On the subject marker in Kinyarwanda[*]

Jochen Zeller

Department of Linguistics, School of Language, Literature and Linguistics, University of KwaZulu-Natal, Durban 4041, South Africa

E-mail: zeller@ukzn.ac.za

Abstract: This article examines the morphosyntactic representation of the subject agreement marker (Sᴍ) in null subject constructions in the Bantu language Kinyarwanda. Three prominent analyses are compared. The first analysis treats the Sᴍ in null subject constructions as a pronoun which receives the subject theta role in the *morphology*. The second approach analyses the Sᴍ as a *syntactic* pronoun, i.e. as a DP which receives its theta role in [Spec, V] and then moves to [Spec, T]. The third analysis is based on the theory of *pro*, which assumes that the subject theta role in null subject constructions is assigned to a phonetically unrealised pronoun. According to the *pro*-theory, the Sᴍ is simply a reflex of agreement between the verb and the null subject *pro*. The paper shows that the first analysis, which treats the Sᴍ as a morphological pronoun, must be rejected for Kinyarwanda on empirical grounds. In contrast, the paper argues that both remaining alternatives represent feasible accounts. The study identifies the empirical predictions and theoretical consequences which are associated with each of these two competing alternatives.

Introduction

In this article I am concerned with the nature and morphosyntactic representation of the subject marker (Sᴍ) in Kinyarwanda, a Bantu language spoken in Rwanda and its neighbouring countries. In Kinyarwanda, as in other Bantu languages, the Sᴍ (in italics in (1) and (2)) is prefixed to the verb stem and expresses noun class agreement with a preverbal subject NP, as illustrated in (1). Kinyarwanda, like all Bantu languages, is a pro-drop (null subject) language; as the examples in (2) show, a sentence without a full subject NP is interpreted as having a pronominal subject belonging to the same noun class as the Sᴍ:[1]

(1a) Umugoré *a*-teets-e   inyama.
      woman1 SM1-cook-ASP meat9
      'The woman is cooking meat.'   (Kimenyi 1980: 14)

(1b) Inzira *i*-nyur-a   urugó   imbere.
      road9 SM9-pass-ASP compound11 in.front
      'The road passes in front of the compound.'   (Kimenyi 1980: 35)

(2a) *A*-teets-e   inyama.
      SM1-cook-ASP meat9
      '(S)he is cooking meat.'

(2b) *I*-nyur-a   urugó   imbere.
      SM9-pass-ASP compound11 in.front
      '*It* passes in front of the compound.'

My main aim in this article is to offer a comparison of various analyses of the SM that have been adopted in different studies of Bantu grammar, and to consider the implications of each of these analyses for the representation of Kinyarwanda clause structure.

Specifically, I am concerned with three treatments of the SM that are attested to in the literature. According to the first analysis (which I refer to as *Alternative 1*), the SM in Bantu is a functionally ambiguous inflectional affix which acts as an agreement marker in sentences with full subject NPs such as (1), but as a *morphological pronoun* in null subject constructions such as (2) (see e.g. Bresnan & Mchombo 1987).[2] Alternative 1 therefore implies that the syntax of sentences such as those in (2) does not include a subject NP, since the subject θ-role is assigned to an element which forms part of the verbal morphology (the SM). In the next section, I examine whether this implication is realised in Kinyarwanda. I provide evidence that passivisation in Kinyarwanda involves syntactic movement of an NP from a position inside VP to the subject position, and, importantly, I show that NP-movement also takes place when the derived subject of a passive construction is a pronoun. This fact can only be explained if pronominal subjects in Kinyarwanda null subject constructions have the status of syntactic phrases, contrary to what is implied by Alternative 1. Therefore, I conclude that Alternative 1 must be rejected for Kinyarwanda.

The second analysis of the SM that I explore (*Alternative 2*) also treats the SM in null subject constructions as a pronoun, but does not assume that this pronoun is attached to the verb in the morphology. Instead, the pronominal SM is analysed as a *syntactic* pronoun which receives the subject θ-role in its base position inside the VP, undergoes syntactic movement to a preverbal position, and then combines with the verb via

2

incorporation or cliticisation. My article offers a discussion of this analysis and its implications for the structural representation of sentences such as those in (1), in which the SM co-occurs with a subject NP.

Finally, the third analysis that I discuss (*Alternative 3*) is the theory of *pro* (Chomsky 1982, Rizzi 1986), which is the standard account of null subject constructions in the Minimalist Program (Chomsky 1995, 2000, and subsequent work). According to Alternative 3, the pronominal interpretation of null subject constructions is provided by a *phonetically unrealised* pronoun (*pro*) in the subject position which triggers agreement with the verb. The SM, on this view, never acts as a pronoun, but is always an inflectional agreement marker. I address both the empirical merits and the conceptual problems of Alternative 3 in the last section of this article.

As for the syntax of Kinyarwanda, I adopt the view that all arguments of the verb (including the subject) originate within the VP; the VP is selected by a functional head T (for tense), which provides the landing site for verb movement in Bantu (see Kinyalolo 1991; Baker 2003; Carstens 2005; Zerbian 2006; and many others). The existence of a VP-internal subject position in Kinyarwanda is confirmed by data like the following:

(3)　Ha-ra-som-a　　　　umwáana.
　　　EXPL16-TNS-read-ASP child1
　　　'It's the child who is reading.'　　　　　　　(Kimenyi 1980: 206)

In (3), the postverbal subject NP *umwáana*, 'child', has remained inside the VP; as a result of V-to-T movement, the verb ends up in front of the subject. Note that the verb in (3) does not agree with the VP-internal subject NP but is instead prefixed with the locative (expletive) marker *ha-* of class 16. I assume that the SVO word order of sentences such as (1) is derived when the subject moves to the canonical subject position (the specifier of T, [Spec, T]); this word order licenses the occurrence of the SM which agrees with the subject NP:

(4)　　　　TP
　　　　╱＼
　(SUBJ)　　T'
　　　　╱＼
　　　T　　　VP
　　　　　╱＼
　　　(SUBJ)(Verb)
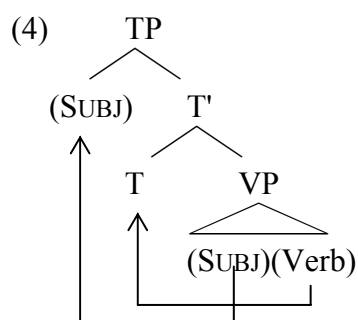
Although (4) represents (a slightly simplified[3] version of) the view of phrase structure advocated in the Minimalist Program, the conclusions I draw in this paper are largely independent of this choice of syntactic framework. Where my arguments depend on specific theoretical assumptions (for instance the idea that syntactic derivations involve NP-movement), I support these with empirical evidence. Since at least one of the alternatives that I compare in this paper (the *pro*-analysis) is adopted mainly by proponents of the Minimalist Program, I occasionally also discuss issues that arise from or are specifically relevant to a Minimalist analysis. By and large, however, I believe that the points I address in this paper are independent of the syntactic theory that I use for my analysis.

The subject marker as a morphological pronoun

Functional ambiguity

As was shown in the introduction, Kinyarwanda is a null subject language; sentences without full subject NPs such as (5b) and (6a-b) receive a pronominal interpretation:

(5a)   Abagabo *ba*-ra-som-a   ibitabo.
        man2   SM2-TNS-read-ASP book8
        'The men are reading books.'

(5b)   *Ba*-ra-som-a   ibitabo.
        SM2-TNS-read-ASP book8
        'They are reading books.'

(6a)   *N*-da-bón-a   kó   *mu*-n-kuúnd-a.
        SM1stSG-TNS-see-ASP that   SM2ndPL-OM1stSG-love-ASP
        'I see that you love me.'

(6b)   *Tu*-ra-bón-ek-a.
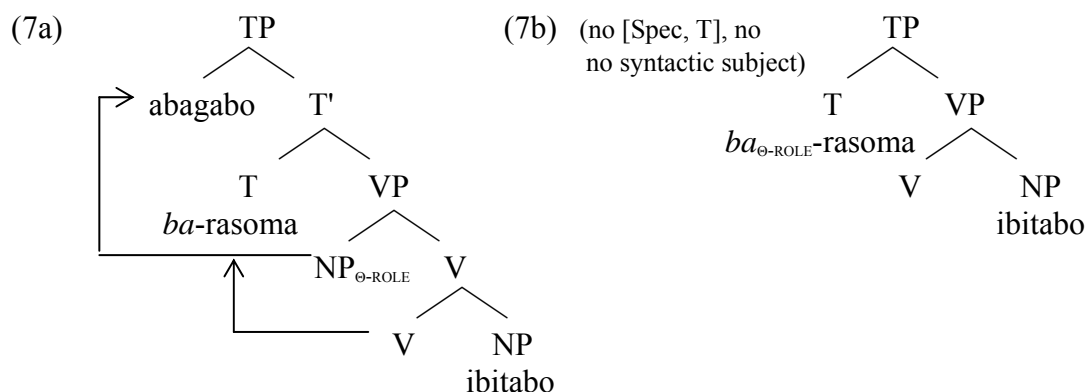   1stPL-TNS-see-NEUT-ASP
        'We are visible.'

It is undisputed that the origin of the SM in Bantu is pronominal. Givón (1976) argues that constructions such as (5a) are diachronically derived from topic-shifting constructions in which a fronted topic was anaphorically linked to a subject pronoun ("The men, they are reading the books."). When the fronted topic was reanalysed as a grammatical subject, the anaphoric pronoun was reanalysed as the SM. According to Givón (1976: 157), "[s]ubject agreement morphemes still retain their older function as

anaphoric pronouns" in null subject constructions such as (5b), which is why Bantu languages have the pro-drop property.

