

CLAUSAL AND DP-INTERNAL AGREEMENT IN IKALANGA

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This paper investigates the controversial morphemes that occur both at the clause level and within the DP in Bantu languages such as Ikalanga, which have been analyzed as “agreement morphology” by some (Baker 2002, Demuth and Harford (1999) and as resumptive/incorporated pronouns by others (Bresnan and Mchombo 1987, Zwart 1997). The paper proposes a unified analysis of this phenomenon, analyzing both clausal and DP-internal occurrences of these morphemes as agreement morphology which holds between the head of an XP and its predicate, or between the head of an XP and its modifiers. In both instances, the agreement relation is instantiated after movement of the relevant category from its base position to a specifier position which enables the moved category to enter into a checking relation (i.e. a spec-head configuration) with another category that has matching features (Chomsky 1995).

1. Background

Most of the data used to advance the arguments presented in this paper come from Ikalanga, a virtually unstudied Bantu language spoken in the northeastern and central parts of Botswana, and also in parts of Zimbabwe. The dialect analyzed in this paper is one spoken in central Botswana. Since there has been no recent population census, it is difficult to provide an accurate estimate of the Ikalanga speakers population. Mathangwane (1999) estimates the Ikalanga population to be about 150,000, a figure which no doubt has risen by now. Guthrie (1967-71) classifies Ikalanga as an S.16 language, placing it in the same zone as other southern Bantu languages, specifically the Shona group. However, as observed in Mathangwane (1999), Ikalanga differs from the Shona dialects in the areas of grammar, vocabulary and sound system. Of relevance to this paper is the

difference in the concord system, specifically in class 18. In Shona, the agreement morpheme for class 18 is *m-*, copying the noun class prefix which is *mu-*, while in Ikalanga the locative classes, namely classes 16, 17 & 18, all take a default agreement morpheme *k-*.

1.1 The issue. Bantu languages such as Ikalanga, Chichewa (Bresnan and Mchombo 1987, henceforth B&M 1987), Kinande (Baker 2002), KiLega (Kinyalolo 1991), and Sesotho (Demuth and Harford 1999) have obligatory morphemes (often referred to in the literature as subject markers) which agree in *phi* features with the subject NP in finite sentences. A quick look at current research in Bantu languages reveals that there is controversy regarding the status of subject markers.¹ Some researchers treat subject markers found in Bantu languages as agreement markers (Baker 2002, Woolford 1999, Demuth and Harford 1999, Carstens 1997). Others treat the same morphemes as having dual functions, sometimes functioning as agreement markers and other times as incorporated pronouns (B&M 1987, Keach 1995, Omar 1990). Givón (1976) suggests that agreement and pronominalization are fundamentally one and the same phenomenon. Yet another view is one which treats these morphemes as clitics. For example, Eze (1995) argues that Igbo, a West African language spoken in Nigeria, is a null subject language whose null subject is licensed by the preverbal subject clitic, since it contains the *phi* features of person and number. A similar view to the clitic analysis is offered by Zwart (1997) who proposes that subject markers in Swahili are resumptive pronouns comparable to the “d-word” *die/dat* in Dutch.

This paper argues that “subject markers” are not pronouns (resumptive or otherwise) but that they are agreement morphology which holds between a subject and its predicate. This paper further argues that agreement which occurs outside of the verbal domain (i.e DP-internal agreement) is not an instance of resumptive pronouns, but is just another case of agreement between the head noun and its modifiers, a phenomenon quite common in the world’s languages, including Germanic languages. Thus, this paper proposes a unified analysis of agreement (the clausal type and the DP-internal type), namely that agreement is a relation that holds between the head of an XP and its predicate or modifiers. I argue that the fact that the DP-internal agreement is sometimes phonologically homophonous with subject markers is not surprising because the head noun of any

¹ Most of the recent analyses of subject markers in Bantu cited in the literature build on Bresnan and Mchombo’s (1987) analysis of subject markers.

DP controls agreement both within the DP and in the clause in which it functions as the grammatical subject.

I will argue that the markers indicating agreement between the head noun of the subject of a sentence and its predicate and the agreement marker between a noun and its modifiers that Zwart discusses might be morphologically homophonous but have different syntactic statuses: the former expresses agreement between the subject of a clause and its predicate, while the latter expresses a relation between a noun and its modifiers even though both express agreement involving *phi* features of the same head noun. That the agreement morphemes expressing a relation between the noun and its modifiers are not phonologically uniform causing them sometimes to be homophonous with the agreement morpheme expressing the relation between the subject of a sentence and its predicate is a purely (morpho)phonological matter and is not of significant import, syntactically. Explaining the homophony between noun modifier agreement and subject predicate agreement is beyond the scope of this paper. Nonetheless, both the DP-internal agreement and the clausal agreement can be understood if we adopt an analysis in which agreement is a relation realized only in a specific configuration, i.e. the spec-head configuration (Chomsky 1995, Koopman and Sportiche 1991, Baker 2002, Demuth and Harford 1999, Kinyalolo 1991, Carstens 1997). This configuration holds only after movement has taken place to check uninterpretable features (Chomsky 1995, see section 1.2 below for an overview of the theoretical assumptions adopted in this paper).

