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On the Tense System of Bangla

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Abstract: The existing literature on the grammatical description of Bangla tense is basically a mimicry of the English tense system. The literature is also not developed on sound morphological and syntactic treatment. This paper is concerned with the morphological system of Bangla tense and their syntactic properties. The scope of our study is limited to eight simplex forms of verb which are inflected for aspect, tense and person. Our study examines how these markers are juxtaposed and finally proposes a template for Bangla verb system which exhibits modification from the conventional one. After that, we attempt to explain the syntactic properties of Bangla tense within the minimalist programme framework. Our account for Bangla tense represents a critical problem in its treatment of T position. We show that Bangla lacks theoretical motivation to posit a T position external to the vP shell. What happens in the vP shell for Bangla language remains unexplored and this paper does not extend to any solution for the issue, however, it identifies why present literature is inadequate to explain the T position in Bangla.

Keywords: Bangla tense, Morphology, Syntax, Minimalist Programme, Position, Simplex verb forms, Aspect markers

1.Introduction

Time can be captured against utterance at three points which correlate with each other. By adopting the theory of tense proposed by Comrie (1985), we can define the exact utterance time S which denotes a speech event time E. E can sometimes be tied to another reference point of time known as R which is the case with the perfect form of verb. The grammaticalisation of time in sentence is known as tense (Comrie, 1985, p.2). It is only a several decades ago

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when it was first proposed that events have also their internal temporal organisation. For example, an event at the present moment can be ongoing in time. The internal temporal organisation of events are grammaticalised as aspect (Comrie, 1976, p.3). While there are a few tenseless language such as Burmese, most of the human languages exhibit the grammatical category of tense and aspect. While past and the non-past distinctions are frequently found in human language, future tense is not rare. Future time can be morphologically marked or can take analytic form. In English, the future tense is morphologically exhibited through the modal 'will'. In Bangla, tense and aspect is marked in a synthetic fashion and the verb agrees with the subject in terms of person. Thus, the Bangla verb root can take affixes for aspect, tense and person to its right and can produce eight identical forms (Chatterjee, 1926, p.930). Each form is tied with distinct tense-aspect semantics and any attempt to provide an account for Bangla tense system should provide explanation for all these eight forms. While Bangla also exhibits tense in a periphrastic manner, the scope of this investigation will be limited to simplex forms only. The descriptive study of Bangla tense system is deeply influenced by the structure of English grammar and thus the tense system of Bangla has yet not been examined under the lens of modern linguistics. This paper aims to craft a template for the verbal affixal morphology by examining the tense system of Bangla. After that, we will turn to provide a generative realisation of the syntax of Bangla tense system.

2. Review of the literature

As a departure point of our investigation of the Bangla tense system, we present those representations which are available in the previous research work. Though the Indian sub-continent is profoundly rich in its convention of linguistic research, research on Bangla language faced some unprecedented obstacles back in the first half of the nineteenth century. Colonial rule and the widespread knowledge of English had put its influence in the research on Bangla grammar. Many of the work and assumption in the area of Bangla language comes from miming the structure of

English grammar. Since traditionally English tense is divided into three types, Bangla grammarians also absorbed the idea of three tenses. They did not take into consideration the modal nature of English future tense and the controversy around it, neither did they compare the strong future marker of Bangla against the periphrastic one of English. The most proper description of Bangla tense can be found in the description of Chatterjee (1926) which was proposed long before the groundbreaking work of Reichenbach or Montague. In his classic book 'Origin and the Development of the Bengali Language' (ODBL), Chatterjee (1926, p.930) has proposed eight tenses among which four are simple and four are complex. At that time, the idea of tense and aspect distinction was not available in clear articulation. We shall see that the four complex tenses in Chatterjee are basically aspectual forms of tenses. We are going to present the description of Chatterjee (1926) in the table (1).

