

## Bengali Referring Expressions<sup>1</sup>

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### 1. The Givenness Hierarchy and Introduction

- We can refer to entities using multiple referring expressions, and these referring expressions may refer to multiple entities in turn. Not a clear 1:1 ratio.
- How can a listener correctly decide on a speaker's intended referent, and how can a speaker correctly signal his referent?
- Givenness Hierarchy, or "GH," (Gundel, Hedberg, Zacharski, 1993) is a cognitive framework for describing referring expressions.
- The Givenness Hierarchy is made of six cognitive status categories, defined in terms of psychological and cognitive terms, which restrict the listener in selecting a mental representation to associate with the referent. (1)

#### (1) *Givenness Hierarchy*

in focus >	activated >	familiar >	uniquely >	referential >	type >
it	IT, that, this, this N	that N	identifiable the N	this N INDEF	identifiable a N

- Actual referring expression use distribution does not fit nicely into neat categories – how does the GH account for this?
  - Unidirectional entailment relationship built into definitions. Any higher status entails lower statuses. The categories are NOT mutually exclusive.
  - Gricean maxim (Grice, 1975) and scalar implicatures. Any referring expression may implicate that it is not a higher status.
  - These allow the GH to be restrictive enough to be explanatory, without being too restrictive to underrepresent actual distribution of referring expressions.
  - A correlation of a referring expression with a category on the GH means that that expression signals the referent is *at least* that status in the mind of the speaker, and implicates that it is not a higher status. Any given status on the GH in turn can be signaled using the associated status, or with any lower forms, given the entailment relationship.
  - **Hypothesis:** No referring expression should encode one cognitive status to the exclusion of higher statuses.

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## 2. Bengali referring expressions

### 2.1 Morphosyntax

- Bengali has the following elements from which the referring expressions are constructed:

Word for one: *ek* (allomorph: *æk*), often used as indefinite article.

Demonstratives: *e*, *o*, *se*

- May function as pronouns, or as determiners after affixing *-i* to demonstrative.

(Dasgupta, 1992)

- I refer to these in this paper using the deictic terms “proximal,” “medial,” and “distal”. Dasgupta (1992) describes *se* as a “sequential” demonstrative, because of its use in certain syntactic constructions (e.g., correlative clauses)

∅ pronoun, no distinct personal pronouns

- Classifier use can be relevant to signal Givenness. (Bhattacharya, 1999)

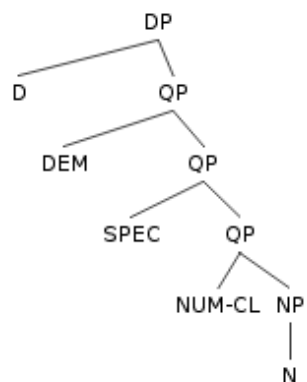
- Relation of classifier to NP is sufficient for distinct readings in terms of specificity, as shown in (2) and (3).

(2) *Ami du-to boi dekhechi*  
 I two-CL book have.seen  
 ‘I have seen two books’ [-specific]

(3) *Ami boi<sub>i</sub> du-to t<sub>i</sub> dekhechi*  
 I book two-CL have.seen  
 ‘I have seen the two books’ [+specific]

- CL licenses NP to become specified for [specific]. Movement of NP to [Spec, QP] allows a [+specific] feature to check with head Q (Numeral and classifier combined head). The final structure is shown in (4).

(4) Adapted from Bhattacharya (1999): Bengali DP model



- CL may combine with *ek / æk* “one”, a bare nominal, a nominal preceded by a demonstrative, or a demonstrative pronoun.

## 2.2 Correlations with GH

- Children's book and published personal diary analyzed, as well as portions of an online forum, a non-scholarly article on Asperger's syndrome, supplemented with elicitations from a native speaker. The relevant DPs were coded within the guidelines given in Gundel (revised, 2004). Referring expressions were correlated with the lowest status that had enough exemplars to be considered significant in relation to how many tokens were found in total for each expression. Exceptionally rare referring expressions were assigned a cognitive status after several elicitations from native speakers in conjunction with discussion with said speakers.