The paper specifically argues against two analyses in the literature regarding the status of subject markers. The first analysis is B&M (1987) who argue that subject markers (SMs)² are sometimes incorporated pronouns and other times agreement morphemes. The second analysis is Zwart (1997) who proposes that Bantu languages such as Swahili do not express subject-verb agreement at all, and that subject markers are resumptive pronouns. Based on facts from Ikalanga and other languages, I argue that, first of all, subject-verb agreement *is* expressed in Bantu languages such as Ikalanga and Swahili. Second, I propose that subject markers always indicate agreement morphology which holds between a head of an XP which is in a subject position and its predicate. Evidence for my proposal is based on an investigation of the behavior and distribution of SMs, and the in-

² Abbreviations used in this paper are as follows. SM = subject marker, IND = indicative, FV = Final Vowel, Noun_{number} = noun class number, Pres. = Present Tense, OM = Object Marker, Rel. = Relative, AGR = Agreement, EPP = Extended Projection Principle, HAB = Habitual, Cop. = copula, PL = Plural, Expl. = Expletive, Loc. = Locative, DIST. = Distal, asp. = aspect.

teraction of SMs with other syntactic properties such as mood and negation. Before any further discussion, I provide some background information on the theoretical assumptions adopted in the analysis in this paper.

1.2 Theoretical assumptions. The analysis adopted in this paper is couched in the theory of Minimalism as discussed in Chomsky (1995, 2001). In this theory, it is assumed that words have three kinds of syntactic properties: specifiers, heads and complements, each of which has features which are either interpretable or uninterpretable. Specifier features indicate the kind of specifier a given word, e.g. the verb *dislikes* in example (1), should have, for instance the specifier should have nominative, third person, feminine, singular features. The features person, number, tense and gender are usually collectively referred to as *phi* features. The head features of the verb *dislikes* are simply its intrinsic grammatical features, for example, present tense, third person, feminine/masculine, singular. The complement features of *dislikes* indicate the kinds of complement that this verb requires, i.e. some kind of nominal or proposition.

(1) Mary dislikes apples.

Interpretable features are those that have semantic content, i.e. person, number, gender and tense, while uninterpretable features are those without semantic content, i.e. case. To illustrate, the pronouns *I* and *me* have the same interpretation in examples (2) and (3), that is they are both subjects of *will pass/to pass* respectively although they have different case properties since *I* is nominative and *me* is objective.

(2) John expects that I will pass.

(3) John expects me to pass.

Case, E(xtended) P(rojection) P(rinciple) and agreement features are regarded as part of the tense feature. The EPP is the requirement that every clause should have a subject. In current Minimalism, EPP is regarded as a feature of three categories: *v*P, C(omplementizer), and T(ense) P(hrase). Verb endings that do not indicate tense, for example the *-n* indicating perfective/past participle in verbs such as *written* are also considered to be uninterpretable. Thus, for a derivation to converge (that is, to pass as grammatical), uninterpretable features should be checked (erased/deleted) at L(ogical) F(orm). For checking to take place, the features of

the lexical item doing the checking and those of the item checked have to match. For example, in (3) above, the features of the head *expects* (disregarding the feature present tense), 3rd person singular, match those of the specifier *John*, which also has 3rd person singular features. If the specifier in (3) were a plural pronoun like *they*, then this derivation would not converge because of feature mismatch since *they* has one mismatching feature with *expects*, ‘plural’.

This theory makes use of the split VP hypothesis, which is the hypothesis that VP has two shells, an inner shell headed by V (the lexical verb) and an outer shell headed by a light verb, represented as *v*. Subjects of unergative verbs (i.e. agentive subjects) are said to be base generated as specifiers of *v*P, while subjects of unaccusatives are said to be base generated in the specifier of VP. My analysis adopts Chomsky’s (1995) idea that specifiers are iterable. Thus modifiers are analyzed as adjoined to specifier positions. In addition, I adopt the strong lexicalist view of Chomsky (1995 and subsequent works) in which lexical items (that is, words) are introduced in the grammar fully inflected.

The rest of the paper is organized as follows. Section 2 discusses and critiques previous analyses of SMs, specifically B&M (1987) and Zwart (1997). Section 3 analyzes SMs within the verbal domain in light of the proposal advanced in this paper, that SMs are simply agreement morphology between the head of an XP and the predicate of that XP. Section 4 presents evidence based on the interaction of subject markers with other syntactic phenomena to further argue that SMs are agreement morphology and not pronouns of any sort. Section 5 addresses Zwart’s concern regarding agreement outside of the realm of the verb, and shows how such agreement facts can be explained in terms of the spec-head relation analysis adopted in this paper. Section 6 concludes the discussion.

Since the noun class system plays a crucial role in the discussion in this paper, I provide the noun class system of Ikalanga for ease of reference.

Table 1: Ikalanga Noun Class Prefixes and Agreement Markers.³

| cl. | Noun prefix | Subject Agreement | | | | OM | example | gloss |
|-----|-------------|-------------------|-----|-----|----------|------|-----------|----------------|
| | | Pr. | Ps. | Ft | Neg/subj | | | |
| 1 | n- | u- | u- | u- | a- | n/m- | nthu | person |
| 1a | - | u- | u- | u- | a- | n/m- | Neo | (name) |
| 2 | ba- | b- | b- | b- | ba- | ba- | bathu | people |
| 2a | bo- | b- | b- | b- | ba- | ba- | boNeo | Neo and others |
| 3 | n- | u- | w- | u- | u- | u- | nti | tree |
| 4 | mi- | i- | y- | i- | i- | i- | miti | trees |
| 5 | ∅ | l- | l- | l- | li- | l- | zhani | leaf |
| 6 | ma- | a- | a- | a- | a- | a- | mazhani | leaves |
| 7 | chi-/i/ ∅ | ch- | ch- | ch- | chi- | chi- | chibululu | lizard |
| 8 | zwi | zw- | zw- | zw- | zwi- | zwi- | zwebululu | lizards |
| 9 | N/ ∅ | i- | y- | i- | i- | i- | mbgwa | dog |
| 10 | N-/dzi-/ ∅ | dz- | dz- | dz- | dzi- | dzi- | mbgwa | dogs |
| 11 | li- | g- | gu- | g- | gu- | gu- | likuni | log |
| 14 | bu- | g- | gu- | g- | gu- | gu- | bushwa | grass |
| 15 | ku- | k- | ku- | k- | ku- | - | ku izela | to sleep |
| 16 | pa- | p- | ku- | k- | ku- | - | pa dula | by the granary |
| 17 | ku- | k- | kw- | k- | ku- | - | ku nzi | at home |
| 18 | mu- | k- | kw- | k- | ku- | - | mu ngumba | in the house |
| 21 | zhi- | l- | l- | l- | li- | li- | zhingwana | enormous child |

