

On Syntactic Structures of the Head Internal Relative Clause Construction in Bengali*

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1. Introduction

We will examine in this paper the syntactic properties of the head internal relative clause (HIRC) construction in Bengali and propose on the basis of empirical facts that a HIRC headed by Complementizer *je* is initially combined with a so-called correlative pronoun and that the complex DP so formed is inserted in a relevant thematic position. An outstanding syntactic property of Bengali HIRCs, namely their exclusion from genuine argument positions, thus, comes from this obligatory formation of a complex DP and their occasional syntactic separation from correlative pronouns is due to their optional extraction from within the complex DP.

The paper is organized as follows. Section 2 reviews the general distributional properties of HIRCs. Section 3 argues that HIRCs in Bengali are CPs headed by Complementizer *je*. Section 4 proceeds to the analysis of the distribution of HIRCs and proposes that a HIRC and a correlative pronoun combine to project a DP, which is inserted in the relevant thematic position. Section 5 turns to the distribution of genuine propositional clauses and proposes that they are also initially inserted in thematic positions, contrary to the analysis explored in Koster (1978) and Alrenga (2005) where they are base-generated in A'-positions. Section 6 concludes the discussion.

2. Distributional properties of HIRCs

A HIRC is a relative clause where the nominal expression it is to modify appears within it. Japanese is one of the languages that allow HIRCs in addition to head external relative

* A portion of an earlier version of this paper was presented by the second author at Linguistics Workshop 2015 held at Yamagata University on July 16, 2015. We are grateful to the audience there and an anonymous reviewer of this journal for valuable comments and suggestions. All remaining errors are of course our own.

clauses. Thus, both (1a) and (1b) are possible.¹

- (1) a. [John-ga nageta] booru-ga mato-ni atatta.
John-NOM threw ball-NOM target-DAT hit
 ‘The ball that John threw hit the target.’
- b. [John-ga booru-o nageta]-no-ga mato-ni atatta.
John-NOM ball-ACC threw-NOMINALIZER-NOM target-DAT hit
 ‘The ball that John threw hit the target.’

(1a) illustrates a head external relative clause, where relative clause *John-ga nageta* ‘John threw’ modifies the nominal expression (*booru* ‘ball’) that occurs external to it, whereas (1b) is an example of head internal relative clauses, where the nominal head *booru* ‘ball’ occurs internal to the relative clause.

Like Japanese, Bengali allows both the head external relative clause construction and the HIRC construction, as in (2a) and (2b), respectively.

- (2) a. Cheleti [je gotokal khelechilo], se amar bhai.²
boy.the that yesterday played he my brother
 ‘The boy who played yesterday is my brother.’
- b. [Je cheleti gotokal khelechilo], se amar bhai.
that boy.the yesterday played he my brother
 ‘The boy who played yesterday is my brother.’

HIRCs in Bengali have two important distributional properties that deserve detailed scrutiny. First, they are always paired with pronominal elements conventionally called “correlative pronouns,” which appear in genuine thematic positions such as subject and object (see Morshed 1981). Thus, in a grammatical construction in (3a), correlative pronoun *se* ‘he’ occurs in the thematic subject position and HIRC *je cheleti porikkai prothom hoeche* ‘that the boy stood first in the examination’ appears in a pre-subject position. When a

¹ The following abbreviations are adopted: NOM = Nominative Case, DAT = Dative Case, ACC = Accusative Case, PASS = passive morpheme.

² Bengali is essentially a head-final language and, just like Japanese, does not have a copular verb equivalent to English *be*.

correlative pronoun is missing as in (3b), the sentence is ungrammatical.

- (3) a. [Je cheleti porikkai prothom hoeche], se amar bondhu.
that boy.the examination.in.the first stood he my friend
 ‘The boy who has stood first in the examination is my friend.’
- b. * [Je cheleti porikkai prothom hoeche] amar bondhu.
that boy.the examination.in.the first stood my friend
 ‘The boy who has stood first in the examination is my friend.’

Correlative pronouns are closely linked to the animacy feature of the “internal nominal heads” of HIRC. This is indicated by the choice of *seta* ‘it’ in (4a).

- (4) a. [Je boiti Neela gotokal kinechilo] se seta harie pheleche.³
that book.the Neela yesterday bought he that lost.has
 ‘He has lost the book which Neela bought yesterday.’
- b. * [Je boiti Neela gotokal kinechilo] se harie pheleche.
that book.the Neela yesterday bought he lost.has
 ‘He has lost the book which Neela bought yesterday.’

An inanimate “internal nominal head” requires as a correlative pronoun *seta* ‘it’ in both the object position as in (4a) and the subject position, while an animate nominal head selects *take* ‘him/her’ as an accusative form and *se* ‘he/she’ as a nominative form as in (3a).