Simple Tense	Complex Tense
Present: bol-i	Present Progressive: bol-c^{h}i
Past:bol-lɑm	Past Progressive: bol-c^{h}i-lɑm
Conditional:bol-t̪ɑm	Present Perfect: bol-ec^{h}i
Future: bol-bo	Past Perfect: bol-ec^{h}ilɑm

Table 1: *Verb forms for Bangla tense from Chatterjee (1926, p.930)*

While Bangla has a clear articulation of future marker of tense which means future tense has a meaning in Bangla Hewson and Bubenik (1997, p.266) claimed that Bangla, as like as most other Indo-Aryan languages, lacks a future tense and thus adopts the binary tense system of past and non-past. They claimed that the tense/aspect system of Bangla is much closer to the late Modern Indo-Aryan system. We will present their analysis for /bol/ (say) root in table (2).

Imperfective		Perfective	
Present	Past	Present	Past
d̪ekʰ-e 'sees' d̪ekʰ-cʰe 'is seeing'	d̪ekʰ-t̪o 'saw' d̪ekʰ-cʰi-l-e 'was seeing'	d̪ekʰe-cʰi 'has seen'	d̪ekʰ-e-cʰi-l-e 'had seen'

Table 2: Bangla tense/aspect system from Hewson, J. & Bubenik, V. (1997, p. 266)

After a primary observation, one can instantly figure out that the future marker is not taken into consideration by Hewson and Bubenik. That's why their study brought forth an aspectual distinction rather than a temporal one. In fact, any research that wants to address the tense issue in Bangla must provide an account for the basic eight verb forms presented by Chatterjee (1926). After Chatterjee, many grammarians looked into the matter and provided tense classification which are in fact very much adherent to the classification of English. For example, popular grammar wants to posit future continuous and future perfect tense but does not figure out that fact that these are periphrastic tenses in Bangla and can only occur within a certain construction of serial verbs.

In the next section, we are going to examine the morphology of Bangla tense system. After that, we will present our account of morphological distribution of Bangla tense marking and will craft a template for Bangla verb form. We will see later that our template will bear modification from the conventional one and our present analysis is going to provide deep impact on the syntactic representation of Bangla tense.

3. Morphological Representation of Bangla Tense

Hewson and Bubenik (1997) claimed that Indo-Aryan languages lack the morphological concept of future tense and cited an aspectual opposition for Bangla language. Their claim lacks enough evidence as in their model, there is no mention of the /bo/ marker which adds to the Bangla verb roots to denote future tense. A simple

morphological investigation can rule out the claim of aspectual opposition in Bangla.

Our null hypothesis is Bangla language posits aspectual opposition in its temporal morphology. If the null hypothesis is true, then the verbal morphology must be able to manifest the aspectual opposition in a coherent manner. If we attempt to propose such a morphology, our attempt fails for certain issues. Let us see what the aspectual opposition in Bangla may look like. We will examine the verb stems containing the verb root /bol/ (say) in the following table.

We have seen eight types of simple tenses in the classification of Chatterjee (1926). All these forms are arranged in the table as an attempt to test their fitness in the claimed aspectual opposition. The verb stems do show some adherence to the opposition in terms of tense semantics. We can see from the table that past-non past distinction can get almost coherent marker except for the future one, aspectual markers don't remain the same for a specific aspect. If /ɑm/, /e/, /o/ stand for the past and /i/,/e/, /o/ stand for the non-past for first, second and third person respectively, the table shows that this arrangement fails to posit a specific marker for both imperfective and perfect aspect and the past-non past distinction does not work at the perfective aspect also.

	Habitual Aspect		Perfect Aspect	
1SG	bol-t̪-ɑm	bol-i	bol-ec^{h}il-ɑm	bol-ec^{h}-i
2SG	bol-t-e	bɔl-o	bol-ec^{h}il-e	bol-ec^{h}-o
3SG	bol-t-o	bɔl-e	bol-ec^{h}il-o	bol-ec^{h}-e
	Perfective Aspect		Imperfective Aspect	
1SG	bol-l-ɑm	bol-b-o	bol-c^{h}il-ɑm	bol-c^{h}-i
2SG	bol-l-e	bol-b-e	bol-c^{h}il-e	bol-c^{h}-o
3SG	bol-l-o	bol-b-e	bol- c^{h}il-o	bol-c^{h}-e