2. Previous Analyses of Subject Markers.

This section takes a closer look at two analyses proposed for subject markers in Bantu, both of which I argue against, namely B&M (1987) and Zwart (1997). Before entering into a discussion of these two works, I first provide a brief discussion of the pro-drop phenomena and the claim that has been made to the effect that dislocation is related to the presence of agreement (Jelinek 1984, Baker 1996). First, I would like to point out that phenomena that have been analyzed as “topicalization” by some have been analyzed as “left dislocation” by others, thus leading to confusion about what topicalization and left dislocation are and how exactly they differ. In Bantu literature, one finds instances in which subjects in languages such as Chichewa are said to be topicalized (B&M 1987, Zwart 1997)

³ When the agreement marker *u-* combines with the tense/aspect marker *-a-*, phonologically we get *wa-*. Therefore, in the rest of this paper, when these two combine, I will indicate them as *wa* instead of *u-a*.

while in other works, subjects in other Bantu languages, e.g. Kinande, are said to be “dislocated” (Baker 2002). Perhaps what makes it even more difficult to distinguish the two is the fact that both are said to exhibit A’ characteristics. Chomsky (1977) distinguishes topicalization from left dislocation by positing that topicalization structures involve *wh* movement while left dislocation structures involve no movement. In addition, while left dislocation structures involve resumptive pronouns as shown in example (4), topicalization does not (example 5).

(4) As for this book, I really like it.

(5) This book, I really like.

In Bantu languages, there seems to be some consensus, at least by scholars who have raised the issue, that subjects in these languages are not in spec-TP but that they are in some A’ position. However, showing that subjects are either topicalized or left dislocated does not in itself constitute evidence that the controversial Bantu morphemes are or are not agreement morphology or resumptive pronouns. There is another layer of complication, of course — one’s theoretical orientation. B&M (1987) for example, whose theoretical framework is L(exical) F(unctional) G(rammar), analyze morphemes such as *ú* in the embedded clause of example (6) as the subject of the embedded clause. This is because of the completeness condition of LFG which holds that every argument which is lexically required must be present, in other words the existence of null elements is not acknowledged (Chichewa: B&M 1987 ex. 32a).⁴

(6) Mkángó uwu, alenje a - ku- gáníza kutí *ú* -ma- fúná
 Lion₃ this hunters₂ SM₂ -pres-think that SM₃-HAB want
 ku- gúmúla nyumbá yá mfûmu
 INF-pull.down house of chief
 ‘This lion, the hunters think that it wants to pull down the chief’s house.’

Baker (2002), on the other hand, comes to a similar conclusion as B&M with respect to the A’ status of subjects in Kinande, although he uses the term ‘dislo-

⁴ I use a uniform glossing convention with regards to indicating noun classes (that is, a number subscript indicates noun class or the agreement morphology associated with a specific noun class) in the data discussed in this paper. This might differ from the way the original authors glossed their data but I do it for clarity.

cated' to describe the position of subjects in this language. For Baker, however, the real subject of the sentence is not the agreement morpheme, but a null element *pro*. Baker assumes that the feature Agr is not an independent head, but is parasitic on the feature EPP. This means that Agr checks the nominative feature of T in Bantu languages in the same way that Agr is said to check the EPP feature of T in pro-drop Indo European languages such as Greek (Alexiadou and Anagnostopoulou 1998). According to Baker, since Agr checks nominative case in Bantu languages, only an NP that has no case, such as the empty category *pro* can occur in spec-TP. This is the category that is base generated in vP (depending on the verb type), later moving to spec-TP to check EPP features (see section 3.1 for a detailed discussion of Baker's analysis).

2.1 Bresan and Mchombo's analysis of SMs. B&M (1987) argue that subject markers in Chichewa sometimes function as simple agreement morphology, as in (8), while sometimes they are pronominal as exemplified in (9). They account for the agreement facts in Chichewa from an LFG theoretical point of view. According to these authors, in Chichewa, all simple [subject + verb] sentences are functionally ambiguous. The agreement marker functions as either an agreement marker relating the subject and the verb as in (8 = B&M 1987 ex. 1) or as a pronoun relating a topic NP to the verb. The latter function is illustrated in (9 = B&M 1987 ex. 32a).

(8) Njuchi zi - ná -lúm -a alenje.
 Bees₁₀ SM₁₀-past-bite -IND hunters
 'The bees bit the hunters'.

(9) Mkángó uwu, alenje a - ku- gáníza kutí ú - ma - fúná
 Lion₃ this hunters₂ SM₂-pres-think that SM₃-HAB- want
 ku- gúmúla nyumbá yá mfûmu
 INF-pull.down house of chief
 'This lion, the hunters think that it wants to pull down the chief's house'.

According to these authors, in LFG, the subject marker *zi* in (8) serves as agreement morphology between the subject NP *njuchi* and the verb *luma* because the subject and the verb have a "local" relation. "Locality" is defined in terms of proximity of the agreeing elements within the clause: that is, for grammatical agreement to obtain, the subject and the verb should be within the same clause. In (9) however, according to these authors, the verb *fúná* and the subject *mkángó uwu* are not in the same simple clause, hence the subject marker *ú* cannot be an

agreement marker between these categories. For these authors, this is one reason why the subject marker *ú* is not an agreement morpheme in (9) but is a pronoun which functions as the subject of the embedded clause. A second reason why B&M argue that *ú* in (9) is an incorporated pronoun is because of the “completeness condition” of LFG. The completeness condition holds that every argument which is lexically required must be present, in other words, this theory does not entertain the existence of null elements such as *pro* used in Minimalist theory. Thus, given the principle that every sentence requires an overt subject, some overt element in the clause has to fulfill the function of subject. Such an element is *ú* in (9), which the authors analyze as an incorporated pronoun.

