

Deriving Variable Linearization: Commentary on 'Finiteness, negation and directionality of headedness in Bangla' by Simpson and Syed

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1 Introduction

In their paper, the authors tackle the tricky analytical issues that surround the position of negation in Bangla. There are two components to the problem: one is that there is currently no consensus on how to derive word orders for linearly head final languages in general; the second is that the negation marker *na* in Bangla appears in two completely different positions depending on the finiteness of the clause. In the light of the influential work on word order and finiteness and the clear interaction with the position of negation in French, starting with Pollock (1989) an obvious line of attack is to try to drive the word order differences from the difference in the height of the verb in finite vs. non-finite clauses. This is precisely what the paper attempts to do, although given that we are dealing with a head final language, the analytical choices are multiplied and in particular, the actual surface height of the inflected verb is not easy to determine. In brief, the position of *na* follows the verb obligatorily in finite indicative clauses and is not separable from it (1a), while it is *preverbal* in non-finite clauses (1b).¹

- (1) (a) ami khabar khelam na
 I food eat-PAST.1SG NEG
 'I didn't eat;
- (b) ami khabar na khele, amar matha ghurbe
 I food NEG eat-COND me-GEN head spin-FUT.3SG
 'If I don't eat food, my head will spin.'

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¹ When *na* is in the preverbal position, it may be separated from the verb by certain arguments and low adverbs. Although the conditions on this are not clear, and are not discussed in detail by Simpson and Syed, direct objects seem to be possible between *na* and the verb when they are non-specific, and/or incorporated but not when they are fully referential. While the semantic constraints on the material available in this zone are interesting in their own right, the simpler point is relevant here insofar as *na* clearly does not form a phonological unit with the verb when in this preverbal position.

Regarding the surface position of the verb, the authors present arguments that the verb in Bangla does actually raise on the surface to a position outside of the VP and to a position that at least c-commands the subject. The evidence for this comes from a test adapted from Otani and Whitman (1991) from Japanese and involves the interpretations available under ellipsis. Otani and Whitman note that both sloppy and strict interpretations of the direct object are available under ellipsis, but that the interpretation of a null pro in object position is always strict. Bangla turns out to show the same pattern as Japanese and Korean. Namely, when the object is not overtly present, it allows a sloppy interpretation, suggesting that VP ellipsis is a possible representation of such sentences, meaning in turn, since the verb *is* overtly present, that it must have moved out of the VP prior to ellipsis. The evidence from the licensing of negative polarity items in Bangla shows clearly that in finite clauses with suffixal negation, a negative polarity item is indeed licensed in subject position. In the non-finite clauses, the authors argue that the verb does indeed remain low, and a non-overt object only gets a strict reading, as would be expected from a null pro. On the low positioning of the verb, the negation is preverbal and shows no signs of cliticization on the verbal form since many elements including arguments can intervene between them.

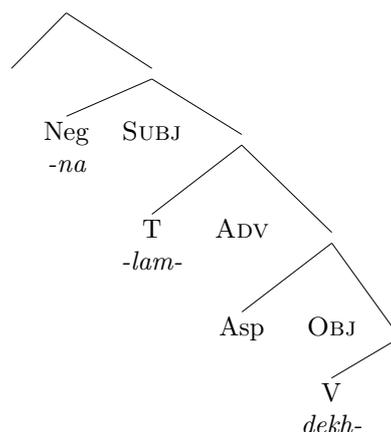
The authors ultimately reject a solution whereby the negation element *na* is in the same position in finite and non-finite clauses but where the verb height systematically differs (as in the original Pollock analysis of French). The reasons they reject it are both conceptual and empirical, but in the end I think they reject the unified analysis for *na* too quickly. One of the reasons cited for rejecting this class of solutions is that in the normal finite clause order, independent movements would be required to always displace the VP internal material to the left of a verb that has raised to the high T position over negation.

- (2) Ami bajar-e Ram-ke dekhlam na
 I-NOM market-LOC Ram-ACC see.PAST.1 NEG
 ‘I did not see Ram in the market.’

Note that under this analysis, Simpson and Syed assume that *na* here is a phrasal element in the specifier position of Neg, and that the tensed verb moves past it to adjoin to T. This is somewhat surprising given the evidence they adduce for the ‘clitic’ status of *na* in finite contexts. The problem arises because of their assumption that NegP is positioned in between T and VP in Bangla. In fact, most theories of sentential negation acknowledge a position for negation that is *above* TP, especially for the simple head-like negations like *non* in Italian (or *ne* as opposed to *pas* in French) (Ouhalla 1991, Laka 1990, Zanuttini 2001). The clitic status of the negation in these contexts could be accounted for by assuming NegP above TP and raising the verb all the way up to Neg.²

² Zanuttini (2001) in summarizing the state of the art, argues for a number of different possible positions for negation, one of which, the position she calls Neg1, is a head position

(3)



Of course, the problem is then to move the subject, adverbial and object out leftwards so that in the canonical default order they come to precede the negated verb. Not only must these elements precede the tensed negated verb, there is a clear sense in which the order within those elements, as given in (3) is the neutral relative order of elements as well, a fact that would need to be accounted for. An attractive alternative to moving all the individual elements separately might be the movement of a remnant VP or TP as a whole which has been evacuated of the tensed verb. However, Simpson and Syed, like many who investigate Kayneian solutions to head final languages, find the problem of finding triggers for such movements a severe impediment to adopting a base head initial phrase structure.

