Mapping the variation in the anaphora licensing strategies of adult speakers of Bangla

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Principles A, B from a version of the binding theory (BT) from Chomsky (1986, p 166)

(1) a. Principle A: an anaphor is bound in a local domain

   b. Principle B: a pronominal is free in a local domain

Consider the following possible readings of pronouns:

(2) Bound reading: [$_{CP}$ John$_i$ likes [$_{DP}$ his$_i$ violin]]

(3) Free reading: [$_{CP}$ John$_i$ likes [$_{DP}$ his$_j$ violin]]

(5) Coreference reading: The men who killed *him* hated *John*

Principle B only accounts for semantic binding (Reinhart, 1983, 1991). When two NPs that are referential pick the same referent in a given world, we get coreference. This is how *him* and *John* in (5) may end up referring to the same person. Principle B plays no role here.

Grodzinsky and Reinhart (1993, p 79) propose the pragmatic rule below to account for coreference.

Rule I: Intrasentential Coreference

NP A cannot corefer with NP B if replacing A with C, C a variable A-bound by B, yields an indistinguishable interpretation.

Languages do not make a binary distinction between the syntactic distribution of pronouns and reflexives (Eg: long distance anaphors in Chinese, Malayalam, or Bangla reflexives and pronouns in the specifier of DPs)

Theoretical work on the binding theory (Reinhart, 1983; Reinhart & Reuland, 1993; Reinhart, 2000; Reuland, 2011), especially considering a minimalist syntax of the kind developed through Chomsky (1995, 2000, 2001, 2004), has shown us the following:

- Principle B is a semantic condition on reflexive predicates, requiring licensing at the logical interface (Reinhart & Reuland, 1993)

- the syntactic component of the binding theory must be the consequence of the general properties of the grammar i.e. it must be a residue of Agree (Reuland, 2011).

As Agree operates on morphosyntactic features, a root and feature-based description of anaphors, compatible with a distributed morphology à la Halle and Marantz (1993), Harley and Noyer (1999) and, more recently, Bobaljik (2015), is necessary.

Bangla anaphors: A feature-description

- **Person- [1], [2], [3]**
- **Honorificity - [H1], [H2], [H3]**
- **Extensionality - [EXTN], [INTN]**
- **Proximity - [DIST], [PROX]**
- **Number - [SG], [PL]**

Bangla has two sets of pronouns, one that is felicitous only in intensional contexts (I call it the *o*-set) and the other that is felicitous in both intensional and extensional contexts (the ʃe-set).

The features fall into a feature-geometry: some features entail others. Eg: Proximity entails Extensionality, which entails Person.

The pronouns have the morphological form √root.PERSON. EXTENSIONALITY.PROXIMITY-HON-NUM-CASE. √root may either be √o or √ʃe. Eg: *o-ke* (√o.3.INT.DIST.H1.SG-ACC 'he.she')

Bangla reflexives have the morphological form √nidʒe-NUM-CASE. Eg: *nidʒe-r* (√nidʒe.SG-GEN, 'self's')

Object position: reflexive *nije-ke* 'himself/herself', 3P pronouns *o-ke*, 'him/her', *ta-ke* 'him/her'

Spec DP position: reflexive *nidʒe-r* 'self's', 3P pronouns *o-r* 'his/her', *ta-r* 'his/her' (*-r* is the morphological realization of the feature [GEN] in D)

Objectives of the Study

- Do Bangla speakers permit only its reflexives to be locally bound, as theory (Sengupta 1990) suggests? (Eg: Sam$_i$ likes himself$_i$/him$_{j/*i}$)

- Do speakers permit the reflexive and both pronouns in Spec DP to be bound, as theory (Sengupta 1990) would predict? (Eg: Tracy$_i$ saw self's$_i$/her$_i$ sister) What does this tells us about their knowledge of pronouns also having free readings?

- Do speakers show the potential to use Rule I?

- Do speakers accept both pronoun sets in intentional contexts, i.e. attest that both have the feature [INTN]?