The requirement of a correlative pronoun is robust in the HIRC construction. Take as an example verb *biswas kora* ‘believe,’ which subcategorizes for either a DP or a clause.

- (5) a. Ami [cheletike] biswas kori.
I boy.the believe
 ‘I believe the boy.’

³ Bengali has both single-morpheme verbs, such as *pora* ‘read,’ *likha* ‘write,’ *khaoa* ‘eat,’ and double-morpheme verbs such as *pan kora* ‘drink,’ *biswas kora* ‘believe.’ *Harie pheleche* ‘lost’ in (4b) is another instance of such double-morpheme verbs.

- b. *Ami biswas kori [je cheleti asbe].*⁴
I believe that boy.the come.will
 'I believe that the boy will come.'

In (5b), the bracketed sequence is always interpreted as a propositional complement of *biswas kori* 'believe.' However, when accusative correlative pronoun *take* 'him' appears in the object position of the verb, as in (6), the same bracketed sequence is interpreted only as a HIRC; it cannot be understood as a propositional complement.

- (6) *Ami take biswas kori [je cheleti asbe].*
I him believe that boy.the come.will
 'I believe the boy who will come.'

Since the same sequence appears in the bracketed parts both in (5b) and in (6), we can conclude that the presence of correlative pronoun *take* forces the HIRC interpretation in (6).

The second distributional property of Bengali HIRCs, which might be seen as a direct consequence of the obligatory presence of correlative pronouns, is that they always appear in displaced positions. Since Bengali Vs are superficially head-final,⁵ the HIRC in (6) can be analyzed as occupying a right-peripheral position that is not canonical for a regular object argument. Other examples of right-peripheral HIRC are provided in (7a, b).

- (7) a. *Se amar bondhu [je cheleti porikkai prothom hoeche].*
he my friend that boy.the examination.in.the first stood
 'The boy who has stood first in the examination is my friend.'
- b. *Se seta harie pheleche [je boiti Neela gotokal kinechilo].*
he that lost.has that book.the Neela yesterday bought
 'He has lost the book which Neela bought yesterday.'

The examples in (3a) and (4a) above, in contrast, shows that HIRCs can appear in sentence-

⁴ The propositional complement cannot appear in the preverbal, canonical object position, as shown in (i), to which we will return in Section 5.

(i) * *Ami [je cheleti asbe] biswas kori.*
I that boy.the come.will believe 'I believe that the boy will come.'

⁵ We will return to the issue of word order in Section 5.

initial positions. A similar example can be made from the example in (6), as illustrated in (8).

- (8) [Je cheleti asbe] ami take biswas kori.
that boy.the come.will I him believe
 'I believe the boy who will come.'

A seemingly valid generalization is that Bengali HIRC must occupy A'-positions. This is lent support by the contrast in grammaticality between (9a) and (9b).

- (9) a. Se [je boiti Neela gotokal kinechilo] seta harie pheleche.
he that book.the Neela yesterday bought that lost.has
 'He has lost the book which Neela bought yesterday.'
- b. * Se [je boiti Neela gotokal kinechilo] harie pheleche.
he that book.the Neela yesterday bought lost.has
 'He has lost the book which Neela bought yesterday.'

(9a) is grammatical because a correlative pronoun *seta* 'it' appears in the object position of the verb *harie pheleche* 'has lost' and the HIRC, as a consequence, occupies an A'-position between the subject and object. (9b), on the other hand, is ungrammatical due to either or both of the absence of a correlative pronoun and the occurrence of the HIRC in the object position (non-A'-position).

These empirical data show that HIRCs in Bengali occupy A'-positions and the thematic positions their "internal nominal heads" are semantically connected to are always filled by correlative pronouns.

3. HIRCs as CPs headed by *je*

There are a couple of pieces of evidence for the analysis of *je*, which introduces a HIRC, as a C head, and hence the HIRC is best analyzed as a CP. First, as noted in Morshed (1981), *je* is not restricted to HIRCs and HERCs; it also introduces a propositional complement clause to verbs such as *jana* 'know' and *biswas kora* 'believe.' In this sense, *je* behaves like English Complementizer *that*.

- (10) Ami jantam [je lokti lomba]. (Morshed 1981: 216)
I knew that man.the tall
 'I knew that the man was tall.'

Second, as we saw in (5b) and (6) in the previous section, a sequence of lexical items starting with *je* can be interpreted either as a HIRC or a genuine propositional clause, depending on the presence/absence of a correlative pronoun, which strongly suggests that both instances of *je* are one and the same element: complementizer.