The idea that the pronominal function of the Sᴍ is related to its use as an agreement marker lies behind Bresnan & Mchombo's (1987) well-known Lexical-Functional Grammar (LFG)-analysis of Chichewa, which is one of the most influential studies of the role and function of subject and object markers in Bantu. According to Bresnan and Mchombo, the Sᴍ in Bantu is "functionally ambiguous": In constructions with preverbal subject NPs (such as (5a)), the Sᴍ acts as an agreement marker, but in constructions with no subjects (such as (5b) and (6a-b)), the Sᴍ is an "incorporated pronoun" (1987: 755).[4] Bresnan and Mchombo do not explicitly address the morphosyntactic representation of the Sᴍ, but their discussion implies that they regard pronominal Sᴍs as inflectional prefixes.[5] They state that "the […] pronominal interpretation of Sᴍ will arise when and only when there is no subject NP in the phrase structure" (1987: 745), which suggests that they take the syntactic subject position to remain unfilled when the Sᴍ acts as a pronoun. This position has also been adopted by Murphy (1997), who analyses the Bantu Sᴍ in the framework of Head-driven Phrase Structure (HPSG) grammar. Murphy treats the Bantu Sᴍ as an inflectional morpheme which optionally subcategorises for a subject belonging to the same noun class. According to Murphy (1997: 227), "in sentences with no subject …the sentence has no subject of any kind".

The idea that the Sᴍ in null subject constructions is a pronoun which combines with the verb in the morphological component is also advocated by Van der Spuy (2001) in his analysis of Zulu. Van der Spuy assumes that thematic roles can be assigned both in the syntax and in the morphology. While the Sᴍ acts as a grammatical agreement marker when the sentence includes a subject NP, Van der Spuy argues (2001: 262-3) that "if there is no overt subject, […] the [Sᴍ] is pronominal [and] the subject θ-role is assigned to the Sᴍ itself".

All these analyses share the view that the Sᴍ in Bantu is functionally ambiguous and acts either as a morphological pronoun or an agreement marker. I will henceforth refer to this view of the Sᴍ as *Alternative 1*. According to Alternative 1, the sentences in (5) are represented as in (7):[6]

(7a)

```
              TP
            /    \
    abagabo       T'
              /      \
            T          VP
       ba-rasoma    /    \
                NP_θ-ROLE   V
                         /    \
                        V      NP
                             ibitabo
```

(7b) (no [Spec, T], no syntactic subject)

```
              TP
            /    \
          T        VP
  ba_θ-ROLE-rasoma  /  \
                  V     NP
                      ibitabo
```

In both (7a) and (7b), the SM can be regarded as the morphological realisation of inflectional noun class (gender and number) features which are added to the verb in the morphology. In (7a), the subject θ-role is assigned to an NP inside VP, this NP then moves to [Spec, T], the canonical subject position, and consequently must agree with the features of the SM on the verb. However, when the subject θ-role of the verb is assigned to the SM itself, the SM receives a pronominal interpretation. Since the thematic subject is now part of the verbal morphology, null subject constructions such as (7b) do not include a syntactic subject, and no constituent moves to [Spec, T]. This latter aspect of Alternative 1 is important for the following discussion of passive constructions in Kinyarwanda.

Evidence against Alternative 1: Constraints on NP-movement

Consider the active-passive pair in (8):

(8a)   Umwáana a-ra-mén-a   idírishyá.
         child1   SM1-TNS-break-ASP window5
         'The child is breaking the window.'

(8b)   Idírishyá ri-ra-mén-w-a   n'úumwáana.
         window5 SM5-TNS-break-PASS-ASP by.child1
         'The window is being broken by the child.'

As was already noted in the introduction, I assume that the base position of subject NPs in Bantu is inside the VP and that the preverbal subject position in (8a) is filled via syntactic NP-movement of the subject NP *umwáana*, 'child'. According to the traditional generative analysis, the same holds for the derivation of the passive in (8b). In this case, however, the derived subject originates as the internal argument of the verb, the NP *idírishyá*, 'window'.

(9) presents the counterparts of the examples in (8) with pronominal subjects:

(9a)   A-ra-mén-a   idírishyá.
        SM1-TNS-break-ASP window5
        'He/she is breaking the window.'

(9b)   Ri-ra-mén-w-a   n'úumwáana.
        SM5-TNS-break-PASS-ASP by.child1
        ' It (the window) is being broken by the child.'

Recall that according to Alternative 1, the SMs in (9) are pronouns which are prefixed to the verb. While the pronominal SM in (9a) bears the external (agent) θ-role of the verb, the SM in the passive construction in (9b) has been assigned the internal (theme) θ-role in the morphology. As a consequence, neither of the sentences in (9) includes a syntactic subject NP which would have undergone movement from a VP-internal argument position to the subject position [Spec, T].

However, it can be shown that, contrary to what is assumed by Alternative 1, a passive construction in Kinyarwanda is derived via syntactic movement of a subject from a position inside the VP to [Spec, T], *even when the subject is pronominal*. In the remainder of this section I present data that provide evidence for this conclusion and thereby a strong argument against adopting Alternative 1 for Kinyarwanda.

The starting point of my argument is the contrast between the passivised locative constructions in (10b) and (10c):

(10a)   Umufuundi y-o-óme-tse-hó   urukutá amatáfaári.
        builder1   SM1-TNS-stick-ASP-LOC wall11   bricks6
        'The builder stuck bricks on the wall.'

(10b)   Urukutá rw-o-óme-ts-w-e-hó   amatáfaári n'úmufuundi.
        wall11   SM11-TNS-stick-ASP-PASS-ASP-LOC bricks6   by.builder1
        Lit.: 'The wall was stuck bricks on by the builder.'

(10c)   *Amatáfaári y-o-óme-ts-w-e-hó   urukutá n'úmufuundi.
        bricks6   SM6-TNS-stick-ASP-PASS-ASP-LOC wall11   by.builder1
        'The bricks were stuck on the wall by the builder.'

Double object locative constructions such as (10a) are sometimes referred to as "locative applicatives" (see e.g. Baker 1992; Nakamura 1997; McGinnis 2001; Zeller 2006). The indirect object, which immediately follows the verb, expresses the goal of the event, while the direct object refers to the theme.[7] Importantly, as illustrated by (10b) and (10c), only the indirect object, but not the theme, can undergo passivisation in Kinyarwanda locative applicatives (cf. Kimenyi 1980).[8]

The contrast between (10b) and (10c) follows straightforwardly if it is assumed that movement to [Spec, T] is constrained by syntactic locality principles (see e.g. Ura 1996; McGinnis 1998; Zeller 2006; Boeckx 2008). The *Minimal Link Condition* (MLC; Chomsky 1995) states that of two possible candidates for movement, only the one which is *closer* to the attracting head is allowed to move. Since "closeness" is defined in terms of c-command (Chomsky 2000), it follows that only movement of the indirect object NP to [Spec, T] is possible: Assuming that the locative NP (the indirect object *urukutá*, 'wall', in (10)) is located in a position inside the VP from where it asymmetrically c-commands the theme NP (the direct object *amatáfaári*, 'bricks'), the indirect object in (10c) counts as closer to the head T (which attracts an NP to its specifier) than the direct object and therefore blocks movement of the latter to [Spec, T]. This situation is illustrated by (11), which is the representation of double object locatives adopted from Zeller (2006) (the copies of elements left behind by movement are indicated by ~~strikethrough~~):[9]

(11)
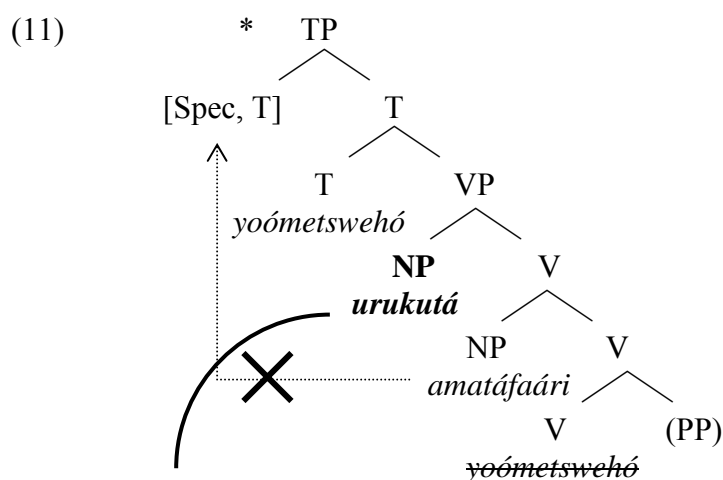
The fact that passivisation in Kinyarwanda double object locatives shows the sort of asymmetry predicted by the MLC already provides evidence that passivisation involves syntactic movement to the subject position. However, proponents of syntactic theories which do not assume movement transformations may object that a locality-based movement approach is not the only way in which asymmetries such as the one illustrated in (10) can be explained. Indeed, alternative analyses of similar contrasts have been put forward, even in the generative literature (see e.g. Baker 1988, 1992; Nakamura 1997). Therefore, in order to show convincingly that passivisation involves NP-movement,

additional evidence needs to be provided that demonstrates that the ungrammaticality of (10c) is really due to a violation of the MLC.

Zeller & Ngoboka (2006) and Zeller (2006) present this sort of evidence. We show that there are variants of the locative construction in Kinyarwanda in which the indirect object is *not* in a position where it intervenes between [Spec, T] and the direct object theme NP. Importantly, in these contexts, passivisation of the direct object *is* possible:

(12a)   Umufuundi y-o-óme-tse-hó   amatáfaári.
        builder1   SM1-TNS-stick-ASP-LOC bricks6
        'The builder stuck bricks there.'

(12b)   Amatáfaári y-o-óme-ts-w-e-hó   n'úmufuundi.
        bricks6   SM6-TNS-stick-ASP-PASS-ASP-LOC by.builder1
        'The bricks were stuck there by the builders.'

(13a)   Umufuundi y-a-*rw*-óme-tse-hó   amatáfaári.
        builder1   SM1-TNS-OM11-stick-ASP-LOC bricks6
        'The builder stuck bricks on it.'

(13b)   Amatáfaári y-a-*rw*-óme-ts-w-e-hó   n'úmufuundi.
        bricks6   SM6-TNS-OM11-stick-ASP-PASS-ASP-LOC by.builder1
        'The bricks were stuck on it by the builder.'

(14a)   urukutá [umufuundi y-o-óme-tse-hó   amatáfaári.]...
        wall11   builder1   SM1-TNS-stick-ASP-LOC brick6
        'the wall on which the builder stuck the bricks...'

(14b)   urukutá [amatafaári y-o-óme-ts-w-e-hó   n'úmufuundi]...
        wall   bricks6   SM6-TNS-stick-ASP-PASS-ASP-LOC by.builder1
        'the wall on which the bricks were stuck by the builder...'

