Sesquisyllabicity

The role of structural analysis in the study of linguistic diversity in Mainland Southeast Asia
Acknowledgments

- Max Planck Institute of Evolutionary Anthropology
- Max Planck Institute of Psycholinguistics
- Faculty of Arts, Chulalongkorn University
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MSEA phonological diversity

- MSEA has always been seen as having high language and phylogenetic diversity but low structural diversity.
- MSEA phonological features include:
  - complex vowel systems
  - restricted set of final consonants
  - contrastive tones and registers
  - monosyllabicity and sesquisyllabicity
Fieldwork on MSEA sound systems

- Fieldwork on understudied languages has been one of the most eminent enterprise in SEA linguistics.
- Grammar sketches and books as outputs of fieldwork
  - serve as invaluable resources
  - present phonemic analysis and often brief discussion on basic phonotactics
  - describe “surface” inventory of elements rather than how they are related to each other
  - does not facilitate areal comparison due to unclear definition and argumentation
Sesquisyllabicity as MSEA feature

- Synchronically, MSEA languages from different families have been described as having sesquisyllables, e.g. Kammu (Svantessoon 1983), Burmese (Green 1995), Buyang (Edmondson 2008), Moken (Larish 1999) etc.

- Diachronically, sesquisyllabicity is claimed to be intermediate between disyllabic and monosyllabic stages (Matisoff 2006; Michaud 2012; Brunelle and Pittayaporn 2012)
Traditional definition

"Proto-AA had what one might call a ‘sesquisyllabic’ structure, with morphemes that were ‘a syllable and a half’ in length. That is, the prevocalic consonant was often preceded by a ‘pre-initial’ consonant..."

(Matisoff 1973: 86)
Minor vs. major syllables

- Minor syllable = ½ syllable reduced & unstressed
- Major syllable = 1 syllable full & stressed
Examples from Khmer (Matisoff 1973)
- [psa:] ‘market’
- [kŋaok] ‘peacock’

Thomas (1992) is the first attempt at typologizing sesquisyllabic languages in MSEA
- contrastiveness of sesquisyllabicity
- vowel contrast in minor syllables
What are minor syllables?

- Any reduced initial syllable
  - Thurgood (1999) on Northern Roglai
    - [tulo?] ‘knife’
    - [ricap] ‘fragile’
    - [pikan] ‘abstrain’
    - [hatai] ‘liver’

(data from Cobbey and Cobbey 1977)
Reduced syllable with no contrastive vowel

Svantesson (1983) on Kammu

- [cəŋá:r] ‘green’
- [təlú:j] ‘to hang (intr.)’
- [sḿkər] ‘to straighten’
- [pŋtèʔ] ‘to cause to get’
Syllable containing one single consonant

Burenhult (2005) on Jahai

- [k(^a)nɛc] ‘comb’
- [t(^a)lɔʔ] ‘hole’
- [t(^a)ɡɨɲ] ‘to tear apart’
- [kal tong] ‘knee’
- [t(^a)mkal] ‘male’
- [p(^i)ɲlɔɲ] ‘to sing’

- minor + major = sesquisyllable
- full + major = disyllable
Initial syllable with secondary stress

Saengmani (1979) on Urak Lawoi

- [ˌhiˈtʌp] ‘black’
- [ˌkaˈcʌk] ‘bean’
- [ˌpʌŋˈnu] ‘slingshot’
- [pəˈɲu] 'turtle'
- [pəˈgʌk] 'to hold'
- [ʃəˈmu] 'bored'

minor + major = disyllable

presyllable + major = disyllable
Metrically unfooted syllables

Butler (2011) on Svantesson’s Kammu

- [kḿnòh] ‘cutting board’
- [kmǹnòh] ‘wedding period’
- [pŋkàʔ] ‘to wear by the ear’
- [pŋkàʔ] ‘shy’

Initial syllables are not minor syllables
Fuzzy picture

- No precise definition of sesquisyllabicity
- Unclear how minor syllables differ from full syllables
- Sesquisyllables generally thought to be homogenous
Working definitions

