
Syntax

Three types of object marking in Bantu

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Abstract

This paper proposes a typology that classifies Bantu languages according to the function of so-called object markers in their grammar. Three types of language are distinguished: in Type 1, object markers are agreement markers; in Type 2, object markers are pronominal clitics; in Type 3, object marking is a reflex of A-bar movement of the corresponding object. The paper further demonstrates that the three types of language also behave in systematic ways with respect to the possibility of object marking in object relative clauses: in Type 1 languages, object markers are *never required*, in Type 2, object markers are *never possible*, and in Type 3, object marking is *always compulsory* in object relatives. Finally, the paper presents a syntactic analysis of object marking in Type 3 languages, which explains the obligatory occurrence of object markers in right dislocation and relative clause constructions in these languages.

1 Introduction

All Bantu languages have so-called object markers (or object concords), i.e. affixes or clitics which form part of the verbal morphology and which identify an object argument. In some Bantu languages, object markers can co-occur with their corresponding objects, as demonstrated by the Zulu example in (1a). When an object marker appears without a corresponding DP, it produces a pronominal reading, (1b):¹

¹ Object markers (and their corresponding object-DPs, where they occur) are printed in italics in all examples in this paper. Following the standard practice in the Bantu literature, I mark Bantu noun class prefixes and corresponding agreement markers through numbers. Examples are not marked for tone, unless tone marking was part of an example adopted from the literature. Morphemes are glossed as follows: 1,2S/P = first, second person singular/plural; APPL = applicative; AUG = augment; DEM = demonstrative; DJ = disjoint verb form; FUT = future tense; FV = final vowel; INF = infinitive; OM = object marker; PASS = passive; PERF = perfective; POSS = possessive; PRES = present tense; PST = (recent) past tense; REL = relative marker; REM = remote past tense; RS = relative suffix; SM = subject marker; SJ = subjunctive. I have adjusted the glosses of some examples from the literature to my system.

- (1) a. U-Vusi u-ya-zi-thand-a *i-zin-gubo*
 AUG-1a.Vusi 1.SM-DJ-10.OM-like-FV AUG-10-dress
za-ba-ntwana
 10.POSS-2-children
 ‘Vusi likes the children’s dresses.’
- b. U-Vusi u-ya-zi-thand-a
 AUG-1a.Vusi 1.SM-DJ-10.OM-like-FV
 ‘Vusi likes them.’ [Zulu]

In this paper, I demonstrate that prefixal object markers such as *-zi-* in (1) have different grammatical functions in different Bantu languages. Following Henderson (2006), I first distinguish languages in which the object marker signals object agreement from languages in which the object marker has the status of a pronominal clitic. I then argue that there is also a third type of language, represented by the Nguni and Sotho-Tswana groups of Zone S (Southern Bantu), in which the object marker is a morphological reflex of A-bar movement of an object-DP to a vP-external specifier position. Furthermore, I show that this typology of Bantu languages also accounts for differences in the use of object markers in Bantu object relative clauses.

In section 2, I present the proposal put forward by Henderson (2006), according to which object markers in Bantu languages are either agreement markers or pronouns. Section 3 discusses object marking in the Southern Bantu language Zulu and motivates the existence of a third type of language where object marking is A-bar agreement with a right-dislocated object-DP. In section 4, I focus on the relation between object marking and relativisation, and I show that the use of obligatory object markers in object relative clauses is an exclusive property of Bantu languages of the Zulu-type. An explanation for this descriptive generalisation is offered in section 5, where I provide evidence that relative operators in Zulu are extracted via the same position that serves as the landing site for right dislocation. Section 6 concludes the paper.

2 Object marking in Bantu

In most Bantu languages, object markers are prefixes which attach directly to the verb stem.²

- (2) A-li-wa-on-a
 1.SM-PST-2.OM-see-FV
 ‘He saw *them*.’ [Swahili; Riedel 2009: 4]

² Some Bantu languages, mainly those belonging to the western branch, also have post-verbal object markers. See Beaudoin-Lietz et al. (2004) for an overview.

- (3) A-za-ha-mu-on-a
1.SM-PERF.DJ-16.OM-1.OM-see-FV
'He saw *him there*.' [Sambaa; Riedel 2009: 110]
- (4) A-ba-aana ba-a-ra-ya-nyo-ye
AUG-2-child 2.SM-REM-DJ-6.OM-drink-PERF
'The children drank *it*.' [Kinyarwanda]
- (5) Mé vanga oku-mú-múná
1s.PRES like INF-1.OM-see
'I like to see *him*.' [Herero; Möhlig & Kavari 2008: 88]

One significant difference between Bantu languages concerns the possibility of realising an object marker and the corresponding object-DP together in the same clause. As the following examples show, the object marker can co-occur with an object in Swahili and Sambaa³, but this co-occurrence is not possible in Kinyarwanda and Herero:

- (6) Ni-me-m-p-a Juma vitabu vyote vitatu pale
1S-PERF-1.OM-give-FV 1.Juma 8.book 8.all 8.three 16.there
'I have given Juma all three books there.' [Swahili; Riedel 2009: 62]
- (7) N-za-ha-chi-m-nk-a Stella kitabu
1S-PERF.DJ-16.OM-7.OM-1.OM-give-FV 1.Stella 7.book
'I gave Stella a book there.' [Sambaa; Riedel 2009: 76]
- (8) *A-ba-aana ba-a-ra-bi-ri-ye i-bi-ryo ejo
AUG-2-child 2.SM-REM-DJ-8.OM-eat-PERF AUG-8-food yesterday
Intended: 'The children ate the food yesterday.' [Kinyarwanda]
- (9) *mb-é vé múnù òvá-nátjè
1S-PST 2.OM see 2-children
Intended: 'I saw (the) children.' [Herero; Marten, Kula & Thwala 2007: 261]