Table 3. Morphological test table of aspectual opposition

The table shows if the verb forms fit for the tense markers, it cannot assign the aspect markers in a coherent way and vice-versa. If it fails to finds aspect markers properly, it does not fit in the past-non past morphology. Our null hypothesis gets rejected. So, we can rule out the claim of Hewson and Bubenik.But why did Hewson and Bubenik come up with the idea of aspectual opposition in Bangla at the first place? The reason behind this involves the overlooking of future markers in their analysis. On the other hand, the traditional grammar classifies properly the tense system of Bangla by providing a three-way distinction: the past, present and future. Still, the traditional approach lacks modern insight into the issue and thus, in some cases, its assumptions can be refuted. We will provide our explanation behind the refusal of certain claim in the following discussion. Let us arrange the verb form into a three-way distinction tense system for the / lik^{h}/ (write) root.

All the verb forms end with a person marker and the change of person marker is consistent within the same tense. Thus, in the present tense, the first-person marker is /i/. This changes to /o/ when the person changes to second but the tense remains the present one. The third person marker for the present tense is /e/.

Tense	Aspect / Number	Simple	Progressive	Perfect
Present	1	lik^{h}-Φ-i	lik^{h}-c^{h}-i	lik^{h}-ec^{h}-i
	2	lek^{h}-Φ-o	lik^{h}-c^{h}-o	lik^{h}-ec^{h}-o
	3	lek^{h}-Φ-e	lik^{h}-c^{h}-e	lik^{h}-ec^{h}-e
Past	1	lik^{h}-l-am	lik^{h}-c^{h}i-l-am	lik^{h}-ec^{h}i-l-am
	2	lik^{h}-l-e	lik^{h}-c^{h}i-l-e	lik^{h}-ec^{h}i-l-e
	3	lik^{h}-l-o	lik^{h}-c^{h}i-l-o	lik^{h}-ec^{h}i-l-o
Future	1	lik^{h}-b-o		
	2	lik^{h}-b-e		
	3	lik^{h}-b-e		

Table 4. *Traditional description of the Bangla tense morphology with /* lik^{h}*/ (write) root*

The whole system changes in the past tense morphology. The first person marker is /ɑm/, the second person marker is /o/ and the third person marker is /e/ for the past tense. For the future tense, the person marker is /o/, /e/ and /e/ respectively.

This chart shows that the present tense is unmarked in the traditional view and simple aspect is unmarked too. The past tense is marked by /l/ and the future tense is marked by /b/. This is where this paper aims to propose slight modification. After providing explanation of our proposed modification, we will attempt to craft out a new template for the verb forms of Bangla.

In state-of-the-art analyses of tense and aspectual system, there is no such thing as simple aspect. Rather we are going to classify it as the 'performative' aspect. The idea behind this comes from the semantics of the concerned verb forms. These verb forms 'perform' things or denotes to performance of some action. Thus, we want to replace the 'simple' label with a more acceptable and appropriate one. However, the categorial explanation for this aspect does not change with the change of terminology. Here we are just adopting a new terminology to provide the 'simple' aspect a more meaningful label.

At this point, let's examine the change in the markers that takes place within the performative aspect. We have made no confusion in accepting the fact three distinct concepts are marked at the final end of the Bangla verb root. These concepts are: aspect, tense and person. We will just examine the traditional explanation of their distribution here.

Within the present tense morphology, the person marker changes for first, second and third person. That is the proof of the existence of person markers at the end of the verb form. But what happens when the verb jumps into the past tense morphology?

/likʰi/→ /likʰlɑm/

/likʰcʰi/→ /likʰcʰilɑm/

We see that the first person /i/ marker changes to /lɑm/ for the change of tense category from present to past. Within the past tense, the /lɑm/ changes to /lo/ in the second person.

/lik^{h}lɑm/ → /lik^{h}lo/

This proves that the /l/ marker stands for the tense as it remains unchanged and the /am/ marker stands for person. With this approach, the traditional grammar thus, propose the present tense to be unmarked, the past tense to marked by /l/ and future tense to be marked by /b/. When it comes to aspect, the performative aspect is unmarked where /c^{h}i/ stands for the progressive marker and /ec^{h}i/ stands for the perfect marker.