- Minor syllable = syllable-like structure lacking a contrastive vowel
  - may contain a neutral vowel or a phonetic vocalic transition (on the surface)

- Sesquisyllable = prosodic word consisting of a normal stressed syllable preceded by a minor syllable.
  - “Presyllable” and “pre-initial” are not used
Proposals

- Diversity of sesquisyllabic in
  - Contrastiveness of sesquisyllabic
  - Prosodic status of minor syllables
- Importance of structural analysis
- Conclusion
Structural analysis

- Structural analysis = an account of a linguistic phenomenon that pays explicit attention to how units are interrelated within the system, cf. Crystal (1997).
  - how sound elements are organized into sound systems of languages
  - how they interact with each other
Outline

- Contrastiveness of syllabification
- Prosodic status of minor syllables
- Conclusion
Contrastiveness of sesquisyllabicity
Predictability of “sesquisyllabification”

- Cross-linguistically, syllabification is largely predictable from the segmental make-up of the word (Selkirk 1984; Levin 1985; Clements 1990).
- Predictable parsing of segments into monosyllables or sesquisyllables has long been recognized, e.g. Kammu (1983), Semelai (Kruspe 2004), Turung (2005), Bunong (Butler 2011) etc.
- Thomas (1992) proposes contrastiveness of sesquisyllabicity as a criterion for classifying sesquisyllabic languages.
Svantesson (1983: 46) on Kammu

“A syllable boundary is inserted as far to left as possible, leaving a single consonant or one of the clusters...between it and the vowel. (If the syllable boundary comes to the left of the whole word-base, that word-base is monosyllabic.)”
Sonority constraints on syllabification

- Sonority Sequencing Principle (SSP)
- Minimal sonority distance (MSD)
Sonority Sequencing Principle

“In any syllable, there is a segment constituting a sonority peak that is preceded and/or followed by a sequence of segments with progressively decreasing sonority values.”

(Selkirk 1984: 116)
### Example from Spanish

<table>
<thead>
<tr>
<th>Allowed</th>
<th>Not allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>[kl-] as in clave ‘key’</td>
<td>*[lk-]</td>
</tr>
<tr>
<td>[kr-] as in crisis ‘crisis’</td>
<td>*[rk-]</td>
</tr>
<tr>
<td>[kw-] as in cuota ‘quota’</td>
<td>*[wk-]</td>
</tr>
</tbody>
</table>
Minimal Sonority Distance

- Languages may also impose a language-specific minimal sonority distance (MSD) on complex onsets (Levin 1985; Selkirk 1984; Venneman 1972; Zec 2007)
Example from Spanish

<table>
<thead>
<tr>
<th>Allowed</th>
<th>Not allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>[kl-]: k(0) - l(2) = -2</td>
<td>*[kt-]: k(0) - t(0) = 0</td>
</tr>
<tr>
<td>[kr-]: k(0) - r(2) = -2</td>
<td>*[kn-]: k(0) - n(1) = -1</td>
</tr>
<tr>
<td>[kw-]: k(0) - w(3) = -3</td>
<td>*[nl-]: n(1) - l(2) = -1</td>
</tr>
</tbody>
</table>
Semelai (Austroasiatic)

- Based on Kruspe (2004)
- No complex is allowed
- CC-sequences are always syllabified as sesquisyllabic
Sonority does not play a role
Sesquisyllabicity is NOT contrastive
Khmer (Austroasiatic)

- Based on Huffman (1972)
- Simple monosyllables

<table>
<thead>
<tr>
<th>Examples</th>
<th>Glosses</th>
</tr>
</thead>
<tbody>
<tr>
<td>/tuːk/</td>
<td>‘boat’</td>
</tr>
<tr>
<td>/kou/</td>
<td>‘to stir’</td>
</tr>
<tr>
<td>/kon/</td>
<td>‘film’</td>
</tr>
</tbody>
</table>
True disyllables

