Bias and Intonation in Bangla Negative Questions

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Negation in English polar questions can be preposed or in-situ. Preposed, the question carries the bias that the speaker expects the proposition without negation to be true (1-2a), as evidenced by its felicity in the context in (1) but not (2). In-situ, this bias is not mandatory (1-2b), as evidenced by its felicity in the contexts in both (1) and (2).

(1) A is expecting Ram to come to a party. She looks through the RSVP list, and doesn't find his name. B knows all of Ram's plans. A asks B:
   a. Isn't Ram coming?
   b. Is Ram not coming?

(2) A has no idea whether Ram is coming to a party or not. She looks through the RSVP list, and doesn't find his name. B knows all of Ram's plans. A asks B:
   a. #Isn't Ram coming ?
   b. Is Ram not coming?

A body of literature has derived the bias in constructions like (1-2a) by positing that the syntactically high position of preposed negation in these Biased Negation Questions (BNQs) as opposed to in-situ in Non-Biased Negation Questions (NNQs) (1-2b) is due to negation scoping over an operator and creating an unbalanced partition. This operator has been posited to be a context managing operator (Romero & Han 2004) or an epistemic necessity modal (Silk 2019; Goodhue 2021). While this literature has largely focused on English, clause-peripheral negation is associated with speaker-oriented bias in other unrelated languages such as Japanese (Ito & Oshima 2014; Shimoyama et al. 2019), Hungarian (Gyuris 2017), and Korean and German (Romero & Han 2004). Although the cross-linguistic association of bias with clause-peripheral negation supports the view that bias is derived from negation scoping over a left-peripheral operator, the lack of an overtly pronounced rendition of this operator in any language might raise skepticism for its existence. Furthermore, the ability of negation to additionally scope below this operator to derive positive bias, while posited in Romero & Han (2004) to capture Ladd (1981)'s ambiguity in BNQs, has been argued to not accurately represent English data (Silk 2019; Goodhue 2021). **I propose that Romero & Han (2004)'s VERUM operator is overtly pronounced in Bangla BNQs as a H% boundary tone, and an account where negation can scope both above and below VERUM is necessary to capture two morphologically distinct BNQ constructions in the Bangla perfect aspect and with stage level predicates.** Bangla BNQs (3-4a), and NNQs (3-4b) are marked by distinct boundary tones: H%, and HL% respectively (tones from Khan 2014, data from Standard Bangladeshi Bangla). NNQs with HL% can optionally be accompanied by a particle *ki*, which appears most pragmatically neutrally after the first phonological word (Bayer & Dasgupta 2016), whereas BNQs with H% cannot appear with *ki*. Like their English counterparts, Bangla BNQs require their speaker to have an expectation that their non-negative propositional content be true (3), while NNQs do not (4):

(3) A is expecting Ram to come to a party. She looks through the RSVP list, and doesn't find his name. A asks B:

a. Ram (*ki) ashbe na H%
Ram (Q) come.fut3 NEG H%
'Won't Ram come?'

b. Ram (ki) ashbe na HL%
Ram (Q) come.fut3 NEG HL%
'Will Ram not come?'

(4) A has no expectations about Ram's party attendance. She looks through the RSVP list, and doesn't find his name. A asks B:

a. #Ram (*ki) ashbe na H%
Ram (Q) come.fut3 NEG H%
#'Won't Ram come?'

b. Ram (ki) ashbe na HL%
Ram (Q) come.fut3 NEG HL%
'Will Ram not come?'

In the perfect aspect and with copulas for stage-level predicates, there are two morphologically distinct types of BNQs with H% and positive bias, shown and described here for the perfect aspect. Perfect negation is normally suppletive, with present conjugation and special negation particle *ni/nai*. In BNQs, a morphologically transparent realization of negation is also grammatical, consisting of perfect conjugation and normal negative particle *na*. The felicity of polar response particles in response to these questions differs. Suppletive BNQs can be contradicted by a 'no' with by a positive answer (5), while transparent BNQs cannot (6). This is evidence that the HIGHLIGHTED (Roelofsen & Farkas 2015) proposition in Suppletive BNQs (5) is negative, whereas in Transparent BNQs (6) it is positive.

(5) A: Ram **ashe** **ni** **H%**
Ram **come.pres3** **NI**
D̀idn't Ram come?'