On the basis of this difference between languages such as Swahili and Sambaa on the one hand and Kinyarwanda and Herero on the other, Henderson (2006) suggests that there are two different types of object markers in Bantu. Object markers in Swahili/Sambaa-type languages (henceforth Type 1 languages) are agreement markers, and therefore can (and sometimes must) co-occur with

³ In Swahili, the object marker is obligatory with all animate objects, while in Sambaa, object markers are required with objects expressing proper names, kinship terms, titles or 1st and 2nd strong pronouns. The object marker is also obligatory when the object is *pro*, as indicated by the examples in (2) and (3). See Riedel (2009) for discussion.

object-DPs. In contrast, object markers in Kinyarwanda-type languages (Type 2) are pronominal clitics that are assigned a theta role by the verb. Co-occurrence of an object marker and an object-DP is therefore ruled out by the theta criterion in Type 2 languages (see also Bergvall (1985) for a similar proposal).

According to Henderson, not all Bantu languages in which object markers are agreement markers allow co-occurrence of the object marker and a *VP-internal* object. For example, in Chichewa, an object-DP can co-occur with an object marker within the same clause, but the DP cannot remain in its argument position inside the VP. Instead, it must be right-dislocated (Bresnan & Mchombo 1987):

- (10) a. Ndi-ku-fún-á kutí mu-pats-é alenje mphátso
 1s-2s-want-FV that 2s-give-SJ hunters gift
 ‘I want you to give the hunters a gift.’
- b. ?? Ndi-ku-fún-á kutí mu-wa-páts-é alenje mphátso
 1s-2s-want-FV that 2s-2.OM-give-SJ 2.hunters gift
 ‘I want you to give the hunters a gift.’
- c. Ndi-ku-fún-á kutí mu-wa-páts-é mphátso alenje
 1s-2s-want-FV that 2s-2.OM-give-SJ gift 2.hunters
 ‘I want you to give the hunters a gift.’

[Chichewa; Bresnan & Mchombo 1987: 751]

The canonical word order in Chichewa double object constructions is indirect object (IO) > direct object (DO). However, when the IO is object-marked, the word order DO > IO is strongly preferred. This shows that object marking requires dislocation of the object-marked object to a VP-external position (see Bresnan & Mchombo (1987) for additional tonal evidence that object-marked objects in Chichewa are dislocated). According to Henderson, object marking in Chichewa nevertheless counts as object agreement, which he analyses as a reflex of an Agree-relation between uninterpretable ϕ -features of *v* and interpretable ϕ -features of the object-DP. However, Chichewa differs from languages such as Swahili and Sambia in that object agreement is also associated with obligatory A-movement of the agreeing object, possibly triggered by an EPP-feature associated with *v*.⁴

Evidence for Henderson’s claim that object marking in Chichewa reflects ϕ -feature agreement between *v* and the object-DP is provided by the fact that object marking is asymmetrical in Chichewa double object constructions. While the IO can be object-marked (see (10c) and (11a)), object marking of the DO is not possible (Bresnan & Moshi 1990; Mchombo 2004):

⁴ Since the agreeing IO is right-dislocated and therefore follows the VP-internal DO in (10c), additional assumptions are necessary to reconcile this word order with an analysis according to which DP-movement targets [Spec, *v*]. For example, one would have to argue that the specifier of *v* in Chichewa is right-branching, or that the position of the right-dislocated DP in [Spec, *v*] is the result of remnant movement of the VP. I leave this point open.

- (11) a. A-lenje a-ku-wá-phík-il-á zǐ-túmbúwa (*a-nyáni*)
 2-hunters 2.SM-PRES-2.OM-cook-APPL-FV 8-pancakes 2-baboons
 ‘The hunters are cooking (for) them (the baboons) some
 pancakes.’
- b. *A-lenje a-ku-zǐ-phík-il-á a-nyáni (*zǐ-túmbúwa*)
 2-hunters 2.SM-PRES-8.OM-cook-APPL-FV 2-baboons 8-pancakes
 ‘The hunters are cooking them (the pancakes) for the baboons.’
 [Chichewa; Mchombo 2004: 83]

The asymmetry in (11) follows from Locality. Since IOs asymmetrically c-command DOs, the ϕ -features of an IO will always be closer to the Probe of v than those of the DO and will prevent object marking of the latter. The contrast between (11a) and (11b) therefore provides evidence that object marking in Chichewa is a reflex of ϕ -feature agreement between v and an object-DP.

In sum, Henderson’s (2006) analysis of object marking in Bantu distinguishes two language types. In Type 1 languages, object marking signals ϕ -feature agreement between v and DP. In some of these languages, v has an EPP-feature, and the agreeing object will move out of the vP ; in others, agreement may not require movement of the agreeing object. In Type 2 languages, in contrast, object markers have the status of pronominal clitics and combine with the verb via syntactic incorporation or cliticisation (see Bax & Diercks (2012) and Zeller (2013a) for discussion of the latter processes).

3 Object marking and dislocation in Zulu

In the Southern Bantu language Zulu (which belongs to the Nguni-group), object markers and object-DPs can co-occur in the same clause. However, this is only possible if the object-marked DP is dislocated and realised in a vP -external position (see Adams 2010, Cheng & Downing 2009, Van der Spuy 1993, Zeller 2012):

- (12) a. Ngi-theng-el-a u-m-ngane wa-mi le moto namhlanje
 1S-buy-APPL-FV AUG-1-friend 1.POSS-my 9.DEM 9.car today
 ‘I’m buying this car for my friend today.’
- b. *Ngi-*m*-theng-el-a *u-m-ngane* *wa-mi* le moto
 1S-1.OM-buy-APPL-FV AUG-1-friend 1.POSS-my 9.DEM 9.car
 namhlanje
 today

- c. Ngi-*m-theng-el-a* le moto *u-m-ngane wa-mi*
 1S-1.OM-buy-APPL-FV 9.DEM 9.car AUG-1-friend 1.POSS-my
 namhlanje
 today
 ‘I’m buying this car for my friend today.’