<table>
<thead>
<tr>
<th>Examples</th>
<th>Glosses</th>
</tr>
</thead>
<tbody>
<tr>
<td>[kaka:j]</td>
<td>‘to scratch’</td>
</tr>
<tr>
<td>[prakan]</td>
<td>‘to maintain’</td>
</tr>
<tr>
<td>[baŋkaæt]</td>
<td>‘to originate’</td>
</tr>
</tbody>
</table>
- Prosodic words with initial CC-
  - voiceless stop + /h, r, s/ = [CC-]
  - voiceless stop + continuant = [CʰC-]
  - Others = [CᵃC-]
- **[CC-]**: voiceless stop + /h, r, s/

<table>
<thead>
<tr>
<th>[CC-]</th>
<th>[CʰC-]</th>
<th>[CᵊC]</th>
<th>Examples</th>
<th>Glosses</th>
</tr>
</thead>
<tbody>
<tr>
<td>[kh-]</td>
<td><em>[kʰh-]</em></td>
<td><em>[kʰh-]</em></td>
<td>[kʰɤŋ]</td>
<td>‘angry’</td>
</tr>
<tr>
<td>[tr-]</td>
<td><em>[tʰr-]</em></td>
<td><em>[tʰr-]</em></td>
<td>[trɤi]</td>
<td>‘fish’</td>
</tr>
<tr>
<td>[ps-]</td>
<td><em>[pʰs-]</em></td>
<td><em>[pʰs-]</em></td>
<td>[psaː]</td>
<td>‘market’</td>
</tr>
</tbody>
</table>
**[CʰC-]**: voiceless stop + continuant, except

- /C/ + /r/
- /k/ + /ŋ/

<table>
<thead>
<tr>
<th>[CC-]</th>
<th>[CʰC-]</th>
<th>[CᵊC]</th>
<th>Examples</th>
<th>Glosses</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>[pl-]</em></td>
<td>[pʰl-]</td>
<td><em>[pᵊl-]</em></td>
<td>[pʰliəŋ]</td>
<td>‘rain’</td>
</tr>
<tr>
<td><em>[km-]</em></td>
<td>[kʰm-]</td>
<td><em>[kᵊm-]</em></td>
<td>[kʰmæe]</td>
<td>‘Khmer’</td>
</tr>
<tr>
<td><em>[pt-]</em></td>
<td>[pʰt-]</td>
<td><em>[pᵊt-]</em></td>
<td>[pʰtʰəh:]</td>
<td>‘door’</td>
</tr>
</tbody>
</table>
- **[C^aC-]: others**

<table>
<thead>
<tr>
<th>[CC-]</th>
<th>[C^hC-]</th>
<th>[C^aC]</th>
<th>Examples</th>
<th>Glosses</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>[kb-]</em></td>
<td><em>[k^h^b-]</em></td>
<td>[k^a^b-]</td>
<td>[k^a^baːl]</td>
<td>‘head’</td>
</tr>
<tr>
<td><em>[sd-]</em></td>
<td><em>[s^h^d-]</em></td>
<td>[s^a^d-]</td>
<td>[s^a^daəŋ]</td>
<td>‘thin’</td>
</tr>
<tr>
<td><em>[lb-]</em></td>
<td><em>[l^h^b-]</em></td>
<td>[l^a^b-]</td>
<td>[l^a^bæeŋ]</td>
<td>‘game’</td>
</tr>
<tr>
<td><em>[kŋ-]</em></td>
<td><em>[k^h^ŋ-]</em></td>
<td>[k^a^ŋ-]</td>
<td>[k^a^ŋaːn]</td>
<td>‘goose’</td>
</tr>
</tbody>
</table>
Sonority does not play a role

Sesquisyllabicity is NOT contrastive
Burmese (Sino-Tibetan)

- Based on Green (1995) and Jenny (p.c.)
- Only Cj- and Cw- clusters are permissible