If *je* is a head, as we argue for here, it does not conform to the head-final nature of Bengali lexical items such as T, V, N and possibly D, because it is always followed by a clausal element (TP). Let us suppose tentatively that *je* were to conform to the *head-final* value of the word order parameter. Then, the clausal sequence that follows *je* (namely, the purported TP) could be analyzed either (i) as a constituent syntactically unrelated with *je* or (ii) as a genuine TP complement to *je* right-adjoined to its projection by a rule of rightward movement. The first possibility is rejected by the availability of Right Node Raising (RNR) of *je* and the clausal sequence that follows it, as in (11a, b), which show that *je* and the clausal sequence do form a constituent.

- (11) a. Karim mone korena kintu ami biswas kori [je cheleti asbe].
Karim thinks.not but I believe that boy.the come.will
 'Karim does not think, but I believe, that the boy will come.'
- b. Se amake jigges korechilo kintu ami jantam na [je Mary kake
he me.to asked but I knew not that Mary whom
nimontron janiechilo].
invited.had
 'He asked me, but I didn't know, who Mary had invited.'

Note in passing that the applicability of RNR to a clause introduced by a regular complementizer is confirmed by the well-formedness of the following English case.

- (12) Mary said, and I happen to agree, [that she needs a new car].
 (McCawley 1988: 284)

The second possibility (namely, the right-adjunction analysis of the TP complement to a projection of *je*) might be made compatible with these RNR facts, if it is established that the right-adjunction operation of TP to a projection of the selecting C-head (*je*) is obligatory. However, the obligatoriness of the operation is unmotivated and ad hoc.⁶

Given that both of the possibilities are either rejected or unmotivated, it is more appropriate to adopt the hypothesis that in Bengali lexical items, *je* is a unique head (C) with a *head-initial* value of the word order parameter. A similar parametric variation among lexical items within a single language is found in German as well, where, just like Bengali, C is specified as head-initial whereas other lexical items have head-final values.⁷

In sum, the cooccurrence of *je* and a clausal element in HIRCs, the linear similarity of the word orders of lexical items in HIRCs and genuine declarative clauses, and the constituency of *je* and the clausal sequence that follows it provide good evidence for the analysis in which a HIRC is a CP headed by Complementizer *je*.

4. Structural relation between HIRCs and correlative pronouns

Given the CP status of HIRCs in Bengali, their distribution is expected to be different from that of genuine DPs. As discussed in Koster (1978) and Alrenga (2005), CPs cannot appear in the genuine subject position. Stowell (1981) extends the scope of the analysis to cover the distribution of CPs in complement positions and proposes a Case-theoretic account, according to which tensed clauses are prohibited from occurring in Case-marked positions such as the subject and object positions.⁸ Since Bengali HIRCs are also CPs, they are forced to appear in positions other than subject and object, such as right-peripheral positions, sentence-initial positions, and A'-positions between subject and object as we saw in the

⁶ An anonymous reviewer suggests that movement of the TP-complement of C is generally excluded by the “anti-locality condition” in Abels (2003). We are grateful to him/her for bringing this analysis to our attention.

⁷ German is like Bengali in the distribution of clausal complements as well. They do not occur in the preverbal, canonical object position; rather, they appear in a sentence-final position.

⁸ Stowell’s (1981: 146) original formulation of the relevant principle is given in (i).

(i) Case Resistance Principle (CRP)

Case may not be assigned to a category bearing a Case-assigning feature.

Every tensed clause has a feature [+tense], which is a Case-assigning feature. Therefore, tensed clauses are excluded from Case-marked positions.

preceding section.⁹ This analysis might seem promising at first glance, but it actually is not.

Let us take a closer look at the Koster/Alrenga analysis. They both assume that sentential arguments are directly base-generated in sentence-initial positions (namely, topic positions or, possibly, focus positions). The fact that a sentential element that appears in such a sentence-initial position is interpreted as the thematic subject/object of the sentence that follows it is captured in Alrenga (2005) by the assumption that a null DP (operator) is base-generated in the relevant thematic position and undergoes A'-movement to Spec,CP, where it is "linked" to the sentential element in the topic position. This is illustrated in the following examples (see Alrenga 2005: 182, Koster 1978, Chomsky 1977, among others).

- (13) a. That the Giants would lose was expected.
 b. [That the Giants would lose]_{CP} [_{DP} Op]_i [_C C⁰ [_{TP} *t_i* was expected *t_i*]]

If this analysis is extendable to Bengali HIRCs, we could suppose that the role of the null DP (operator) in English is played by overt correlative pronouns in Bengali. Then, the example in (4a), repeated here as (14a), would have a structure in (14b).

