

# The Crosslinguistic Defaultness of *be*\*

Bronwyn M. Bjorkman, MIT  
bmbjork@mit.edu

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## 1 Introduction

- There is a long-standing intuition in linguistic analysis that auxiliaries such as *be* are in some sense **default verbs**.
- Here I present a formalization of this intuition: auxiliary *be* is not present in syntax but is instead a **morphological** default inserted to realize “stranded” inflectional material.
- This provides a **unified** analysis of previously-undiscussed variation in the distribution of auxiliary constructions.

## 2 Variation in Auxiliary Use

In a familiar pattern of auxiliary use, attested by English, categories that occur with an auxiliary *always* occur with an auxiliary (in a full clause). If two auxiliary-taking categories co-occur, two auxiliaries appear:<sup>1</sup>

- (1) a. Progressive: The children **were** eating the cake.  
 b. Passive: The cake **was** eaten.  
 c. Progressive passive: The cake **was being** eaten.

A very different pattern occurs in other languages, including many Bantu languages (exemplified here by Kinande), and Latin.<sup>2</sup> Here *individual* inflectional categories have synthetic forms, but certain *combinations* of categories require an auxiliary:

**Kinande:** past tense and aspect (progressive, incomplete, or inceptive) require an auxiliary only in combination:

- (2) a. tu-nému-húma  
 1PL-PROG-hit

\*For helpful discussion and many suggestions, I would like to thank Claire Halpert, Sabine Iatridou, Patrick Jones, Hrayr Khanjian, David Pesetsky, and Norvin Richards.

<sup>1</sup>This pattern is widely attested outside English: it is found in French, Spanish, German, Basque, Finnish, Hindi, and Romanian, to name just a few.

<sup>2</sup>Certain auxiliary patterns in Russian and Arabic also fit this pattern.

- ‘We are hitting’  
 b. tw-á-húma  
 1PL-PAST-hit  
 ‘We hit (recently, not today)’  
 c. **tw-á-bya** i-tu-nému-húma  
 1PL-PAST-be LNK-1PL-PROG-hit  
 ‘We were (recently, not today) hitting.’

**Latin:** passive and perfect categories require an auxiliary *only* in combination (Embick, 2000).

- (3) a. amavi  
 love.1SG.PERF  
 ‘I loved, I have loved.’  
 b. amor  
 love.1SG.PASS  
 ‘I am loved.’  
 c. amatus **sum**  
 love.PERF.PASS be.1SG.PRES  
 ‘I was loved, I have been loved.’

This poster provides an analysis of verbal inflection that *unifies* these two very different patterns.

### Evidence for Default Auxiliaries

On the basis of languages like English, it is natural to assume that some languages arbitrarily associate certain inflectional categories with syntactically-represented auxiliaries heading AuxP.

This approach would be problematic for languages like Latin and Kinande, where no *single* category is correlated with the presence of an auxiliary. Licensing of AuxP looks something like the following in these languages:

$$\begin{array}{l}
 * [ \text{AuxP} [ \text{XP} ] ] \\
 * [ \text{AuxP} [ \text{YP} ] ] \\
 \checkmark [ \text{AuxP} [ \text{XP} [ \text{YP} ] ] ]
 \end{array}$$

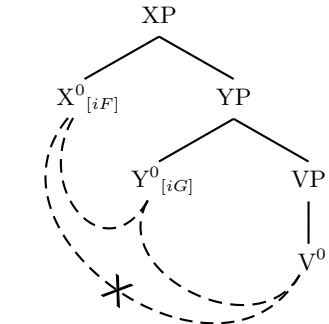
This poster pursues **an alternative** analysis of auxiliaries: no AuxP; complex structures give rise to auxiliaries in the **morphology** because they cause certain inflectional features to be **stranded**.<sup>3</sup>

<sup>3</sup>Cf. related proposals by Shütze (2003) and Cowper (2010) specifically for English.

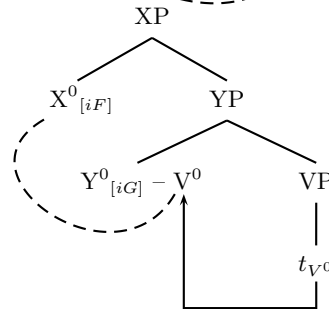
### 3 The System

I claim that we can give a unified analysis of both the English-type and Latin-type patterns of auxiliary use if we develop a theory of verbal inflection with the following pieces:

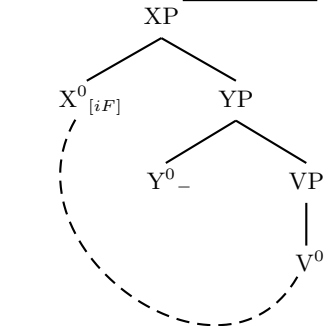
A. Inflectional features are manipulated uniformly by **Agree** (Chomsky, 1998), but the relevant Agree relations are **local** (all heads with inflectional features are potential targets for Agree).