For them, the problem gets even worse once the non-finite clauses are taken into account. In those clauses, the verb should stay low, by hypothesis, and the negation would precede it. But this is all we get for free. We would still have to account for the fact that the other elements of the VP end up preceding the negated non-finite verb in the normal case.

- (4) Ami bajar-e Ram-ke na dekhle,
 I-NOM market-LOC ram-LOC NEG see-CONDPPPL
 'If I don't see Ram in the market.....'

Since the verb remains low, a remnant movement account is not available, and each phrase would presumably have to move out independently.

Instead of adopting the Kayneian base structure, the authors end up arguing for a uniform head-final phrase structure where the *na* element can appear either in the spec position (for non-finites) or in the head position (finites). When *na* is in the head position, the verb moves to adjoin to it by head movement, when it is in spec position (and thereby a phrase), it obviously does not. This analysis is unsatisfying on many scores. First of all, the assumption

that *dominates* TP. It is the site of preverbal negation in many Romance varieties, and presumably also the site of the high position for negation argued for by Ouhalla (1991).

of Neg below T gets the order of morphemes wrong for the simple finite situation where Negation systematically follows tense and agreement inflection in Bangla (under standard ‘mirror principle’ assumptions a la Baker 1985). This however, could be fixed easily by assuming a high NegP as suggested above. The other aspect of the analysis is more difficult to fix, and this is the conceptual implausibility of assuming that *na* can either be a spec element or a head element, and that crucially the choice of the two is dependent on whether the clause is finite or not.

The authors are perfectly correct in pointing out that the position of negation in Bangla poses deep questions for the theory of word order, which interact both with the theories that have been proposed to derive head final orders more generally, and with the syntactic representation of finiteness. However, I find myself not satisfied with the solution they propose, on technical grounds, as described above. There is a deeper problem however, in the characterization of the contexts where preverbal negation occurs, which is not strictly lack of finiteness at least under standard definitions. Before attempting a technical solution, I believe that we must first address in more detail what all the preverbal negation contexts have in common (whether this be syntactic, semantic or morphological). This is the problem I turn to in the next section.

2 When is Negation Pre-verbal?

Simpson and Syed list a number of non-finite verbal forms in Bangla which give rise to a preverbal position for negation. These are (i) the perfective (or ‘conjunctive’) participle in (5a) formed with *-e*, (ii) the imperfective participle in (5b) formed with *-te*, (iii) the conditional participle in (5c) formed with *-le*, and (iv) the verbal noun in (5d). (Examples a, c, and d adapted from Simpson and Syed; example b adapted from Biswas, this volume).

- (5) (a) *ami [na khe-ye] kaj-e gelam*
 I-NOM NEG eat-PERFPPL go-PAST.1ST
 ‘I went to work without eating.’
- (b) *Mira [skule na je-te] pOchondo kOre*
 Mira school-LOC NEG go-IMPPPL like do-PAST.3
 ‘Mira preferred not to go to school.’
- (c) [*ami khabar na khele*], *amar matha ghurbe*
 I-NOM food NEG eat-CONDPPL I -GEN head spin-FUT3
 ‘If I do not eat, my head will spin.’
- (d) [*Hindi na bola*] *SOkto*
 Hindi NEG speak-GER difficult
 ‘It is tough not to speak Hindi’

These four forms are clearly non-agreeing invariant forms, which cannot be used on their own to create an assertion in a matrix clause. However, there are some important differences among them. The conditional participle and infinitival (imperfective) participle allow overt nominative subjects optionally,

while the conjunctive participle does not (see Biswas, this volume for discussion).³ The gerundive form of the verb does not support a nominative either, but takes only genitive modifiers. The gerundive is also distinguished from the participial clauses in being able to appear in ‘subject’ argument position. Thus, while these are all non-finite clauses, they vary in the availability and case marking of a ‘subject’ position, and in their degree of verb-y-ness. They thus, plausibly, do not have a uniform phrase structural representation.

In addition to the participles, and the verbal noun, there are apparently morphologically ‘finite’ agreeing verb forms in Bangla which also give rise to preverbal negation. Following Dasgupta (1996), and Dasgupta (2005), I will call these finite forms ‘subjunctives’. Subjunctive tenses are selected by certain matrix predicates, such as ‘want’ (6a), or particles like ‘so that’ (6b), and are also found in ‘if-clauses’ (6c). (Examples here taken from Dasgupta 1996). The verb inflection on the sentences in (6) is morphologically identical to the simple present.

- (6) (a) aSiS caY je ekhane beSi lok na aSe
 Ashish want-PRES3 that here many people NEG come-PRES3
 ‘Ashish wants not too many people to come here.’
- (b) purna aste kOtha bolche jate nupurer ghum na bhaNe
 Purna softly speech talk-BE-PRES3 so-that Nupur-GEN sleep NEG break-PRES3
 ‘Purna is speaking softly so that Nupur does not wake up.’
- (c) beSi lok jodi ekhane na aSe ...
 many people if here NEG come-PRES3
 ‘If not many people come here.....,

Subjunctive interpretations of the morphological past tense also exist, but under conditions that I do not understand. Dasgupta (2005) provides examples where the non-standard reading of the past morphology goes along with the presence of the modal particle *baa* which otherwise seems to select for interrogative contexts (although there is no question word or question sentential particle in the subjunctive example). Notice that the temporal interpretation of (7) is irrealis but not past tense, and also that negation is obligatorily pre-verbal.