[Zulu]

The example in (12) shows that Zulu is similar to Chichewa with respect to object marking in double object constructions. While the canonical word order in Zulu is IO > DO, (12a), this word order is no longer licensed when the IO is object-marked, (12b). Instead, the object-marked IO must now follow the DO, (12c), which demonstrates that it has been right-dislocated. Notice that the dislocated IO can still precede a temporal adverb. This suggests that the landing site of right dislocation is relatively low in the structure.

The morphology of Zulu provides a different sort of evidence that object marking requires dislocation of the corresponding object-DPs. In the present and recent past tense, the verbal morphology distinguishes between a long (“disjoint”) and a short (“conjoint”) form of the verb. As has been demonstrated by numerous studies, the short form is only possible in Zulu when the verb is followed by vP-internal material. In all other contexts, the long form (expressed by the disjoint marker *-ya-* in the present tense) is obligatory (see Adams 2010; Buell 2006; Halpert 2012; Van der Spuy 1993):

- (13) a. U-mama u-phek-a i-n-yama (conjoint)
 AUG-1a.mother 1.SM-cook-FV AUG-9-meat
 ‘Mother is cooking the meat.’
- b. * U-mama u-phek-a (conjoint)
 AUG-1a.mother 1.SM-cook-FV
 Intended: ‘Mother is cooking.’
- c. U-mama u-ya-phek-a (disjoint)
 AUG-1a.mother 1.SM-DJ-cook-FV
 ‘Mother is cooking.’

When an object marker is attached to a transitive verb, the long form of the verb is obligatory, even when the object follows the verb:⁵

- (14) a. * U-mama u-*yi*-phek-a *i-n-yama*
 AUG-1a.mother 1.SM-9.OM-cook-FV AUG-9-meat
- b. U-mama u-*ya-yi*-phek-a *i-n-yama*
 AUG-1a.mother 1.SM-DJ-9.OM-cook-FV AUG-9-meat
 ‘Mother is cooking it, the meat.’

⁵ In double object constructions such as (12c), the unmarked object has remained in the VP. Therefore, the verb in (12c) still appears in the short form, despite the appearance of an object marker corresponding to the dislocated IO.

The ungrammaticality of (14a) confirms that in Zulu, object-marked DPs are only licensed in vP-external positions.

At first glance, then, it seems that Zulu behaves like Chichewa and should therefore be classified as a Type 1 (= object agreement) language. In fact, Henderson (2006) treats Zulu and Chichewa along the same lines and claims that object marking in Zulu is a reflex of an Agree-relation between ϕ -features of *v* and the object, followed by EPP-triggered A-movement of the agreeing DP.

However, there is evidence that challenges this claim. First, object marking in Zulu double object constructions is symmetrical (Adams 2010; Zeller 2012, 2013b), in contrast to Chichewa (compare (15c) with (11b) above):

- (15) a. U-John u-nik-a a-ba-ntwana i-mali
 AUG-1a.John 1.SM-give-FV AUG-2-child AUG-9.money
 ‘John is giving the children money.’
- b. U-John u-ba-nik-a i-mali a-ba-ntwana
 AUG-1a.John 1.SM-2.OM-give-FV AUG-9.money AUG-2-child
 ‘John is giving them money, the children.’
- c. U-John u-yi-nik-a a-ba-ntwana i-mali
 AUG-1a.John 1.SM-9.OM-give-FV AUG-2-child AUG-9.money
 ‘John is giving it to the children, the money.’

As (15c) shows, a DO can be object-marked in Zulu in the presence of an IO. This possibility poses a problem for an analysis of object marking in Zulu as ϕ -feature agreement between *v* and an object-DP. In such an analysis, (15c) would not be expected to be possible, because the IO intervenes between *v* and the DO, and object marking of the DO should therefore be ruled out as a Locality violation (as it is indeed in Chichewa).

Second, right dislocation of the object-DP, which is correlated with object marking in Zulu, does not seem to be A-movement. In (16a), the IO is the strong pronoun *yena*, which c-commands the R-expression *Sipho* contained in the DO. As expected, co-reference of the pronoun and the R-expression is ruled out by Condition C in this example. In (16b), the DO is object-marked, which means that it has been right-dislocated to a vP-external position. In this position, the R-expression included in the DO is no longer c-commanded by the IO. However, co-reference is still impossible in (16b), which suggests that the dislocated DO is reconstructed at LF into its VP-internal base position. Reconstruction, however, is a property of A-bar chains:

- (16) a. *Ngi-bonis-e yena_i i-moto ka-Sipho_i entsha
 1s-show-PST 1.him/her AUG-9.car of-1a.Sipho 9.new
 ‘I showed him/her Sipho’s new car.’
- b. *Ngi-yi-bonis-e yena_i i-moto ka-Sipho_i entsha
 1s-9.OM-show-PST 1.him/her AUG-9.car of-Sipho 9.new
 ‘I showed it to him/her, Sipho’s new car.’

The examples in (17) illustrate the same point. Co-reference of the IO and either of the two R-expressions embedded in the DO (*Nomusa* and *Sipho*) remains impossible in (17b), even though the DO is object-marked and right-dislocated:

- (17) a. *A-ba-fundi ba-tshel-e yena_{ij} a-ma-hemuhemu
 AUG-2-student 2.SM-tell-PST 1.him/her AUG-6-rumour
 okuthi u-Nomusa_i u-thand-a u-Sipho_j
 that AUG-1a.Nomusa 1.SM-like-FV AUG-1a.Sipho
 ‘The students told him/her the rumours that N. likes S.’
- b. *A-ba-fundi ba-wa-tshel-e yena_{ij} a-ma-hemuhemu
 AUG-2-student 2.SM-6.OM-tell-PST 1.him/her AUG-6-rumour
 okuthi u-Nomusa_i u-thand-a u-Sipho_j
 that AUG-1a.Nomusa 1.SM-like-FV AUG-1a.Sipho
 ‘The students told them to him/her, the rumours that N. likes S.’