- The following correlations in (5) were found between the cognitive statuses on the GH and Bengali referring forms. The actual distributions of referring expression in relation to cognitive status are given in the chart in (6).

### (5) Correlations between GH and Bengali referring expressions

**in focus:**  $\emptyset$ ,  $e(ta)$ ,  $se(ta)$

**activated:**  $o(ta)$ ,  $ei N\dot{t}a$

**familiar:**  $oi N(ta)$ ,  $sei N(ta)$

**uniquely identifiable:**  $N\dot{t}a$

**referential:**  $ei N$

**type identifiable:**  $N$ ,  $ek(ta) N$

### (6) Cognitive Status and referring expressions

	In-focus	Activated	Familiar	Un. Id.	Ref.	Type Id.
$\emptyset$	16					
$e$	3					
$e\dot{t}a$	4					
$se$	34					
$se\dot{t}a$	2					
$o$	18	2				
$o\dot{t}a$		2				
$ei N$	3	3	1	2	1	
$ei N\dot{t}a$		1				
$oi N$		1	1			
$oi N\dot{t}a$		1	1			
$sei N$	1	5	1			
$sei N\dot{t}a$		1	1			
$N\dot{t}a$		2	1	2		
$N$	13	36	26	55		14
$ek N$					2	1
$\text{\ae}k\dot{t}a N$					6	8

- The GH makes the hypothesis that no referring expression signals one cognitive status and not higher statuses. Bengali seems to be in line with this hypothesis, within the restrictions of scalar implicatures as expected. There were some referring expressions which I only found one or two exemplars of in one status. These generally came from a few exemplars from constructed examples and elicitation, so those are not considered statistically accurate enough to assess if they exclude higher statuses or not.

### 2.3 Comparisons with other Languages

- In Bengali, as in Chinese, Japanese, Russian, and Spanish, the null pronoun requires in-focus status. Although not specifically built into the GH, there seems to be a correlation between referring expressions with less phonetic content encoding higher statuses in all languages.

- The proximal demonstrative determiner in Bengali, followed by a classifier, signals at least activated status, whereas the other two encoded at least familiar. Similar phenomena are seen in Chinese, English, Japanese, and Spanish.

### 2.4 Implications for Bengali Linguistics

-  $\emptyset$ ,  $e(ta)$ ,  $se(ta)$  – the proximal and distal demonstrative pronouns – encode the In-focus status, as personal pronouns in other languages. The medial demonstrative pronoun  $o(ta)$  encodes the Activated cognitive status, as in other demonstrative pronouns cross-linguistically (Gundel et al, 1993). (7) shows that  $se(ta)$  and  $e(ta)$  cannot be used with an activated cognitive status, whereas  $o(ta)$  can.<sup>2</sup>

(7)	<i>amar</i>	<i>bondhur</i>	<i>kukur</i>	<i>ache.</i>	<b>#<i>e(ta)</i> /</b>	<b>#<i>se(ta)</i> /</b>	<b><i>o(ta)</i></b>
	my	friend	dog	has.	this	that	that
					(Activated)		
	<i>roj</i>	<i>amar</i>	<i>barite</i>	<i>eje</i>	<i>Puppy</i>	<i>Chow</i>	<i>khee.</i>
	every.day	my	house.LOC	comes			eats.

‘My friend has a dog. It comes to my house every day and eats Puppy Chow.’

- Like English, Bengali has an ‘indefinite this’, a referring expression that encodes the Referential cognitive status. Referential is a status that assumes the speaker will either access or construct a mental representation by the end of the sentence – in other words, the intended referent of an “indefinite this” may be qualified later in the sentence to allow the listener to appropriately create or select the mental representation, as in (8). In Bengali, the indefinite this must not include a post-posed classifier, as seen in (9).

(8) I was walking down the street the other day, and I ran into **this guy** who said he was your boss. Does he live somewhere by me?

<sup>2</sup> For a discussion of the differences between the three demonstrative pronouns in terms of Binding Theory, see Dasgupta (1992).