<table>
<thead>
<tr>
<th>Examples</th>
<th>Glosses</th>
</tr>
</thead>
<tbody>
<tr>
<td>[kwé]</td>
<td>‘to split’</td>
</tr>
<tr>
<td>[θwá]</td>
<td>‘tooth’</td>
</tr>
<tr>
<td>[nwé]</td>
<td>‘warm’</td>
</tr>
<tr>
<td>[jwɛ́]</td>
<td>‘to be moved’</td>
</tr>
<tr>
<td>[pʰjaʔ]</td>
<td>‘to cut’</td>
</tr>
<tr>
<td>[mjouʔ]</td>
<td>‘to be buried’</td>
</tr>
</tbody>
</table>
Contrast between monosyllables and sesquisyllables

<table>
<thead>
<tr>
<th></th>
<th>monosyllables</th>
<th>sesquisyllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>m+j</td>
<td>/mjà/ ‘numerous’</td>
<td>/məjà/ ‘wife’</td>
</tr>
<tr>
<td>k+w</td>
<td>/kəwí/ ‘poet’</td>
<td>/kəwe/ ‘witch, wizard’</td>
</tr>
<tr>
<td>kʰ+w</td>
<td>/kʰəwa/ ‘laundry’</td>
<td>/kʰəwɛ̀/ ‘kind of gourd’</td>
</tr>
</tbody>
</table>
Sonority seems to play a role.

Sesquisyllabic is contrastive
Kammu (Austroasiatic)

- Based on Svantesson (1983)
- Onset clusters in monosyllables
  - SSP respected
  - Sonority distance ≥ 2

<table>
<thead>
<tr>
<th>labial</th>
<th>alveolar</th>
<th>palatal</th>
<th>velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>[pl-]</td>
<td></td>
<td></td>
<td>[kl-]</td>
</tr>
<tr>
<td>[pr-]</td>
<td></td>
<td></td>
<td>[kr-]</td>
</tr>
<tr>
<td></td>
<td>[tr-]</td>
<td>[cr-]</td>
<td>[kw-]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[kw-]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[kʰw-]</td>
</tr>
<tr>
<td></td>
<td>-l-</td>
<td>-r-</td>
<td>-w-</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>1</td>
<td>[klwèt] ‘to swallow’</td>
<td>[prỳh] ‘to raise’</td>
<td>[kwá:ŋ] ‘red cotton tree’</td>
</tr>
<tr>
<td>2</td>
<td>[klèʔ] ‘husband’</td>
<td>[trá:k] ‘buffalo’</td>
<td>[kwà:c] ‘to beckon’</td>
</tr>
<tr>
<td>4</td>
<td>[pliá] ‘lame’</td>
<td>[krò:ŋ] ‘stalk’</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>[plwèm] ‘land leech’</td>
<td>[krá:s] ‘to laugh’</td>
<td></td>
</tr>
</tbody>
</table>
## Sonority profile of sesquisyllable

<table>
<thead>
<tr>
<th></th>
<th>MSD not satisfied (&lt; 2)</th>
<th>MSD satisfied (≥ 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SSP violated</strong></td>
<td>[ɾ’màːŋ] ‘rich’</td>
<td>[ɾ.kèŋ] ‘stretched’</td>
</tr>
<tr>
<td></td>
<td>[p’téʔ] ‘earth’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[sʔɔ́ːŋ] ‘tree’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[kʔáːŋ] ‘wasp’</td>
<td></td>
</tr>
<tr>
<td><strong>SSP not respected</strong></td>
<td>[tmáʔ] ‘flea’</td>
<td>[k.rúk] ‘to fall’</td>
</tr>
<tr>
<td></td>
<td>[knéʔ] ‘rat’</td>
<td>[k.lóːk] ‘slit drum’</td>
</tr>
<tr>
<td></td>
<td>[pnùm] ‘termite hill’</td>
<td>[h.yíər] ‘fowl’</td>
</tr>
<tr>
<td></td>
<td>[cmòːl] ‘to sow’</td>
<td>[k.rùən] ‘neck’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>eczema’</td>
</tr>
</tbody>
</table>
Sonority plays a crucial role.

Sesquisyllabicity is contrastive.