Reconstruction is also possible with respect to quantifier binding, although the judgments are less consistent here. In (18a), the IO is a quantifier phrase which binds a possessive pronoun inside the DO. In (18b), the DO is object-marked and right-dislocated. Some (but not all) speakers I consulted can still interpret the pronoun as being bound by the quantifier in this example:

- (18) a. Ngi-nik-a i-n-ja ngayinye u-ku-dla kwa-yo
 1S-give-FV AUG-9-dog 9.each AUG-15-food 15.POSS-9.its
 ‘I’m giving each dog its food.’
- b. %Ngi-ku-nik-a i-n-ja ngayinye_i u-ku-dla kwa-yo_i
 1S-15.OM-give-FV AUG-9-dog 9.each AUG-15-food 15.POSS-9.its
 ‘I’m giving it to each dog, its food.’

The observation that for some speakers, reconstruction of a dislocated DO containing a bound pronoun is possible is consistent with an A-bar movement-analysis of right dislocation. However, it is not clear why this possibility does not exist for all speakers. I do not have a fully worked-out answer at this stage, but I speculate that it has something to do with the fact that dislocated DPs in Zulu are typically interpreted as specific. It seems that the specific reading of *ukudla kwayo*, ‘its food’, in (18b) prevents some speakers from interpreting the variable in the scope of the IO, possibly because for these speakers, specific DPs obligatorily take wide scope with respect to other quantificational expressions. Interestingly, when the pronoun is not semantically linked to the specific DP, but instead contained in a relative clause that modifies the dislocated object, the bound variable reading can be construed more easily, and is available even for those speakers for whom this interpretation is unavailable in (18b):

- (19) Ngi-zo-yi-bonis-a u-thisha ngamunye *i-n-cwadi*
 1S-FUT-9.OM-show-FV AUG-1a.teacher 1.each AUG-9-book
a-ba-fundi ba-khe a-ba-yi-thand-a-yo
 AUG-2-student 2.POSS-1.his/her REL-2.SM-9.OM-like-FV-RS
 ‘I will show it to each teacher, the book that his students like.’

Even when the head noun *incwadi*, ‘the book’, in (19) is interpreted as specific, its wide scope interpretation does not seem to block reconstruction of the relative clause and a bound variable reading of the embedded pronoun. Whatever aspect of the syntax-semantics interface explains the difference between (18b) and (19), the availability of bound variable readings in these examples constitutes further evidence that right dislocation of object-marked DPs in Zulu is an instance of A-bar movement.

Finally, this conclusion is also supported by the following data, discussed in Adams (2010) and Zeller (2013b):

- (20) a. Ngi-ya-*m*-theng-el-a u-Sipho u-bisi.
 1S-DJ-1.OM-buy-APPL-FV AUG-1a.Sipho AUG-11.milk
 ‘I am buying milk for Sipho.’
- b. *Ngi-ya-*lu*-theng-el-a u-Sipho u-bisi.
 1S-DJ-11.OM-buy-APPL-FV AUG-1a.Sipho AUG-11.milk

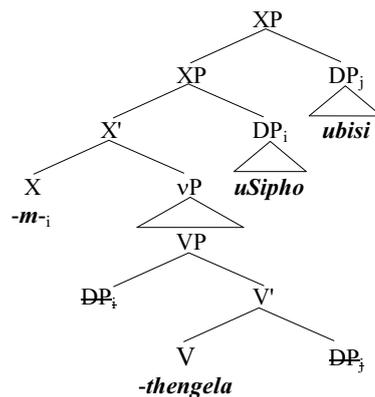
The examples in (20) again show object marking in a Zulu double object construction. However, in contrast to examples such as (15b) and (15c) above, the verb in (20a) and (20b) is in the long form. Recall that material that follows the long form of the verb is dislocated in Zulu. This means that in (20a) and (20b), *both* the IO and the DO are in vP-external positions (see Zeller (2013b) for additional empirical evidence in support of this conclusion). Importantly, object marking of the DO is not possible in this case, although this possibility was realised in Zulu double object constructions such as e.g. (15c) above, in which the verb is in the short form. The grammaticality contrast between (15c) and (20b) therefore shows that object marking of the DO is licensed in Zulu only when the IO has remained inside the vP. When both the IO and the DO are dislocated, object marking can only be with the IO.

In Zeller (2013b), I explain this contrast by arguing that dislocation in Zulu is movement driven by “antifocus” features, which mark a particular constituent as incompatible with narrow focus (i.e. as presupposed or given). Following Cheng & Downing (2009) and Buell (2009), I suggest that DPs marked as antifocus are obligatorily removed from vP in Zulu. I postulate the existence of a functional category X above vP, which has uninterpretable antifocus features that act as Probes; the closest interpretable antifocus feature of a DP acts as a Goal. When X’s Probe locates a Goal, Agree is established, and the EPP-feature of X attracts the DP to its (right-branching) specifier. X also hosts uninterpretable ϕ -features, which do not probe, but which are valued by the DP that enters an Agree-relation with the Probe of X. The valued uninterpretable ϕ -

features of X are then realised as the object marker at PF. According to this analysis, object marking in Zulu is not the result of a direct Agree-relation between ϕ -features, but rather a morphological signature of “antifocus agreement” and A-bar movement to [Spec, X].