(12) shows that it is possible in Kinyarwanda locatives to *omit* the indirect object. In this case, the locative enclitic *-hó* is interpreted as a prepositional proform. In (13), the indirect object is present, but crucially, it is not realised as a full NP but as an incorporated pronoun which forms part of the verbal complex (*-rw-*). Finally in (14), the indirect object has been relativised and therefore no longer appears as an NP inside the relative clause-VP. Crucially, as (12b-14b) show, theme passivisation is possible in all these contexts.

The contrast between (10c) and (12b-14b) confirms that the impossibility of making the theme the subject of a passive in (10c) is related to the *syntactic position* of the indirect object NP. Only when the indirect object is in its base position is passivisation of the theme blocked. Once the "obstacle" is removed through one of the options illustrated in (12)-(14), the theme can be raised to become the derived subject. This strongly

supports an analysis of passivisation in terms of NP-movement to the subject position, movement which may be blocked by an intervening NP in terms of the MLC.

Importantly, this conclusion provides a means to test the implication of Alternative 1 discussed above, namely that sentences with pronominal subjects do not include syntactic subjects. Since examples such as (10c), in which the theme has been passivised, were ruled out because movement of the theme to [Spec, T] is blocked by the intervening indirect object NP, Alternative 1 now predicts that examples such as (10c) become grammatical *when the theme is a pronominal subject*. In such constructions, the theme θ-role would not be assigned to a syntactic phrase, but to the SM, which combines with the verb in the morphological component. No movement across the indirect object would take place, and therefore, the MLC could not be violated. An example identical to (10c), but with a *pronominal* theme subject, should therefore be grammatical.

However, as (15) shows, in the context of an indirect object NP, theme passivisation is impossible even if the theme is pronominal:

(15)   *Y-o-óme-ts-w-e-hó   urukutá n'úmufuundi.
         SM6-TNS-stick-ASP-PASS-ASP-LOC wall11   by.builder1
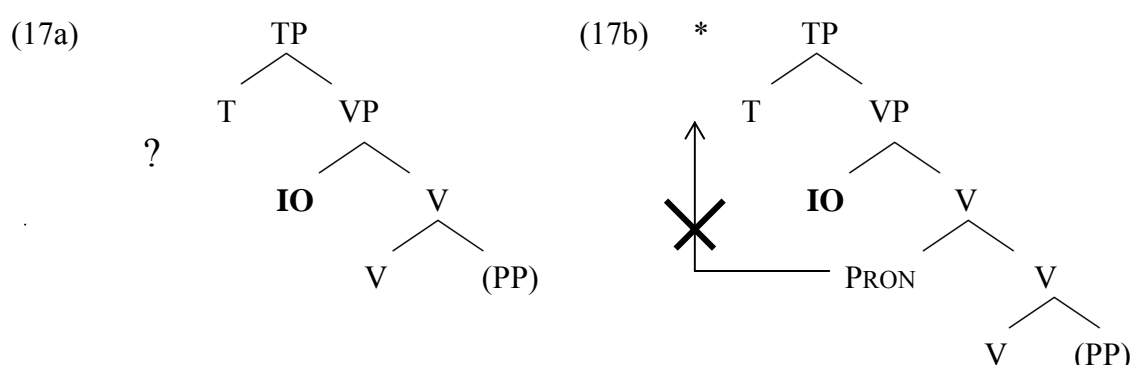   'They were stuck on the wall by the builder.'

(15) shows that passivisation of a pronominal theme produces an ungrammatical result if the indirect object is realised as an NP inside the VP, just as was the case in (10c). In contrast, the pronominal theme *can* be passivised when the indirect object is omitted, relativised, or realised as an object marker. (16a-c) are similar to (12b-14b) above, which illustrated the same effect with passives including a full subject NP:

(16a)   Y-o-óme-ts-w-e-hó   n'úmufuundi.   (cf. (12b))
         SM6-TNS-stick-ASP-PASS-ASP-LOC by.builder1
         'They were stuck there by the builders.'

(16b)   Y-a-*rw*-óme-ts-w-e-hó   n'úmufuundi.   (cf. (13b))
         SM6-TNS-OM11-stick-ASP-PASS-ASP-LOC by.builder1
         'They were stuck on it by the builder.'

(16c)   urukutá [y-o-óme-ts-w-e-hó   n'úmufuundi]...   (cf. (14b))
         wall11   SM6-TNS-stick-ASP-PASS-ASP-LOC by.builder1
         'the wall on which they were stuck by the builders...'

The examples in (16) confirm that the impossibility of pronominal theme passivisation in (15) is really the result of the blocking effect created by an intervening indirect object NP. However, Alternative 1 does not predict the occurrence of this blocking effect, since according to Alternative 1, the sentences in (15) and (16) do not include a syntactic

subject which has undergone movement. The syntax of a construction such as (15) would look like (17a) below, but this representation does not account for the ungrammaticality of (15). The contrast between (15) and (16a-c) remains entirely unexplained.

In contrast, the ungrammaticality of (15) is correctly predicted by an analysis according to which examples with pronominal subjects do include a syntactically represented element that receives its θ-role inside the VP and which moves to [Spec, T] (in (17b), I have given this element the theory-neutral label PRON). In such an analysis, the ungrammaticality of (15) is explained on a par with the ungrammaticality of (10c): The pronoun has illicitly crossed the indirect object, (17b):

(17a)

```
              TP
            /    \
          T        VP
      ?           /   \
    .           IO      V
                      /   \
                     V    (PP)
```

(17b)   *

```
               TP
             /    \
           T        VP
        ↑          /   \
     ✗           IO      V
        └── PRON      /   \
                     V    (PP)
```

In order to maintain that Alternative 1 is a feasible analysis of the SM in Kinyarwanda, its proponents would have to provide an alternative analysis of the passivisation data in (15) and (16) which obviously could not be based on the MLC. This analysis would have to explain why the possibility of assigning the theme θ-role to an SM in the morphology depends not only on whether a second internal θ-role is assigned, but also on *how* the respective argument is realised syntactically (i.e. as an indirect object NP, or as an object marker etc.). I doubt that such an analysis can be developed easily. It is clear that the possibility of having a pronominal theme argument as the derived subject of a passive depends on whether or not another argument is syntactically realised as an NP. In my opinion, this fact strongly suggests that the pronominal theme is itself realised syntactically. Therefore I conclude that Alternative 1 cannot be adopted for Kinyarwanda.

The subject marker as a syntactic pronoun

An alternative analysis of null subject constructions in Kinyarwanda, to which I henceforth refer as *Alternative 2*, is similar to Alternative 1 in that it assumes that the SM

itself may act as a pronoun and receive the subject θ-role. However, in contrast to Alternative 1, Alternative 2 regards the SM in null subject constructions as a pronoun which is represented *as an NP in the syntax*. According to this view, the pronominal subject in Kinyarwanda null subject constructions is a syntactically independent element which undergoes syntactic movement (and is therefore subject to movement constraints such as the MLC).

The view that a pronominal SM is assigned the subject θ-role in the syntax is explicitly adopted in Young's (2005) analysis of comitative constructions in Lubukusu (see also Keach (1995) for Swahili). Young represents noun phrases as determiner phrases (DPs), i.e. projections of determiners or pronouns (Abney 1987), and he explicitly argues (2005: 23-4) that the SM is a DP which receives its θ-role in [Spec, V]. The SM then undergoes DP-movement from its θ-position to the subject position [Spec, T], as shown in (18a). From [Spec, T], the SM incorporates into the verb, which has moved to T, (18b):[10]
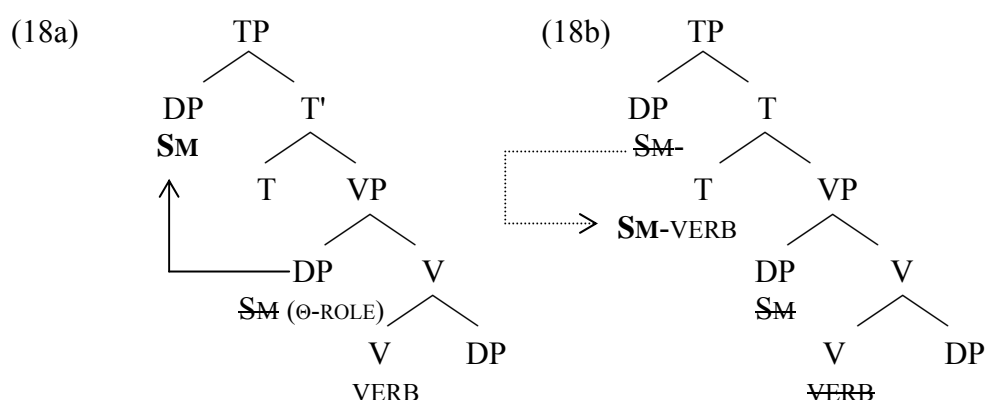
In the following subsections I discuss the structural implications of Alternative 2. Since Young's (2005) account is the most explicit implementation of Alternative 2 that I am aware of, I adopt his particular approach (including the representation of noun phrases as DPs) in my discussion.

Preverbal subjects and the subject marker

The obvious question that arises from (18) is how Alternative 2 treats constructions such as (19a), which include a full subject DP in preverbal position:

(19a) Abáana ba-shaats-e   ibiryó.
       child2   SM2-want-ASP food8
       'The children want food.'

(19b)   Ba-shaats-e   ibiryó.
        SM2-want-ASP food8
        'They want food.'

I have assumed so far that preverbal subject DPs such as *abáana*, 'children', in (19a) are located in [Spec, T]. However, according to Alternative 2, this is also the position occupied by the (copy of) the pronominal SM in null subject constructions such as (19b). What, then, is the status of the SM which appears on the verb in the sentence in (19a), and what is its relation to the preverbal subject DP? Below I discuss three possible answers to this question that can be provided from the perspective of Alternative 2.

(i)   The SM as an ambiguous element

One possibility of explaining why a "syntactic" SM can appear together with a full subject DP in sentences such as (19a) would be to assume that the SM is represented as a DP *only* in null subject constructions, and that it otherwise functions as an agreement marker. According to this view, only the SM *ba-* in (19b) would be represented as in (18b), while *ba-* in (19a) would be an agreement morpheme attached to the verb. In other words, SMs would be treated as ambiguous, and Alternative 2 would be similar to Alternative 1 in this respect, which holds that SMs can function as both inflectional agreement markers and *morphological* pronouns.