<table>
<thead>
<tr>
<th></th>
<th>monosyllable</th>
<th>sesquisyllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>single C</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>obstruent+liquid</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>obstruent+nasal</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>obstruent+obstruent</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>nasal+obstruent</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>liquid+obstruent</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>
Survey: sonority and sesquisyllabicity

<table>
<thead>
<tr>
<th>Languages</th>
<th>Subgroup</th>
<th>[k.r]</th>
<th>[k.t]</th>
<th>[kr]</th>
<th>[kt]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kammu (Svantesson 1983)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nyah Kur (Diffloth 1984)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sedang (Smith 2000)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Chrau (Thomas 1979)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Bruu (L-Thongkum 1980)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ruc (Nguyên 1993)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Burmese (Green 1995)</td>
<td>Sino-Tibetan</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sgaw Karen (Ratakul 1986)</td>
<td>Sino-Tibetan</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
### Survey: Sonority and Sesquisyllabicicy

<table>
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<tr>
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<th>[kr]</th>
<th>[kt]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawa (Ratanakul and Daoratanahong 1987)</td>
<td>Austroasiatic</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khmer (Henderson 1952)</td>
<td>Austroasiatic</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kuay (Markowski 2005)</td>
<td>Austroasiatic</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mon (Kitisarn 1996)</td>
<td>Austroasiatic</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacoh (Alves 2006)</td>
<td>Austroasiatic</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turung (Morey 2005)</td>
<td>Sino-Tibetan</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jarai (Nguyeñ 1975)</td>
<td>Austronesian</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Survey: sonority and sesquisyllabicity

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<th>[k.t]</th>
<th>[kr]</th>
<th>[kt]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jahai (Burenhult 2005)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Semelai (Kruspe 2004)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Thavung (Premsrirat 2004)</td>
<td>Austroasiatic</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Summary (1)

- Sesquisyllabic languages may differ with respect to the contrastiveness of their sesquisyllabicity.
- Contrast between sesquisyllabic and monosyllabic CCs is possible when sonority constraints are respected.
- Theoretically-informed structural analysis reveals the role of sonority in the formation of sesquisyllables.
Prosodic status of minor syllables
Prosodic hierarchy

- Prosodic Phonology (Nespor and Vogel 1981, Selkirk 1981)
- A string of phonological segments is organized into a hierarchical structure that groups sequences of sound into layers of prosodic constituents.
prosodic word (ω)

foot (φ)

syllable (σ)

mora (μ)
Prosodic views on minor syllables

- Minor syllables as part of complex onset (Henderson 1952; Huffman 1972)
- Minor syllables as “marginal syllables” (Green 1995, Butler 2011)
- Minor syllables as normal syllable
Minor syllables as parts of complex onsets

- Minor syllables are in fact not syllables but part of the major syllable onset clusters

\[ a. \quad \omega \]
\[ \phi \]
\[ \sigma \]
\[ \mu \]
\[ C \ C \ V \ C \]

\[ b. \quad \omega \]
\[ \phi \]
\[ \sigma \]
\[ \mu \mu \]
\[ C \ C \ V \ C \]
Minor syllables as semisyllables

- Non-moraic, e.g. weightless syllables (Cho and King 2003; Féry 2003)
- Non-MSEA examples: Polish, Czech, Georgian, Bella Coola (Cho and King 2003)
Properties of semisyllables

- No nucleus
- No codas
- No stress/accent/tone
- Prosodically invisible
- Well-formed onset clusters
- Restricted to morpheme peripheral positions

(Cho and King 2003)
Minor syllables as “marginal syllables”

- Unfooted syllables (Green 1995; Butler 2011)
- Non-MSEA examples: English (Zec 2003)
Properties of marginal syllables

- Never stressed
- Never in monosyllables or disyllables, consisted of marginal syllables only
- Only “extraprosodic” position