When only one internal argument-DP of a double object construction is marked as antifocus, X will always locate this DP as a Goal and attract it to [Spec, X]. In constructions such as (15c) above, this DP is the DO. The fact that the IO in (15c) has remained inside the VP shows that it is not marked as antifocus. This explains why a VP-internal IO does not block the Agree-relation between the probing antifocus features of X and the DO: lacking antifocus features, the IO simply is not a potential Goal. In contrast, in constructions with two dislocated DPs, both DPs are marked as antifocus. Therefore, both the IO and the DO in (20) are potential Goals for the Probe of X. Since the IO c-commands the DO, it is closer to X, and therefore only the IO can agree with X and trigger object marking. The DO is also marked as antifocus, and therefore must also be removed from the vP. However, since XP only has one specifier, the DO can only be extracted via adjunction to XP (a last resort operation) and is therefore unable to agree with X. (21) illustrates this analysis for the example in (20a):

(21)



The contrast between (15c) and (20b) demonstrates that object marking in Zulu cannot be the result of an Agree-relation between ϕ -features, which are inherently associated with all DPs. Rather, the feature that is involved in object marking and dislocation is an operator-like feature that is only associated with DPs with a particular interpretation. Therefore, Locality effects only emerge if there are at least two DPs with this feature specification, which is the case in (20b), but not in (15c). In this respect, the difference between (15c) and (20b) is comparable to the difference between (22a) and (22b):

- (22) a. What did you see?
 b. * What did who see?

(22b) is a Locality (superiority) violation: the wh-object has moved across the c-commanding wh-subject, whose [wh]-feature is a closer Goal for the Q-feature of C. No Locality violation is observed in (22a), because in this example, the subject lacks a [wh]-feature, and is therefore not a potential Goal.

The parallel between (20b) and (22b), and the evidence provided in (15)–(19) above, justify the conclusion that Zulu belongs to a third type of Bantu language in which object markers are neither pronouns nor standard object agreement markers, but morphological reflexes of an A-bar relation between a functional head X and an “antifocused” DP. Importantly, because antifocus is a property of dislocated DPs, object marking in Type 3 languages always implies that the object-marked DP has moved out of the VP. In contrast to Type 1 languages, which sometimes allow object agreement between the verb and a VP-internal DP (e.g. Swahili and Sambia), this option never exists in Type 3 languages.

4 Object marking and relativisation in Bantu

In section 2, it was shown that Type 1 languages such as Swahili, Sambia and Chichewa allow for object markers to co-occur with a corresponding DP within the same clause, while this co-occurrence is barred in Type 2 languages such as Kinyarwanda and Herero. There is another notable difference between these Bantu languages, which is attested in object relative clauses. Swahili, Sambia and Chichewa all allow object markers corresponding to an extracted relative operator to appear in object relatives (Henderson 2006; Riedel 2009):

- (23) *kitabu* amba-cho Juma a-li-(*ki*)-som-a jana
 7.book COMP-7.REL 1.Juma 1.SM-PST-(7.OM)-read-FV yesterday
 ‘the book that Juma read yesterday’
 [Swahili; Henderson 2006: 66]

- (24) *Matonte* n-(*ya*)-m-nk-iye-yo ya-aa-izw-iye
 6.bananas 1S-(6.OM)-1.OM-give-PERF-6.RM 6.SM-REM.DJ-ripen.PASS-PERF
 ‘The bananas which I gave him are ripe.’
 [Sambia; Riedel 2009: 160]

- (25) *mbuzi* mu-ku-(*zi*)-funa-zo
 10.goats 2S-PRES-(10.OM)-want-10.RS
 ‘the goats that you want’
 [Chichewa; Henderson 2006: 63; Agness Hara p.c.]

In contrast, Kinyarwanda and Herero never license object marking in object relative clauses (Marten, Kula & Thwala 2007; Zeller & Ngoboka 2014):

- (26) * *i-bi-tabo* u-mu-kozi a-*bi*-bar-a
 AUG-8-book AUG-1-worker 1.SM-8.OM-count-FV
 Intended: ‘the books that the worker counts’ [Kinyarwanda]

- (27) * *ozo-ngombe* ndu mb-e-ze-mun-u o-zengi
 10-cattle 10.REL SM.1S-PST-10.OM-see-FV 10.SM-be_many
 Intended: ‘The cattle that I saw are many.’
 [Herero; Marten, Kula & Thwala 2007: 310]

On the basis of these contrasts, Henderson (2006: 66) proposes the following generalisation:

- (28) Languages that allow an object marker and a corresponding NP to co-occur require, or at least allow, object markers in relative clauses; languages which do not allow this co-occurrence also do not allow object markers in object relatives.

According to Henderson (2006), Type 1 languages always allow object markers in relative clauses, while object marking is impossible in object relative clauses in Type 2 languages. However, there are Bantu languages that clearly violate the first part of the generalisation in (28). For example, in Bemba (Marten, Kula & Thwala 2007), object markers can co-occur with object-DPs, but are not licensed in object relative clauses:

- (29) n-áli-mú-món-à *Chisángá*
 1S-PST-1.OM-see-FV 1.Chisanga
 ‘I saw Chisanga.’
 [Bemba; Marten, Kula & Thwala 2007: 261]

- (30) * *ici-puna* ico umu-anakashi a-ci-mweene
 7-chair 7.REL 1-girl 1.SM-7.OM-see.PERF
 ‘the chair which the girl saw’
 [Bemba; Marten, Kula & Thwala 2007: 275]

Manyika raises the same problem for (28) (Bax & Diercks 2012):

- (31) Ndi-cha-u-bik-a *mu-ti* mangwani
 1S-FUT-3.OM-cook-FV 3-tree tomorrow
 ‘I will cook the tree tomorrow.’
 [Manyika; Bax & Diercks 2012: 187]

- (32) * *ndiro* iyo mu-kadzi a-ka-i-gur-a
 9.plate 9.COMP 1-woman 1.SM-PST-9.OM-break-FV
 ‘the plate that the woman broke.’
 [Manyika; Bax & Diercks 2012: 187]

The data demonstrate that, although some Type 1 languages allow an optional object marker to agree with the extracted operator in object relatives, there are also Type 1 languages which do not license object markers in object relatives, in contrast to what is claimed by Henderson (2006). Type 2 languages are more uniform, because they never seem to allow an object marker to co-occur with an extracted object in a relative clause.

