1) Geminates and words
    a. **Non-geminated words**
    b. **Geminated words**
      i. [biwibh] ‘fruit’
      j. [biwibh] ‘to bear fruit’ from [bi+wi+bh]
      ii. [jai] ‘road, path’
      j. [jai] ‘to walk’ from [ja+i+al]
      iii. [piat] ‘tooyal’
      i. [piat] ‘to walk’ from [pi+at]
      iv. [sifjad] ‘police’
      j. [sifjad] ‘to the shop’ from [si+if+jad]

A solution

- **Initial geminate as a **moraic** onset** (cf. Hajek and Goedemans 2003 (henceforth H&G))
- **Advantages**
  - Avoids problems of Davis and Curtis
  - **Is consistent with Ham (2001):** a geminate is underlyingly moraic. Thus, the ‘flopped’ structure is not necessary, but achieves better syllabification (cf. CVC.CV vs ‘flopped’ CVC.CV; N.b CVC.CV.geminates). Initially then, single linking is permitted
  - **Is compatible with other data suggestive of moraic onsets,** cf. Pirahã, Karo, Arabela stress or Bella Coola WiMin (Topintzi 2006)
  - Accounts for data such as Truksese WiMin (Davis and Torretta 1998, Muller 1999), Pattani Malay stress (H&G, see below)

Sketch of the analysis

- \( CV(V=1)_1, CV(C=1)_1 \) (because vowel length is not phonologically contrastive), \( CV(V=2)_1 \) (because of the moraic onset geminate)
- **Primary stress** is normally word-final (AlignH&HR), when all syllables are monomoraic. A \( CV(V) \) attracts stress due to WSP >> AlignH&HR
- **Secondary stress** assigned on remaining syllables unless they include \( /i/\). Avoidance of stressed central vowels (*Pi*), cf. quality-sensitive stress (Keniworthoc 1994, de Lacy to appear)
- **However,** WSP >> *Pi*: weight takes priority over quality, e.g. kiiwada
- **Analysis improves** on H&G, who treat \( CV(V=CV=2)_1 \) and make no use of *Pi*. They thus predict \( *[k\ddot{i}_{1}d_{1}b_{1}]_{1} \), instead of \( *[k\ddot{i}_{1}d_{1}b_{1}]_{1} \)
- **Then solution:** prioritize onset weight over nuclear one and introduce ad hoc constraints. **BUT:** this predicts untested systems and employs unwarranted machinery. Both problems avoided in current analysis

Marshallese medial geminates (1)

- Stress and reduplication data support a moraic onset analysis
- Distributive reduplication (Ralik dialect) via consonant doubling (and/or final syllable doubling. The status of the prefix \( y\) is unclear)
- **(2) Root**
  - korap yokoraprap ‘gecko’
  - diylish yiddiylishlah ‘nail’
  - nb yinnubub ‘preemptive’
  - reja yerrejaja ‘(from Engl.)’
- In Ralik, reduplication is by means of consonant doubling. In the Ratak dialect, it is CV-Reduplication, e.g. diylish \( \rightarrow \) didiylishlah. Generalisation: reduplication=\( \pm^1 \mu \). Ralik opts for the absolute minimum, Ratak avoids geminates and prefers supraminimal CV
- A moraic geminate reduplicant wholly syllabified in the same \( \sigma \) captures this straightforwardly

Marshallese medial geminates (2)

- Trisyllabic window for stress (Zewen 1977): (Final) codas are non-moraic
  - If all \( s \)s are light, then stress is on antepenult, e.g. eka’et ‘to judge’
  - Heavy \( s \)s attract stress, e.g. je:di:er ‘commotion, excitement’
  - If \( s \)s are equally heavy/light, leftmost gets stress, e.g. mi:aij ‘to be clear of underwater’
- Stress in words with medial geminates falls on \( CV \) syllable: jibbing ‘morning’; (y)ininim ‘good’
- If syllabification was [jib:un], then stress should be initial under any assumption, namely: a) if codas are not moraic, then leftmost stress, b) if medial codas are moraic, then again leftmost stress, since this hosts the heavy syllable
- Only way to produce correct stress: syllabification is jib:un, i.e. with a moraic onset geminate. Final stress accounted for since the syllable is heavy

Conclusion

- Geminates as moraic onsets solve the long-standing problem of how to represent initial geminates
- Medially, languages can either have \( CV.CV \) geminates or \( CV.CV \) geminates. The latter avoid extra codas at the expense of *Moraic Onset violations. Since most languages ban moraic onsets, it follows that usually medial geminates are heterosyllabic