B1, B2, B3 "the girl is looking at *x* in the mirror"

B4, B5, B6: "the boy is giving a kiss to *x*"

B7, B8, B9: "the policeman is hitting *x* on the head"

B10, B11, B12: "the girl is hiding *x* using a bunch of flowers"

B13, B14, B15: "Tarun is holding *x*'s father's hand"

B16, B17, B18: "Shamir is packing *x*'s bag"

B19, B20, B21: "Sheba is hugging *x*'s sister"

B22, B23, B24: "Hrishi is giving *x*'s colour pencil to the girl"

B25, B26, B27: "The hen is looking at *x*'s eggs"

B28, B29, B30: "Sam is taking a photograph with *x*'s trophy"

B31, B32: "Shathi is combing _____ hair. But the woman is combing her daughter's hair." (+ reverse order)

B33, B34: "the baby is pulling _____ tongue. But the girl is pulling the dog's tongue." (+ reverse order)

B35, B36: "the girl is pouring water on _____ body. But the boy is pouring water on the dog's body." (+ reverse order)

Task 1: The object "MATCH"-"MISMATCH" task

For every predicate triplet that participants responded to:

- over 80.30% *only* accepted the reflexive, i.e. *nidʒeke,* in object position (the response predicted by theory).

- 2.94% to 9.09% accepted the reflexive, *nidʒeke,* and both pronouns, *oke* and *take.* Speakers may have misunderstood the task instruction, giving grammaticality judgements for the sentences, instead of judging pragmatic felicity.

- 4.41% to 9.09% accepted the reflexive along with either one of the two pronouns (but not both).

It is a possibility that for the participants who picked a pronoun and the reflexive when the picture depicted a reflexive action, the pronoun may also optionally be used like the reflexive i.e. the "pronoun", at least in that context, is reflexive marked.

The task needs to be conducted with an added context of contrast.

Amongst those who picked one pronoun, there was no general preference for the *o*-set over the ʃe-set and vice-versa, suggesting both have the [INTN] feature value.
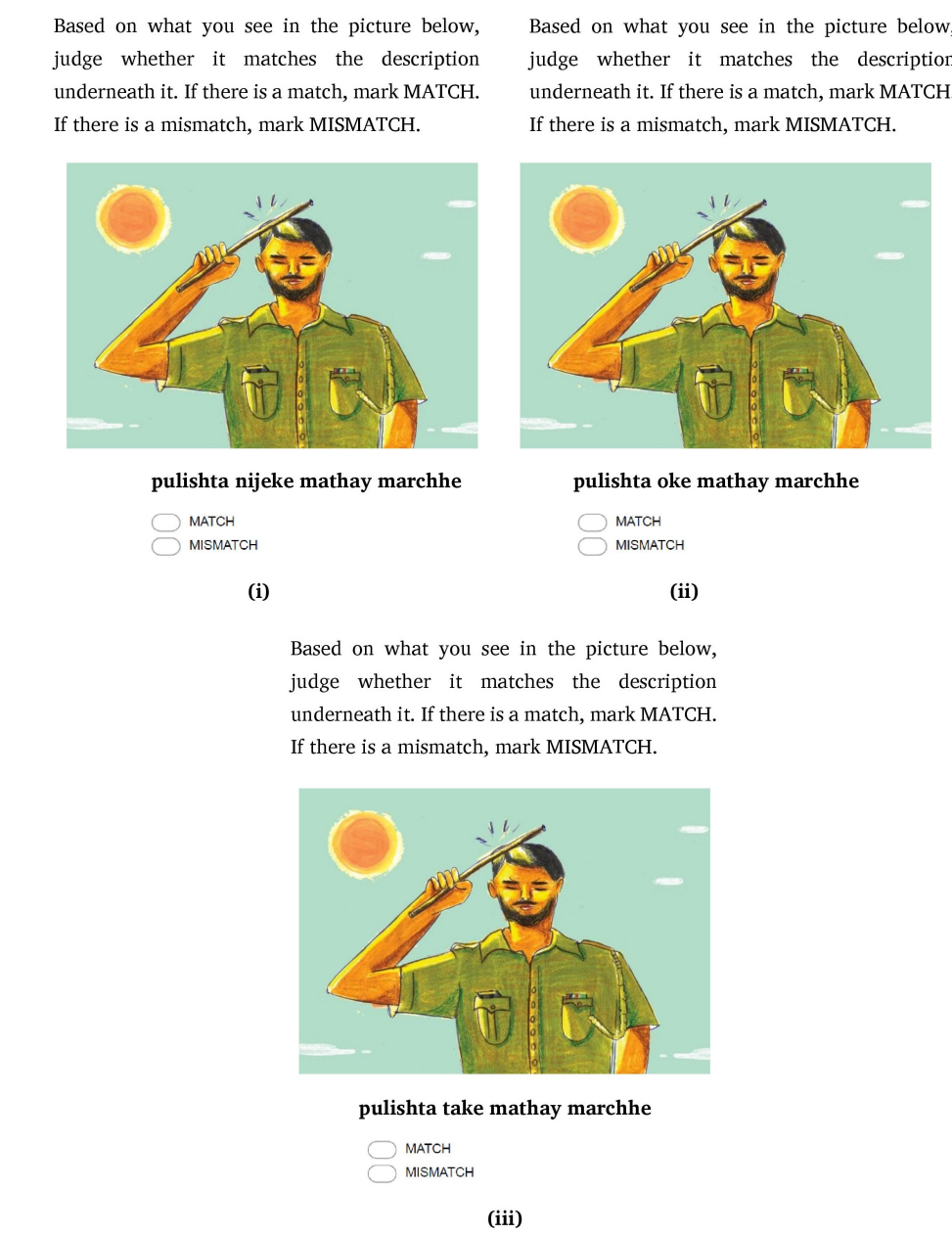
Figure 1 *(i) The policeman is hitting himself on the head. (ii), (iii) The policeman is hitting him on the head.*