- (7) Dilip dokan theke badam na-i ba kinlo
 Dilip shop from nuts NEG-EMPH ModalPart buy-PAST3
 ‘What if Dilip doesn’t buy nuts from the shop?’

These forms are particularly interesting because they are form-identical with the present and past tense respectively. Apart from following the se-

³ The imperfective participle occurs in a number of different distributional contexts: in complement position, as a purpose clause and as a temporal adjunct. Only in the latter construction is an overt lexical subject possible. Once again, see Biswas, this volume, for discussion. Concerning the perfective participle, Van der Wurff (1989) discusses the Bangladeshi dialects of Bangla in which a conjunctive participle may actually have an overt nominative subject unlike in the India varieties. But even in these dialects the phenomenon is restricted, and in particular does not seem to extend to volitional nominative subjects (Dasgupta pc).

mantics and clear distributional fingerprint of subjunctive tenses in other languages, Dasgupta (1996) presents a number of clear independent diagnostics for subjunctivity. One of these is the position of negation. The other properties that correlate with the subjunctive tenses is the inability to select for the auxiliary *(a)ch*, and different conditions on the availability of post-verbal elements when compared to the equivalent indicatives.⁴

If we wish to understand the conditions under which negation in preverbal in Bangla, we need to understand what the different kinds of non-finite clauses and the subjunctive have in common. What seems clear so far is that a simple appeal to the morphology of agreement cannot be criterial of finiteness, and neither can the ability to license an overt subject.

If we look for morphological temporal information, we are in a similarly difficult situation: the *t* and the *l* in the imperfective and conditional participles respectively look the same as the imperfective and simple past endings; it is unclear what the *-e* in the perfective participle is synchronically but the whole participial form is part of the perfect tense in language so it looks like the participle is at least marked for aspect; the subjunctives show agreement, but the actual tense ending for the present tense is null, or absent.

Putting aside the gerundive, which has clearly nominal distribution, we can tentatively range the forms that trigger preverbal negation on a cline where those on the left have less ‘structure’ and functional information from lower down in the sequence than those on the right.

PerfPpl	<	ImpPpl	<	CondPpl	<	Subjunctive
Asp		T		T		(T) and Agr
Internal Args only		External Args sometimes possible		External Args possible		External Args

If ‘size’ is the right criterion, or put another way, the existence of a particular functional head at a particular height, then there must be a cut-off at the crucial juncture between subjunctives and indicatives. Unfortunately, exactly at this point there is no independent evidence for a morphological distinction in this language.

However, there *is* something that these different contexts have in common semantically. The easiest way to state it is in negative terms: none of these interpretations can stand alone as an independent utterance in the language, but are always dependent in some way on a matrix tense. Since subjunctives fall into this class while still having the same T and Agr inflections as the corresponding indicative, we should see the locus of this deficiency as being even higher up in the clausal structure. We can follow recent work on finiteness in

⁴ Dasgupta (1996) claims that subjunctive forms simply do *not* allow postverbal elements, contrasting with their indicative counterparts. However, Dasgupta (pc) informs me that this overstates the case, and that examples can indeed be found if the context is set up correctly. True uninflected participles/infinitives do seem to exclude the postverbal position however. I will leave the analysis of these word order facts for future research.

this direction which relates the property of finiteness not to the T head per se, where a relation between intervals is expressed (as in Klein 1994, Demirdache and Uribe-Etxebarria 2000), but to the existence of a higher head in the low portion of the left periphery, which we might, after Rizzi (1997) call Fin.

Further, we can exploit recent ideas in the interpretation of finiteness such as those found in Bianchi (2003), Giorgi (2010) and Adger (2007) which relate to ways of anchoring, essentially updating the intuitions of Enç (1986), Enç (1987). The general idea is following, where I take the following articulation of the leading idea here from Adger (2007).

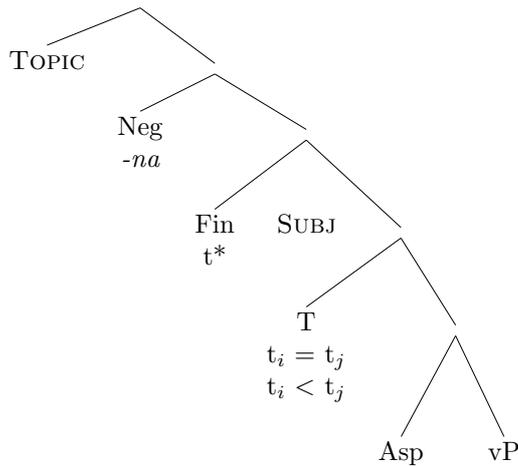
“What we have seen in this section is evidence for a functional category in a position in the highest layer of clause structure which is associated with a particular kind of semantic force (essentially whether it links anaphorically or deictically to the speech event).”