The argument advanced by B&M regarding the proposal that subject markers can function as incorporated pronouns is not convincing for two reasons. First, B&M point out that in sentences where the verb is finite, the subject marker, which is the morpheme that expresses the subject and verb agreement relation, is obligatory. However, the verb *ǰúná* in the first embedded clause in (9) is finite, and one wonders why agreement is not required between this verb and the subject of the sentence, the incorporated pronoun *ú*. It is not clear why in (9) the incorporated pronoun *ú* blocks agreement morphology from showing up, resulting in two identical forms of *ú* in the embedded finite CP clause as illustrated in (10).

- (10) *Mkángó uwu, alenje a - ku- gáníza kuǰí *ú* - *ú* - ma - ǰúná
 Lion₃ this hunters₂ SM₂-pres-think that it₃ -SM₃- HAB-want
 ku- gúmúla nyumbá yá mfǰmu
 INF-pull.down house of chief

‘This lion, the hunters think that it wants to pull down the chief’s house.’

It therefore seems odd that a language which has obligatory subject agreement markers in finite clauses should have one exceptional case in embedded clauses in which the agreement does not show up.

Second, if *ú* is an incorporated pronoun, as B&M claim, it is not clear why a pronoun is obligatory, assuming incorporated pronouns are optional elements. Given that Chichewa, like other Bantu languages, is a pro-drop language, one would predict that since the *ú* in the embedded clause is a pronoun, it can be omitted without resulting in ungrammaticality. However, omitting *ú* in (9) results in ungrammaticality as attested in example (11).

- (11) *Mkango uwu, alenje a - ku- gáníza kutí ma- fúná
 Lion₃ this hunters₂ SM₂- pres-think that HAB-want
 ku- gúmúla nyumbá yá mfûmu
 INF-pull.down house of chief

‘This lion, the hunters think that it wants to pull down the chief’s house’.

The third objection to B&M’s analysis of *ú* as an incorporated pronoun stems from the fact that the justification for their claim is based on theory-internal reasons. Recall that according to LFG’s completeness condition, every argument which is lexically required must be overtly present, suggesting that this theory does not entertain null elements such as *pro*. Since Chichewa is a pro-drop language, LFG always has to identify some overt element to serve as a subject. The fact that this is a theory-internal argument weakens it. The data in (8-9) can be explained from a Minimalist perspective in a unified way by positing that the subject of the embedded clause is *pro* and that *ú* is agreement morphology relating the finite verb *fúná* and the null subject *pro*. Although such an analysis is not theoretically superior since it is also theory-internal in that it entertains the existence of null arguments such as *pro*, it at least takes care of the awkward problem of positing that finite verbs in embedded sentences do not require subject markers while subject markers are obligatory in other finite sentences.

2.2. On Zwart’s (1997) analysis of subject markers in Swahili. Zwart (1997), like B&M, analyzes Swahili subject markers as some kind of pronominal element which he likens to the resumptive d-word (*die/dat*) used in Dutch ‘topicalization’ constructions. According to Zwart, the subject marker in Swahili is a pronominal element which resumes the features of a previously mentioned entity, similar to the Dutch example (12 = Zwart 1997 ex. 20) which Zwart describes as a case of agreement *ad sensum*.

- (12) Dat meisje die is gek.
 DIST-NTR girl DIST-NNTR is crazy
 ‘That girl is crazy’. (DIST = distal, NTR = neuter, NNTR = nonneuter)

According to Zwart, agreement *ad sensum* such as in example (12) can be overruled by morphological agreement. When this happens, the result is example (13). Notice that in (12), *die* does not show agreement with the head noun *meisje*, which is neuter in gender (the pronoun *die* being non-neuter since it is feminine),

a rather unexpected outcome. In example (13 = Zwart 1997 ex. 22) however, *dat* shows agreement with *meisje* since they are both neuter.

- (13) Dat meisje dat is gek.
 DIST-NTR girl DIST-NTR is crazy

Similarly, Zwart analyzes the *wa* in the Swahili example in (14 = Zwart 1997 ex. 19) as a resumptive pronominal similar to *die* in (12).

- (14) Wa -le vi-jana wa -na -chez-a mpira
 SM₂-DIST 8-young SM₂-pres-play -IND ball₃
 ‘Those youngsters are playing ball’.

Notice that in (14), although the head noun of the NP, namely *vi-jana*, is a class 8 noun, it does not control the agreement on the verb as would normally be the case. Rather, the agreement on the verb *wanacheza* and on the demonstrative *wale* have the same *phi* features as class 2 (i.e. [+human], third person features). Thus, the agreement on both *wanacheza* and *wale* is semantically determined by the classification of *vi-jana* as [+human] and not by its grammatical class which is class 8. Zwart contends that Swahili (14) is similar to Dutch examples such as (12) where the agreement is not determined by the head noun; *meisje*. Zwart (1997) analyzes sentence (14) as a case of agreement *ad sensum*. Therefore, because of examples like (14), Zwart analyzes such sentences as cases of topicalization just like the Dutch example (13). He thus argues for the rather strong position that in fact agreement between the subject and the verb is not expressed at all in Swahili. This leads to the conclusion that all sentences with agreement markers in Swahili involve topicalization. But notice that the similarity between the Dutch example (12) and Swahili (14) only goes as far as the fact that the head noun *meisje* in Dutch and the head noun *vi-jana* in Swahili do not control agreement on the verb. Swahili example (14) differs from the Dutch example in at least three ways: First, the demonstrative *dat* in Dutch has the *phi* features of the head noun *meisje* while the Swahili demonstrative takes the features of noun class 2. Second, there is a pause after the noun *meisje*, and the pronoun *die* is stressed, just as is expected of topicalization structures as shown in example (15) (judgments from Annemarie Toebosch, p.c.). This is not the case in Swahili; there is no pause after the noun *vi-jana*, nor is the subject marker *wa* stressed (judgments from Sam Mchombo, p.c.). Third, *die/dat* in Dutch examples (12, 13) are optional, meaning