In section 3, I argued that Zulu belongs to a third type of language in which object marking is a morphological reflex of A-bar movement. Interestingly, Zulu also differs from both Type 1 and Type 2 languages with respect to object marking in relative clauses: object relatives in Zulu *require* an object marker that agrees with the extracted relative operator:

- (33) a. *i-n-cwadi* [i-si-tshudeni e-si-*(yi)-funda-yo]
 AUG-9-letter AUG-7-student REL-7.SM-9.OM-read-RS
 ‘the letter that the student is reading’
- b. *i-kati* [u-m-fana a-*(li)-theng-ile]
 AUG-5.cat AUG-1-boy REL.1.SM-5.OM-buy-DJ.PST
 ‘the cat which the boy bought’ [Zulu]

Object marking in object relative clauses is also obligatory in all other Nguni varieties (Xhosa, Swati, Ndebele) as well as in the languages of the Sotho-Tswana group (Tswana, Southern and Northern Sotho) (Zeller 2004). The following Tswana relative clause construction serves as an example:

- (34) *monna* [yô-ba-tho ba-*(mo)-nyatsa-ng]
 1.man 1.REL-2-person 2.SM-1.OM-disrespect-RS
 ‘the man whom the people disrespect’
 [Tswana; Zeller 2004: 77]

Importantly, the Sotho-Tswana languages and the other Nguni varieties also behave like Zulu with respect to some of the properties discussed in section 3: object-marked DPs are always dislocated (see e.g. Marten, Kula & Thwala 2007 for Swati; Zerbian 2006 for Northern Sotho; Creissels 2012 for Tswana), and object marking is symmetrical in double object constructions (see e.g. de Guzman 1987 for Swati; Marten, Kula & Thwala 2007 for Tswana; Visser 1986 for Xhosa). (35) and (36) illustrate these properties, again with examples from Tswana:

- (35) a. Re thus-á Kítóso
 1P help-FV 1.Kitso
 ‘We are helping Kitso.’
- b. Re a mo thús-á (,) Kítóso
 1P DJ 1.OM help-FV 1.Kitso
 ‘We help/are helping him, Kitso that is.’
- c. *Re mo thús-á Kítóso
 1P 1.OM help-FV 1.Kitso
 [Tswana; Creissels 2012: 18]
- (36) a. ke ape-ets-e ngwana kuku
 1.SM cook-APPL-PERF 1.child 9.chicken
 ‘I cooked him/her the chicken.’

- b. ke mo ape-ets-e kuku
 1.SM 1.OM cook-APPL-PERF 9.chicken
 ‘I cooked him/her the chicken.’
- c. ke e ape-ets-e ngwana
 1.SM 9.OM cook-APPL-PERF 1.child
 ‘I cooked it for the child.’

[Tswana; Marten, Kula & Thwala 2007: 331]

(35) shows that in Tswana, object marking of a postverbal object is only possible when the verb appears in the long form, which in Tswana (as in Zulu) is a sign that material following the verb is outside the VP (see Creissels 2012). (36c) demonstrates that the DO can be object-marked despite an intervening IO in Tswana, a possibility that I have interpreted as evidence that object marking is not ϕ -agreement. Based on the data in (34)–(36), I therefore conclude that Tswana is also a Type 3 language, a conclusion which likely holds more generally for all languages of the Nguni and Sotho-Tswana groups.

Table 1 below presents a typology of the languages discussed in this article (and a few others whose relevant properties are discussed in the literature; see e.g. Henderson 2006; Marten, Kula & Thwala 2007). The table shows to what extent the nature of the object marker in a Bantu language determines the possibility or necessity of object markers in object relative clauses. In Type 1 languages, object marking is a case of object agreement, and the object marker is either optional or impossible, but never required, in relative clauses in this type of language.⁶ In Type 2 languages, the object marker is a pronominal clitic, and it can never appear in relative clauses (presumably for the same reason that resumptive pronouns are ruled out in relative clauses in languages such as English). Finally, in Type 3 languages, in which object marking indicates A-bar movement of the corresponding object, object marking is obligatory in relative clauses when a relative operator corresponding to an object has undergone A-bar movement to [Spec, C]:

⁶ An interesting question that arises is why Type 1 languages such as Bemba and Manyika do not license object agreement in object relative clauses, even though this option exists in other Type 1 languages. For reasons of space, I cannot address this question here.

Language	Type (nature of OM)	OM in object relatives
Swahili	Type 1	optional
Sambaa	Type 1	optional
Ha	Type 1	optional
Chichewa	Type 1	optional
Manyika	Type 1	impossible
Lozi	Type 1	impossible
Bemba	Type 1	impossible
Kinyarwanda	Type 2	impossible
Herero	Type 2	impossible
Dzamba	Type 2	impossible
Kirundi	Type 2	impossible
Lingala	Type 2	impossible
Luganda	Type 2	impossible
Lubukusu	Type 2	impossible
Nguni	Type 3	required
Sotho-Tswana	Type 3	required

Table 1. Object marking and relativisation in three types of Bantu language

It is the relationship between the nature of the object marker in Type 3 languages and its appearance in object relatives to which I turn in the next section.