(Zec 2003)
## Semisyllable vs. marginal syllables

<table>
<thead>
<tr>
<th></th>
<th>Semisyllables</th>
<th>Marginal Syllables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleus allowed</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Coda allowed</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Tone allowed</td>
<td>✗</td>
<td>Depending on TBU</td>
</tr>
<tr>
<td>Stressable</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Allowed in monosyllable</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Prosodically invisible</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Well-formed onset</td>
<td>✓</td>
<td>(✓)</td>
</tr>
<tr>
<td>Restricted to morpheme periphery</td>
<td>✓</td>
<td>(✗)</td>
</tr>
<tr>
<td>Restricted to domain periphery</td>
<td>(√)</td>
<td>✓</td>
</tr>
</tbody>
</table>
Jahai (Austroasiatic)

- Based on Burenhult (2005)
- Three types of unstressed syllables
  - CV(C)  normal syllable
  - CC  minor syllables
  - C  semisyllable
Both C and CC minor syllables pattern with full syllables in morphological processes.
Both are structurally separate syllables from the major syllables.
Causative affixation

Prefix /pr-/ to monosyllabic roots
- /hir/ ‘frightened’ → /prhir/ ‘to frighten’
- /gej/ ‘to eat’ → /prgej/ ‘to feed’
- /lɔj/ ‘to run’ → /prlɔj/ ‘to cause to run away’

Infix /-ri-/ to sesquisyllabic and disyllabic roots
- /bkɨt/ ‘hot’ → /brikɨt/ ‘to cause to run away’
- /kbis/ ‘die’ → /kribis/ ‘to kill’
- /pcah/ ‘to break’ → /pricah/ ‘to kill’
- /manɛh/ ‘old’ → /mrinɛh/ ‘to make old’
- Distributive formation
  - Prefix /ciV-/ to monosyllabic roots
    - /cɨp/ ‘to go’ → /cipcɨp/ ‘to go here and there’
    - /bih/ ‘to put’ → /bihboh/ ‘to put here and there’
    - /ŋɔk/ ‘to sit’ → /ŋikŋɔk/ ‘to sit here and there’
  - /-iV-/ prefix to sesquisyllabic and disyllabic roots
    - /lwec/ ‘to climb’ → /licwec/ ‘to climb here and there’
    - /tboh/ ‘to hit’ → /tihboh/ ‘to hit here and there’
    - /kriŋ/ ‘to dry’ → /kiŋriŋ/ ‘to dry here and there’
    - /sapuh/ ‘to sweep’ → /sihpuh/ ‘to sweep here and there’
Reciprocal formation

Prefix /Ca-/ to monosyllabic root
- /cɨp/ ‘to go’ → /cacɨp/ ‘to go together’
- /cɔl/ ‘to tell’ → /cacɔl/ ‘to tell each other’
- /gej/ ‘to eat’ → /gagej/ ‘to eat together’

Infix /-a-/ to sesquisyllabic root
- /smɛɲ/ ‘to ask’ → /samɛɲ/ ‘to ask each other’
- /bdil/ ‘to shoot’ → /badil/ ‘to shoot each other’
- /ʔnaj/ ‘to bathe’ → /ʔanaj/ ‘to bathe each other’
Positional restrictions on minor syllables (Burenhult 2005: 31)

<table>
<thead>
<tr>
<th>Word type</th>
<th>Canonic structure</th>
<th>Example</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monosyllabic</td>
<td>/CVC/</td>
<td>/çeːp/</td>
<td>‘to catch’</td>
</tr>
<tr>
<td>Sesquisyllabic</td>
<td>/C.CVC/</td>
<td>/knɛc/</td>
<td>‘comb’</td>
</tr>
<tr>
<td>Disyllabic</td>
<td>/CV.CVC/</td>
<td>/kawip/</td>
<td>‘sun bear’</td>
</tr>
<tr>
<td></td>
<td>/CC.CVC/</td>
<td>/tmkal/</td>
<td>‘male’</td>
</tr>
<tr>
<td></td>
<td>/CVC.CVC/</td>
<td>/kaltoŋ/</td>
<td>‘knee’</td>
</tr>
<tr>
<td>Trisyllabic</td>
<td>/C.CV.CVC/</td>
<td>/kläŋis/</td>
<td>‘heart’</td>
</tr>
<tr>
<td></td>
<td>/C.CC.CVC/</td>
<td>/prŋɡəŋ/</td>
<td>‘pharynx’</td>
</tr>
<tr>
<td></td>
<td>/C.CVC.CVC/</td>
<td>/cmalpɔk/</td>
<td>‘(a type of millipede)’</td>
</tr>
</tbody>
</table>
Different distribution of minor syllables
- C minor syllables always on left periphery of root and prosodic word
- CC and CV show identical distribution
- Jahai minor syllables are separate syllables from major syllables
  - CC normal syllables
  - C semisyllables (cf. Polish)
- Jahai sesquisyllables as structurally disyllabic
Kammu (Austroasiatic)