Item Index	no. that answered all 3 tokens	% no. that answered all 3 tokens + marked "MATCH"	% no. that answered all three tokens + marked "MISMATCH"	no. that only accepted nidʒeke	% that only accepted nidʒeke
B1	136	100%	0.00%	115	84.56%
B2		11.03%	88.97%		
B3		11.03%	88.97%		
B4	134	98.51%	1.49%	113	84.33%
B5		12.69%	87.31%		
B6		8.96%	91.04%		
B7	136	100%	0.00%	126	92.65%
B8		5.15%	94.85%		
B9		5.15%	94.85%		
B10	132	98.48%	1.52%	106	80.30%
B11		10.61%	89.39%		
B12		18.18%	81.82%		

Item Index	no. that answered all 3 tokens	no. that accepted nidʒeke and take, but not oke	no. that accepted nidʒeke and oke, but not take	no. that accepted all three, nidʒeke, oke and take	no. that accepted nidʒeke and either oke or take	% that accepted all three	% that accepted nidʒeke and at least one out of oke and take
B1	136	6	6	9	12	6.62%	8.82%
B2							
B3							
B4	134	8	4	7	12	5.22%	8.82%
B5							
B6							
B7	136	3	3	4	6	2.94%	4.41%
B8							
B9							
B10	132	2	10	12	12	9.09%	9.09%
B11							
B12							