It turns out, however, that the idea of a functionally ambiguous SM is difficult to implement within the framework of Alternative 2, in which the SM is analysed as a *syntactic* pronoun. In Alternative 2, the ambiguity of the SM would not merely be functional, but also structural. As a syntactic pronoun, the SM is a DP which is merged in [Spec, V] and moves to [Spec, T]. In contrast, as an agreement marker, the SM would have to be analysed as an affix which forms part of the verb in T. If the SM is ambiguous, then this means that SMs which appear in constructions with full preverbal subjects such as (19a) and SMs which act as pronouns in null subject constructions such as (19b) would be fundamentally different elements. Alternative 2 would then entail that there are essentially two sets of SMs in the Kinyarwanda lexicon; one which includes the agreement markers of each noun class, and one which includes the pronouns. As far as I can see, there is no empirical evidence that would support such a result; the duplication of the inventory of SMs in Kinyarwanda therefore has to be considered an unwelcome conceptual consequence of the idea that SMs are both agreement markers and pronouns.

Moreover, this situation leads to the following empirical problem (cf. Letsholo 2004, who raises a similar point). Consider (19a) first. The subject DP *abáana*, 'children', is the syntactic subject in [Spec, T] and triggers agreement with the verb. This agreement is reflected morphologically by the affixal SM *ba-* on the verb. Now, according to Alternative 2, the SM *ba-* in (19b) is a syntactic pronoun, which has the same syntactic status as the subject DP in (19a) – it also moves from [Spec, V] to [Spec, T], as shown in (18b). But (19a) shows that a DP in [Spec, T] triggers agreement with the verb. Therefore, we would now predict the same to happen in (19b), when the pronominal DP is in [Spec, T]. We expect *two* SMs to appear in (19b), one functioning as the pronoun and the other one as an inflectional affix expressing agreement with the pronoun. However, (20) shows that it is impossible to attach two SMs to the same verb in Kinyarwanda:

(20)   *Ba-ba-shaats-e   ibiryó.
        SM2-SM2-want-ASP food8
        'They want food.'

Note that (20) cannot simply be ruled out by some sort of haplology filter, which would block the occurrence of two identical markers in adjacent positions. If such a filter was operative in Kinyarwanda, then we would not expect to find examples such as the following:

(21a)   Ba-ra-bá-ba-bá-he-ér-a.
         SM2-TNS-OM2-OM2-OM2-give-APPL-ASP
         'They are giving them to them for them.'

(21b)   Tw-aa-mu-mu-mu-uz-an-i-ye.
         SM1stPL-TNS-OM1-OM1-OM1-come-ASS-APPL-FV
         'We brought him to him for him.'   (Kimenyi 1980: 199-200)

(22a)   Ababyéeyi ba-bon-a   abáana buri múunsi.
         parents2   SM2-see-ASP children2 every day3
         'Parents see children every day.'

(22b)   Ababyéeyi ba-ba-bon-a   buri múunsi.
         parents2   SM2-OM2-see-ASP every day3
   'Parents see them every day.'

The examples in (21) show that Kinyarwanda allows for three object markers belonging to the same noun class to appear next to each other; (22b) is an example of an SM and a phonetically identical object marker appearing in adjacent positions. But if an SM can be followed by an object marker of the same phonetic shape, the idea that the SM is

ambiguous fails to explain why a pronominal SM cannot co-occur with an identical subject agreement marker.

In light of the problematic status of the hypothesis that the SM in Kinyarwanda is functionally and structurally ambiguous, it is worth exploring alternative analyses of the structure of SVO-sentences in Kinyarwanda that are compatible with Alternative 2.

(ii)   The SM as the head of the subject DP

An alternative possibility of explaining the co-occurrence of the SM and a full subject DP in sentences such as (19a) would be to treat the SM and the subject DP as one constituent. According to this proposal, the subject and the SM form a so-called "big" DP (cf. Cecchetto 1999; Boeckx 2003; Zeller (to appear)) whose head is the SM; the SM takes the subject DP as its complement. Like any other subject DP, the "big" DP originates in [Spec, V], where it is assigned the subject θ-role, cf. (23a). When the "big" DP moves to [Spec, T], its head (the SM) incorporates into T, as illustrated in (23b). This derivation leaves the subject (= the remnant "big" DP minus the SM) in [Spec, T]:
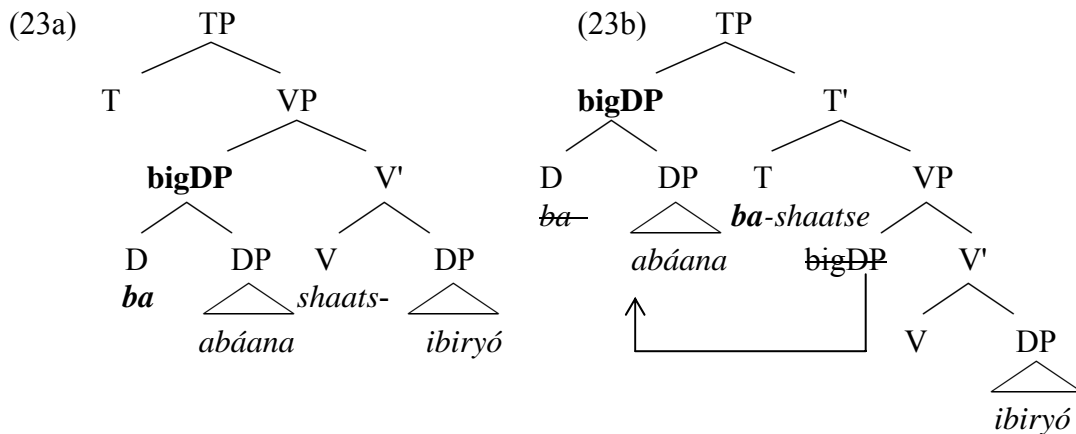
According to the proposal sketched in (23), the SM in Kinyarwanda can always be represented as the head of the subject DP which incorporates into T. If the SM selects a DP-complement, it co-occurs with a preverbal full subject DP in an SVO-construction; if the SM does not select a complement, it is interpreted as a pronoun in a null subject construction (cf. (18b)). The difference between sentences with pronominal subjects and sentences with full subject DPs would therefore simply be a consequence of different internal structures of the "big" DP.

One question that immediately arises from the "big" DP-analysis is why the Sᴍ only appears with fronted subjects. As was shown in (3) in the introduction, postverbal subjects do not trigger the occurrence of an agreeing Sᴍ:

(24) Ha-ra-som-a   umwáana.
      Eхᴘʟ16-Tɴs-read-Asᴘ child1
      'It's the child who is reading.'   (Kimenyi 1980: 206)

A possible answer to this question could be sought in the different interpretations of preverbal (VP-external) and postverbal (VP-internal) subject DPs. As is well-known, preverbal subjects in many Bantu languages are incompatible with a focus interpretation; only postverbal subjects can be in focus (see e.g. Givón 1976; Demuth & Mmusi 1997; Buell 2005; Morimoto 2006; Zerbian 2006; Marten 2007; Cheng & Downing 2007). For example, Kimenyi (1980) notes that in Kinyarwanda, focus markers cannot have scope over preverbal subjects, (25a). In order to focus the logical subject, it has to appear within the VP, (25b), or it must be clefted, (25c):
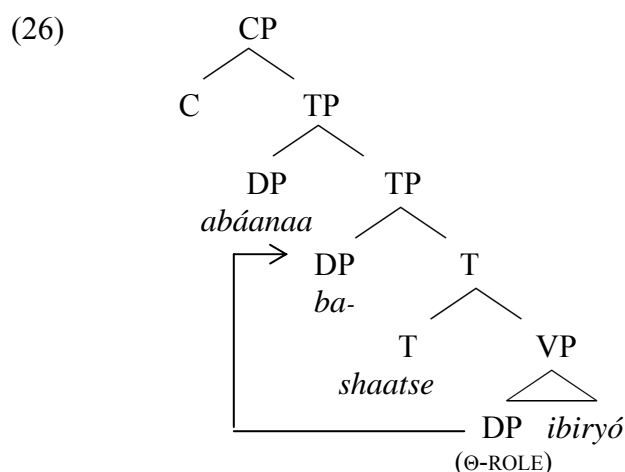
(25a)   *Abáana bóonyiné b-a-gii-ye.
           child2 alone   Sᴍ2-Tɴs-go-Asᴘ
           'Only the children left.'

(25b)   H-a-gii-ye   abáana bóonyiné.
           Eхᴘʟ16-Tɴs-go-Asᴘ child2   alone
           'Only the children left.'

(25c)   Abáana ni bó   bóonyiné b-a-gií-ye.
           child2   be Pʀoɴ only   Sᴍ2Rᴇʟ-Psᴛ-go-Asᴘ
           'The children are the only ones that left.'   (Kimenyi 1980: 51)

These data suggest that the construal of a "big" DP headed by the Sᴍ might be linked to the non-focus interpretation associated with preverbal subjects. This idea is currently explored in Zeller (to appear), who suggests that the Sᴍ marks the "big" DP as [– Focus]. Since the VP is the domain of focus (see e.g. Diesing 1992), a [– Focus] (and therefore "big") DP is not licensed inside the VP and must move out of it. This idea explains why Sᴍs occur only with VP-external subjects; if it is adopted, then the "big" DP-analysis represents a possible solution to the problem raised for Alternative 2 by the co-occurrence of the Sᴍ and a full subject DP.