- (14) a. [Je boiti Neela gotokal kinechilo] se seta harie pheleche. (= 4a)
that book.the Neela yesterday bought he that lost.has
 'He has lost the book which Neela bought yesterday.'
 b. [HIRC je boiti Neela gotokal kinechilo]_{CP} ... [_C C⁰ [_{TP} se seta harie pheleche]]

Unlike a null DP (operator), correlative pronoun *seta* occupies the thematic object position. It

⁹ Bare forms of HIRCs in Japanese cannot occur in canonical subject/object positions, either, as illustrated by the ungrammatical examples in (ia) and (iia), where the insertion of nominalizer *no* is essential to make them grammatical expressions as in (ib) and (iib), respectively.

- (i) a. * [John-ga ronbun-o kaita]-ga syuppan-sare-ta.
John-NOM paper-ACC wrote-NOM publish-PASS-PAST
 'The paper John wrote was published.'
 b. [John-ga ronbun-o kaita]-no-ga syuppan-sare-ta.
John-NOM paper-ACC wrote-NOMINALIZER-NOM publish-PASS-PAST
 (ii) a. * John-ga [ringo-ga yuka-ni otiteiru]-o hirota.
John-NOM apple-NOM floor-on was.left-ACC picked.up
 'John picked up the apple that was left on the floor.'
 b. John-ga [ringo-ga yuka-ni otiteiru]-no-o hirota.
John-NOM apple-NOM floor-on was.left-NOMINALIZER-ACC picked.up

is not clear at all, therefore, how it is connected to the sentence-initial relative clause. Alrenga (2005) appeals to the [+*wh*]-feature on the null DP (operator) to account for its obligatory movement to Spec,CP. Correlative pronouns, on the other hand, are unlikely to have such an A'-movement-inducing feature inherently. In addition, if for some reason or other it were to raise to Spec,CP covertly, it is quite obscure how it could be semantically connected to an “internal head nominal expression” embedded within the HIRC that occupies the topic position. Therefore, the base-generation hypothesis of sentential expressions in the Koster/Alrenga analysis could be extendable to Bengali HIRCs, but the analysis leaves the semantic connection of HIRCs and the corresponding correlative pronouns totally unaccounted for.

This analysis of Bengali HIRCs base-generated in A'-positions and their thematic connection mediated by correlative pronouns that are independently base-generated in the relevant thematic positions is further weakened by certain empirical facts about coordination. Consider first the sentence in (15a), where, according to this analysis, correlative pronoun *take* ‘him’ occupies the thematic object position of the verb *biswas kori* ‘believe’ and the HIRC is adjoined presumably to *vP*, as illustrated in (15b).

- (15) a. Ami [je cheleti asbe] take biswas kori.
I that boy.the come.will him believe.
 ‘I believe the boy who will come.’
- b. [TP ami [_{vP} [HIRC je cheleti asbe] [_{vP} take biswas kori]]]

Since in (15), the HIRC and *take* ‘him’ do not form a constituent, we predict that this HIRC-pronoun pair cannot be coordinated with another instance of such a pair. This prediction, however, is not borne out; rather, such coordination is actually possible, as the grammatical status of the following example shows.

- (16) Se [je boiti Neela gotokal kinechilo] seta abong [je obhidhanti
he that book.the Neela yesterday bought that and that dictionary.the
Johner kach teke dhar niechilo] seta harie pheleche.
John from borrowed that lost.has.
 ‘He has lost the book that Neela bought yesterday and the dictionary he borrowed from John.’

Here, the first occurrence of a HIRC-pronoun pair (*je boiti Neela gotokal kinechilo* ‘that the book Neela bought yesterday’ and *seta* ‘it’) is conjoined by *abong* ‘and’ with the second pair (*je obhidhanti Johner kach teke dhar niechilo* ‘that (he) borrowed the dictionary from John’ and *seta* ‘it’). If a HIRC-pronoun pair forms a constituent, as we will argue for below, then it provides counterevidence to the analysis of the base-generation of a correlative pronoun in a thematic argument position and a HIRC in an A’-position away from the pronoun.

One might claim that this line of argument for the constituency of a HIRC-pronoun pair has a flaw in that (16) actually has a *vP*-coordination structure of the sort given in (17).

- (17) Subject [_{vP1} HIRC₁ seta₁ e_v] *abong* [_{vP2} HIRC₂ seta₂ harie pheleche]

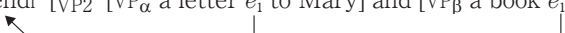
There is good reason to suppose this kind of verbal phrase coordination that involves an empty verbal head. A piece of evidence comes from both English and Japanese. First, both McCawley (1988: 63) and Larson (1988: 345) observe that the following coordination examples are grammatical.

- (18) John donated \$50 to the Anti-Vivisection Society and \$75 to the Red Cross.
 (19) John sent a letter to Mary and a book to Sue.