Thus, the template for the verbal forms of Bangla is proposed as follows:

Verb root + aspect + tense + person

This analysis lacks evidence from the future tense morphology. If person marker is distinctly overt at the end of the verb form, the second person and third person marker should be different from each other. But they are the same in pronunciation that is /e/. This status of marker in the future tense person position brings forth the idea that person marker is glued with the tense marker and there is only one morpheme which is actually an amalgam of the tense and person morpheme. When it changes category, the tense and person marker changes as the same body of morpheme. Thus, we are proposing that the tense and person marker is fusional in Bangla.

Then, our modified verb template would be:

Verb root + aspect + {tense + person}

We will later see that this template will be helpful for the syntactic realisation of Bangla tense too. In addition to the basic three-way distinction, our system should recognise the conditional tense that refers to time prior to the speech time. Taking all of the modifications into consideration our proposed chart would look like the following. Here, only the performative aspect is unmarked and present tense which is fused with person is certainly marked. / c^{h}/

stands for the progressive aspect and /ec^h/ marks the perfect aspect.

Tense	Aspect / Number	Performative	Progressive	Perfect
Present	1	lik^h-i	lik^h-c^h-i	lik^h-ec^h-i
	2	lek^h-o	lik^h-c^h-o	lik^h-ec^h-o
	3	lek^h-e	lik^h-c^h-e	lik^h-ec^h-e
Past	1	lik^h-lam	lik^h-c^{h}i-lam	lik^h-ec^{h}i-lam
	2	lik^h-le	lik^h-c^{h}i-le	lik^h-ec^{h}i-le
	3	lik^h-lo	lik^h-c^{h}i-lo	lik^h-ec^{h}i-lo
Future	1	lik^h-bo		
	2	lik^h-be		
	3	lik^h-be		
Conditional	1	lik^h-t̪ɑm		
	2	lik^h-t̪e		
	3	lik^h-t̪o		

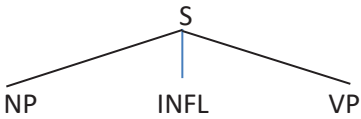
Table 5. *Proposed analysis of Bangla tense, aspect and person marking*

4. The Syntactic Representation of Bangla Tense

In the generative framework, there is a distinction between the lexical category and the functional category. This distinction roughly corresponds to the distinction between content words and function words (Adger, 2003, p.132). The projection of lexical category has its interface with the ɵ-semantic framework, while the functional category deals with the non-ɵ-semantic framework (Adger, 2003, p.132).

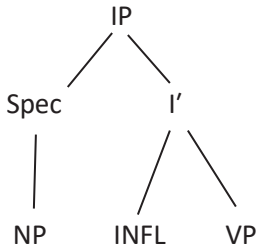
Chomsky's (1981) theory of phrase structure grammar devised the following structure for the category S:

1a.



This allows the ternary branching which was later modified by Stowell (1981) to devise binary branching for all syntactic categories. He proposed to extend the X-bar theory to all syntactic categories. The modified tree of Stowell (1981) would look like the following:

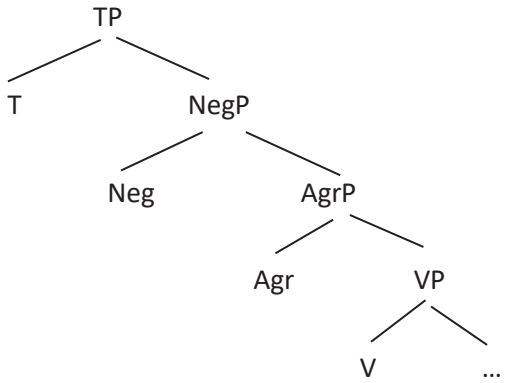
1b.



While (1a) fails to establish constituency relationship, (1b) shows the constituent structure and the head item clearly.

Pollock in his classic paper on verb movement and universal grammar proposed a further revision (Stowell,2012, p. 204). He proposed that tense features and agreement features should project under the tense head and agreement head independently. Thus, he divided the INFL into several independent functional categories. He also argued that the particle not (Neg) is the head of NegP and his proposed hierarchy is: T > Neg > Agr. The tree is presentend in (2):

(2)



While for the French language Pollock (1989) proposed a total movement of verbs to the T head and Agr head to explain their position before the Neg particle, however, for English, he proposed affix lowering so that the main verb appears after the Neg particle. At this point, a parameter can be set to explain variation among languages. This is possible for English because tense inflection on a verb is in complementary distribution with auxiliaries (Carnie, 2006, p. 155). They both never occur at the same time in English.