(iii) Subject DPs as dislocated adjuncts

Another approach compatible with the co-occurrence of a full subject DP and a syntactic Sᴍ would be one based on the proposal made by Baker (2003) concerning the syntactic

status of preverbal subject DPs in Bantu languages. Baker suggests that preverbal "subject" DPs in the Bantu language Kinande are not really subjects in the structural sense. According to Baker, these "subject" DPs are not located in [Spec, T] but are instead adjoined to TP or a higher constituent. The true subject argument of the verb is always realised by a pronoun which receives its θ-role in [Spec, V] and moves to [Spec, T].[11] If one adopts Baker's proposal and combines it with the syntactic premises of Alternative 2, the syntax of sentence (19a) can be represented as in (26):

(26)

```
                  CP
                 /  \
                C    TP
                    /  \
                  DP    TP
               abáanaa  /  \
                 ┌──→ DP     T
                 |   ba-    /  \
                 |       T     VP
                 |    shaatse  /\
                 |          DP  ibiryó
                 └───────────────
                         (Θ-ROLE)
```

(26) shows that with respect to thematic structure and movement operations, the syntax of the two sentences in (19) is identical. As in (19b), the Sᴍ in (19a) is the pronominal subject argument of the verb. It receives its θ-role within the VP and subsequently moves to [Spec, T], from where it incorporates into the verb in T. The only difference is that the preverbal "subject" DP that appears in (19a) is added to the structure as a TP-adjunct. From this position, the dislocated "subject" binds the Sᴍ and can therefore be linked to the subject θ-role.[12]

According to a Baker-style analysis of preverbal subjects in Kinyarwanda, the "subject" DP of a normal SVO-sentence has the same syntactic status as an object topic DP in a clitic left dislocation construction - both are TP-adjuncts. Importantly, this means that we now expect to find constructions with SOV-word order in Kinyarwanda: Since Kinyarwanda sentences may include multiple topics (see Kimenyi 1980: 226ff.), it should be possible to adjoin the subject topic to a position on top of a left-dislocated object DP. As (27) shows, this prediction is borne out; the SOV word order can indeed be derived in Kinyarwanda:[13]

(27)   Abáana, umugoré, b-a-mu-bóon-ye.
        children2 woman1 SM2-TNS-OM1-see-ASP
        'The children, the woman, they see her.'

Further support for an analysis along the lines of (26) is provided by the interpretation of preverbal subjects in Kinyarwanda. Alexiadou & Anagnostopoulou (1998) and Baker (1996, 2003) point out (following Cinque 1990) that dislocated phrases are necessarily definite or specific and that nonreferential, nonspecific phrases can therefore not be dislocated. If preverbal subjects in Kinyarwanda are indeed dislocated, then nonreferential wh-phrases should never occur in the preverbal position in Kinyarwanda. Indeed, it is a well-known fact that preverbal wh-subjects are impossible in most Bantu languages; Kinyarwanda is no exception (see e.g. Kimenyi (1980) and Maxwell (1981) for Kinyarwanda; Demuth & Johnson (1989) for Setawana; Baker (2003) for Kinande; Muriungi (2005) for Kitharaka; Sabel & Zeller (2006) for Zulu; Zerbian (2006) for Northern Sotho):[14]

(28a)   *Ndé y-a-kó-ze?
         who SM1-TNS-work-ASP
         'Who worked?'
(28b)   *Ndé y-a-gú-ze   ibitabo?
         who1 SM1-TNS-buy-ASP book8
         'Who bought books?'

To sum up this subsection: it is possible to explain the co-occurrence of a full subject DP and the SM without having to give up the idea that the SM is a syntactic pronoun, by assuming either that the subject DP and the SM form one constituent (a "big" DP), or that subject DPs are dislocated adjuncts. Interestingly, both the "big" DP-analysis and the dislocated adjunct-version of Alternative 2 imply that there are no real subject agreement markers in Kinyarwanda: What has traditionally been analysed as an inflectional morpheme expressing grammatical agreement with the subject is in fact a pronominal-/determiner-like element which incorporates from [Spec, T] into the verb in T.[15]

    In the next subsection, I discuss some problematic aspects of Alternative 2.
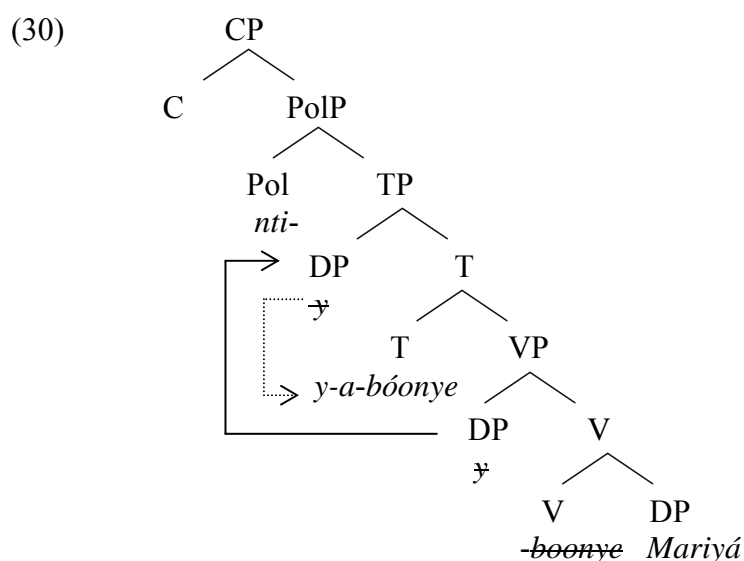
Potential problems

(i)   Negation

As (29) shows, the negative prefix *nti-* is attached to the inflected verb and *precedes* the SM in Kinyarwanda:

(29a) *Nti-y*-a-bóon-ye   Mariyá.
       NEG-SM1-TNS-see-ASP Mary1
       'He didn't see Mary.'

(29b) **Y-nti*-a-bóon-ye   Mariyá.
       SM1-NEG-TNS-see-ASP Mary1

According to Alternative 2, the SM *y-* in (29a) is a syntactic pronoun which combines with the verb via incorporation (see (18b) above). If the negative marker in Kinyarwanda was treated as a morphological prefix, which is already part of the verb when the verb moves to T, Alternative 2 would incorrectly predict the morpheme order in (29b).

The problem raised by the order NEG > SM in (29a) can, however, be solved if it is assumed that negation is also represented syntactically, as the head of a functional projection higher than TP. Baker (2003) proposes that in Kinande, a respective functional category Focus/Polarity is located between TP and C. If this proposal is adopted for Kinyarwanda, the fact that the negative marker precedes the SM in (29b) follows from the hierarchical position of the syntactic constituents which host these markers (cf. Baker's (1988) *Mirror Principle*). The syntax of (29a) is shown in (30):

(30)

```
                    CP
                   /  \
                  C    PolP
                      /    \
                   Pol      TP
                   nti-    /   \
                   →   DP      T
                       y̶     /   \
                         ┊  T     VP
                         ┊ y-a-bóonye /  \
                         └→        DP    V
                                   y̶   /   \
                                      V     DP
                                   -boonye  Mariyá
```

In (30), the SM has moved to [Spec, T] and has subsequently incorporated into the verb in T. The verb then moves further to Pol, where it combines with the negative prefix.

Interestingly, the fact that Alternative 2 implies that negation is represented syntactically, as in (30), provides support for the idea (discussed above) that full "subject" DPs are dislocated adjuncts. As (31) shows, a preverbal subject DP precedes the negated verb in Kinyarwanda:

19

(31)   Umugoré *nti-y*-a-bóon-ye   Mariyá.
        woman1   NEG-SM1-TNS-see-ASP Mary1
        'The woman didn't see Mary.'

As can easily be verified, the structural representation of negation in (30) is incompatible with the idea that a preverbal subject such as DP *umugoré*, 'woman', in (31) is located in [Spec, T]. When the verb in (30) moves to Pol to pick up negation, it ends up in a position higher than [Spec, T] and would therefore precede any material located in this position. The only way in which the word order in (31) can be accommodated by the structure in (30) is by assuming that the subject DP is adjoined to a higher position in the tree. For example, if the DP *umugoré* is adjoined to PolP, then the order DP > NEG > SM in (31) follows directly.[16]

(ii)   Multiple SMs

Corbett (2006) offers a discussion of various criteria for deciding whether to treat a particular marker as a pronominal affix or as an agreement marker. According to Corbett, one of the strongest arguments against a pronominal analysis is provided by contexts in which more than one instance of the marker in question occurs within the same clause. Since "we do not expect a pronoun to be repeated" (Corbett 2006: 109), the possibility of multiple occurrences of the relevant element suggests that it is an agreement marker.

    In light of this, the fact that the so-called compound tenses (also labelled serial verb constructions) in Kinyarwanda and other Bantu languages exhibit the occurrence of *multiple* SMs (cf. e.g. Kinyalolo 1991 for KiLega; Kimenyi (undated) for Kinyarwanda; Carstens 2001 and Henderson 2006 for Swahili; Thwala 2006 for Swati) poses a problem for Alternative 2:

(32) *Mu*-siga-ye   *mú*-geend-a   *mú*-heera-ko   *mú*-du-subiz-a.
     SM2ndPL-stay-ASP SM2ndPL-walk-ASP SM2ndPL-start-from SM-OM1stPL-answer-ASP
     'Now you respond to us immediately.'

(33) *Ba*a-ri   *bá*-tuu-ye   *bá*-saanz-w-e   *bá*-jy-a   *bá*-kuund-a
     SM2-AUX   SM2-dwell-ASP SM2-join-PASS-ASP SM2-go-ASP SM2-like-ASP

     gu-pf-a   ku-dú-hamagar-a.
     INF-die-ASP to-OM1stPL-call-ASP
     'They usually at least called us.'   (Kinyarwanda, Kimenyi (undated))

On the basis of parallel data from Swati, Thwala (2006) argues that the SM in Swati cannot be analysed as a pronoun, but must be an agreement marker. Comparable

examples are also mentioned in Baker (2003, note 12); they provide at least one of the reasons why Baker does not treat the Sᴍ in Kinande as a pronoun and instead adopts the *pro*-theory (see below) for his treatment of pronominal subjects in Kinande.

There is a possible solution to the problem raised by the data in (32) and (33). It relies on the idea that a subject DP moves from its base position in [Spec, V] to the canonical subject position [Spec, T], leaving behind an unpronounced copy. With respect to the syntax of Bantu compound tenses, it has been suggested that each auxiliary or modal verb form is represented as the head of a separate functional category between CP and VP, and that the subject DP moves successive-cyclically through the various specifier positions of these projections to its final landing site [Spec, T] (Kinyalolo 1991; Carstens 2001). Given this analysis, a sentence such as (33), in which a pronominal subject is represented by multiple Sᴍs, could be derived as follows. The Sᴍ *ba-* is a DP merged in [Spec, V] where it receives the subject θ-role. From here, the DP moves through the various specifier positions of intervening functional projections all the way up to [Spec, T]. This means that for each verb form in (33) there is a *syntactic* copy of the Sᴍ located in the respective specifier. The data in (33) can now be explained if it is assumed that each of these pronominal copies is actually pronounced at PF, and merges with the adjacent verb form in the phonological component.