McCawley (*ibid.*) shows that *\$50* and *to the Anti-Vivisection Society* in (18) do not form a constituent, on the basis of the degraded status that comes from the addition of *both* in front of the first conjunct as in (20).

- (20) ?? John donated both \$50 to the Anti-Vivisection Society and \$75 to the Red Cross.

Larson (*ibid.*) makes a more specific proposal, according to which the verbal phrase in (19) is constructed by an “across-the-board” application of V-raising to *send* as depicted in (21).

- (21) [_{VP1} send_i [_{VP2} [_{VP α} a letter e_i to Mary] and [_{VP β} a book e_i to Sue]]]
- 

This verbal phrase coordination analysis of superficially non-verbal coordination structures is appropriate for the following Japanese example, too.

- (22) John-ga hahaoya-o nyuugakusiki-ni titioya-o sotugyoosiki-
John-NOM mother-ACC entrance.ceremony-to father-ACC commencement-
ni maneita.
to invited
 ‘John invited his mother to the entrance ceremony and his father to the
 commencement.’

If *hahaoya-o* ‘his mother’ and *nyuugakusiki-ni* ‘to the entrance ceremony’ in this example were to form a constituent, then the constituent so created should be either a DP (a projection of *hahaoya-o* ‘his mother’) or a PP (a projection of *nyuugakusiki-ni* ‘to the entrance ceremony’). If both of the projection options are shown to be inappropriate, it will lend an (indirect) support to a verbal phrase coordination analysis. Let us first consider the possibility of a DP projection. DPs are typical constituents that may be modified by floating quantifiers such as *ryoohoo* ‘both.’ Thus, (23a) below is fine with *ryoohoo* modifying the bona fide DP argument *hahaoya-to titioya-o* ‘his mother and father.’ However, we cannot add *ryoohoo* to (22), as the ungrammaticality of (23b) shows.

- (23) a. John-ga [hahaoya-to titioya]-o sotugyoosiki-ni ryoohoo maneita.
John-NOM mother-and father-ACC commencement-to both invited
 ‘John invited both his mother and father to the commencement.’
 b. * John-ga [hahaoya-o nyuugakusiki-ni titioya-o sotugyoosiki-
John-NOM mother-ACC entrance.ceremony-to father-ACC commencement-
ni] ryoohoo maneita.
to both invited
 ‘John invited both his mother to the entrance ceremony and his father to the
 commencement.’

The ungrammaticality suggests that *hahaoya-o nyuugakusiki-ni* ‘his mother to the entrance ceremony’ is not a DP. That it is not a DP is further supported by the unavailability of conjunction *to* ‘and,’ which is a canonical element that conjoins nominal expressions. Compare (23a) above, where *hahaoya* ‘his mother’ and *titioya* ‘his father’ are conjoined by *to* ‘and,’ with the following ungrammatical example.

- (24) * John-ga [hahaoya-o nyuugakusiki-(ni)]-to [titiyoa-o
John-NOM mother-ACC entrance.ceremony-(to)-and.father-ACC
 sotugyoosiki-ni] maneita.
commencement-to invited
 ‘John invited his mother to the entrance ceremony and his father to the
 commencement.’

Next consider the possibility of a PP projection. When two PPs are conjoined in Japanese, the double *mo* construction of the form [PP₁ *mo* PP₂ *mo*] is typically used. Thus, (25a) below is fine, but a similar double *mo* construction is unavailable for the coordination construction under consideration as in (25b).

- (25) a. John-ga hahaoya-o [nyuugakusiki-ni-mo sotugyoosiki-ni-mo]
John-NOM mother-ACC entrance.ceremony-to-too commencement-to-too
 maneita.
invited
 ‘John invited his mother to the entrance ceremony and to the
 commencement.’
- b. * John-ga [hahaoya-o nyuugakusiki-ni-mo titiyoa-o
John-NOM mother-ACC entrance.ceremony-(to)-too father-ACC
 sotugyoosiki-ni-mo] maneita.
commencement-to-too invited
 ‘John invited his mother to the entrance ceremony and his father to the
 commencement.’