Thus, the crucial contexts are similar in not having an independently anchored Fin head.⁵ In the case of the participial forms, it is natural to assume that there are other functional projections they lack as well, but the evidence from the subjunctive interpretations of indicative tenses is vital here because it narrows down the ‘culprit’ for the disruption of Neg suffixal order, and locates it fairly high in the clausal structure. It is not the place of this short commentary article to make far reaching technical decisions about how to implement the distinctions at the Fin level in a formal feature checking framework. A number of different possibilities present themselves. One way to go about it would be to say that in the subjunctive clauses, the Fin head is present and represents the speech situation, but that the connection between the T head and the Fin head is not made by the verbal form since the temporal relation does not anchor to the speech event, but to some situational pronoun that is anaphorically resolved. We could label the anchoring Fin head finite Fin and distinguish it from non-finite Fin, by some feature value. The other option is to say that Fin is only present when there *is* a speech event anchor, and that anaphorically bound tenses lack this node altogether, which is why they resort to binding from the higher clause to resolve the reference of the temporal variable that is the external argument of the tense predicate. I will go for the former interpretation here, since it allows me to maintain a more standard set of phrase structural assumptions, but nothing deep should hinge on this decision.⁶ I will further assume that the base position for negation in Bangla is above T, as discussed in section 1, but now I will assume that it is actually above Fin as well. This will be important in accounting for the linearization patterns in what follows.

⁵ See also Giorgi (2010) for an analysis of the subjunctive tenses in Italian as ‘agreeing’ tenses.

⁶ In many languages of course, subjunctive morphology is distinct from indicative morphology, showing that it is perfectly possible for languages to mark the distinction between independent anchoring and anaphoric anchoring morphologically.

(8)



(where t_j is either anchored to t^* , or, in the absence of Fin, anaphorically resolved)

Now that we have characterized the phrase structure more finely and zeroed in on the relevant criterion for separating the two natural classes of structure for sentential negation, we can turn to a discussion of how the variable linearization of the *na* morpheme in Bangla can be derived.

3 A Direct Linearization Theory of Bangla Neg Placement

Recall that Simpson and Syed reject the analysis in which *na* is in the same position in both construction types, but where the differences in linearization result from differences in verb movement. They finally opt for an analysis which has *na* vary between a head and a spec position in the two constructions. My scepticism towards this solution stems from the difficulty in understanding why the spec position option is triggered for one particular set of constructions (the tense dependent ones), while the head position is triggered in the others (the tense independent ones), and indeed how this selection is to be achieved. My own solution builds on the idea that the *na* is the same element in both types of constructions, but that the verb's relationship to Fin is different.

The problem facing the analyst of the verb final language is that the movements required to derive perfectly ordinary unmarked orders from a universal head-initial base seem extremely complicated and do not have obvious syntactic triggers. This makes everybody very queasy. Base generating head final structures however, seems to face some deep empirical problems. Specifically, typological work shows that there is indeed an asymmetry between left-right and right-left orders: when modifiers of a head occur before the head, the order reflects the functional hierarchy directly; when the modifiers of a head occur *after* the head, the order can reflect either the base hierarchical order or the

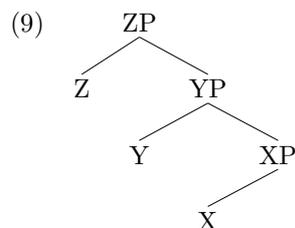
direct inverse (Cinque 2004 on Universal 20). Allowing free base generation of head final structures predicts that there would be languages that are the exact reverse of head initial structures. But there do not seem to be languages which are V second to last, alongside languages that are V2, for example (Kayne 1994). Thus, empirically, there seems to be something importantly asymmetrical about the hierarchical order of selectional relationships in deriving word orders. In the antisymmetry tradition (Kayne 1994 and following), it is assumed that there is a Universal linearization algorithm that uniformly interprets asymmetric *c*-command as precedence. Kayne argues in that work that it simplifies the task of the language learner greatly if structure maps in a non-parametrizable way onto linear order. This means in turn that a language which has (on the surface) head final orders must contain movements that first create the *c*-command structure that would correspond to the observed left-right orderings before allowing the universal linearization algorithm loose on it. Much work in the recent twenty years has consisted in researchers trying to spell out what those movements would look like, looking for the triggers and constraints on the system that this network of assumptions would require.

I think it is important to state that in this researcher's opinion, the general enterprise has failed. Specifically, it has failed to deliver a satisfactory theory of word-order movements (snow-balling and/or remnant movements) which would convince us that this is a coherent part of syntax as we understand it from other domains. Even as a separate class of movements, no consensus has emerged on how it should be constrained (see Cinque 2004 for important work in the this direction, and Abels and Neeleman in press for criticism of the LCA approach). If the system is *not* suitably constrained, the mechanisms it must allow threaten to overgenerate, and then it does not even deliver on the empirical asymmetry it was designed to account for. Notice also that in the time since Kayne (1994), even head movement itself has been called into question as a movement in the syntax proper. In what follows, I call all of these movements 'Word order movements' or WOMs for short: roll-up movements, remnant movements, head movements. I think it is also important to note that we can maintain the empirical rightness of the asymmetry found in languages' word orders without the Linear Correspondence Axiom (LCA). The problem is not with the universal base hypothesis, or the fact that there is an asymmetry, but with the assumption that the linearization algorithm is universal. If instead of trying to fix the syntactic symbolic representation to fit the LCA by invoking syntactic movements (WOMs) that do not at all behave like other criterial feature-checking movements, we should assume that the child learns a language specific linearization algorithm of the base structure from a constrained set of options determined by UG. If we do this, then the terms of the description become a little different. In particular, we do not find ourselves asking about 'triggers', we merely ask whether the algorithm is easily learnable on the basis of surface evidence.