5 Relativisation in Zulu

I now suggest that the obligatory occurrence of object markers in object relatives follows from the condition in (37), which holds in Type 3 languages:

(37) A-bar movement out of vP must proceed via X

“X” in (37) corresponds to the category X discussed in section 2. There I argued, following Zeller (2013b), that X provides the landing site for right dislocation in Zulu. (37) extends this proposal by stating that all A-bar movement out of vP must target X, regardless of the final landing site. According to this idea, “X” stands for “Xtractor”-phrase – a functional projection that attracts all constituents which have to undergo A-bar movement out of the vP.

Possibly, (37) can be derived from phase theory. Suppose that vP in Type 3 languages does not have an EPP-feature that would enable movement out of vP via its edge. This would imply that no element can ever be A-bar-extracted from VP, the sister of the phase head v, due to the Phase Impenetrability Condition PIC (Chomsky 2000). However, Den Dikken (2006) suggests that head movement of the head of a phase to a higher functional head F can extend the

phase to FP. This proposal may explain why the projection of X is necessary for A-bar extraction. Merging X (whose EPP-feature licenses a specifier) with vP implies that verb movement to X, which proceeds via v, turns XP into a phase. Material from the domain of X (its vP-complement) can now undergo A-bar movement to [Spec, X], and from here, further A-bar movement to [Spec, C] is possible without causing a violation of the PIC.

According to Zeller (2013b), only interpretable antifocus features can enter an Agree-relation with the Probe of X. Therefore, the condition in (37) implies that only “antifocused” material can be A-bar extracted out of VP, because X’s EPP-feature can only attract elements with antifocus features. As far as I can tell, this implication is valid for Zulu; focused elements never seem to undergo A-bar movement out of VP. In contrast, relative operators are inherently topic-like (cf. Bresnan & Mchombo 1987) and thus have antifocus features. Since operator movement to [Spec, C] is A-bar movement, the condition in (37) explains that object marking in Zulu is obligatory in relatives: a relative operator first has to move to [Spec, X] before it can move to [Spec, C].

In the remainder of this section, I discuss relativisation data from Zulu which support the idea that extraction to [Spec, C] proceeds via X. Consider the relative clause constructions in (38):

- (38) a. *A-ba-ntwana* [o-*ba-nik-e* i-*zin-cwadi*]
 AUG-2-child REL.2S-2.OM-give-PST AUG-10-book
ba-ya-jabul-a
 2.SM-DJ-be.happy-FV
 ‘The children to whom you gave the books are happy.’
- b. *I-zin-cwadi* [o-*zi-nik-e* a-*ba-ntwana*] *zi-bomvu*
 AUG-10-book REL.2S-10.OM-give-PST AUG-2-child 10.SM-red
 ‘The books that you gave the children are red.’

The relative clauses in (38) are based on the ditransitive verb *-nik-*, ‘give’. The examples show that each internal argument can be relativised in Zulu when the other argument remains inside the VP. This is consistent with the assumption that relative operator extraction must precede via X, because Zulu allows each argument in a double object construction to be extracted and object-marked, as long as the other argument is not dislocated (compare (15b) and (15c) in section 3 above).

When one object of a ditransitive verb is relativised, and the other object is pronominalised, the latter is typically realised as a strong pronoun in Zulu:

- (39) a. *A-ba-ntwana* [o-*ba-nik-e* *zona*] *ba-ya-jabul-a*
 AUG-2-child REL.2S-2.OM-give-PST 10.them 2.SM-DJ-be.happy-FV
 ‘The children to whom you gave them (i.e. the books) are happy.’

- b. *I-zin-cwadi* [o-zi-nik-e bona] zi-bomvu
 AUG-10-book REL.2S-10.OM-give-PST 2.them 10.SM-red
 ‘The books that you gave them (i.e. the children) are red.’

The object markers in (39a) and (39b) correspond to the relative operators, while the pronominal objects have remained in the VP. The derivation of the examples in (39) is identical to the derivation of (38a) and (38b); the only difference is that the non-relativised objects in (39) are pronouns. Again, (39) is compatible with the idea that operator movement to [Spec, C] takes place via [Spec, X].

A less common, but acceptable, alternative to (39) is to realise the pronominalised object as *pro* and to base-generate a relative operator in [Spec, C] from where it binds a resumptive pronoun in a VP-internal argument position (see (41)):

- (40) a. *A-ba-ntwana* [o-zi-nik-e bona] ba-ya-jabul-a
 AUG-2-child REL.2S-10.OM-give-PST 2.them 2.SM-DJ-be.happy-FV
 ‘The children to whom you gave them are happy.’
- b. *I-zin-cwadi* [o-*ba*-nik-e zona] zi-bomvu
 AUG-10-book REL.2S-2.OM-give-PST 10-them 10.SM-red
 ‘The books that you gave them are red.’

- (41) [CP OP_i [XP *pro*_j [X [VP bona/zona_i t_j]]]]

The base-generation strategy shown in (41) can be regarded as a consequence of the condition in (37). Since *pro* in Zulu is inherently discourse-given and therefore obligatorily marked as antifocus, it must move out of the vP. In (40a) and (40b), *pro* has moved to [Spec, X] and is hence identified by the object marker. The requirement that A-bar movement of a relative operator must proceed via X can therefore not be met by moving the relative operator to [Spec, C] via [Spec, X]. The preferred solution to this dilemma is to derive the relative clause without operator movement, in which case the condition in (37) above is trivially fulfilled.

However, for many Zulu speakers there exists another strategy to relativise one object and to realise the other one as *pro*. This alternative exploits the fact that extraction via X may also proceed via adjunction to XP, a last resort operation that is available if and only if [Spec, X] is already filled (see section 3). In relative clauses with ditransitive verbs in which one object is *pro* and the other one a relative operator, it is therefore possible for some Zulu speakers to move one object to [Spec, X] and to extract the other object via adjunction to XP. Importantly, in this scenario, the following contrasts are observed:

- (42) a. *A-ba-ntwana* [o-*ba*-nik-ile] ba-ya-jabul-a
 AUG-2-child REL.2S-2.OM-give-DJ.PST 2.SM-DJ-be.happy-FV
 ‘The children to whom you gave them are happy.’