The obvious question raised by this analysis is *why* multiple copies of the Sᴍ have to be spelled-out. Principles of computational efficiency normally allow only the highest copy of a moved element to be pronounced. However, as noted by Chomsky (2005), interface conditions may sometimes require lower copies to be spelled-out. A possible reason for the spell-out of multiple Sᴍs in (32) and (33) could be that the auxiliary verb stems are bound morphemes and must be provided with a prefix for purely morphophonological reasons. On this view, the copies of the pronominal Sᴍs in (32) and (33) would arguably play the same role as the expletive marker *ha-* in impersonal constructions such as (34):

(34a) Ha-ra-shyúushy-e.
EXPL16-Tɴs-be.warm-Aꜱᴘ
'It's warm.'

(34b) Ha-ra-som-a   umwáana.
EXPL16-Tɴs-read-Aꜱᴘ child1
'It's the child who is reading.'   (Kimenyi 1980: 206)

I speculate that the principle which requires the presence of *ha-* in (34) also requires the spell-out of the pronominal copies in (32) and (33). A copy-spell-out approach along these lines therefore provides a possible solution to the problem raised by the compound tenses in Kinyarwanda.

(iii)   Relative clauses

Another problem for Alternative 2 is raised by constructions in which the subject has been extracted. Compare the two relative clauses in (35) and (36) (cf. Kimenyi 1980: 62):

(35a)   N-a-boon-ye   umukoôbwa umuhuûngu y-a-haá-ye   igitabo.
       1stSG-TNS-see-ASP girl1   boy1   SM1-TNS/REL-give-ASP book7
       'I saw the girl to whom the boy gave a book.'

(35b)   *N-a-boon-ye   umukoôbwa umuhuûngu y-a-*mu*-haá-ye   igitabo.
       1stSG-TNS-see-ASP girl1   boy1   SM1-TNS/REL-OM1-give-ASP book7

(36a)   N-da-bón-a   abagabo b-a-gáruts-e.
       1stSG-TNS-see-ASP man2   SM2-TNS/REL-come.back-ASP
       'I see the men who came back.'

(36b)   *N-da-bón-a   abagabo a-gáruts-e.
       1stSG-TNS-see-ASP man2   TNS/REL-come.back-ASP

(35a) is an object relative clause. As (35b) shows, the relative operator corresponding to the object cannot be resumed by an object pronoun (in italics). However, the opposite behaviour is found in subject relative clauses. (36b) shows that the SM cannot be omitted in subject relatives. If the SM is analysed as a subject pronoun, then the data in (35) and (36) represent an asymmetry between object and subject relative clauses that needs to be explained by proponents of Alternative 2.

   I can think of two possible explanations for (36a) which are compatible with Alternative 2. The first is based on the fact that the type of asymmetry exhibited in (35) and (36) is actually not at all unusual. It is well-known that in many languages subject extraction, but not object extraction, requires the use of a resumptive pronoun in subject position. For example, Yoruba requires resumptive pronouns only in subject wh-questions, (37c) (cf. Carstens 1985):

(37a)   Ajike ń   ta isu   ninu oja
       Ajike ASP sell yams in   market
       'Ajike is selling yams in the market'

(37b)   *ki*   ni Ajike ń   ta ninu oja?
       what FOC Ajike ASP sell in   market
       'What is Ajike selling in the market?'

(37c) *ta* ni *(ó) ń ta isu?
      who FOC 3rdSG ASP sell yams
      'Who is selling yams in the market?'   (Carstens 1985: 39)

It is possible that the principle which causes the obligatory occurrence of the subject pronoun in (37c) is also operative in Kinyarwanda and requires the presence of a resumptive pronoun in subject relatives. According to Alternative 2, this resumptive pronoun is the SM *b(a)-* in (36a).

An alternative explanation of the contrast between (35) and (36) could make use of a recent proposal made in Schneider-Zioga (2007) for Kinande. Schneider-Zioga argues that the SMs in relative clauses in Kinande are *anti-agreement* markers and therefore different in nature from the SMs that occur in regular sentences. In this respect, it should be observed that the form of the SM of noun class 1 used in Kinyarwanda subject relatives is indeed different from the SM of noun class 1 used in regular clauses (compare *a-* in (38a) and *u-* in (38b)):

(38a)   Umugabo *a*-gii-ye   ku kazi.
          man1   SM1-go-ASP to work
          'The man is going to work.'

(38b)   N-da-bón-a   umugabo *u*-gíi-ye   ku kazi.
          1stSG-TNS-see-ASP man1   SM1REL-go-ASP to work
          'I see the man who is going to work.'

If Schneider-Zioga's proposal is adopted, then the SMs that appear in Kinyarwanda subject relatives would not have to be treated as subject pronouns, but as morphological "anti-agreement" reflexes of an extracted subject relative operator.

To sum up: Alternative 2, the idea that the SM is the head of a syntactic DP (a pronoun or a determiner), can be adopted for Kinyarwanda, but it has a number of important consequences. First, Alternative 2 needs to be augmented with an analysis of sentences in which the SM co-occurs with a full subject DP. Second, Alternative 2 implies that negation in Kinyarwanda is also expressed syntactically, as the head of a functional projection higher than T. Finally, advocates of Alternative 2 have to find solutions to the problems raised by the occurrence of (multiple) SMs in compound tenses and subject relative clauses. Given these consequences, it is evident that a representation of Kinyarwanda sentence structure based on Alternative 2 is not quite as straightforward as the simple idea of treating the SM as a syntactic pronoun may initially suggest.

The *pro*-analysis

In my discussion of Alternative 1 I provided evidence that null subject constructions in Kinyarwanda include a *syntactic* element which functions as the subject pronoun. In the preceding section I examined the implications of an analysis that assumes that this pronoun is the S𝑀 (Alternative 2). In this section I now turn to another analysis that is compatible with the conclusion reached above, viz. the theory of (small) *pro* (cf. Chomsky 1982; Rizzi 1986). According to the *pro*-analysis, the subject θ-role in a null subject construction is assigned to *pro*, a pronominal DP with no phonetic content. Like any other subject DP, *pro* receives its subject θ-role inside VP and subsequently moves to [Spec, T]:

(39)

```
        TP
       /  \
    pro    T'
     ↑    /  \
     |   T    VP
     |       /  \
     |___ pro    V
                / \
               V   DP
```
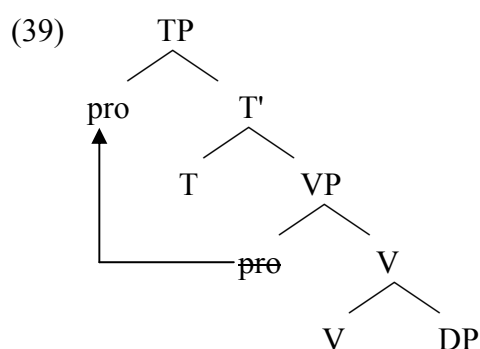
The *pro*-analysis of pronominal subjects is adopted in most generative (Chomskyan) theories of Bantu syntax (see recently Baker 2003; Letsholo 2004; Buell 2005; Carstens 2005; Thwala 2006; Henderson 2007; Schneider-Zioga 2007). I henceforth refer to this approach as *Alternative 3*. According to Alternative 3, the S𝑀 in null subject constructions in Bantu languages is an inflectional affix that expresses agreement between the verb in T and the *pro*-subject in [Spec, T]; it can therefore be treated on a par with the S𝑀 in constructions with full subject DPs, which is also regarded as a simple agreement marker.

I have not been able to identify any empirical problems that would arise from adopting Alternative 3 for Kinyarwanda. Since Alternative 3 postulates the existence of a (zero) syntactic pronoun in null subject constructions, the ban on passivisation of pronominal direct objects in double object locatives discussed above can be explained in terms of locality constraints on NP/DP-movement. According to Alternative 3, the theme θ-role in the example in (15) (repeated here as (40)) is assigned to the pronominal DP *pro*. (40) is ungrammatical because *pro* has moved to [Spec, T] across the intervening indirect object DP *urukutá*, 'wall', violating the MLC:

(40)   *Y-o-óme-ts-w-e-hó   urukutá n'úmufuundi.
         SM6-TNS-stick-ASP-PASS-ASP-LOC wall11   by.builder1
         'They were stuck on the wall by the builder.'

(41)   *[*pro* [y-o-óme-ts-w-e-hó [urukutá [~~*pro*~~   (…)

Since there are no empirical arguments that militate against the *pro*-analysis, one might be tempted to regard Alternative 3 as superior to Alternative 2. On the one hand, both alternatives are compatible with the data discussed so far, but, as was discussed earlier, Alternative 2 faces some non-trivial problems that arise from the claim that the SM in Kinyarwanda is analysed as a pronoun. In contrast, Alternative 3 treats the SM as an agreement marker, and is therefore not affected by any of these problems. On the other hand, however, Alternative 3 is based on a theory which postulates a phonetically unrealised pronominal element, an abstract, "invisible" entity, for which there is no need in Alternative 2. Occham's razor therefore cuts both ways: While Alternative 2 may require more additional assumptions to deal with certain implications of the analysis, the success of Alternative 3 depends on the stipulation that the Kinyarwanda lexicon includes a zero pronoun. The existence of zero elements is difficult to prove; moreover, it is hard to think of empirical evidence that would show that they do *not* exist, which makes the claim that they do exist non-testable. From an epistemological point of view, this could be interpreted as an argument against Alternative 3.

Moreover, Murphy (1997) and Van der Spuy (2001) show that adopting the *pro*-analysis for null subject constructions in the Bantu languages leads to other conceptual problems. According to Alternative 3, the SM in null subject constructions agrees with a *pro*-subject. Since there are different SMs for different noun classes, an analysis which treats the Bantu SM as an agreement marker must postulate a different *pro*-subject for each and every noun class. Kinyarwanda has at least one SM for each of its 16 noun classes, plus four personal pronouns (1st and 2nd person singular and plural). Alternative 3 therefore implies that the lexicon of Kinyarwanda includes at least 20 grammatically distinct *pro*-arguments, all of them phonetically zero.