The solution I will propose to the Bangla negation problem will be a version of the family of theories that dispenses with WOMs to a greater extent than standard models, and states linearization properties more directly off a base

structure. I will call these ‘Direct Linearization Theories’ (DLT). Empirically there will still be an asymmetry in the ways the algorithm works universally, but the terms of the description will be a little different. The solution I will suggest is an extension and modification of Brody (2000)’s Mirror Theory, which belongs in this family, and which allows a much more natural account of the Bangla word order facts than any other account on the market.⁷

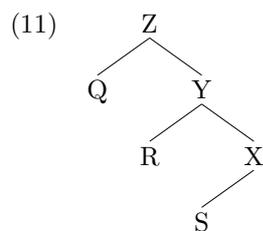
A summary of the general outline of Brody (2000) is therefore in order. Consider the phrase structure in (9) below.



Brody (2000) gives the following direct linearization statement, essentially mimicking in certain respects and replacing the WOM of ‘head-movement’.

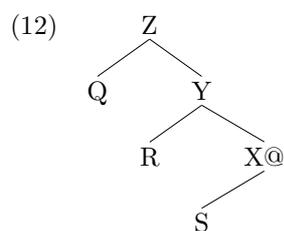
- (10) The syntactic relation ‘X complement of Y’ is identical to an inverse-order morphological relation ‘X specifier of Y’.
 (where the latter gives rise to the morphological structure [X [Y]] linearized from left to right).

In standard conceptions of phrase structure, specifiers exist in addition to complements and are phrasal elements sister to the bar level of the relevant category. Brody (2000) eliminates the notion of bar level in his syntactic representations, and merges ‘specifiers’ directly to the category it is the specifier of, allowing the category itself to serve as both the head and its phrasal projection simultaneously. He calls this *Telescope* since it telescopes the syntactic representations to give (11), where in traditional terms, Q is the specifier of ZP, R is the specifier of YP and S is the specifier of XP.



⁷ There are a number of Neo-Brodyan proposals in the literature at the moment (Adger et al. 2009, Adger 2010, Bye and Svenonius 2011) which share some features with what I will be assuming here, and which I consider to belong to the family of DLTs. The ‘best’ DLT, i.e. the one that can elegantly account for language variation in word order while building in the asymmetries we find, is still a matter of ongoing investigation. The proposal I make in this short paper is an attempt to state a maximally elegant DLT for this set of Bangla facts.

In the Brodyan system, specifiers universally linearize to the left of their heads, and heads to the left of complements. However, within a morphological word along the clausal spine, the ‘heads’ will line up in mirror order. One important innovation in this system is that since (9) is stated as a direct linearization statement instead of in terms of syntactic movement as head movement was, he can state a parameter that allows the ‘morphological word’ to spell out at any particular height in the clausal spine. While ‘head movement’ would move such morphological words to the top of the tree (assuming that all movements are upwards and that there are no lowerings), the Brodyan system allows the placement of a diacritic at a certain point in the clausal spine which is a spell out instruction for the location of the pronunciation of the morphological word in question. The notation Brody uses for this is @ . Thus, in the following tree, the morphological word [X [Y [Z]]] would spell out in the X position of the tree, and would hence be *preceded* by Q, R and S respectively.



Linearized as: Q R S [X-Y-Z]

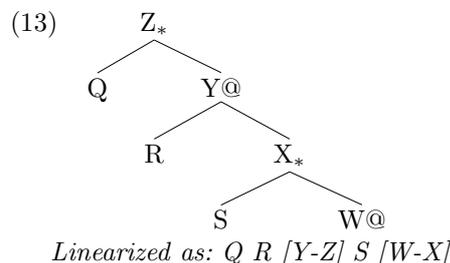
This is a very abstract tree, but the observant reader will notice that this essentially gives you SOV with the order of suffixes lining up in reverse hierarchical order.⁸ Crucially, no head movements, or alternatively phrasal roll-up, is required to deliver this linearization. The Brody-an system is essentially designed to give you a ‘low’ linearization for a morphologically complex item that contains extremely high inflectional information. To be perfectly DLT, however, we might want to state this as a direct linearization statement rather than go through the intermediary of a syntactic placeholder: “Within a morphological word zone, linearize specifiers top down *first*, and the morphological word *last*.”

There are a couple of important modifications/extensions to Mirror Theory that I will adopt from the literature. I will follow Bye and Svenonius (2011) in allowing a particular head sequence to contain more than one morphological word. Bye and Svenonius (2011) use the * diacritic to notate this on the trees. I will also invoke a new diacritic, a subscripted *, with a very particular interpretation, indicating that the head so notated must form a Brody-an word with the head immediately below it in the functional sequence.⁹ To give an example, in the tree below, Z forms a morphological word with Y and spells

⁸ Placing the @ sign at the top of the tree would give you SVO, and placing it even higher would give you VSO languages, retaining the relative order of arguments.