- b. * *I-zin-cwadi* [o-zi-nik-ile] zi-bomvu
 AUG-10-book REL.2S-10.OM-give-DJ.PST 10.SM-red
 Intended: ‘The books that you gave them are red.’
- (43) a. * *A-ba-ntwana* [o-zi-nik-ile] ba-ya-jabul-a
 AUG-2-child REL.2S-10.OM-give-DJ.PST 2.SM-DJ-be.happy-FV
 Intended: ‘The children to whom you gave them are happy.’
- b. *I-zin-cwadi* [o-ba-nik-ile] zi-bomvu
 AUG-10-book REL.2S-2.OM-give-DJ.PST 10.SM-red
 ‘The books that you gave them are red.’

The examples show that in constructions with two A-bar-moved objects, object agreement can only be with the IO, regardless of whether the IO is the relative operator, as in (42a), or *pro*, as in (43b). As I explain now, this contrast supports my claim that operator movement in Zulu object relatives proceeds via X.

According to the condition in (37), the IO in (42a) has been relativised by moving to [Spec, C] via [Spec, X], where it triggers object marking. The DO is *pro*, which also needs to be removed from vP. As was shown in section 3, the “Xtractor” phrase XP, although licensing only one specifier, can be the target for A-bar movement of two objects, by allowing the second object to adjoin to XP. This is what has happened in (42a): *pro* is removed from vP via adjunction to XP. Since adjunction has no morphological effect, there is no overt sign of the DO in (42a).

In (43b), the IO is *pro*, which has moved to [Spec, X], and object marking reflects agreement with *pro*. In the next step, the relative operator corresponding to the DO is extracted. Since [Spec, X] is filled, the DO adjoins to XP and then moves on to [Spec, C]. The result is a relative clause construction in which a relative operator has undergone A-bar movement without triggering object marking. This exceptional possibility hence exists in Zulu, but only in ditransitive constructions in which the non-relativised object is object-marked. This follows from the analysis presented in section 3, according to which adjunction to XP is a last resort operation which is only available when [Spec, X] is already filled.

But now recall that in double object constructions in which both objects are extracted, movement to [Spec, X] is constrained by Locality. This is why in the grammatical constructions in (42a) and (43b), it is always the IO that is object-marked, regardless of whether it is *pro* or the relative operator. If both objects are marked as antifocus, only the IO can move to [Spec, X]; the DO can only move in a second step and adjoin to XP. (42b) and (43a) are ungrammatical, because Locality has been violated: (42b) corresponds to a derivation in which the DO-relative operator has moved to [Spec, C] via [Spec, X], but since the IO is *pro*, which is also marked as antifocus, it intervenes between X and the DO, and hence blocks Agree between the two. The same holds in (43a), where the DO is *pro* and has moved to [Spec, X]. However, since the IO is a relative

operator, which also bears antifocus features, Agree and movement of *pro* across the IO are ruled out.

The contrast shown in (42) and (43) provides a strong argument for the claim that in Type 3 languages, relative operators must move to [Spec, C] via [Spec, X]. If relativisation and object marking were independent processes, we would not expect to find any asymmetries, because in Zulu, both object marking and relativisation are symmetrical and are in principle available for either object. In particular, given that it is possible to relativise an object without a corresponding object marker or pronoun (as demonstrated by (43b)), it would be difficult to explain why this option exists for the DO, but not for the IO (compare (43a)), although the latter is closer to the landing site [Spec, C]. However, this asymmetry follows from the condition in (37), which states that all A-bar movement must proceed via *X* in Zulu-type languages. Since adjunction of *pro* or a relative operator to XP can only take place when [Spec, X] is already filled, my analysis correctly predicts that extraction of both objects in a relative clause construction is only possible when the object marker corresponds to the IO.

6 Conclusion

In this paper, I have proposed a typology of Bantu languages based on the different grammatical functions fulfilled by object markers in these languages. In Type 1 languages, object markers express ϕ -feature agreement between *v* and the corresponding object-DP; in Type 2 languages, object markers are pronouns; and in Type 3 languages, object marking is a reflex of A-bar movement of an antifocused (right-dislocated or relativised) DP. Furthermore, I have shown that this typology also explains systematic differences between Bantu languages with respect to object marking in relative clauses: in Type 1 languages, object markers are never required in object relatives (they are either optional, or excluded); in Type 2 languages, object marking in object relatives is impossible, whereas in Type 3 languages, object markers are obligatory in object relative clauses.

My proposal that there is a class of Bantu languages in which object marking is a consequence of A-bar movement of the corresponding object makes two empirical predictions. First, we never expect to find a Bantu language, with obligatory object markers in relative clauses, which also licenses object markers with VP-internal objects (as discussed in section 1, the latter possibility exists with Type 1 languages such as Swahili or Sambia). Obligatory object marking in relative clauses is characteristic of Type 3 languages, but in these languages, object markers are only licensed when the object-marked DP has undergone A-bar movement. Therefore, object marking of a VP-internal DP is predicted to be impossible in this type of language. Second, we expect that Bantu languages with obligatory object markers in object relatives are always “symmetrical” with respect to object marking in double object constructions. This is predicted by

my analysis, which postulates that object marking in Type 3 languages is not the result of ϕ -feature agreement between v and DP, which is constrained by Locality conditions that exclude agreement with a DO across an intervening IO. Rather, object marking is a consequence of agreement between antifocus features, and Locality does not block Agree between a DO and the vP -external head X across an IO not marked as antifocus. Further empirical research is needed to test whether these predictions are borne out.

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