Notice, however, that Murphy's and Van der Spuy's criticism is based on a particular view of how the agreement relation between a subject and the inflected verb (or rather, the SM in T) is established. According to this view, it is the subject's inherent noun class features which specify, or *value*, the noun class features of T, which are subsequently

pronounced as the corresponding SM on the verb. Since there are 20 different SMs, this variation can only be explained if there are also at least 20 different *pro*-subjects. There is, however, another way of thinking about agreement between a *pro*-subject and the SM in T. Instead of assuming that *pro* belongs to a particular noun class and determines the occurrence of the corresponding SM, one could argue that it is instead the SM which values the relevant noun class features of an underspecified *pro*. In fact, this is exactly the way the theory of *pro* was first conceptualised in the Government-Binding (GB) theory. According to Chomsky (1982) and Rizzi (1982, 1986), the grammatical features of *pro* are inherently unvalued; the content of *pro* is identified or "recovered" by the rich agreement features of a local inflectional head. In other words, it is not the verb which agrees with *pro*; rather, the underspecified *pro*-subject agrees with the grammatical features of the inflected verb. According to this view, the lexicon of a Bantu language like Kinyarwanda would include only one single *pro*-element with unvalued noun class features, and it is the specific SM chosen from the lexicon which ultimately determines the noun class feature content of *pro* under agreement.

Such a GB-style implementation of Alternative 3 would solve the problem raised by Murphy (1997) and Van der Spuy (2001), but it is faced with a problem of a different sort. As discussed in Holmberg (2005), the assumption that the feature content of *pro* is identified by the grammatical features of T contradicts the current view held in the MP that only *interpretable* features have the capacity to value the (uninterpretable) features of another element under agreement (cf. Chomsky 2000 and subsequent work). For example, in the MP, the uninterpretable case feature of a DP is valued by the interpretable tense-feature of T, while the uninterpretable person and number features of T are valued by the interpretable person and number features of the DP. But if the noun class features of T are uninterpretable, they cannot value the features of *pro*; rather, it must be *pro* (which bears a θ-role and therefore must be interpretable) which values the features of T. This, however, brings back the conceptual problem noted by Murphy and Van der Spuy.

The problem raised by the Minimalist view that only interpretable features can value uninterpretable features may strike the reader as a peripheral issue, since it arises only from a specific assumption internal to the MP. However, the MP is the framework adopted by most of the proponents of the *pro*-theory, and it is therefore worth drawing attention to those aspects of Alternative 3 which are not straightforwardly compatible with Minimalist principles. The idea that *pro* in Kinyarwanda is an inherently

underspecified pronoun whose feature content is determined by the Sᴍ in T can only be incorporated into the MP if at least one of the following two consequences is accepted: Either the feature content of an interpretable element such as *pro* may be valued by the features of an uninterpretable element like the Sᴍ in T, or the features of T/the Sᴍ are in fact interpretable.

Interestingly, the latter idea has been defended by Alexiadou & Anagnostopoulou (1998) in their Minimalist analysis of Greek and Spanish. Alexiadou and Anagnostopoulou suggest that the agreement affixes associated with T in these languages "are independent, clitic-like pronominal elements" (p. 522) and therefore interpretable.[17] Since Greek and Spanish, like Kinyarwanda, are null subject languages, it is not implausible that this view can also be adopted for the Sᴍ in Kinyarwanda. If the Sᴍ associated with an inflected verb is treated as interpretable, then it is possible to account for null subject constructions in Kinyarwanda by postulating the existence of only one underspecified *pro*-element. The specific content of this zero pronoun would be determined by the interpretable features of T (realized by the Sᴍ), in accordance with standard Minimalist assumptions. Such an approach would avoid the problem raised by Murphy and Van der Spuy and therefore represent a conceptually attractive way of adopting Alternative 3 for an analysis of null subject constructions in Kinyarwanda.

Conclusion

In this paper I have compared and contrasted three alternative analyses of the Sᴍ in null subject constructions in Bantu. According to the first analysis (Alternative 1), the pronominal reading arises because the Sᴍ is itself a pronoun. It is added to the verb in the morphology, where it also receives the subject θ-role. The second analysis (Alternative 2) differs from the first in that the Sᴍ is treated as a syntactic pronoun; i.e. a DP which originates inside the VP, undergoes A-movement to [Spec, T], and then combines with the verb in T. Finally, according to the third analysis (Alternative 3), the Sᴍ is an agreement marker which agrees with a phonetically unrealised subject pronoun (*pro*) in null subject constructions.

In discussing the implications of these three analyses, I have focused specifically on the Bantu language Kinyarwanda. I have shown that in this language, syntactic locality conditions, which constrain NP/DP-movement to the subject position, also govern the derivation of sentences with pronominal subjects. This means that a pronominal subject

is a syntactic constituent which, like full subject NPs/DPs, originates in the VP and moves to the subject position. Therefore, one major conclusion that I have drawn in this paper is that Alternative 1, which treats the S$_M$ as a morphological pronoun, does not represent a feasible analysis of the S$_M$ in Kinyarwanda.

In both Alternative 2 and Alternative 3, pronominal subjects are represented as syntactic constituents (the S$_M$ in Alternative 2; *pro* in Alternative 3). Therefore, both approaches can explain the locality facts that proved problematic for Alternative 1. I have discussed both alternatives in detail, highlighting the consequences and problematic aspects of each analysis. I concluded that both the *pro*-theory and the pronominal DP-analysis of the S$_M$ can in principle be adopted to explain the properties of the S$_M$ in Kinyarwanda, but I have remained agnostic about which of the two alternatives represents the more suitable account. My main intention was to show that a particular decision regarding the structural representation of the S$_M$ may have important consequences both for the representation of other, at first sight unrelated, aspects of grammar and for the conceptual design of the theory. In this sense, I hope that this paper has contributed to our understanding of the intricate conditions that govern the interplay of morphology and syntax in the Bantu languages.

References

Abney, Steven Paul 1987. *The English Noun Phrase in Its Sentential Aspect*. Ph.D. thesis, MIT, Cambridge.

Alexiadou, Artemis and Elena Anagnastopolou 1998. Parametrizing Agr: word order, V-movement and EPP checking. *Natural Language & Linguistic Theory* 16, 491-539.

Baker, Mark 1988. *Incorporation. A Theory of Grammatical Function Changing*. Chicago/London.

Baker, Mark 1992. Thematic Conditions on Syntactic Structures: Evidence from Locative Applicatives. In: Iggy M. Roca (ed), *Thematic Structure: Its Role in Grammar*. Berlin: Foris, 23-46.

Baker, Mark 1996. *The Polysynthesis Parameter*. New York: Oxford University Press.

Baker, Mark 2003. Agreement, Dislocation, and Partial Configurationality. In: Andrew Carnie, Heidi Harley, and MaryAnn Willie, *Formal approaches to function in grammar: in honor of Eloise Jelinek*. Amsterdam: John Benjamins, 107-132.

Boeckx, Cedric 2003. *Islands and Chains*. Amsterdam: John Benjamins.

Boeckx, Cedric 2008. *Understanding Minimalist Syntax*. Oxford: Blackwell.

Bresnan, Joan and Sam A. Mchombo 1987. Topic, Pronoun, and Agreement in Chicheŵa. *Language* 63, 741-782.

Buell, Leston 2005. *Issues in Zulu Verbal Morphosyntax*. Ph.D. thesis, University of California, Los Angeles.

Carstens, Vicki 1985. Wh-movement in Yoruba. *Studies in African Linguistics*, Supplement 9, 40-44.

Carstens, Vicki 2001. Multiple Agreement and Case Deletion: Against φ-(In)Completeness. *Syntax* 4:3, 147-163.

Carstens, Vicki 2005. Agree and EPP in Bantu. *Natural Language & Linguistic Theory* 23, 219-279.

Cecchetto, Carlo 1999. A Comparative Analysis of Left and Right Dislocation in Romance. *Studia Linguistica* 53, 40-67.

Cheng, Lisa & Downing, Laura J. 2007. Where's the Topic in Zulu? Manuscript, Leiden University and ZAS, Berlin.

Chomsky, Noam 1982. *Some concepts and consequences of the theory of government and binding*. Cambridge: MIT Press.

Chomsky, Noam 1995. *The Minimalist Program*. Cambridge: MIT Press.

Chomsky, Noam 2000. Minimalist Inquiries: the Framework. In: Roger Martin, David Michaels and Juan Uriagereka (eds), *Step by Step*. Cambridge, Mass.: MIT Press, 89-155.

Chomsky, Noam 2005. Three Factors in Language Design. *Linguistic Inquiry* 36/1, 1-22.

Cinque, Guglielmo 1990. *Types of A'-Dependencies*. Cambridge: MIT Press.

Corbett, Greville G. 2006. *Agreement*. Cambridge University Press: Cambridge.

Demuth, Katherine and Mark Johnson 1989. Interaction between Discourse Functions and Agreement in Setawana. *Journal of African Languages and Linguistics* 11, 21-35.

Demuth, Katherine and Sheila Mmusi 1997. Presentational focus and thematic structure in comparative Bantu. *Journal of African Languages and Linguistics* 18, 1-19.

Diesing, Molly 1992. *Indefinites*. Cambridge: MIT Press.

Givón, Talmy 1976. Topic, pronoun and grammatical agreement. In: Charles Li (ed.), *Subject and topic*. London/New York: Academic Press, 149–88.

Halle, Morris and Alec Marantz 1993. Distributed Morphology and the Pieces of Inflection. In: K: Hale and S. Keyser (ed) *The View from Building 20*, Cambridge: MIT Press, 111-176.

Henderson, Brent 2006. Multiple Agreement and Inversion in Bantu. *Syntax* 9:3, 275-289.

Henderson, Brent 2007. Agreement in Bantu. Unpublished manuscript, University of Florida.

Holmberg, Anders 2005. Is There a Little Pro? Evidence from Finnish. *Linguistic Inquiry* 36/4, 533-564.

Jelinek Eloise 1984. Empty categories, Case and configurationality. *Natural Language and Linguistic Theory* 2, 39–72.

Keach, Camillia N. 1995. Subject and Object Markers as Agreement and Pronoun Incorporation in Swahili, in: Akinbiyi Akinlabi (ed), *Theoretical Approaches to African Linguistics* (Trends in African Linguistics 1), Trenton: Africa World press, Inc., 109-116.

Kimenyi, Alexandre 1980. *A Relational Grammar of Kinyarwanda*. Berkeley: University of California Press.

Kimenyi, Alexandre (undated). Kinyarwanda. Manuscript, California State University at Sacramento. http://www.kimenyi.com/kinyarwanda.php (date of access 17 October 2007).