Verb raising parameter: V raises to T or T lowers to V (Carnie, 2006, p. 194)

Pollock made the idea came into play that verbs can go under movement for inflection and agreement morphology (Stowell, 2012, p.205). Pollock's idea of functional category eventually gives rise to the other aspectual categories to project on their own. Thus, perfect particle becomes the head of the PerfP and the progressive particle becomes the head of ProgP maintaining the hierarchy projection like following where v and V shows the hierarchy within the VP-shell:

(3) T > Neg > Agr > Perf > Prog > v > V

This is the basic architecture that we are going to use to provide an account for the syntactic realisation of Bangla tense. Let us consider the simple sentence in (4) which represents the basic SOV word order of Bangla:

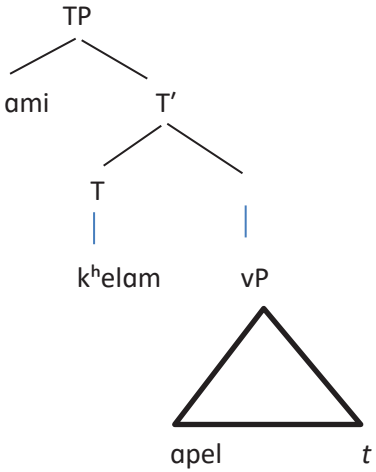
(4)ɑmi ɑpel kʰe-Φ-lɑm

1SG Apple eat-PRFM-PST.AGR

I ate an apple

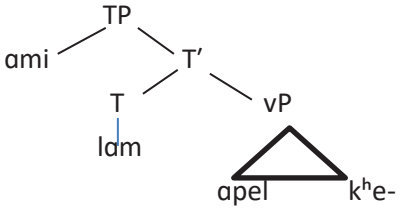
Bangla does not have auxiliary verb like English. In that case, if we want to propose a tree by maintaining the V to T movement parameter, then the word order will not be preserved in the LF.

(5)



If the V to T occurs by leaving behind a trace in the vP, the word order does not match with (4). Though the order found in (5) is also a grammatical sentence in Bangla, this variation is solved within the vP during the first merge since when two elements merge, their ordering does not matter into creating a new syntactic object. Rather, we would propose a verb in-situ analysis where the verb stays within the vP and the affix lowers down to vP to check the feature. Thus, our proposed tree for (4) is drawn in (6):

(6)



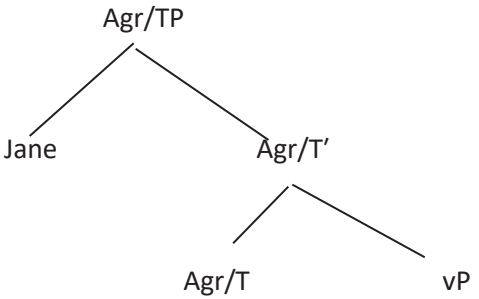
Taking (6) as a departure point, we are going to modify our tree further.

Theories of feature checking and covert movement has allowed Pollock's theory to be totally free from affix hopping since the further development considers T as the generating position of tense. Thus, any language which does not have an auxiliary will raise its V to T to license its tense feature. T should work as a licensing spot or V should get its value from T. This value-checking theory omits all the ungrammatical structures and only produces grammatical structures (Adger, 2003, p.134). Pied-piping is a very common phenomena for covert wh-movement and we can incorporate pied-piping to provide an account of tense placement without invoking affix hopping. Verbs originate with its full inflection within vP. Languages differ in the movement of the whole V and the pied-piping of its affixes along with the features in question. Thus, in Bangla, we would propose that only the affixal part of the verb looks for T head to license or value its feature so that no feature remains uninterpretable. Unlike English, Bangla is marked for perfect and progressive marker by affixes attached to the verb roots. Thus, the pied-piping effect will also be incorporated here to provide for feature valuing in the PerfP and ProgP position as the Perf head and Prog head are not analytical like it is in English. When it comes to tense and aspect marking, Bangla is immensely synthetic in its morphology. These synthetic fashion of tense and aspect marking presents us serious theoretical problems which we will discuss later.