In sum, the Japanese sequence of *hahaoya-o nyuugakusiki-ni* ‘his mother to the entrance ceremony’ does not have grammatical properties that it would have were it a DP or a PP. This lends an (indirect) support to the analysis in which the coordination of *hahaoya-o nyuugakusiki-ni* ‘his mother to the entrance ceremony’ and *titiyoa-o sotugyoosiki-ni* ‘his father to the commencement’ in example (22) involves some larger constituents (presumably *v*Ps) along the line of Larson’s analysis.¹⁰

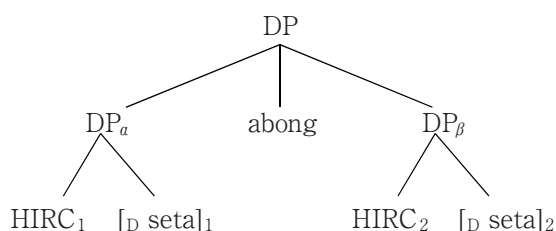
¹⁰ An anonymous reviewer points out that Saito (1987) argues, on the basis of the distribution of empty Complementizer in Japanese, for the “across-the-board”-raising analysis of V (or, right-node-raising analysis of V) for Japanese coordination constructions like (22).

Given these considerations, it is logically possible to analyze the coordination structure of Bengali HIRC-pronoun pairs in (16) above as *vP*-coordination, as shown in (17). However, this possibility is rejected by the following empirical fact: an addition of quantifier *dutoi* ‘both’ is permitted.

- (26) Se [je boiti Neela gotokal kinechilo] seta abong [je obhidhanti
he that book.the Neela yesterday bought that and that dictionary.the
 Johner kach teke dhar niechilo] seta dutoi harie pheleche.
John from borrowed that both lost.has.
 ‘He has lost both the book that Neela bought yesterday and the dictionary he
 borrowed from John.’

Semantically, the quantifier modifies the set that consists of the book that Neela bought yesterday and the dictionary that he borrowed from John. This interpretation is most naturally read off from the syntactic structure where, first of all, *je boiti Neela gotokal kinechilo* ‘that Neela bought the book yesterday’ and *seta* ‘it,’ on one hand, and *je obhidhanti Johner kach teke dhar niechilo* ‘that (he) borrowed from John’ and *seta* ‘it,’ on the other, constitute independent DP complexes and, second, these DP complexes form a larger, coordinated DP structure, which the quantifier (*dutoi*) modifies, as illustrated in (27).

- (27) Subject [_{DP} [_{DP_α} HIRC₁ seta₁] abong [_{DP_β} HIRC₂ seta₂]] dutoi harie pheleche



We are now ready to propose our analysis: Bengali HIRCs, which are CPs, and correlative pronouns are combined to project DPs of the form [_{DP} HIRC pronoun] and the DPs so formed are based-generated in thematic argument positions. In (15a), reproduced as (28a), HIRC *je cheleti asbe* ‘that the boy will come’ and *take* ‘him’ constitute a complex DP, as illustrated in (28b).

- (28) a. Ami [je cheleti asbe] take biswas kori. (= 15a)
I that boy.the come.will him believe.
 'I believe the boy who will come.'
- b. ami [_{vP} [_{DP} [_{HIRC} je cheleti asbe] take] biswas kori]

The whole DP receives a θ -role from verb *biswas kori* 'believe.' The fact that a HIRC alone cannot appear in a thematic position, as we saw in Section 2, is presumably due to the obligatory formation of a complex DP with a correlative pronoun: only the clauses that are combined with correlative pronouns are interpreted as HIRCs.¹¹

In examples where HIRCs are disconnected from correlative pronouns as in (29a) and (30a), our analysis is that they have moved out of the relevant DP complexes.

- (29) a. [Je cheleti asbe] ami take biswas kori. (= 8)
that boy.the come.will I him believe
 'I believe the boy who will come.'
- b. [_{CP} [_{HIRC} je cheleti asbe] [_{TP} ami [_{vP} [_{DP} *t*_{HIRC} take] biswas kori]]]
- (30) a. Ami take biswas kori [je cheleti asbe]. (= 6)
I him believe that boy.the come.will
 'I believe the boy who will come.'
- b. [_{TP} ami [_{vP} [_{DP} *t*_{HIRC} take] biswas kori] [_{HIRC} je cheleti asbe]]

The rightward movement analysis of the relative clause in (30), in particular, may be extended to cover relative clause extraposition in English as in (31), taken from Huddleston & Pullum (2002: 1066).

- (31) a. I met a man the other day who says he knows you.
 b. Kim lent a book to Ed which contained all the information he needed.
 c. A stranger came into the room who looked just like Uncle Oswald.

To summarize the section, it is proposed on the basis of the availability of coordination that a HIRC and a correlative pronoun are initially combined to project a DP complex and

¹¹ We will see in Section 5 that genuine thematic clauses can be combined with pronoun *eta* 'it.'

that their apparent discontinuous linearity in some cases is due to the optional A'-movement of the HIRC. In this analysis, the obligatory presence of correlative pronouns and the exclusion of HIRCs in thematic argument positions both follow from the fundamental nature of relative clauses: they are properly interpreted as instances of relative clauses only when they are combined with (external) nominal elements, which, in Bengali HIRCs, are provided by correlative pronouns.