Task 2: The Spec DP "MATCH"-"MISMATCH" task

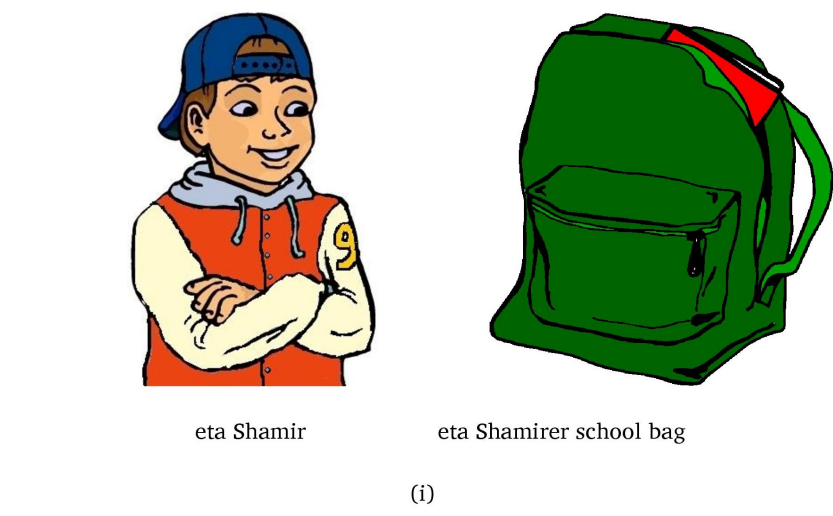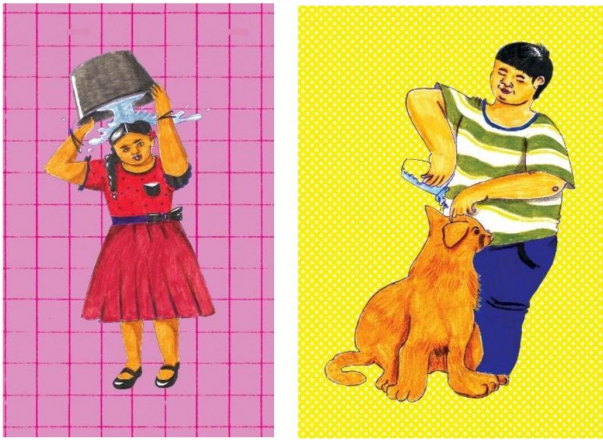For every predicate triplet that participants responded to:

- 58.46% to 70.80% accepted the reflexive, *nidʒer,* and both pronouns, *or* and *tar* (the response-set predicted by theory).

- 5.84% to 13.85% accepted *only* the reflexive, and considered both pronouns a "MISMATCH".

- 22.22% to 38.46% accepted the reflexive, but did not accept at least one out of the two pronouns.

The participants who did not accept the pronoun(s), did so because they assigned the free reading to the pronoun instead of the bound one, which matched the pragmatic context. The reflexive on the other hand did not yield any such ambiguity, having only a bound reading. It was, therefore, chosen by all these participants.

There was no general preference for one pronoun type over the other, again, suggesting that both have the [INTN] feature value.

Figure 2 *(i) This is Shamir, this is Shamir's school bag (ii) Shamir is packing self's school bag.*

Item Index	no. that answered all three tokens + marked "MATCH"	% that answered all 3 tokens + marked "MATCH"	no. that accepted all three, nidʒer, or, tar	no. that accepted nidʒer and at least one out of or and tar	% that accepted all three, nidʒer, or, tar	% that accepted nidʒer and at least one out of or and tar
B16	137	100.00%	92	33	67.15%	91.24%
B17		79.56%				
B18		78.83%				
B19	135	91.11%	93	19	68.89%	82.96%
B20		88.15%				
B21		80.74%				
B22	137	98.54%	97	30	70.80%	92.70%
B23		90.51%				
B24		75.91%				
B25	138	97.83%	87	33	63.04%	86.96%
B26		74.64%				
B27		78.26%				
B28	130	96.92%	76	32	58.46%	83.08%
B29		76.92%				
B30		69.23%				

Item Index	no. that answered all three tokens of the predicate triplate	no. that accepted nidʒer and or, but not tar	no. that accepted nidʒer and tar, but not or	no. that did not accept either pronoun	no. that accepted nidʒer but did not accept at least one out of or or tar	% that did not accept either pronoun	% that accepted nidʒer but did not accept at least one out of or and tar
B16	137	17	16	12	45	8.76%	32.85%
B17							
B18							
B19	135	14	5	11	30	8.15%	22.22%
B20							
B21							
B22	137	25	5	8	38	5.84%	27.74%
B23							
B24							
B25	138	14	19	15	48	10.87%	34.78%
B26							
B27							
B28	130	20	12	18	50	13.85%	38.46%
B29							
B30							

Task 3: The Spec DP "Fill-in-the-blank" contrast task

Above is a set of two pictures. Based on what you see depicted in the pictures, fill the blank in the sentence with the appropriate option.