- (9) *kicchukhən əpekkha.kərar por tara ei afəŋka(#-ʃa) korlo*  
 a.while waiting after they this fear(-CL) did  
 (Referential)
- je se niŋcoei kon fikarir jale dhəra.pəreche*  
 that he certainly some hunter's net.LOC was.caught  
 'After waiting a while, they feared ("did this fear") that he certainly fell into some hunter's net'

- Contrasting to the classifier-less indefinite 'this', the sequence *ei N(ʃa)* "this N(-CL)" must be at least Activated. It is infelicitous in Familiar environments, as shown in (10). This further proves there is a distinction between the sequence *ei N* "this N" and *ei Nʃa* "this N-CL", since *ei Nʃa* seems to be unable to be used below Activated, whereas *ei N* appears as Familiar, Uniquely Identifiable, and Referential. (The questionability of the *ei N* sequence in (10) is presumably due to the scalar implicature effect.)

- (10) (Mouse not mentioned for 10 sentences)
- |            |                 |           |                |                       |                        |                    |
|------------|-----------------|-----------|----------------|-----------------------|------------------------|--------------------|
| <i>tai</i> | <i>taɾataɾi</i> | <i>se</i> | <i>ʃidur /</i> | <i>oi ʃidur(ʃa) /</i> | <i>sei ʃidur(ʃa) /</i> | <i>?ei ʃidur /</i> |
| so         | quickly         | he        | mouse          | that mouse            | that mouse             | this mouse         |
- (Familiar)
- |                    |          |                  |              |                  |
|--------------------|----------|------------------|--------------|------------------|
| <i>#ei ʃidurʃa</i> | <i>o</i> | <i>kəcchoper</i> | <i>kache</i> | <i>phire.elo</i> |
| this mouse-CL      | and      | tortoise         | near         | returned         |
- 'So, he quickly returned to that mouse and tortoise.'

- Bhattacharya (1999) referred to the semantic key involved in the movement that yields the sequence N-CL to be specificity. I presume that 'specific' means at or above referential – the cognitive status that refers to a unique entity, and that assumes that the listener has a mental representation of it before the end of the sentence. Note that 'specific' and Referential do not necessarily implicate 'definite.' However, all the instances of Referential cognitive status that were found involved either no classifier, or a pre-posed classifier (*ei N*, *ek N*, and *əkʃa N*). This shows that a NP may be specific without a classifier, and if there is a classifier, without NP movement to [Spec, QP]. All the instances of classifiers post-posed were above Uniquely Identifiable, the distribution associated with the pretheoretic term 'definite' (Gundel et al, 2001). In fact, *Nʃa* cannot be used in referential environments, as shown in (11).

- (11) *jəkhon amar baccar bəes tin chilo, təkxon amra bondhu(#ʃa)r*  
 when my baby's age three was, then we friend(CL)'s  
 (Referential)
- baɾite chilam, ar amar bondhu amake boleche je...*  
 house.LOC were, and my friend me have.said that...  
 'When my baby was three, we were at a friend of mine's house, and my friend told me.'

-I speculate that the post-posed classifier signals either definiteness, or [+specific] in addition to further semantic content. If such additional content was found, it may also explain the apparent free variation in the use of classifiers with demonstratives, apart from the “definite” and “indefinite this” cases.

- As mentioned before, it seems that the classifier has no effect in terms of cognitive status for referring expressions that signal cognitive statuses above Uniquely Identifiable.

### **3. Conclusion**

- The correlations between cognitive status and Bengali were determined.

- The hypothesis that referring expressions cannot signal one cognitive status to the exclusion of higher statuses was supported by and large by the data present.

- Bengali proximal demonstratives and distal demonstrative pronouns pattern as personal pronouns in other languages, and the medial demonstrative pronoun patterns as demonstrative pronouns in other languages.

- Bhattacharya (1999)’s [specific] feature does not seem to be adequate to motivate a post-posed classifier in Bengali. It may be a step in the right direction, provided additional semantic data associated with the classifier is assessed. Ideally, this additional information should account for the supposed variability in higher statuses. Otherwise, the sequence NP-CL may indicate definiteness.

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