⁹ This use of the asterisk differs from the Bye and Svenonius use, in that the latter use it to indicate that *all* the heads below it (until the next asterisk is met) form a Brody-an word with the asterisked head. Moreover, Bye and Svenonius do not discuss the possibility

out at Y; X forms a morphological word with W and spells out at W. Since specifiers linearize to the left of their respective heads, the tree below will be spelled out as: Q R [Y-Z] S [W-X].

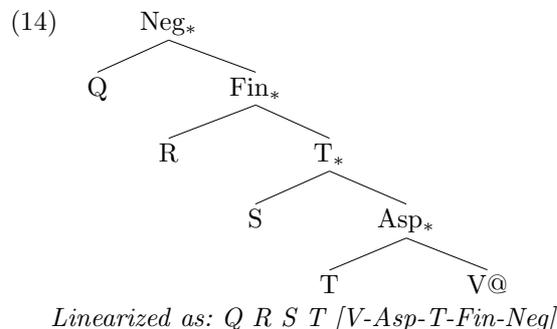


I will also follow the innovation in Adger (2010), whereby the morphological head span also includes spell out of synthetic forms and not just agglutinative suffixation. I further follow Bye and Svenonius (2011) in not adopting the assumption used extensively in Brody (2000) that phrases can select whether they are merged as specifiers or complements as a matter of crosslinguistic variation. The latter assumption allows Brody to capture certain facts about linearization (see also Brody and Szabolcsi 2003) in a technically elegant fashion. However, if one believes that the semantic interpretation of structure treats specifiers compositionally differently from complements (as I do) then this kind of parametric variation is not available. Instead, I will state the Bangla facts using Word Mirror, and the @ notation, and a way of partitioning the head sequence into word-chunks using the subscripted asterisk notation. The latter two notations are language specific notations and correspond to the specific linearization algorithm that each learner of a language has to learn about their language.

Note first of all that crosslinguistically, negative elements often show a strong relationship to finiteness inflection, often forming synthetic forms with finite auxiliaries or cliticizing to it when possible (see for example, Finnish, Basque and English to cite three typologically distinct language families). I assume that the position of *na* negation in Bangla is in the high position termed Neg1 in Zanuttini (2001), and is in the same position as the ΣP position above Tense argued for by Laka (1990) for Basque. In the more articulated cartographic framework I assume, I place negation above FinP. There is also much evidence that negation has a number of different possible base positions in the clause across languages, and I do not assume here that the phrase structure offered for Bangla represents the only option universally. Rather, I am assuming that UG provides a high position for negation, and that Bangla *na* is a spell out of this high position. I will also assume that in Bangla, NEG forms a morphological word with (finite) Fin. Simpson and Syed point out that when *na* follows the finite verb in Bangla, it is inseparable from it, and they argue that in that linear order it is a ‘clitic’. Since in my phrase structure,

of ‘lowering’ and use the asterisk as an indication of the spell out position of the word as well, making it even more similar to head movement.

the negation sits above Fin, I argue simply that the continuous head sequence represented by the inflected verb and including negation, simply spells out as a single mirror-theoretic word-like object. The tree and its linearization diacritics would look like (14).



The trick now is to state the conditions on word formation so that this is not decided once and for all in the lexicon, but can vary depending on the phrase structure. I argue that we can make this work by saying that in Bangla, Fin forms a mirror theoretic word with Neg; T forms a mirror theoretic word with finite Fin; Asp forms a mirror theoretic word with T; and v forms a mirror theoretic word with Asp etc. These language specific facts about morphological composition need to be learned about an individual language, but since they concern word order facts that are extremely salient and frequently rehearsed, they are relatively easy to learn, by assumption. To make this system work, I have assumed that the relations given above and notated by asterisk are given for each functional head in the sequence, and moreover are subject to transitivity. When a phrase structure consists of an uninterrupted sequence of heads from V to Neg, Bangla spells these morphemes out as a single chunk in mirror order.

Given the variable positioning of *na* itself, one needs to argue a little more carefully if one wants to say that it really does form a tight morphological unit with the finite tenses, since it can appear unsupported by other material in the non-finite constructions. The latter fact is in itself a good reason for not stating the clitic properties of *na* as part of the prosodic profile of *na* itself. Instead, it should be captured as part of a linearization algorithm specific to Bangla, whereby the functional heads Fin and Neg form a tight morphological unit, where the former is an abstract functional head, often null. We have independent evidence of the tight connection between negation and finite inflection from other forms in the language. Specifically, the auxiliary form of *ach* ‘be’ in the negative is synthetic in the present tense, and in the perfect tense where *ach* is a kind of fused auxiliary, the negative form of the perfect consists of a bare stem and a conflated marker *ni* which represents both tense and aspect information in addition to negation.¹⁰ There is also a distinct synthetic nega-

¹⁰ See Ramchand (2005) for a discussion of the distribution and meaning of *ni* when compared to *na* as sentential negation.

tive verb which corresponds to the copula which is zero in the positive present tense.

