Focus-Movement within the Bangla DP

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1. Introduction

Ever since Chomsky (1970)’s idea that different phrases like NP, VP, AP, PP, have the same internal structure, symmetry has always been sought, and discovered, in generative grammar. A lot of research has been done in the field on the parallelism between the nominal and the clausal domain, arguing that DP is the nominal counterpart of CP (cf. Abney 1987, Szabolcsi 1987, Stowell 1991). There is an ongoing debate, however, about how information structure is coded in the nominal domain, if at all. Focus movement has been argued in the nominal domain for a number of languages to account for interpretational differences that arise from reordering of materials within the DP (See Aboh 2004 for Gungbe, Cardinaletti 1998 for Italian, Siewierska and Uhlírová 1998 for Polish, Ntelitheos 2004 for Greek, Rijkhoff 1998 for Turkish, among many others), if at all. For example, Cardinaletti (1998) observes that in Italian, the pragmatic status of *sua in (1) and (2) is different. In a postnominal position (1), the possessive pronoun necessarily has a contrastive-focus reading. In a pronominal position such as (2), it typically has a neutral (i.e non-contrastive) interpretation.

(1) la casa SUA, non tua  
the house his/her, not yours

(2)  la sua casa   (*la SUA casa, non tua)  
the his/her house (the his/her house, not yours)

In Polish, Siewierska and Uhlírová (1998:134) argue that adjective-noun inversion has a clear pragmatic effect: the pronominal placement of the adjective piekna in (3) has a neutral reading, while a postnominal placement in (4) has the pragmatic effect of a contrastive focus.

(3)  piekna kobieta  
beautiful woman
‘a beautiful woman’

(4)  kobieta piekna  
woman beautiful
‘a BEAUTIFUL woman’

Such observations of a canonical word order and an alternative order yielding different interpretive effects was taken as evidence for movement for focus reasons within the nominal domain, deriving the non canonical order from the base order. Focus movement is not the only approach suggested to account for such interpretational differences associated with an alternative word order within the DP, there has also been accounts developed in terms of base-generation to explain the non-canonical word order; the main idea being two different orders exist because elements are generated in different base positions. Furthermore, within the base-generation approach, there has been a radical claim (Szendroi 2010) that word order

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1 I take this chance to thank the audience at WCCFL32 for all their feedback, and the faculty at the linguistics department of USC for their valuable comments and suggestions. The remaining errors in this paper are entirely mine.

2 By contrastive, I mean corrective focus.
variation within DPs can never be attributed to DP-internal focus movement or topicalization, because information structure is argued to be assumed to only be a property of clauses/propositions, and that DPs are not propositions.

I will side with the former view in this paper, and argue for focus-related movement within the nominal domain. I will also show the limitations of an account in terms of base-generation, in that it will fail to explain the various restrictions that come with the different possible word orders.

2. Data

In this section, I will present the various possible word orders within the nominal domain of Bangla that suggest focus-movement within the nominal.

2.1.1. Adj+N before Num-Cl (Bhattacharya 1999)

In Bangla, the most neutral order of elements within nominal phrases is as seen in (5): Numeral > Classifier > Adjective(s) > Noun (Bhattacharya, 1999), which has an indefinite interpretation of two red books.

(5) du To lal boi
two Cl red book
‘two red books’

The sequence of adjective and noun can also occur in a non-canonical order, before the Numeral>Classifier sequence, and it is noted that in this order, the nominal phrase has a definite interpretation (Bhattacharya 1999, Syed 2012, Dayal 2012, Chacón 2012), as shown in (6).

(6) [lal boi] du To
red book 2 Cl
‘the two red books’

This non-canonical word order is possible even when the demonstrative ei is present, and the adjective-noun sequence appears below the demonstrative, as shown in (7).

(7) ei [lal boi] du To
this red book 2 Cl
‘these two red books’

Syed (2014) notes that the sequence of an adjective-noun is not a constituent, and that in fact the adjective can occur even before the demonstrative, as shown in (8).

(8) LAL ei boi Ta amar pochondo
red this book Cl my liking
‘This red book is of my liking’

It is important to note that in this pre-demonstrative position, the adjective lal must bear phonetic stress; if the adjective does not bear stress in this position, the expression becomes unacceptable, as shown in (9).

