A Study of Stress in Jakarta Indonesian

By Dalan Perangin-angin
Max Planck Institute for Evolutionary Anthropology, Jakarta Field Station
Introduction

• Prosody is a very important element in all spoken languages (Himmelmann and Ladd. 2008) yet there are still few studies conducted in this field (especially insofar as the relationship between prosody and syntax is concerned).

• Jakarta Indonesian is a language whose prosodic features are little known (this is a first step towards a description of prosody in Jakarta Indonesian)
Crux of the problem

- *Naek motor*  
  *guwe*
  
  go.up motorbike  
  1SG

1. ‘I took my motorbike’
2. ‘I took a motorbike’
Minimal pair sample data

3. \([_{VP}naek\;_{NP}\;motor\;gúwe]\]
   ‘I rode my motorcycle’.

4. \([_{VP}naek\;_{NP}\;mótor]\;[_{NP}guwe]\]
   ‘I rode a motorcycle’.
Hypotheses

- Stress is assigned to the penultimate syllable in a phonological phrase that roughly corresponds to the object NP.
- Stress is assigned to the penultimate syllable in a phrase that roughly corresponds to the clause.
Aim

- To test the hypothesis that stress placement in different parts of the same sequence of words in Jakarta Indonesian is used to signal different syntactic structures.
Experiment Procedures

- make up some sample paragraphs in Jakarta Indonesian containing a context that would force the interpretation of the relevant clauses as containing either of the structures in (3) or (4).

‘At my home there are three VW cars: mine, my older brother’s and my younger brother’s. Because my older brother had gone abroad I used to drive his car just because I loved its color. But now since he’s back I can’t drive his car anymore. Like this morning, to the office, *I drove my (own) car.*’

‘At my home there are three motorcycles: mine, my older brother’s and my younger brother’s. Because my older brother had gone abroad I used to drive his motorcycle just because I loved its color. But now since he’s back I can’t drive his motorcycle anymore. Like this morning, to the office, **I drove my (own) motorcycle.**’

‘At home my father has three vehicles: a sedan, pick-up and a motorcycle. I usually take the motorcycle to school. However since it was raining this morning I drove the sedan.’

‘Usually I drive a motorcycle to school. But this morning it was broken, so I took a taxi.’
• ask native speakers of Jakarta Indonesian to read each of the paragraphs in a natural manner.
  ▪ Record the paragraph readings with an audio recorder
  ▪ Four speakers were recorded

• capture the stress in the recording in the form of pitch contours
  ▪ Use Praat software (developed by scholars from the university of Amsterdam for speech analysis)
  ▪ It makes it possible to see a visual representation of the pitch contours of the stresses
Results

Figure 1. $[bawa\ sedan]_{VP\ guwe}$

$\textbf{se}$ and $\textbf{tak}$ on the pitch peak

Figure 2. $[naek\ taksi]_{VP\ guwe}$
Figure 3. \( [\text{VP} \text{naek} \ [\text{NP} \text{Ve We guwe}]] \)

\( \text{gu} \) on the pitch peak

Figure 4. \( [\text{VP} \text{naek} \ [\text{NP} \text{motor guwe}]] \)
Discussion

- Two competing hypotheses

  - stress is assigned to the penultimate syllable in a phonological phrase that roughly corresponds to the object NP.

    (1) naek \([_{NP} \text{motor } gúwe}\]
    (2) naek \([_{NP} \text{mótor } [_{NP} \text{guwe}]}\]

    each NP receives stress on its penultimate syllable however \textit{motor} receives sentential stress as the object of the sentence.

  - stress is assigned to the penultimate syllable in a phrase that roughly corresponds to the clause.

    (1) \([_{VP} \text{nae}k \text{motor } gúwe}]\]
    (2) \([_{[nae}k \text{mótor}]}_{[_{VP} \text{guwe } [t]]}]\]

- No word-level stress in Jakarta Indonesian

  -(stress is not always assigned to every word, but just occurs once or twice in a particular phrase)
Conclusion

- in Jakarta Indonesian stress placement signals different syntactic structures (especially between possessive and clausal constructions) – as has been demonstrated through an analysis of relative pitch contours in competing utterances, based on the use of Praat software.
References


Thank You