5. Genuine propositional clauses

The previous section started with the possibility of base-generation of HIRCs in sentence-peripheral A'-positions, which is essentially on a par, in spirit, with the analysis of the distribution of genuine propositional arguments explored in Koster (1978) and Alrenga (2005); however, we ultimately rejected such an A'-base-generation analysis of HIRCs, on the basis of empirical facts about coordination and quantifier modification. We will now turn in this section to the distribution of genuine propositional clauses in Bengali and show that such an A'-base-generation analysis is not appropriate for Bengali genuine propositional clauses, either.

Take a look at the paradigm in (32), where all instances of *je cheleti asbe* 'that the boy will come' are to be understood as a genuine propositional complement to *biswas kori* 'believe.'

- (32) a. Ami biswas kori [je cheleti asbe]. (= 5b)
I believe that boy.the come.will
 'I believe that the boy will come.'
- b. * Ami [je cheleti asbe] biswas kori. (= (i) in Footnote 4)
I that boy.the come.will believe
- c. * [Je cheleti asbe] ami biswas kori.
that boy.the come.will I believe

Suppose, as we have assumed so far, that Bengali verbs are head-final. Then, the unavailability of the CP complement in the canonical object position in (32b) can be ascribed to Stowell's (1981) Case Resistance Principle (see Footnote 8) (or whatever principle derives the effects of CRP in the current theoretical framework). The CP in the right-peripheral position in (32a), on the other hand, is expected to be well-formed in the sense that it is base-generated in an A'-position. In a similar vein, the A'-base-generation analysis predicts a fully

grammatical status of (32c); however, this is not the case, as the ungrammaticality shows. In sum, the availability of propositional CPs in right-peripheral positions as in (32a) and their unavailability in left-peripheral positions seriously weaken an A'-base-generation analysis along the line of Koster (1978) and Alrenga (2005).

It is worth noting here that such an A'-base-generation analysis of propositional clauses is independently rejected by Takahashi (2010), who shows on the basis of the availability of reconstruction effects that sentence-initial CPs have reconstruction sites in their thematic positions and proposes that they are indeed base-generated in the thematic positions. In (33a), for example, pronoun *his* is understood to be bound to *every professor*.

- (33) a. That some student from his_i class cheated on the exam seems to [every professor]_i to be believed (in) by Mary. (Takahashi 2010: 351)
- b. [that some student from his_i class cheated on the exam] seems to [every professor]_i to be believed (in) [~~that some student from his_i class cheated on the exam~~] by Mary

This bound pronoun interpretation is permitted, since the pronoun is c-commanded by *every professor* at the stage of the derivation where the CP containing it occupies the thematic complement position of *believed (in)* as shown in (33b).

Returning to the paradigm in (32), we would like to suggest that an internal argument of a given verb can appear in either pre- or post-verbal position and its preverbal preference (namely, OV order) in Bengali is essentially due to some syntactic features such as Case.¹² A DP-complement, for example, has a Case-feature to be valued and it is ultimately raised to adjoin to VP by the Agree-feature that the relevant V-head inherits from the selecting *v** head, as in (34) (cf. Chomsky 2008).

- (34) a. The picture caused a scandal.
- b. [_v*P *v**_[AGR,ACC] [VP V [a scandal]_[Case:?]]]
- c. [_v*P *v**_{[VP [a scandal]_[Case:ACC] [V' V_[AGR,ACC] [~~a scandal~~]]]]}

This leftward adjunction of the DP complement for the purpose of feature valuation is

¹² This is a possibility along the proposal of Kayne (1994).

shared in English and Bengali. The word order difference between the languages comes essentially from the different values they have with respect to the linear order of *v* and VP. In English, as illustrated in (34), *v* precedes VP and it attracts the V-head, yielding the order of *cause+v* a scandal*. In Bengali, by contrast, VP precedes *v*: the left-adjunction of the DP complement to VP yields the word order of *a scandal cause v**. We will assume, for expository purposes, that Bengali V can remain in situ without obligatorily raising to *v*, which is crucial for the generation of right-peripheral arguments.

With this in mind, let us reconsider the Bengali word order in (32a-c). The CP complement initially appears in the post-verbal θ -position. Since it is a CP, it can remain there. This is instantiated in the grammatical example in (32a). In the ungrammatical example in (32b), by contrast, it raises to left-adjoin to VP like *a scandal* in (34c); since this is a “Case-checking” position, the construction violates the Case Resistance Principle or its equivalent in the modern framework as we mentioned above. The ungrammaticality of (32c) can be accounted for similarly. The sentence-initial CP is base-generated in the thematic position of *biswas kori* ‘believe’ and undergoes a successive-cyclic movement to the topic position; at an intermediate stage of this movement it adjoins to VP as in the case of (32b) in violation of the Case Resistance Principle or its successor.