(9) *lal ei boi ta amar pochondo
red this book Cl my liking
‘This red book is of my liking’

Similar non-canonical order is observed with adjectives and numerals. Recall that the canonical order is numeral>classifier>adjective>noun. However a stressed adjective can occur before the numeral>classifier with the noun still after the classifier, as shown in (10).
(10) LAL ek Ta bari dekhlam
    red one Cl house saw
    ‘I saw a RED house’

The occurrence of the adjective in a pre-demonstrative and a pre-numeral position can easily be
explained, if one assumes a movement due to focus within the nominal domain of Bangla. In all
languages where focus movement has previously been suggested to occur within a nominal domain, it
has been reported that the alternating orders inside the DP give rise to contrastive focus interpretations.
What makes Bangla special is that it allows the alternating orders to have both contrastive as well as
new information focus readings. To a question what kind of a house did you see from the train (11a), it
is possible for a speaker (Sp1) to use the alternating order, signaling new information focus.

(11) a. Ki rokom bari dekhle train theke?
    What kind house see-past train from
    ‘What kind of a house did you see from the train?’

b. Sp1: LAL ek Ta bari dekhlam
    Red one Cl house saw
    ‘we just saw a red house’

Another speaker (Sp2) can correct Sp1, with the adjective still in the pre-numeral position. This
suggests that the same non-canonical position can signal both new information as well as corrective
focus.

(12) Sp2: NIL ek Ta bari dekhlam.
    ‘we saw a BLUE house’ (not a red one)

Another diagnostic to confirm that it is indeed new information focus in (12), one can try to avoid the
possibility of a comparison between red house vs anything else. This can be shown using ellipsis as in
(13).

(13) What was the highlight of your train trip?
    Sp1: ami LAL ek Ta bari dekhlam, kintu o dekhlo na
    I red one Cl house saw but he/she saw no
    ‘I saw a red house, but he did not see’

3. Analysis

An analysis in terms of movement within the nominal domain will account for the facts regarding
different word order, if one allows movement to occur for both contrastive and new information focus
reasons. Before spelling out the details of such an analysis, which involves fronting of an adjective, I
will iterate my stance on adjectives in Bangla (cf. Syed 2014). The basic idea is that adjectives are
overt specifiers of functional projections, which they are semantically related to (for more on such
cartographic approach to adjectives, see Cinque 1999, Scott 2002 among others). I also assume an
extended left periphery within the Bangla DP, with the functional projection FocP, thus extending
Rizzi’s (1997) original proposal of a split CP to DPs (See Syed 2014 for reasons of adopting this
approach in Bangla). I adopt the position in Aboh (2007) that the information structure of a sentence is
pre-determined by properties of elements in the numeration.

3.1. Details of the focus-movement

I adopt the position in Aboh (2007) that the information structure of a sentence is pre-determined
by properties of elements in the numeration. I analyze the focus movement in the light of minimalism
(Chomsky 2000); in more precise terms:
i. focus features are uninterpretable features

ii. an ‘Agree’ relation must be established between elements carrying such uninterpretable focus features

iii. an ‘Agree’ relation does not need a spec-head or head-joined locality between the elements that agree; i.e., it can be a long-distance relation as long as it follows the following rules:
   • there is c-command between the agreeing elements (a functional head and another element)
   • a functional head cannot establish an Agree relation with an element if that element is located inside another phase

iv. Agree does not force any movement of the head or the maximal projection that has agreeing features

v. Movement happens when the functional head that enters an Agree relation with a maximal projection also has an EPP feature; the maximal projection XP will move to the specifier of the functional head to satisfy the EPP requirement. A schematic representation of such a movement when the Focus head has an EPP feature, and is in an Agree relation with an adjective is shown below (14).

\[ \text{FocP} \rightarrow \text{Adj}k \rightarrow \text{Dem} \rightarrow \text{aP} \rightarrow \text{N} \rightarrow \text{Spec} \rightarrow \text{FocP} \]

Let’s take a look at a concrete example, namely (8), repeated below as (15):

(15) LAL ei boi Ta amar pochondo
   red this book Cl my liking
   ‘This red book is of my liking’