B. Head movement is dependent on a pre-existing Agree relationship. Languages differ in which Agree relations are accompanied by head movement.



C. Only **non-default** (marked) inflectional features<sup>4</sup> are **visible** for the purposes of Agree. Heads without such features can be skipped both by local Agreement and head movement.



**Auxiliaries** occur when morphologically interpreted inflectional features are assigned (via Agree) to a head that does not already contain a verb – that is, when the verb has failed to move to a head that is visible for the purposes of inflectional agreement.

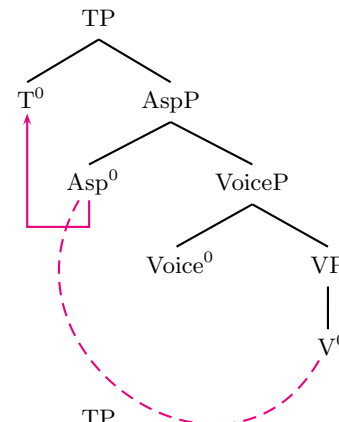
This occurs above in (A) for [iF]

### 4 Illustration

#### 4.1 Auxiliaries in English

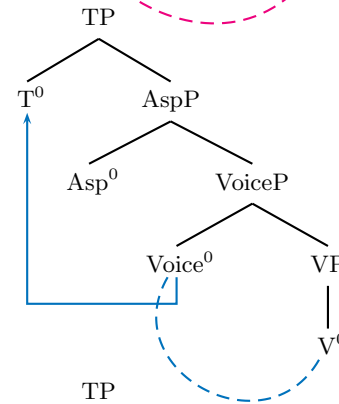
**Head movement:** T<sup>0</sup> attracts Voice<sup>0</sup> and Asp<sup>0</sup>. V<sup>0</sup> remains *in situ*.

**Default (∴ non-visible):** Non-progressive Asp<sup>0</sup> and active Voice<sup>0</sup>.



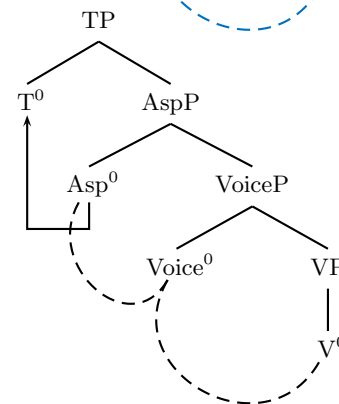
**Progressive: were eating**

- Asp<sup>0</sup> and V<sup>0</sup> Agree for [Prog]
- T<sup>0</sup> Agrees with Asp<sup>0</sup> for [Past] → head movement
- [Past] is stranded → auxiliary *were*



**Passive: was eaten**

- Voice<sup>0</sup> and V<sup>0</sup> Agree for [Passive]
- T<sup>0</sup> and Voice<sup>0</sup> Agree for [Past] → head movement
- [Past] is stranded → auxiliary *was*



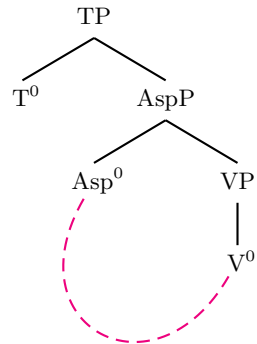
**Progressive Passive: was being eaten**

- Voice<sup>0</sup> and V<sup>0</sup> Agree for [Passive]
- Asp<sup>0</sup> and Voice<sup>0</sup> Agree for [Prog]
- T<sup>0</sup> and Asp<sup>0</sup> Agree for [Past] → head movement
- [Prog] is stranded → auxiliary *being*.
- [Past] is stranded → auxiliary *was*.

## 4.2 Auxiliaries in Kinande

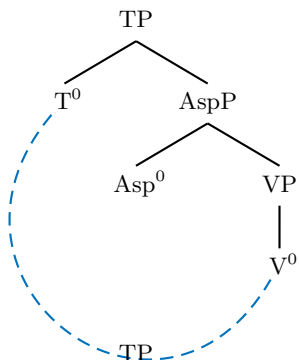
**Head movement:** none.<sup>5</sup>

**Default (∴ non-visible):** Present T<sup>0</sup> and non-progressive Asp<sup>0</sup>.<sup>6</sup>



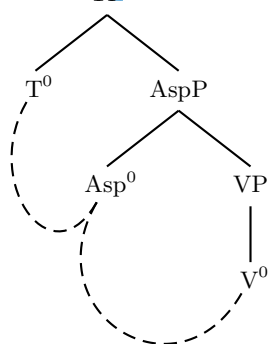
**Progressive:** *tu-nému-húma* ‘we are hitting’