B: na she to eshechhe
no 3sg.nom TO came.perf3
'No, he did come'

(6) A: Ram **eshechhe** **na** **H%**
Ram **come.perf3** **NEG** **H%**
'Didn't Ram come?'

B: #na she to eshechhe
no 3sg.nom TO came.perf3
#'No, he did come'

I propose that Bangla H% is the overt realization of Romero & Han (2004)'s VERUM operator, where
$[\![\text{VERUM}]\!]=\lambda p_{<s,t>}\lambda w.\forall w' \in \text{Epi}_x(w)[\forall w'' \in \text{Conv}_x(w')[p \in \text{CG}_{w''}]]$.

Following their analysis of English BNQs, Bangla BNQs can have one of two structures (8) or (9). These are morphologically identical, except in the perfect aspect and with stage-level predicates. In (8), negation scopes under VERUM (H%) in TP, where suppletive morphology is assigned. In (9), negation scopes over VERUM, so suppletive morphology cannot be assigned. This yields the following denotations for (8) and (9), where $p=$Ram came:

(8) $=\lambda q[q = \lambda w.\neg\forall w' \in \text{Epi}_x(w)[\forall w'' \in \text{Conv}_x(w')[\text{Ram came} \in \text{CG}_{w''}]] \vee [q = \lambda w.\neg\neg\forall w' \in \text{Epi}_x(w)[\forall w'' \in \text{Conv}_x(w')[\text{Ram came} \in \text{CG}_{w''}]]=\{$"it is for sure that we should add to CG that Ram came",**"it is not for sure that we should add to CG that Ram came"**$\}$

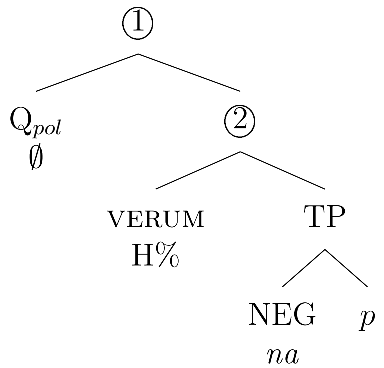
(9)$=\lambda q[q = \lambda w.\neg\forall w' \in \text{Epi}_x(w)[\forall w'' \in \text{Conv}_x(w')[\text{Ram didn't come} \in \text{CG}_{w''}]]\vee[q = \lambda w.\neg\neg\forall w' \in \text{Epi}_x(w)[\forall w'' \in \text{Conv}_x(w')[\text{Ram didn't come} \in \text{CG}_{w''}]]=\{$**"it is for sure that we should add to CG that Ram didn't come"**,"it is not for sure that we should add to CG that Ram didn't come"$\}$

In Romero & Han (2004), pronouncing a cell of a question with a partition denotation sets the INTENT of inquiry, which with VERUM, reflects prior bias (pronounced cells indicated above by **bolding**). In (8), where the INTENT is "are you not sure that we should add to Common Ground that Ram came?", questioning the uncertainty of adding p to the CG reflects positive speaker bias. For the (9), the INTENT is "are you certain we should add to CG that Ram didn't come?." Questioning the certainty of adding $\neg p$ to the Common Ground also reflects positive speaker bias. This derives positive bias in (8-9) and the HIGHLIGHTING of a negative proposition in (8) versus a positive one in (9). To account for the lack of Bangla overt Q_{pol} particle *ki* (Syed & Dash 2017) in BNQs, I posit the morphological rule (7) for Bangla:

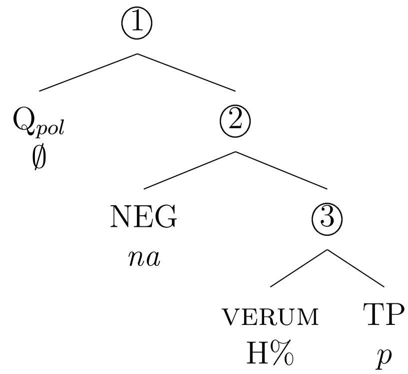
(7) BNQ Q_{pol} deletion: do not pronounce Q_{pol} in a structure with VERUM.

The use of H% in Bangla BNQs but not NNQs supports the presence of an otherwise abstract bias deriving operator VERUM therein. The morphological difference between BNQs in perfect aspect and stage level predicates necessitates a model which allows for negation to scope above and below VERUM.

(8)



(9)



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