that example (12) is grammatical without these pronouns resulting in example (16: Toebosch, p.c.), a non-topicalized construction.

- (15) Dat meisje, die is gek.
 DIST-NTR girl DIST-NNTR is crazy
 ‘That girl, she is crazy’.
- (16) Dat meisje is gek.
 ‘That girl is crazy’.

In Swahili on the other hand, the subject marker is obligatory. Omitting it results in ungrammaticality as shown in example (17). Furthermore, even if the demonstrative were to be left out of example (14), the subject marker would still be a class 2 subject marker *wa-* as shown in example (18: Sam Mchombo, p.c.).

- (17) *Wa-le vi -jana -na -chez-a mpira
 AGR₂-DIST SM₈ -young -pres-play -IND ball₃
 ‘Those youngsters are playing ball’.
- (18) Vi-jana wa -na -chez-a mpira
 8 -young SM₂-pres-play -IND ball₃
 ‘Youngsters are playing ball’.

Another argument that Zwart uses to argue for the position that agreement between the subject and the verb is not expressed in Swahili involves so-called ‘verbless’ constructions such as (19).

- (19) Wa -po
 SM_{2,3}-Loc
 ‘They are here’. ‘Here they are’.

According to Zwart, historically (19) had a copula *li-* which presumably got dropped from the language. Thus, originally (19) was like (20).

- (20) Wa -li -po
 SM_{2,3}-Cop.-Loc
 ‘They are here’.

If *li* got deleted from the language over time, it means that there is no verb/copula for the agreement morpheme *wa* to attach to as a subject marker. According to Zwart, it is typologically rare for an agreement affix to attach to a null verb. However, one might argue that rareness does not necessarily mean impossibility. It is possible that although the Swahili copula *li* got dropped phonologically from the language, it is syntactically present. One argument in favor of this analysis comes from a similar negated example in Ikalanga, a language similar to Swahili. For example, consider the Ikalanga example (21) which is similar to Swahili (20).

- | | |
|--|--|
| (21) a. Ba - (y)a -po SM ₂ -pres. -there/exist 'They are here/there'. | b. I - ya -po SM ₉ -pres-there/exist 'It is there'. |
|--|--|

In (21), presumably the subject marker relates the null subject to a null copula whose syntactic presence is marked by the tense marker *ya*. Since tense is a property of the verb, it can only be that the copula is syntactically present although phonologically null. Therefore, the subject marker in (21) can qualify as agreement morphology since it has a null copula to attach to. Notice that the negative form of (21) shown in (22) does not exhibit the tense marker *ya*. This means that the tense marker in Ikalanga also has a zero allomorph in the negative.

- | | |
|--|---|
| (22) a. A -ba -po Neg.-SM ₂ -there/exist 'They are not here/there'. | b. A - yi -po Neg.-SM ₉ -there/exist 'It is not here/there'. |
|--|---|

Since there is evidence for the existence of a null copula in (21), it would seem that (22), the negative form of (21), should also be analyzed as having a null copula and a null tense marker. I therefore argue that *ba* is agreement morphology in both (21) and (22) just as *wa* is agreement morphology in Swahili (19), where the copula must be a zero morpheme. The fact that the copula is not pronounced does not mean it is not syntactically present.

Another way of accounting for the facts in the “verbless” constructions is to posit principle (23).

(23) A head of an XP triggers agreement on its predicate.

Given principle (23) we can account for the Ikalanga and Swahili sentences in (19-22) as follows: (19-22) have null subjects *pro* which head the subject NPs. *Pro* has class 2 third person plural features which are copied onto its predicate, the locative *po* in the form of the agreement morpheme *ba/wa*. This is the analysis that is adopted in the rest of this paper.

3. Agreement Morphology Within the Verbal Domain

In this section, I focus the discussion on agreement within the verbal domain, leaving the discussion of agreement outside of the verbal domain for section 4. I argue that what Zwart refers to as a resumptive pronoun is really agreement morphology expressing a relation between the head of an XP which functions as a grammatical subject of the sentence and the verb (see Demuth & Harford 1999, Baker 2002 for similar observations). First, I discuss agreement in finite verb sentences, contrasting these with non-finite sentences whose verbs are not marked for agreement (section 3.1). I then discuss existential constructions in section 3.2, and locative inversion in section 3.3. I do not discuss quasi-passives since Ikalanga does not have this type of construction. However, I note that even in quasi-passives exemplified in (24), what Zwart refers to as resumptive pronouns is simply agreement morphology expressing the relation between the subject of the sentence (which is the logical object of the sentence, *vyakula*) and the predicate of the sentence.

(24) Vy-akula vi -li -kul-a wa-toto
 8 -food SM₈-past-eat- IND 2 -child
 ‘The children ate the food’.