Our Case-resistance analysis of the ungrammaticality of (32c) predicts that the sentence-initial CP construction becomes grammatical when the Accusative Case-feature on *v*/V* in (32c) is somehow blocked from inappropriately valuing the (copy of) the CP. The following grammatical example shows that this prediction is borne out.

- (35) [Je cheleti asbe] ami eta biswas kori.
that boy.the come.will I it believe
 ‘I believe that the boy will come.’

Here, the Accusative Case-feature, transmitted to *biswas kori* ‘believe’ from *v**, values the Case-feature of *eta* ‘it.’ We presume that the underlying structure for (35) is (36) below. At an initial stage of the derivation, the CP forms a complex DP with pronoun *eta* ‘it’ and this complex DP is base-generated in the thematic position of the verb, as in (36a). It later moves to adjoin to VP, as in (36b), where the whole DP (whose head is *eta*), rather than the CP, has its Case-feature valued.

- (36) a. [VP V [DP CP eta_D]_[CASE:?)]
 b. [_v*P [VP [DP CP eta_D]_{[CASE:ACC]] [VP V [DP CP eta_D]_{[CASE:?)]] v*_[AGR,ACC]]}}

At a later stage of the derivation, CP is extracted out of the complex DP, just as we proposed for the discontinuous linearity of HIRCs and correlative pronouns in the previous section, and the sequence in (35) is yielded.

When the extraction operation moves the CP rightward to a sentence-final position, we get the following sentence, which is also grammatical.¹³

- (37) Ami eta biswas kori [je cheleti asbe].
I it believe that boy.the come.will
 'I believe that the boy will come.'

To summarize, we have proposed that genuine propositional clauses are base-generated in thematic positions, rather than in A'-positions as argued for by Koster (1978) and Alrenga (2005), and that they sometimes combine with pronouns *eta* 'it' to form complex DPs in Bengali.

This optional complex DP analysis of thematic CPs is essentially similar to the proposal made by Takahashi (2010), where English thematic CPs are optionally combined with a covert definite determiner to form DPs.

6. Conclusion

This paper has proposed, on the basis of empirical facts, that the head internal relative clause (HIRC) construction in Bengali involves a complex DP consisting of a HIRC and a correlative pronoun and it is initially base-generated in a thematic position. Superficial occurrences of HIRCs alone in A'-positions such as sentence-initial position, sentence-final position, and mid-sentence position between subject and object (which is presumably an adjunction position to *v*P) are accounted for by optional A'-movement of HIRCs from within

¹³ We predict, therefore, that the complement CP in (37) occupies a non-thematic position whereas in (32a) it resides in a thematic position. Examination of this prediction and further elaboration are left for future research. See, for example, Simpson & Choudhury (2015) for the controversy over the syntactic status of elements that appear in post-verbal positions in superficially head-final languages such as Bengali and Hindi.

such complex DPs. We have also proposed that a similar base-generation analysis is necessary to account for the distribution of genuine thematic clauses in Bengali and that they, too, may sometimes form complex DPs with pronoun *eta* 'it.' Our analysis shows that the distribution of clauses (HIRCs and genuine thematic clauses) is constrained by the Case Resistance Principle of Stowell (1981) or whatever principle derives the effects of the resistance principle in the modern theoretical framework but their direct base-generation in A'-positions such as topic position as argued for by Koster (1978) and Alrenga (2005) is untenable so far as Bengali is concerned.

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On Syntactic Structures of the Head Internal Relative Clause Construction in Bengali

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This paper examines empirical facts about the syntax of the head internal relative clause (HIRC) construction in Bengali and proposes that a HIRC is a CP headed by Complementizer *je* and is initially combined with a so-called correlative pronoun to project a DP and that the complex DP so formed is inserted in a relevant thematic position. The fact that bare HIRCs in Bengali are excluded from genuine argument positions is, then, an immediate consequence of this obligatory formation of a complex DP and the fact that HIRCs occasionally appear in A'-positions, syntactically separated from correlative pronouns, is accounted for by optional application of A'-movement to HIRCs which extracts them out of the complex DP. A similar base-generation analysis is shown to be necessary to account for the distribution of Bengali genuine thematic clauses as well. In essence, this paper shows that the distribution of clauses (HIRCs and genuine thematic clauses) is constrained by the Case Resistance Principle of Stowell (1981) or whatever principle derives the effects of the resistance principle in the modern theoretical framework but their direct base-generation in A'-positions such as topic position as argued for by Koster (1978) and Alrenga (2005) is untenable so far as Bengali is concerned.