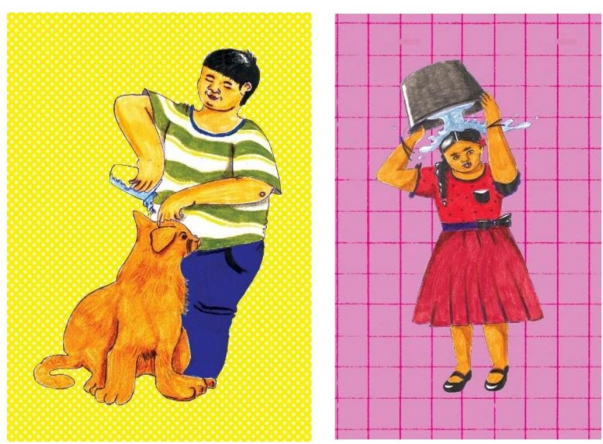**meyeta _____ gaye jol dhalchne. kintu chheleta beraltar gaye jol dhalchne.**

- nijer
- or
- tar

Above is a set of two pictures. Based on what you see depicted in the pictures, fill the blank in the sentence with the appropriate option.

chheleta beraltar gaye jol dhalchhe. kintu meyeta _____ gaye jol dhalchhe.

- nijer
- or
- tar

Figure 3 *(i) The girl is pouring water on ___ body. But the boy is pouring water on the cat's body. (ii) The boy is pouring water on the cat's body. But the girl is pouring water on ___ body.*

Both when the blank preceded the linguistic context (LC) and when it succeeded it, a high majority (93.48% to 100%) of the participants picked the reflexive over the pronouns. For all three predicate sets, **there was a higher preference for the reflexive when the blank succeeded the LC (97.12% to 100%) than when blank preceded it (93.48% to 96.38%).**

	B31 blank preceding LC	B32 blank succeeding LC	B33 blank preceding LC	B34 blank succeeding LC	B35 blank preceding LC	B36 blank succeeding LC
Total no. of responses to the token	138	139	139	139	138	139
No. considered for analysis	138	139	139	139	138	139
No. that picked nidʒer	129	135	133	135	133	139
No. that picked or	5	2	5	2	2	0
No. that picked tar	4	2	1	2	3	0
% that picked nidʒer	93.48%	97.12%	95.68%	97.12%	96.38%	100.00%
% that picked or	3.62%	1.44%	3.60%	1.44%	1.45%	0.00%
% that picked tar	2.90%	1.44%	0.72%	1.44%	2.17%	0.00%

The reflexive can only have a bound reading, but a pronoun can potentially have three readings: a bound one, a coreference one and a free one. Picking the pronoun when the LC succeeds the blank has two potential outcomes (a and b), but picking it when the LC precedes the blank has three potential outcomes (a, b and c). Participants, aware of these outcomes, chose the option that had least ambiguity.

a. the pronoun gets bound by the subject DP (available both when the blank precedes and when it succeeds the LC): pragmatically felicitous

- "...[$_{CP}$[$_{DP}$ the girl]$_i$ [...[*o-r$_i$* body]]]..."

b. the pronoun gets a free reading (available both when the blank precedes and when it succeeds the LC): pragmatically infelicitous

- "...[$_{CP}$[$_{DP}$ the girl]$_i$ [...[*o-r$_j$* body]]]..."

c. the pronoun gets a coreference reading (available only when the blank succeeds the LC):

- "[$_{CP}$ [$_{DP}$ the boy]$_i$ [[[$_{DP}$ the cat]$_j$ ...]]]...[$_{CP}$[$_{DP}$ the girl]$_j$ [*o-r$_{i/j}$* body]...]]]" (the indices here are only to illustrate the potential coreference)

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