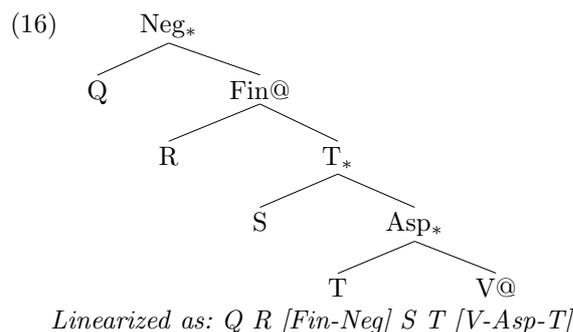
(15)	Positive stem	Negative stem
be-PRES	<i>ach-</i>	<i>nei</i> (invariant)
copula.PRES	$\emptyset/hO-$	<i>nO-</i>
Perfect tense	V.PPL + <i>ach</i>	V + <i>ni</i>

Unsurprisingly on this account, none of these negative forms ever shows up in non-finites or subjunctives and never appear positioned preverbally.

The proposal here is that in non-finites and subjunctives, the functional information that encodes deictic anchoring to the speech situation (a prerequisite for independent assertive force) is not present. For convenience I will label the lowest head in the C-domain Fin, and assume it is always present, but comes either with or without a feature indicating deictic anchoring (alternatively, deictic vs. anaphoric could be two different values for the ‘Fin’ feature). What we have been terming ‘non-finite’ Fin is thus actually ‘anaphoric’, whether the phrase embedded is a subjunctive TP, or any more truncated phrase structure. Crucially, we want to assume here that anaphoric Fin does not bear the diacritic *, and therefore does not form a morphological word with the next lowest head. This means in turn that the negation, which forms a morphological unit with Fin does not combine linearly with the verb.¹¹

Thus, when something occurs to interrupt the sequence, the chunks spell out separately: head sequences are spelled out in mirror order, but outside the ‘word’, morphemes spell out top-down. Consider now what would happen if there is a phrase structure that is missing the clausal anchor, finite Fin, but has an anaphoric Fin instead which bears no asterisk in the language. In such a case, the mirror-theoretic word will spell out to T and then stop, and the Neg will spell out separately. Since Neg is higher than T, it will precede it, following normal top-down order.

¹¹ The other way to do it is to assume that it is not present in non-finites at all, but then we would have to make the * diacritic on Neg sensitive to whether the immediately subordinate head is Fin, or whether it is T or something lower— only in the former case do we want word formation to kick in. One way to achieve this might be to say that Fin mediates between two phasal domains and that in the absence of the mediating head, the asterisk on Neg is simply not part of the same spell-out instruction set as the heads in the T domain. I stick to the conservative implementation above since there is no scope in this article for deciding on the merits of phase theory in the context of mirror-theoretic words. I put the issue aside for further research, noting only that the decisions on how to implement the generalization expressed here will hinge on architectural decisions about the universality of the functional sequence and the omissability of heads.



This linearization contains phrasal material between the Neg head and the inflected verb. However, there is also a zone above Neg which hosts Topic and Focus projections (if Rizzi 1997 and subsequent work is right about the make up of the left peripheral zone) that is not represented in detail in this tree structure. Any phrase that moves to the left periphery for information structure reasons, will in fact precede the Neg head which is lowest in the left periphery. I assume that in Bangla, like in many Germanic languages, at least one position in Vorfeld (the C-zone) must be filled. I don't have an account for this in this short paper, but however the generalization is best stated, it will mean that the negative element will never be the first one in the sentence. Crucially, in this non-finite phrase structure, there are two zones for arguments: the zone preceding the negation and the zone in between negation and the verb word which spells out low. This seems to be correct.¹²

In the trees that I have drawn so far, I have invoked a Fin head that is the locus of the point of semantic variation between the subjunctive interpretation of a verbal inflected form and the indicative interpretation, but the head itself seems to bear no independent phonological content. I think we can find even more evidence however that the Fin head is syntactically real, in that we can find lexical items in Bangla which spell out this head (in addition to T). The item in question is the auxiliary *ach* which appears as a helping auxiliary in some composite tenses. As was first noticed by Probal Dasgupta (Dasgupta (1983). Dasgupta (1996)), the auxiliary *ach-* is incompatible with the subjunctive tense, but not the indicative which on the surface looks identical. Dasgupta used this fact as one of the diagnostics that distinguishes subjunctive from indicative (the other important one was the position of negation), and his purpose there was to argue for the existence of a real subjunctive in Bangla, despite initial appearances. I give examples of the contrast below (examples from Dasgupta 1996 pg 76).

¹² Simpson and Syed point out that there are other elements in Bangla that also show this variable positioning between a sentence final position and a roughly second position location. These include the question particle *ki* and the subjunctive subordinator *jodi-* 'if'. They mention these facts to lend plausibility to their analysis that lexical items in Bangla can spell out either in head (final) or (leftward) spec positions. But these facts are also support for an optional juncture in mirror theoretic word formation in the CP domain quite generally in Bangla. I leave a treatment of the other word order facts that suggest Word restart for future work.

- (17) (a) brotu Eto Sabdhane poribeSon koreche je kichu khabar baki *ache*
 Brotu so carefully serve do.PERF.PRES so that some food left COP
 ‘Brotu has served so carefully that some food is (now) left.’
- (b) brotu Sabdhane poribeSon koreche jate kichu khabar baki *thake*/**ache*
 Brotu carefully serve do.PERF.PRES so that some food left is/*COP
 ‘Brotu has served carefully so that some food is (now) left.’