Our morphological analysis in the previous section has shown us that the tense and person marker is in fusion at the end of the verb form. So, it will post a problem for the whole marker to get its

value from T as T can only value tense feature. Though the AgrP is lower in the hierarchy than TP, the problem remains the same since the tense and person marker is denoted by the same morpheme. To satisfy the value checking requirement here, we will adopt the syncretic IP model devised by Giorgi and Pianesi (1997). This model projects T with agreement in cases where agreement and tense is marked by the same morpheme. According to this model, the tree for 'Jane likes apples' can be presented in (7).

(7)



As we have established our system of representing Bangla tense within the generative grammar framework, now we can focus on the problems Bangla tense system represents when it comes to consider the theoretical motivation behind the functional projection of TP.

5. A theoretical consideration for T head in Bangla

It is clear that Bangla is verb in-situ language which does not raises its verb to T. At the same time, Bangla is a non-auxiliary language and modals do not occur in Bangla as it occurs in English. Some semantic correspondence can be attributed to some Bangla verbs which act like English modals, but morphologically the category is empty. The idea of positing a T head outside the vP comes from the fact that modals do occur in that T position and they carry T features. Modals occur outside vP and can merge with vP. The tense incorporated in modals can create selection of tenses in the embedded clauses. A constituent test also triggers merge between

modals and vP (Adger, 2003, p.126). In Engligh, auxiliaries and affixal tenses are in complementary distribution and thus, either T is articulated either on T or on V. But, since Bangla has no analytic marker for tense and modals do not occur, Bangla finds it difficult to absorb the idea that tense can be marked vP-externally. If theoretically Bangla lacks the motivation of positing a T outside the vP, the projection of functional categories would be a serious problem for the generative account for Bangla TP. Just silencing the TP will not solve the issues, since then Bangla should provide theoretical scope to satisfy its tense aspect markers vP-internally. But only lexical categories are found vP-internally.

As research on the structure of Bangla TP is limited, it is not easy to attempt to solve the question within the scope of this paper. We will simply assume some treatment for the issue that may inspire further research. One treatment is to providing an account of the synthetic morphology in the numeration that is in the lexicon. Another way to treat the issue is to consider some modification in the architecture which was adopted by Zagona (1990) and Stowell (2012). Zagona (1990) assumes T to be a temporal ordering predicate which takes arguments. Thus, Zagona is proposing a semantic interface for the syntax of T which is analogous to the verb though T does not assign theta roles. In Zagona (1990), T assigns time and vP sits in its complement position and the moved subject sits in the specifier of a TP. Here the two arguments denote time where the vP denotes event time E and SpecTP denotes the speech time S. This goes with the account of tense provided by Comrie (1985). Stowell (2012, p. 207) posits a ZP (Zeit Phrase) intervening between the TP and vP to provide branching scope for the reference time R. As these projections of functional categories are available semantically, Bangla tense system can hook onto that in spite of its poor syntactic motivation of positing T outside the vP. At the current state of the research, we will only keep ourself satisfied with the idea that functional categories are universal for all languages and their realisation varies in nature. To provide a theoretical detail of Bangla tense in terms realisation in the architecture of the minimalist programme, extensive research is mandatory.

6.Conclusion

Our study identified four tenses: present, past, future, conditional and three aspects: performative, progressive and perfect. The future and conditional tense only appear with performative aspect. We provided an account of the syntactic realisation of Bangla absolute tense system in line with Pollock's (1989) contribution into the theory. We also proposed that a syncretic IP model posits the syntax best as the tense and person marker appear in fusion. Apart from our value checking treatment of Bangla tense, we identified a theoretical problem within the syntax of Bangla TP which originates from the issue that Bangla tense is primarily generated vP-internally. This problem needs further research to get a proper explanation while a semantic model for functional categories may be examined to test its fitness to capture Bangla tense.

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