Kinyalolo, Kasangati 1991. Syntactic Dependencies and the Spec-Head Agreement Hypothesis in KiLega. Ph.D. thesis, UCLA, Los Angeles.

Letsholo, Rose 2004. Clausal and DP-internal agreement in Ikalanga. *Studies in African Linguistics* 33/1, 91-127.

Marten, Lutz 2007. Focus strategies and the incremental development of semantic representations: evidence from Bantu. In: Enoch Aboh, Katharina Hartmann and Malte Zimmermann (eds), *Focus Strategies: Evidence from African Languages*, Berlin/New York: Mouton de Gruyter, 109-132.

Maxwell, Edith 1981. Question Strategies and Hierarchies of Grammatical Relations in Kinyarwanda. In *Proceedings of the 7th Annual Meeting of the Berkley Linguistics Society*. Berkley, California, University of California, 166-177.

McGinnis, Martha 1998. Locality in A-Movement. Ph.D. thesis, MIT, Cambridge.

McGinnis, Martha 2001. Variation in the Phase Structure of Applicatives. In: Pierre Pica and Johan Rooryck (eds), *Linguistic Variation Yearbook* 1, 101-142.

Mchombo, Sam 2004. *The Syntax of Chichewa*. Cambridge: Cambridge University Press.

Miyagawa, Shigeru 2005. On the EPP. In: Martha McGinnis and Norvin Richards (eds.) *Perspective on Phases*. MIT Working Papers in Linguistics, 201-236.

Morimoto, Yukiko 2006. Agreement Properties and Word Order in Comparative Bantu. In: Laura Downing, Lutz Marten & Sabine Zerbian (eds), *Papers in Bantu Grammar and Description*. (ZAS Papers in Linguistics 43), 161-187.

Muriungi, Peter 2005. Wh-questions in Kitharaka. *Studies in African Linguistics* 34.1, 43-104.

Murphy, Lynne. 1997. Agreement as Non-directional: An approach to Bantu Concord. In: Herbert, Robert K. (eds), *African Linguistics at the Crossroads*. Köln: Rüdiger Köppe Verlag, 221-237.

Nakamura, Masanori 1997. Object Extraction in Bantu Applicatives: Some Implications for Minimalism. *Linguistic Inquiry* 28 (2), 252-278.

Rizzi, Luigi 1982. *Issues in Italian Syntax*. Dordrecht.

Rizzi, Luigi 1986. Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17, 501-557.

Sabel, Joachim and Jochen Zeller 2006. Wh-question formation in Nguni. In: John Mugane et al. (eds), *African Languages and Linguistics in Broad Perspective* (Selected Proceedings of the 35th Annual Conference of African Linguistics, Harvard, Cambridge). Somerville, Massachusetts: Cascadilla Proceedings Press, 271-283.

Schneider-Zioga, Patricia 2007. Anti-agreement, anti-locality and minimality: the syntax of dislocated subjects. *Natural Language & Linguistic Theory* 25/2, 403-446.

Thwala, Nhlanla 2006. On the subject-predicate relation and subject agreement in Siswati. *Southern African Linguistics and Applied Language Studies* 24/3, 331-359.

Ura, Hiroyuki 1996. Multiple Feature-Checking: A Theory of Grammatical Function Splitting. Ph.D. thesis. MIT, Cambridge.

Van der Spuy, Andrew 2001. *Grammatical Structure and Zulu Morphology*. Ph.D. thesis, University of the Witwatersrand, Johannesburg.

Young, Robert 2005. Bantu Comitative and the E-type pronoun. Manuscript, Cornell University.

Zeller, Jochen 2006. Agreement and the EPP in Kinyarwanda applicatives. In: Patrick Brandt and Eric Fuß (eds), *Form, Structure and Grammar*. Berlin: Akademie-Verlag, 275-295.

Zeller, Jochen (to appear). The Subject Marker in Bantu as an Antifocus Marker. To appear in *Stellenbosch Papers in Linguistics*.

Zeller, Jochen and Jean Paul Ngoboka 2006. Kinyarwanda locative applicatives and the Minimal Link Condition. *Southern African Linguistics and Applied Language Studies* 24 (1), 101-124.

Zerbian, Sabine 2006. Expression of Information Structure in the Bantu Language Northern Sotho. Ph.D. thesis, *Zentrum für Allgemeine Sprachwissenschaft*, Berlin.

Zwart, Jan-Wouter 1997. Rethinking subject agreement in Swahili. Manuscript, University of Groningen. http://www.let.rug.nl/~zwart/docs/nels97.pdf (date of access 18 July 2008).

Notes

[1] Morphemes are glossed as follows: APPL = applicative; ASP = aspect; ASS = associative; EXPL = expletive marker; INF = infinitive marker; LOC = locative marker; NEG = negation; NEUT = neuter passive; OM = object marker; PASS = passive; PRON = pronoun; REL = relative marker; SM = subject marker; TNS = tense; numbers = noun classes. Note that the tone marking of some of the examples adopted from Kimenyi (1980) has been corrected, and his glosses have been adjusted to the system used here.

[2] I use the term "null subject construction" to distinguish sentences such as those in (2) from sentences with overt full subject noun phrases, such as those in (1).

[3] I take the position of VP-internal subjects to be [Spec, V] and ignore the light verb v (which, according to standard Minimalist theories, is located between V and T and introduces the external argument in its specifier).

[4] Bresnan & Mchombo (1987) are primarily concerned with the status of pronominal SMs in topic-pronoun constructions such as left and right dislocation, but their analysis of the SM as an incorporated pronoun also carries over to null subject constructions.

[5] Mchombo (2004) also remains vague about the status of the SM in Chichewa. He notes that the SM belongs to a set of verbal prefixes which are "more oriented to syntactic aspects" and concludes that "the issue of whether they are simple prefixes […] may need to be addressed further" (2004: 74).

[6] The affixal SM can be analysed as combining with the verb either in a pre-syntactic word formation component, or post-syntactically, as the morphological spell-out of a set of grammatical features (Halle & Marantz 1993). Alternatively, the SM can be regarded as an instantiation of the T-position, in which case the verb combines with it when it moves to T.

[7] Locative constructions such as (10a) can be derivationally related to dative constructions such as (i), where the theme is the direct object and the location is expressed by means of a PP:

(i) Umufuundi y-o-óme-tse   amatáfaári ku rukutá.
    builder1   SM1-TNS-stick-ASP bricks   on wall
    'The builder stuck bricks on the wall.'

See Zeller & Ngoboka (2006) and Zeller (2006) for an analysis which derives (10a) from underlying constructions with an NP-PP syntax via preposition incorporation (cf. Baker 1988).

[8] In contrast, most other types of applicatives in Kinyarwanda allow passivisation of both the theme and the indirect object (see Kimenyi 1980; Zeller & Ngoboka 2006).

[9] The argument from locality does not hinge on this particular representation of double object locative constructions in Kinyarwanda but is compatible with any representation in which the indirect object c-commands the direct object. The reader is referred to Zeller (2006) for arguments in favour of the representation in (11) and for technical details of an analysis of (10) in terms of the Minimal Link Condition.

[10] There are different ways in which the combination of the SM and the verb stem can be derived from a structure such as (18a). Young assumes that the SM incorporates into the verb syntactically; alternatively, it could be assumed that the SM cliticises to the verb stem for phonological reasons or that the SM and the verb merge in a post-syntactic morphological component (cf. Halle & Marantz 1993). I leave this point open.

[11] Baker's proposal, which has recently influenced the analyses proposed by Miyagawa (2005), Young (2005) and Schneider-Zioga (2007), has its origins in the analysis of Warlpiri presented in Jelinek (1984).

Jelinek suggests that in Warlpiri, all arguments of the verb are realised as clitics, while full phrasal nominals are treated as adjuncts. Baker (1996) elaborates this type of analysis for polysynthetic languages such as Mohawk and further develops it for Bantu in Baker (2003). The main difference between Baker's (2003) analysis and the proposal outlined here is that Baker assumes that the subject pronoun in [Spec, T] is not the SM, but *pro* (cf. the next section). An earlier version of the idea that preverbal subject DPs in Bantu are dislocated adjuncts can be found in Kinyalolo (1991); the same idea has also been defended by Alexiadou & Anagnostopoulou (1998) for languages such as Greek and Spanish.

[12] In Baker's theory, the pronoun in [Spec, T] turns the TP into a predicate, and the dislocated adjunct DP which binds the pronoun semantically functions as the argument of this predicate.

[13] Interestingly, SOV-orders are impossible in Kinande (Baker 2003: 115), a fact that forces Baker to assume that dislocated objects can only adjoin to the highest projection of the clause, i.e. CP. They therefore obligatorily precede topicalised subjects.

[14] In Kinyarwanda, the logical subject can be realised as a wh-phrase when it remains inside the VP or when it appears in a cleft:

(i) a. Haá-ko-ze   ndé?
       EXPL16-work-ASP who1
       'Who worked?'

   b. Nii ndé   w-a-kó-ze?
       be   who1 SM1REL-TNS-work-ASP
       'It is who that worked?'

[15] This conclusion has also been reached by Zwart (1997) for Swahili: "the subject marker in Swahili is not an agreement prefix but a pronoun of some kind" (Zwart 1997: 6).

[16] The "big" DP-analysis is compatible with the negation data in (31) only if it is assumed that after incorporation of its head, the remnant subject DP (= the "big" DP minus the SM) can be further dislocated to the left by adjoining to PolP.

[17] For Alexiadou & Anagnostopoulou (1998), T in null subject languages needs to be interpretable in order for it to be capable of checking the EPP. If T can check the EPP in a language, according to their theory, [Spec, T] need not be realised in this language. Alexiadou and Anagnostopoulou mention an interesting consequence of their claim that the features of T are interpretable. They state that this "opens the possibility of furthermore proposing that the AGR [agreement] affix counts as a theta-bearing argument in NSLs [null subject languages], *replacing referential pro*" (p. 531; my italics). In other words, Alexiadou and Anagnostopoulou acknowledge that in treating the inflectional morphology associated with T as interpretable, they come very close to a theory which assumes that the inflectional morphology *is* pronominal and that *pro* is therefore superfluous. Note that such a theory would essentially be equivalent to Alternative 1, the analysis of the SM that I discussed earlier in this paper. However, as I showed above, Alternative 1 cannot be adopted for Kinyarwanda.