13

In a normal existential indicative, the copular verb *ache* is most commonly used, as (17a) shows. However, if we construct the minimal pair whereby the subordinate clause is now introduced by the subjunctive trigger *jate*-‘so that’, then the *ache* representation becomes ungrammatical and the verb *thak* - ‘be/remain’ must be used instead. (The verb *thak* is also grammatical in the (a) sentence, but only forced in subjunctive contexts such as (b).) Dasgupta argues that *ach* and its negative forms are true auxiliaries and are generated in INFL. In the implementation of the present paper, we need only say that the auxiliary *ach*- in Bangla carries both tense and finiteness information, giving lexical content to finite Fin as well as T. Basically, *ach* is an auxiliary which already builds in a deictic anchoring condition and cannot be used in the anaphoric tenses. It is basically excluded from all subjunctive contexts. This analysis also explains why it is that the tense forms that incorporate *ach*- in their morphological decomposition are also ungrammatical in subjunctive clauses. The examples from *if*-clauses below make this further point.

- (18) (a) cinera Sudur otite amerikaY gie-chilo
 Chinese remote in the past America-LOC go.PPPL-COP.PAST3
 ‘The Chinese had gone to America in the distant past.’
- (b) cinera jodi Sudur otite amerikaY gie *thake*/**giechilo*/**gieche*
 Chinese if remote in the past America-LOC go.PPPL-be.PRES3
 ‘If the Chinese had gone to America in the distant past...’

Interestingly, it is once again the verb *thak* which must kick in to create the required interpretation, presumably because *thak* is minimally different from *ach*- in not lexicalizing finite Fin itself, but in being able to combine with both finite and non-finite null Fin optionally.

Thus, the evidence from pure auxiliaries shows that despite appearances, there *is* a syntactic difference between subjunctives and indicatives which can be seen in some morphological forms. Given that we can also give a fairly specific semantics to this abstract functional position, we can be feel justified in positing its appearance as a head in the functional sequence.

We have seen that the position of negation is sensitive to the featural value of the Fin head, and we have implemented this by positing that the finite Fin head bears a linearization diacritic that forces it to form a mirror-theoretic

¹³ The *thake* form of the auxiliary is possible in the non-subjunctive sentence (17a) as well, but has an obligatory generic interpretation. In (17b), the *thake* form of the auxiliary is actually ambiguous between the episodic and generic interpretations, and the *ache* is simply impossible.

word with the T node that it anchors. The non-finite Fin head, which bears no anchoring relation to T, forms no mirror-theoretic word with T. The disruption of the affixal relationship between Fin and T forces the head sequence spell out to ‘restart’ at Fin, giving rise to the word orders that we see.

4 Conclusion

In concluding this commentary, I find I must agree with Simpson and Syed that Bangla negative placement raises deep and interesting questions about the phrase structural representation of finiteness, and about the tools available in current syntactic frameworks for deriving word order from structure. In their discussion of the options, Simpson and Syed argue that the head vs. spec implementation gives the best possible and most straightforward account of the Bangla facts within a plethora of unsatisfying solutions. However, I have also argued that it is unsafe to discard the unified Neg solution simply because the Word Order Movements (WOMs) it would require are unpalatable.

In this paper, I have argued that a detailed consideration of the particular contexts in which negation is preverbal in Bangla shows that we must not derive these effects from anything related to tense inflection, agreement, or the availability of subject licensing positions. We must make the difference depend on the difference between deictic anchoring vs anaphoric dependence of the clause’s temporal information. This fact, which is in some sense the most important fact that should be taken away from this paper, was discovered and expressed already in Dasgupta (1996), Dasgupta (2005). We know that the kind of ‘finiteness’ that Neg in Bangla is sensitive to is different from the kind of ‘finiteness’ that the licensing of overt subjects is sensitive to for example. This might not be the case for all Neg-finiteness interactions crosslinguistically, but must be related to the fact that NEG in Bangla is relatively high, licensing negative polarity items in subject position, like Basque. In fact Laka (1990), argued that the high position for negation in Basque was actually ΣP , a projection that had an assertoric function and had both positive and negative values. If the Bangla *na* is a high negation of this type and related to the assertoric function of the clause, it is not surprising that it would form a tight morphological link with Fin which relates to clausal anchoring. I have couched my own implementation of the generalization in terms of a fine grained cartography following Rizzi (1997), and building on recent work concerning deixis and clausal anchoring.

In addition, I have argued in this commentary that we need to be more radical, and question some of the basic assumptions of the current tool box when it comes to deriving word order. In particular, I have argued that the move to a more DLT-like theory allows a simpler and more elegant statement of the word order pattern found here. I would argue that the language-particular settings that a child would have to learn to master this pattern can be seen to be both simple and obvious from frequent and surfacey facts about Bangla word order. At the same time, universal properties of mirror-theoretic word

formation (after Brody 2000) and the overarching top-down nature of the linearization algorithm word externally, build a system that is still essentially asymmetric and retains the empirical results that motivated the LCA in the first place. Many details remain to be worked out, and I have just provided a programmatic illustration of how one might tackle a particular problem, but the direct linearization methodology has at least had the advantage of allowing a clear statement of the generalizations about Finiteness and Negation, which after all were the main purpose of this investigation.

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