Variation in Bangla Complementizer Order at the Syntax-Prosody Interface

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1 The Bangla je puzzle

• The complementizer je optionally introduces finite embedded clauses.
• If the embedded CP is postverbal, je is obligatorily initial in its clause.
  (1) Jon [jane (je) ma kal rate oSudh kheyeche]
      John knows [that mother last.night medicine ate]
      'John knows that mother took medicine last night.'
  
• If the embedded CP is preverbal, je can only be pronounced in a non-initial position (Dasgupta 1980; Bhattacharya 2001).
  (2) Jon [ma (je) kal rate oSudh kheyeche] jane
      John [mother that last.night medicine ate] knows
      'John knows that mother took medicine last night'

• In preverbal CPs, je is not restricted to second position, and can appear after any number of phrases, under certain interpretational restrictions (§2).
  (3) [oSudh (je) ma kal rate kheyeche] Jon jane
      medicine that mother last.night ate John knows
      'John knows that mother took medicine last night'

• The positions of embedded clauses depend on their interpretations (Simpson & Bhattacharya 2003):
  - Postverbal CPs: informationally neutral. [initial je]
  - Medial CPs: emphatic/corrective focus. [non-initial je]
  - Sentence-initial CPs: topicalized information. [non-initial je]

2 Topic, Focus, and non-initial je

• Phrases preceding je are typically topicalized or contrastively focused.
• Diagnostics for topic-hood:
  - Definite DPs (indicated by [NP [Num-Cl] order) are good topics.
  - Indefinite and quantified DPs are ineligible as topics, but can be contrastively focused.

• Postverbal CPs: Topics can be raised to a position to the right of je.
  (5) Jon bol-lo [je dadubhai chatro du-to-ke dekheche]
      John say-pst that grandfather student 2-cl-acc saw
      'John said that grandfather saw the two students'

  (6) Jon bol-lo [je chatro du-to-ke dadubhai dekheche]
      John say-pst that student 2-cl-acc grandfather saw
      'John said that grandfather saw the two students'
  - Indefinite or quantified objects can only be fronted if they are contrastively focused.
  (7) Jon bol-lo [je #kau-ke/KAU-KE dadubhai dekh-e ni]
      John say-pst that anyone-acc grandfather see-perf neg
      'John said that grandfather didn't see ANYONE.'

• Preverbal CPs: The position to the left of je is typically reserved for topics. Quantified phrases occur in this position only under contrastive focus Error! Reference source not found..
  (8) Jon [chatro du-to-ke je dadubhai dekh-echhe] bol-lo
      John student 2-cl-acc that grandfather see-perf say-pst
      'John said that grandfather saw the two students'

  (9) Jon [#kau-ke/KAU-KE je dadubhai dekh-e ni] bol-lo
      John anyone-acc that grandfather see-perf neg say-pst

• Both (multiple) topics and focus can co-occur before je, with topics crucially ordered before focus.
(10) John [chatro du-to -ke DADUBHAI je dekh-eche] bol-lo 'John said that GRANDFATHER saw the two students'

- Subjects preceding je are not restricted in interpretation, suggesting that fronting before je is not purely due to discourse requirements (Bayer & Dasgupta, to appear; Bhattacharya, 2001).

(11) John [du-to chatro je es-che] bollo 'John said that two students came'

(12) John [keu je ase-ni] bollo 'John said that no one came'

3 The Bangla left periphery

- All embedded clauses share the same base structure (13).
  - je is merged in Fin and copied in Force, resulting in its specification as [+finite] and [+declarative]
  - Linear order is determined by which copy is pronounced at PF; Initial je is pronounced in Force, non-initial je is pronounced in Fin.

- Head movement depends on agreement between Fin and Force, and does not need to proceed through all structurally intervening heads (cf. Roberts, 2000).
  - This predicts that je's lower copy can be preceded by multiple topics/focus (ex. (4), (10)).
  - Such patterns are not straightforwardly derived by necessarily local operations, e.g. Morphological Merger (Embick and Noyer 2001) or Prosodic Inversion (Halpern 1992).

4 Prosodic factors in copy spell-out

- Main proposal: Lower copy spell-out takes place to avoid je in initial position of an intonational phrase. Only pre-verbal CPs are separate intonational phrases.

4.1 Background: Bangla intonational prosody

- The Accentual Phrase (AP) roughly corresponds with every syntactic XP.
  - APs bear a low pitch accent on their first stressed syllable, and a high right boundary tone (L* ... Ha).
- The Intermediate Phrase (ip) and Intonational Phrase contain several APs and correspond to a larger syntactic units.
  - Both IPs and ips are identified by a variety of boundary tones realized on the rightmost AP in their domain.
  - ips are typically embedded clauses or topics, while IPs demarcate parentheticals or full clauses.
  - Full IPs are typically distinguished from ips by pauses, and the possibility of a unique 'continuation rise' boundary tone (HLH%).

4.2 Phrasing of embedded clauses

- Postverbal embedded clauses are intermediate phrases, typically marked by a H- or L- boundary tone, not separated by pauses.
(14) John bolechilo [je dadubhai kal rate oSudh kheyech] say.pstperf.
"John said that grandfather took medicine last night."

- Preverbal CPs form intonational phrases, typically separated by pauses preceded by a LH%, H%, or HLH% boundary tone.

• je is always non-initial if its embedded clause is an intonational phrase.

4.3 Prosodic motivation for lower copy spell-out

• The fact that je never undergoes vowel lengthening indicates that it is a stray syllable that does not form a PWd, since PWds in Bangla are minimally bimoraic (Fitzpatrick-Cole 1991).

• Je is not an enclitic in the initial position of an embedded clause (contra Bayer & Dasgupta, to appear; Chacón, 2014);
  - je does not bear the main verb's boundary tone (e.g. in (14)), as would be expected under AP enclisis.
  - A representation of postverbal je as an AP-enclitic structure is ruled out by the presence of an ip boundary.

• The AP-level phrasing of postverbal, clause-initial je is indeterminate between a free clitic, affixal proclitic, or internal proclitic structure, since there is no reliable diagnostic for the left edge of an AP.

(15) John [dadubhai je kal rate oSudh kheyech] bolechilo
  John grandfather that last night medicine ate] say.pstperf.
  'John said that grandfather took medicine last night.'

(16) Free clitic

$$\text{ip} \quad \text{AP} \quad | \quad \sigma \quad \ldots \quad | \quad \text{je}$$

(17) Affixal clitic

$$\text{AP} \quad | \quad \sigma \quad \ldots \quad | \quad \text{je}$$

(18) Internal clitic

$$\text{AP} \quad | \quad \sigma \quad \ldots \quad | \quad \text{je}$$
6 Conclusion

- Variation in Bangla complementizer placement is derived during copy spell-out, driven by prosodic factors.

- The data expand the known typologies of second position effects and bans on weak elements at prominent prosodic edges.

- Close analysis of syntax-prosody correspondence sheds light on puzzling variation in syntax.

Selected References


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1 To prevent lower copy spell-out from applying in postverbal embedded clauses, STRONGSTART(σ/IP) is ranked below HIGHESTCOPY.