The adjective *lal* is marked with Focus feature. The focus head in the left periphery F⁰ which has unvalued focus feature is the probe, and searches for a goal which has features corresponding with the feature type of itself. It finds a goal in *lal*, which allows a matching relation; the probe enters in an Agree relation with *lal*, so the unvalued feature gets valued by feature-copying. In addition, F⁰ has an EPP feature, which requires *lal* to move up to the specifier of FocP, to satisfy the EPP requirement. The mechanism is shown below in (16).

\[
\text{XPFocus} \rightarrow \text{FocP} \rightarrow \text{Spec} \rightarrow \text{aP} \rightarrow \text{F⁰} \rightarrow \text{lal} \rightarrow \text{boi}
\]

4. The FocP where *lal* moves to is within the nominal domain

I have argued that in the non-canonical order of a pre-demonstrative adjective, the adjective moves across the demonstrative for focus reasons, and that the landing site of this movement is the specifier of FocP in the left periphery. It is a valid concern at this point if this movement of the adjective is indeed within the nominal domain, or it actually moves to a clausal focus position.

Consider (17) and (18). The expression ‘LAL ei boi-ta’ may either occur below or above the subject ‘I’. The different possible positions with respect to the subject show that it constitutes a single nominal expression. If it is a single nominal, then there is only one nominal domain here, and any movement within this whole expression has to be within the nominal domain itself. I take this is as sufficient evidence that the movement of the adjective to the Focus position takes place within the nominal domain, and not to any sentential/clausal Focus positions.
In this section, I show why an account in terms of base-generation will fail to capture the data, and associated restrictions in Bangla. As previously stated, the main idea of a base-generation analysis is that two different orders exist because elements are generated in different base positions. First, I will briefly sketch one such analysis, namely Szendroi (2010), not to single out her analysis, but taking it as a representative of base-generation analyses. Szendroi (2010) argues that word order variation within DPs can never be attributed to DP-internal focus movement or topicalization, because information structure is argued to only be a property of clauses/propositions, and that DPs are not propositions. The task for her then becomes to give a different analysis for non-canonical order within the DP such as (19).

(19) My friends all drive big cars, but only I drive a BLACK big car.

In (19), the order of the adjectives is black>big, which varies from the canonical order big>black in English. Szendröi argues that variant DP-internal patterns such as those in (19), involving contrastive emphasis on adjectives in English (noted by Truswell 2005 and others), must be given a non-movement analysis. She suggests that the non-canonical sequencing of adjectives in examples such as (19) can be analyzed as arising from the base-generation of ‘lower’ adjectives in higher positions to encode the scope of lower adjectives in contexts of contrast. Without going into details of her analysis, I will show an interesting pattern regarding numerals in Bangla, which cannot be accounted for if one adopts a base-generation model.

Consider (5)-(6) repeated as (20)-(21):

(20) du To lal boi
two Cl red book
‘two small red books’

(21) [lal boi] du To
red book two Cl
‘the two small red books’

Recall that when the sequence of adjective-noun occurs before numeral-classifier, the interpretation becomes definite. What is interesting to note is that this non-canonical order of adjective>noun>numeral>classifier is only possible when the numeral is up to four; with five the expression becomes odd, and such an order is completely unacceptable when the numeral is six or beyond. This is shown in (22)-(27).

(22) ami lal boi du To kinechi
I red book two Cl buy-pr perf-1p
‘I have bought the two red books’

(23) ami lal boi tin Te kinechi
I red book three Cl buy-pr perf-1p
‘I have bought the three red books’
If adjective plus noun sequences could somehow be base-generated as parallel constituents in two separate locations to account for their surface positions, it is unexpected that such base-generation would be blocked by the occurrence of numerals of certain types in intervening positions.

Similar restrictions are observed regarding numerals when it comes to what I have argued as focus-movement. Note that such movement (raising of an adjectival element to the left of a demonstrative) may occur after an adjective and noun have raised to the left of the numeral and classifier, as in (21), or when there has been no raising of the noun, as illustrated below in (28), where the noun remains in situ following the numeral and classifier.