3.1 Agreement in simple declarative finite sentences. Before I undertake the discussion of agreement in simple declarative sentences in Ikalanga, I first present some general facts about how Ikalanga expresses tense-aspect. Like other Bantu languages, Ikalanga makes a distinction between the recent past and the remote past. The recent past is expressed by attaching a prefix *-a-* to the verb, as shown in example (25a). The remote past on the other hand makes use of both the *-a-* prefix plus the morpheme *-ka-*, which is also prefixed to the verb, as shown in example (25b).

- (25) a. W -a -bona nyoka.
 SA_{2s}-T/asp-see snake₉
 ‘You (just) saw a snake’.
- b. W -a - ka -bona nyoka.
 SA_{2s}-T/asp-past-see snake₉
 ‘You saw a snake’.

Agreement between the verb and the subject is obligatory in finite sentences. The agreement morpheme *w-* cannot be omitted in example (26) below. This is the case in both simple finite declarative sentences and finite embedded sentences.

- (26) a. Neo w -a - ka - bon- a mbisana.
 Neo_{1a} SM_{1a} -T/asp- past - see -FV boy₁.
 ‘Neo saw a boy.’
- b. *Neo a - ka - bon- a mbisana.
 Neo_{1a} T/asp- past - see -FV boy₁.

In (26) the subject marker *u-* shares three syntactic properties, that is *phi* features, with the subject NP *Neo*, namely gender, third person, and singular. Other Bantu languages such as Chichewa (27 = B&M 1987 ex. 1), Kinande (28 = Baker 2002 ex. 11) and Swahili (29 = Deen 2004 ex. 2) also show similar agreement facts.

- (27) Njuchi {zi,*∅} - ná -lúm -a alenje.
 Bees₁₀ SM₁₀ -past -bite -IND hunters₂
 ‘The bees bit the hunters’.
- (28) Abakali {ba,*∅}-a-gul-a eritunda
 woman₂ SM₂ -T-buy -FV fruit₅
 ‘The women bought a fruit’.
- (29) Kibaki {a,*∅} -li - shind- a
 Kibaki₁ SM₁ -past-win -IND
 ‘Kibaki won’.

An embedded sentence with a finite verb similarly displays agreement morphology between the subject NP and the verb. For example, consider (30).

- (30) Neo u -no -alakana kuti botichara ba -ka- tenga mota.
 Neo_{1a} SM_{1a}-pres-think that teacher_{2a} SM_{2a}-past-buy car₉
 ‘Neo thinks that the teachers bought a car’.

In (30) the *phi* features of the matrix syntactic subject NP *Neo* are copied onto the agreement marker *u*. Similarly, the *phi* features of the embedded syntactic subject NP *botichara* are copied onto the agreement marker *ba* since this clause is a finite clause. Agreement morphology, however, is not observed on non-finite clauses such as example (31).

- (31) Neo u -no -shaka ku- tenga mota.
 Neo_{1a} SM_{1a}-pres. - want to - buy car₉
 ‘Neo wants to buy a car’.

Notice that agreement shows up only in the matrix clause in example (31) since the verb is finite but does not show up in the infinitive clause. A question that arises at this point is why only finite verb constructions trigger agreement in Bantu. Baker (2002) proposes that XPs that move to the specifier of TP trigger agreement.⁵ He proposes an agreement parameter for Indo European languages vs. Bantu languages stated in (32), specifically, that agreement in Bantu is part of the EPP feature of T while it is part of the nominative case feature of T in Indo European languages.

- (32) a. Tense agrees with the nominative NP in Indo-European.
 b. Tense agrees with its specifier in Bantu.

This parameter says that the NP which checks nominative case in Indo-European languages is the same NP that controls agreement. However, this NP need not be in spec-TP (see example 33). In Bantu languages, on the other hand, whatever is in the specifier of TP definitely controls agreement on the verb (see example 34). This proposal is consonant with the analysis adopted in this paper,

⁵ See also Binkert (1989) for arguments regarding why non-finite sentences do not have agreement. According to Binkert, non-finite sentences have no agreement because they do not have subjects.

namely that the subject, which is the NP that occurs in the specifier of TP in Bantu languages, controls agreement on the verb.

(33) On the bed lay the roses John bought.

(34) Mu-bulawo ku -gele ithunya Joni cha -a -ka -tenga
 18 -bed SM₁₈ -sit flower₇ John_{1a} Agr₇-SM₁-past-buy
 ‘On the bed sits the flower that John bought’.

Notice that in example (33), the agreement is not controlled by the prepositional phrase *on the bed*; instead, it is controlled by the logical subject of the sentence, *the roses*, which does not occupy spec-TP. In (34), on the other hand, the grammatical subject of the sentence, the phrase *Mu-bulawo*, controls agreement on the verb. Thus, given Baker’s (2002) analysis, we can account for the lack of agreement in non-finite sentences in both Indo-European and Bantu languages. Restricting the discussion to Bantu languages, a non-finite verb such as *ku-tenga* in (31) does not have an EPP feature to be checked if this sentence is [-tense]. If a verb lacks tense and by extension lacks the EPP feature, a feature which harbors agreement, then the null subject *PRO* of the embedded clause in (31) does not need to raise to spec-TP (which is [-tense]) to check EPP and agreement.⁶

Another type of non-finite clause that I would like to discuss in relation to agreement morphology is the imperative construction. Agreement morphology or “resumptive pronouns” do not show up in imperative constructions. For example, consider the sentences in (35).

- (35) a. Zhalila nkoba.
 Close door
 ‘Close the door!’
- b. Zhalila-ni nkoba.
 Close -you_{pl} door
 ‘Close the door!’ (plural subject)
- c. Ingwi ma -zhalila nkoba.
 You_{pl} 2_{pl}.SA-close door
 ‘You_{pl} have closed the door.’

⁶ See Bošćović (1997) and Pires (2002) for the view that non-finite clauses can be [+tense].

- d. *Ingwi ni-zhalila nkoba.
 You 2_{pl}-close door
 ‘You have closed the door.’