- Asp<sup>0</sup> and V<sup>0</sup> Agree for [Prog]
- No stranded features



**Past:** *tw-á-húma* ‘we hit (recently)’

- T<sup>0</sup> and V<sup>0</sup> Agree for [Past]
- No stranded features



**Past Progressive:** *tw-á-bya i-tu-nému-húma* ‘we were (recently) hitting’

- Asp<sup>0</sup> and V<sup>0</sup> Agree for [Prog]
- T<sup>0</sup> and Asp<sup>0</sup> Agree for [Past]
- [Past] is stranded → auxiliary *twábya*

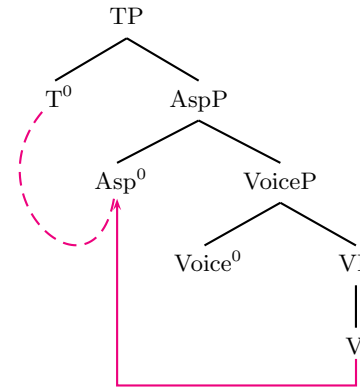
<sup>5</sup>By representing V<sup>0</sup> *in situ*, these trees abstract away from the argument-structure-changing layers of the clause above VP (and indeed *v*P), which are highly active in Bantu and through which I assume the verb does move, following much previous work.

<sup>6</sup>The unmarkedness of present tense is supported as a cross-Bantu generalization by Nurse (2008).

## 4.3 Auxiliaries in Latin

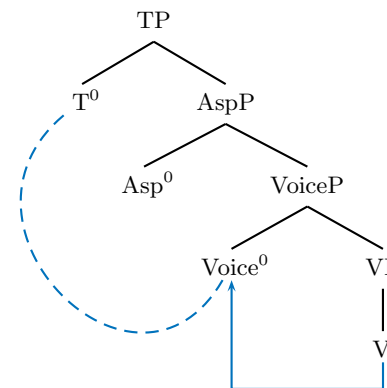
**Head movement:** Voice<sup>0</sup> and Asp<sup>0</sup> attract V<sup>0</sup>.

**Default (∴ non-visible):** Imperfective Asp<sup>0</sup> and active Voice<sup>0</sup>.



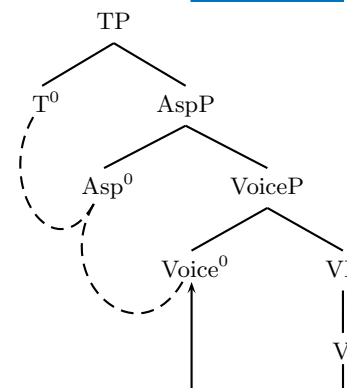
**Perfect:** *amavi* ‘I (have) loved.’

- Asp<sup>0</sup> and V<sup>0</sup> Agree for [Perf] → head movement
- T<sup>0</sup> and Asp<sup>0</sup>-V<sup>0</sup> Agree
- No stranded features



**Passive:** *amor* ‘I am loved’

- Voice<sup>0</sup> and V<sup>0</sup> Agree for [Pass] → head movement
- T<sup>0</sup> and Voice<sup>0</sup>-V<sup>0</sup> Agree
- No stranded features



**Perfect Passive:** *amatus sum* ‘I was/have been loved’

- Voice<sup>0</sup> and V<sup>0</sup> Agree for [Pass] → head movement
- Asp<sup>0</sup> and Voice<sup>0</sup>-V<sup>0</sup> Agree for [Perf]
- T<sup>0</sup> and Asp<sup>0</sup> agree for [Past]
- [Past] is stranded → auxiliary *sum*

## 5 Implications: Reduced Relative Clauses

The rule traditionally called *Whiz*-deletion in English creates reduced relative clauses. As its name suggests, *Whiz*-deletion is possible only with the verb *be*, not with other auxiliaries:

- (4) a. The cake eaten by the children  
 b. The children eating the cake  
 c. \*The children eaten the cake

This generalization has been extended beyond English. Looking at perfect construction, Iatridou et al. (2003) observe that in at least some languages with auxiliary selection (alternation between *be* and *have* in the perfect), only verbs that take auxiliary *be* allow reduced relative formation.

On the present analysis, in which *be* is simply the realization of stranded inflectional features, this is exactly an environment in which we would **expect** no auxiliary to appear: if reduced relatives **lack** higher inflectional structure (Williams, 1975, et seq.), then there is no source for the stranded features *be* would realize.

If we assume that non-*be* auxiliaries – specifically *have* – involve *additional material* in the position that would otherwise be realized as *be* (Freeze, 1992; Kayne, 1993), we can account for the lack of non-*be* reduced relatives by assuming that these additional features require licensing or realization independently.

By contrast, were auxiliaries such as *be* to occupy AuxP, the special character of *be* with respect to reduced relatives would be comparatively arbitrary.

## References

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Bronwyn M. Bjorkman  
 Department of Linguistics and Philosophy  
 Massachusetts Institute of Technology

bmbjork@mit.edu  
 web.mit.edu/bmbjork/www/