- Based on Svantesson (1983)
- Two types of minor syllables
  - Tonal = CC or C
  - Non-tonal = C
- Both types seem structurally separate from major syllables
Alternation of causative /pń/

Prefix /pń/ to monosyllabic roots
Infix /m/ to sesquisyllabic roots

/tèʔ/ ‘to get’ /pń̩.tèʔ/ ‘to cause to get’
/krɯ̀al/ ‘alive’ /pń̩.krɯ̀al/ ‘to spare sb’s life’
/cŋá:r/ ‘green’ /cḿ̩.ŋà:r/ ‘to make green’
/skár/ ‘straight’ /sḿ̩.kàr/ ‘to straighten’
Contrast between sesquisyllables and monosyllables in /kà̀m pʁ.ʔè:n/

/kóɔn/ ‘child’ /kóʔ kóɔn káʮn/
/klàʔ/ ‘husband’ /klòʔ klèʔ klàʔn/
/l̀mpɔ̀ŋ/ ‘to talk’ /l̀mpɔʔ pòɔŋ pàŋn/
/k̀mùʔ/ ‘person’ /k̀mùʔ móʔ m̀n̥n/
Non-tonal minor syllables
  C if obstruents
  /cŋár/ ‘green’
  /pkù:n/ ‘respect’
No moraic nucleus = weightless
- Tonal minor syllables
  - C if sonorant
    - HERE
  - CC
    - /kʰməʔ/ ‘cutting-board’
    - /pʰnʔʔ/ ‘broom’

- One moraic consonants
Positional restrictions on minor syllables

<table>
<thead>
<tr>
<th>Word type</th>
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<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monosyllabic</td>
<td>/CVC/ /CCVC/</td>
<td>/tèn/</td>
<td>‘to sit’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/klét/</td>
<td>‘smooth’</td>
</tr>
<tr>
<td>Sesquisyllabic</td>
<td>/C.CVC/ /CC.CVC/</td>
<td>/pkùn/</td>
<td>‘respect’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/kɲʔɨ̀ɲ/</td>
<td>‘beautiful face’</td>
</tr>
</tbody>
</table>
- One minor syllable per prosodic words
- Always on left periphery
- Kammu sesquisyllables as structurally disyllabic
- Kammu minor syllables are separate syllables from major syllables
  - non-tonal = semisyllables (cf. Polish)
  - tonal = marginal syllables (cf. English)
Summary (2)

- Minor syllables have counterparts in languages outside of the area.
- Sesquisyllabic languages may differ with respect to the prosodic status of their minor syllables.
- Typological study is currently not feasible.
  - Surface description of the sound system.
  - Lack of structural evidence.
Conclusion
Sesquisyllabicity is an oft-cited MSEA feature but among the least understood.

Structural definition provides a frame within which sesquisyllabicity can be compared.

Theory-oriented structural analysis helps reveal both unity and diversity among MSEA languages.

Future study of MSEA should continue the strong fieldwork tradition while incorporating structural analysis as well as current theoretical thinking.
References


References


References


References


Thurgood, Graham. 1999. From ancient Cham to modern dialects: two thousand years of language contact and change: with an appendix of chamic reconstructions and loanwords (Vol. 28). University of Hawaii Press.