Note that it might seem like example (35b) has agreement morphology *ni* which is marked for number and person. However, *ni* in (35b) is an argument of the verb. Evidence that *ni* is an argument of the verb and not inflectional morphology comes from two sources: its position in relation to the verb and, the argument structure of the verb *zhalila*. Verbal inflectional morphology strictly precedes the verb stem in Bantu and cannot occur in any other position. However, note the ungrammaticality of (35d) if we place *ni* in the canonical subject agreement position. In addition, the only agreement form associated with 2nd person plural is *ma* as illustrated in (35c).

I therefore conclude that *ni* is a clitic (i.e. some kind of pronoun and therefore requires a host, in this case, the verb *zhalila*). The facts in (35a&b), that is, the lack of agreement in imperative constructions is not something that is unique to Ikalanga but seems to apply to other Bantu languages as illustrated in Bukusu (36 = Wasike’s forthcoming ex. 5a &b).

- (36) a. lim -a
 Dig -imp.sg
 ‘You (sg.) dig!’
- b. lim -e
 Dig -imp.pl
 ‘You (pl) dig!’

The lack of agreement in imperatives in Bantu languages such as Ikalanga can be explained easily if we assume with Baker (2002) that agreement is not an independent head and that instead it is packaged with another feature such as EPP. If agreement is a spec-head relation, this means any XP that triggers agreement on the verb has to move to spec-TP in order to check both the tense and agreement features of V. However, imperatives are tenseless and from the data in (35) above agreement-less. This is consistent with Baker’s analysis that agreement is packaged with some feature in T. If a clause is [-tense], then it goes without saying that it is [-EPP], and by extension agreement-less. Just like infinitive clauses, imperatives are tenseless. This means that neither the null subject *pro* of imperatives

such as in example (35a), nor the clitic subject *ni* of (35b), need to raise to spec TP, which has [-EPP] and [-AGR] features. This way, the lack of agreement morphology in imperatives is accounted for in a principled way. However, if agreement morphology is analyzed as resumptive pronouns, it is not obvious how such an analysis can account for the lack of “resumptive pronouns” in imperative sentences such as (35).

3.2 Existential constructions. As noted in Baker (2002), agreement in Indo-European languages is significantly different from agreement in Bantu languages. One such major difference is observed in expletive constructions such as (37) and (38 = Zwart 1997 ex. 31b).

(37) There are unicorns in the garden.

(38) Er zitten mensen in de tuin
 there sit-PL people in the garden

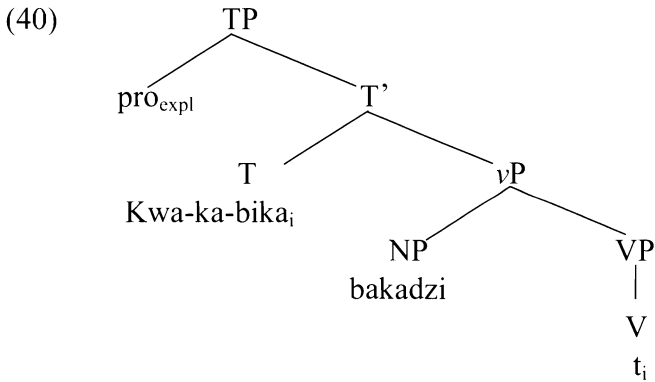
The finite verb agrees with the post-verbal subjects *unicorns* in (37) and *mensen* ‘people’ in Dutch (38). This is different from Bantu languages such as Ikalanga, where the agreement morphology in such constructions is with the grammatical subject, and not with the post-verbal subject (i.e. the thematic subject) as seen in (39) (see Zwart 1997 for similar observations).

(39) *pro* kwa - ka - bika bakadzi.
*pro*_{expl.} AGR_{expl}-past-cook women₂
 ‘There cooked women’. ‘Women cooked’.

I assume that since Ikalanga is a pro-drop language, the agreement *kwa* in (39) is with the grammatical subject, an expletive *pro* which is in the specifier of TP and not with the thematic subject *bakadzi* ‘women’ which is VP internal.⁷ If *kwa* were a resumptive pronoun as Zwart (1997) would have it, it is not clear which previ-

⁷ I assume that since expletives do not have theta roles, they are base generated outside of VP, that is, they are base generated in spec-TP. This means that the expletive *pro* in (39) does not undergo any movement since it is base generated in spec-TP. This constitutes a hitch to the analysis proposed in this paper in which agreement is checked when an XP or its head moves to a specific position to check its *phi* features. However, notice that if expletive *pro* occupies spec-TP, it blocks movement of any other XP into this position.

ously mentioned entity's features the so called resumptive copies in (39), since there is no previously mentioned entity. Thus, the structure of (39) is (40).



3.3. Locative inversion. One of the key points of Zwart's argument that agreement between the subject and the verb is not expressed in Bantu languages comes from locative constructions. Bantu locative inversion constructions have been a topic of theoretical interest, as evident from the numerous papers that discuss this topic, among them Carstens (1997), Bresnan and Kanerva (1989), Bresnan (1994), Demuth (1990), Machobane (1994). There are at least two reasons why locative inversion has generated much theoretical interest. One is that locatives behave like nouns in that they fall into specific classes. The second reason, probably the stronger of the two, is that like nouns, they tend to control agreement on the verb in both locative inversion constructions and on their modifiers.

In Ikalanga (and other similar languages, such as Chichewa), locatives fall into three classes: class 16, whose prefix is *pa*, class 17, whose class prefix is *ku*, and class 18, whose class prefix is *mu*. The following data from Ikalanga (41), Shona (42), Swahili (43 = Zwart 1997 ex. 32) and Kinande (44 = Baker 2002 ex. 25) illustrate the fact that locatives control agreement on their predicates just like nouns.⁸ Notice the difference between Ikalanga and Shona in terms of locative agreement. In Shona, the subject marker copies the morphological shape of the noun class prefix of the locative, class 18. As pointed out in the introduction, Ikalanga locative classes (16, 17 and 18) take a default agreement *k-*.

