I. The claims

1. ‘Checked tones’ as monomoraic syllables
   - Traditionally transcribed as closed syllables with /ʔ/ codas (Gian 1992, Wang 2011)
   - No phonetic study has confirmed the existence of coda glottal stops
   - Based on my fieldwork acoustic data, they are plain short vowels in monomoraic (open) syllables
   - First-time phonetic evidence of monomoraic syllables in Chinese languages

2. Left dominance: the traditional tone-sandhi analysis
   - Assumed for many Wu dialects (Chan & Ren 1989 for WuXi, Duanmu 1999 for Shanghai, Chan 1995 for Danyang, Shi & Jiang 2013 for Suzhou)
   - Initial syllable determines the surface pitch; everything else is irrelevant
   - Captured by left-aligned, non-iterative syllabic trochees (Shi & Jiang 2013)
   - A strong syllable (‘c’) retains its tonal material; a weak footed syllable (‘s’) can receive tone through re-association, but cannot retain its own tone; third & fourth syllables are unfooted and always surface with default L tones.

   \[ \text{Unfooted syllables:} \quad \text{\textit{H}LH\mu, HHH\mu} \]

   My fieldwork data shows ‘exceptions’ to this generalization

II. Background

1. Lexical tones in Suzhou
   - A Northern Wu dialect with seven lexical tones

   \[ \begin{array}{cccc}
   \text{Bimoraic, } T_{\mu} & \text{Monomoraic, } T_{\nu} \\
   \text{[H]} & \text{[LH]} & \text{[H]} & \text{[HLH]} & \text{[LHL]} & \text{[H]} & \text{[LH]} \\
   \end{array} \]

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   My fieldwork data shows ‘exceptions’ to this generalization

III. Findings of the current study

- All phonetic data comes from my fieldwork, mainly consisting of disyllabic nouns elicited in a carrier sentence

1. No phonetic evidence for /ʔ/
   - No coda stop closure for the ‘checked tones’ (a and b)
   - Intervocalic consonant durans are the same for ‘checked’ / unchecked’ tones (a vs. c)
   - ‘Unchecked’ vowels (>250ms in running speech) are more than twice as long as ‘checked’ ones (>100ms)

\[ \begin{array}{ccc}
\text{Surface tones with underlining} & \text{Underlying tones with brackets (T)} & \text{Floating} \\
& \text{are floating} & \text{can receive tone through re-association, but cannot retain its own tone; third} \\
& \text{and fourth syllables are unfooted and always surface} & \text{with default L tones.} \\
\end{array} \]

\[ \begin{array}{ccc}
& \text{[H]} & \text{[LH]} & \text{[H]} & \text{[HLH]} & \text{[LHL]} & \text{[H]} & \text{[LH]} \\
\end{array} \]

\[ \begin{array}{cccc}
\text{Pattern A: } & \text{[H}; & \text{[LH]} & \text{]} & \text{Pattern B: } & \text{[H}; & \text{[HLH]} & \text{]} \\
\text{Pattern C: } & \text{[H}; & \text{[HLH]} & \text{]} & \text{Pattern D: } & \text{[L}; & \text{[HLH]} & \text{]} \\
\text{Pattern E: } & \text{[L}; & \text{[LH]} & \text{]} & \text{Row: initial tone} & \text{Columns: second tone} & \text{Traditional Account} \\
\end{array} \]

\[ \begin{array}{cccc}
\text{\textit{H}LH}\mu & \text{\textit{H}LH}\nu & \text{\textit{H}LH\mu} & \text{\textit{H}LH\nu} \\
\text{\textit{H}H\mu} & \text{\textit{H}H\nu} & \text{\textit{H}H\mu} & \text{\textit{H}H\nu} \\
\text{\textit{HH}\mu} & \text{\textit{HH}\nu} & \text{\textit{HH}\mu} & \text{\textit{HH}\nu} \\
\text{\textit{HHH}\mu} & \text{\textit{HHH}\nu} & \text{\textit{HHH}\mu} & \text{\textit{HHH}\nu} \\
\end{array} \]

\[ \begin{array}{cccc}
\text{A} & \text{A} & \text{B} & \text{B} \\
- & - & - & - \\
\text{D} & \text{D} & \text{D} & \text{D} \\
\text{E} & \text{E} & \text{E} & \text{D} \\
\end{array} \]

- Conclusion: ‘checked tones’ are light monomoraic open syllables (e.g. \[\text{\textit{H}H}\mu\text{, }\text{\textit{HH}\mu}\])

- Second syllable plays a role in light-initial sandhi forms

- What we would expect if the traditional analysis were true: \[\text{\textit{H}H\nu} + \text{T} = \text{[H}; \text{\textit{H}H}\mu\text{]} \quad \text{and} \quad \text{\textit{H}LH}\nu + \text{T} = \text{[L}; \text{\textit{H}LH}\mu\text{]}

- Conclusion: When the initial syllable is light in a disyllabic word, the second syllable influences the sandhi form

IV. Analysis for the light-initial sandhi

1. Tones
   - Underlying tones with brackets (T) are floating
   - Surface tones with underlining [T] are short (monomoraic) in duration

   \[ \begin{array}{cccc}
   \text{\textit{H}H\mu} & \text{\textit{H}H\nu} & \text{\textit{H}H\mu} & \text{\textit{H}H\nu} \\
   \text{\textit{HH}H\mu} & \text{\textit{HH}H\nu} & \text{\textit{HH}H\mu} & \text{\textit{HH}H\nu} \\
   \text{\textit{HHH}H\mu} & \text{\textit{HHH}H\nu} & \text{\textit{HHH}H\mu} & \text{\textit{HHH}H\nu} \\
   \end{array} \]

   \[ \begin{array}{cccc}
   \mu & \mu & \mu & \mu \\
   \mu & \mu & \mu & \mu \\
   \mu & \mu & \mu & \mu \\
   \end{array} \]

2. Relevant metrical structure
   - In light-initial sandhi, the relevant metrical structure is a left-aligned bimoraic trochee (see above)
   - Violates syllable integrity, but ensures that the head (monomoraic) is not lighter in quantity than the dependent (Head-Dependent Asymmetries)