(28) [joghonyoxoi du To t₄ biskut] kheye, amar sorir kharap lagte laglo
    disgusting that 2 Cl biscuit eat-Part I.Gen body bad feel.Inf start.Pst.3
    ‘I started feeling sick eating those disgusting two biscuits’

Such a movement of an adjective over a numeral to the pre-demonstrative position to encode emphasis of the adjective is possible only when low numerals occur, and not across higher numerals, as shown in (29a)-(29b). Note that in the examples in (29), the noun is left in situ following the numeral to highlight the fact that it is not the definiteness-related movement of the noun to the pre-numeral position that is causing the ungrammaticality of examples containing higher numerals\(^3\).

(29) a. [joghonyoxoi du To/ tin Te/ char Te t₄ biskut] kheye,
    disgusting Dem 2 Cl/ 3 Cl/4 Cl biscuit eat-Part
    amar sorir kharap lagte laglo
    I.Gen body bad feel.Inf start.Pst.3
    ‘I started feeling sick eating those disgusting two/three/four biscuits’

b. [*joghonyoxoi choy Ta/at Ta t₄ biskut] kheye,
    disgusting Dem 6 Cl/7 Cl/8 Cl biscuit eat-Part
    amar sorir kharap lagte laglo
    I.Gen body bad feel.Inf start.Pst.3

The important point is that the adjective, even if it is permitted to be base-generated in a pre-demonstrative position, should not be restricted by the type of numeral occurring lower down in the DP, contrary to the empirical facts, and such data cannot be captured in terms of a base-generation account.

\(^3\) If the noun is raised to the left of the numeral in (60a/b), the grammaticality of the examples remains as indicated – the instances of adjective focus in (60a) are fine, but not possible in (60b).
6. A focus-movement analysis can account for such data

In this section, I argue that my analysis of explaining the order of an adjective in a pre-determiner position in terms of focus-movement can also explain the interesting restrictions regarding high and low numerals in (22)-(27), if one entertains the possibility of a focus movement being structurally blocked by the presence of higher numerals. To explain the details of such a blocking mechanism, I need to make three important assumptions, namely the following:

i. phrasal movement
ii. a structural distinction between higher and lower numerals
iii. a phase inside the nominal domain

I will spend some time elaborating each of these assumptions, before I can point out how exactly the blocking mechanism will work.

i. phrasal movement

Following Bhattacharya (1999), I assume that the non-canonical order of adjective>noun>num>classifier (as in (6)) is because of phrasal movement of the adjective-noun across the numeral-classifier.

ii. a structural distinction between higher and lower numerals

The status of what numerals are has always been controversial. Jackendoff (1977) and Selkirk (1977) argue that numerals are maximal projections, which structurally occupy the specifiers of NP. It has been argued in Giusti (1997) and Li (1999) that numerals are specifiers of a functional projection that dominate NP. There has been also a claim that numerals are heads that select a nominal projection as their complement (Borer 2005, Ritter 1998). In recent literature, scholars have revisited this controversy, and new claims have been made in support of both the views of numerals as heads and numerals as specifiers. Specifically, Corver and Zwarts (2006) argue that the behaviour of prepositional numerals like *between ten and fifteen* provide evidence for a specifier approach to numerals; Ionin and Matushansky (2006), on the other hand, looks at case marking in Russian, Finnish, and Inari Sami, and suggest that numerals are nouns recursively selecting another nominal projection, thus supporting a head approach. Danon (2012) points out that most of these works/claims have this implicit assumption that regarding what structural position numerals occur in must be uniform within a single language, and across languages as well. He argues convincingly, using data from a number of languages, that though the idea that numerals are uniform cross-linguistically should be the null hypothesis, there are reasons to entertain that there are at least two distinct types of numeral-noun constructions made possible by UG: specifically, some numerals are heads that select a projection of the noun, while others are maximal projections in a specifier position, and this dichotomy can be present even within a single language.

I adopt Danon (2012)’s view that numerals can be both specifiers as well as heads, and I suggest that in Bangla, there is a distinction between lower numerals and higher numerals; the lower numerals (upto *four*) are heads of the maximal projection NumP, whereas higher numerals (*five* onwards) are in the specifier of NumP.

iii. a phase inside the nominal domain

What counts as a phase has been a central question since the advent of minimalism; Chomsky (2000, 2001) argues that CPs and vPs are phases on the basis of propositionality being a property required for phasehood. In more precise terms, the idea was that phases are syntactic reflexes of the semantic idea of phases, and that only CPs and vPs are such syntactic reflexes. This view has not gone unchallenged, and it has been argued that very different definitions of phasehood have been used in cases of CP and vP (Boscovic 2014); it has also been pointed out that phasehood is always not the only property that might make something a phase, and that DPs and PPs can be phases as well (Boscovic
2002). Here I make a novel suggestion that as there can be a phase inside the CP, there can be a phase inside the DP⁴. Specifically, I propose that NumP is a phase within the nominal domain.

Another critical idea that I will use to explain the blocking effect of focus-movement by higher numerals is the notion of PIC (Phase Impenetrability Condition), which I describe below.

**PIC:**

Once the complement of a phasal head is sent to the PF, it cannot be accessed by any syntactic process/component anymore. In other words, once something is sent to the PF, it is impenetrable for the higher functional heads to see into such constituents and enter into agree relations with elements inside them.

As a result of this, for an element to move from inside a phase to a position higher in the syntactic structure, it must move to the edge of the phase first (i.e to the specifier position of the phasal head; see Chomsky 2000 for discussion).

6.1. Details of the Blocking mechanism

I explain the blocking mechanism in Fig.1 and Fig.2. In Fig.1, the numerals are lower numerals upto four, and hence they are heads of NumP. The adjective plus noun sequence *lal boi* needs to move higher than the NumP to get a definite interpretation for the nominal. As NumP is a phase, and as the adj-noun is within that phase, *lal boi* has to move to the edge of the phase (Spec, NumP) first, before it can move further up in the structure. This movement is licit, and *lal boi* moves up in the structure in a successive cyclic way.

Fig.2 involves higher numerals which are in the specifier of the NumP. For *lal boi* to move up, it needs to move to spec,NumP first, but as spec,NumP is already blocked by a higher numeral, such a movement cannot take place, and hence such expressions are rendered unacceptable.

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⁴ Or rather inside the nominal domain, without getting into the debate of whether there is a DP or not in a language with no overt definite determiners
To sum up, I have argued that an analysis in terms of focus movement within the nominal domain not only can explain the different word orders attested, but can also account for the restrictions that come with higher numerals and lower numerals.

7. Independent argument for NumP as a phase

In this section, I present independent evidence that NumP is a phase in Bangla, making use of an observation made in Abels (2003) that PIC and anti-locality impose conflicting requirements on the movement of a complement of a phase. Anti-locality essentially says that a movement cannot simply be too short (cf. Grohmann 2003); among the many versions of the theory, I adopt the one in Boscovic (2005), where Move is required to cross at least one phrase.

If there is a phase XP which has a complement YP, if YP has to move higher in the structure, PIC will require that YP moves to the edge of the phase (spec, XP) first. Anti-locality, on the other hand, will require that YP never moves to the spec, XP because that movement is too short. As a result, a complement of a phase can never undergo movement.

For example, Abels (2003) shows that IP dominated by CP, a phase, cannot undergo movement (30). This is because of a PIC-antilocality interaction, where the PIC requires IP-movement through Spec,CP, but antilocality blocks such movement because it is too short (31b is then ruled out by the PIC and 31a by antilocality).

(30) *[His mother likes Mary], everyone believes that ti
(31) a. *[CP IPi [C’ C ti]
   b. *IPi [CP [C’ C ti]

If NumP is a phase in Bangla, then the prediction is that the complement of NumP can never undergo movement to a higher position. I assume ClP is the complement of NumP (see Biswas 2013, Dayal 2012 for similar assumptions), and hence the prediction is that ClP can never move higher than the NumP. This is borne out, as shown in (32)-(33).

(32) [NumP du [ClP To [NP boi]]]
(33) * [ClP To [NumP du [NP boi]]]

8. Conclusion

In conclusion, I have argued that focus is manifest as a functional projection in the left periphery, and I have provided evidence based on adjective-fronting that there is focus related movement within the nominal domain of Bangla. I have shown that a base generation account will fail to explain the restrictions on data involving higher and lower numerals, but a focus movement approach can explain it. The paper also suggested a novel argument that NumP projects as a DP-internal phase, highlighting further the broad parallels that may exist between DPs and CPs (see Simpson and Syed (submitted) for more on the DP-internal phase).

References