⁸ The class of the verb agreement is not controlled by the noun class prefix in Swahili.

- (41) Mu-danga kwa -ka -izela mbudzi.
 18 -corral₅ SM₁₈ -past -sleep goats₁₀
 ‘Goats are asleep in the corral’. (literally, In the corral sleeps goats.)
- (42) Mu-danga mwa-ka -gara mbudzi.
 18 -corral₅ SM₁₈ -past -stay goats₁₀
 ‘Goats live in the corral’. (literally, In the corral lives goats)
- (43) Mw-itu -ni m -me -lal -a wa-nyama
 wood₃ -loc. SM₁₈ -perf -sleep -IND animal₂
 ‘Animals are asleep in the wood’.
- (44) Omo-mulongo mw -a -hik -a (?o-)mu-kali.
 18 -village SM₁₈ -past-arrive-FV AUG woman₁
 ‘At the village arrived a woman’.

Zwart proposes that locative inversion constructions in Germanic illustrated in example (45 = Zwart 1997 ex. 31a) and those in Bantu are comparable, and that if this is the case, it is puzzling for SM₁₈ in Swahili sentences like (43) to be analyzed as a subject marker since the (thematic) subject is *wa-nyama* ‘animals’ in this example. Given that in (43) the thematic subject *wa-nyama* does not trigger agreement on the verb, unlike the Dutch thematic subject *mensen* in (45) which does, Zwart argues that this is evidence that in Swahili subject agreement is not expressed at all.

- (45) In de tuin daar zitten mensen
 in the garden DIST-Loc sit-PL people.

I argue that contrary to Zwart’s proposal that Germanic and Bantu locative constructions are comparable, they are in fact not, as evident from the data in (41-44). It is perhaps true that in Dutch the morpheme *daar* is some kind of resumptive pronoun, as Zwart analyzes it, especially if (45) is a case of topicalization of the locative. Notice however, that the verb *zitten* shows agreement with the post-verbal subject *mensen* since verbs agree with post-verbal subjects in locative inversion constructions in Dutch. On the other hand, verbal morphology indicating tense and agreement in Bantu is prefixal, not suffixal. Therefore, there is no morpheme in the Bantu examples in (41-44) which is equivalent to the Dutch resumptive pronoun *daar* in example (45), suggesting that the examples in (41-44)

are not parallel in structure to the Dutch example (45), i.e they are not instances of topicalization. Perhaps what we ought to ask at this point is, “What is a resumptive pronoun?” Crystal (1991: 300) defines a resumptive pronoun as “a term used in grammatical analysis to refer to an element or structure which repeats or in some way recapitulates the meaning of a prior element”. According to Crystal, in the sentence ‘Mary, I know her’ the pronoun *her* is a resumptive pronoun. That said, Bantu languages such as Ikalanga do exhibit a morpheme equivalent to *daar* in example (45). Consider the Ikalanga example (46).

- (46) a. Ku -minda Neo u -no -ku -da.
 Loc₁₇ -farms₄ Neo_{1a} SM_{1a} -pres.-Agr₁₇-like
 ‘At the farms, Neo likes it’.
- b. Neo u -no -da ku -minda
 Neo_{1a} SM_{1a} -pres.-like loc.₁₇- farms₄
 ‘Neo likes at the farms’.

In example (46) the clausal agreement is triggered by the thematic subject NP *Neo*, as in the Dutch example (45). At the same time, a resumptive pronoun *ku* appears as a clitic on the verb *-da*. Example (46) provides a closer parallel to the Dutch example (45) than do examples (41-44). More importantly, notice that the resumptive pronoun can be omitted in a non-topicalized sentence such as (46b). However, Zwart does not analyze examples (41-44) as cases of topicalization but rather as cases of left dislocation. In the Bantu literature, examples such as (46) have been analyzed as cases of topicalization (see B&M 1987, Demuth & Harford 1999, Baker 2002). One wonders therefore whether it is possible that Bantu languages such as Ikalanga and Swahili perhaps lack the kind of topicalization found in Dutch. Given the argument based on example (46), I conclude that the morphemes glossed as SM₁₈ in (41-44) express agreement between the verb and the subject in these sentences, consistent with the analysis proposed in this paper. If agreement is seen as expressing a relation between the verb and the subject of the sentence, then contrary to Zwart (1997), there is indeed nothing puzzling about the agreement facts in locative inversion constructions in Bantu.

To summarize, I have argued that the morphology commonly referred to as “subject markers” in the literature is indeed agreement morphology and not resumptive pronouns. I have also argued that there is no resumptive pronoun equivalent to the Dutch pronoun *daar* in Bantu which warrants analyzing Bantu locative inversion in sentences (41-44) as topicalization constructions unless one

considers the case of resumptive locatives such as in example (46a) in which the locative itself does not take up the subject position but moves to another position to the left of the preverbal subject. Specifically, I gave data involving a locative example in which a resumptive pronoun surfaces, and showed the similarity between such a sentence with the topicalized Dutch example in (45). The point of this discussion was to show that whatever occupies the subject position, i.e. spec-TP, in Bantu languages controls agreement on the main clause verb.

4. The Interaction of Subject Markers with Mood and Negation

The final argument which I present as evidence that “subject markers” are not resumptive pronouns but agreement morphology comes from an investigation of the interaction of the subject markers with other syntactic phenomena. A closer look at how “subject markers” interact with syntactic phenomena such as mood and negation reveals behavior consistent with them being agreement morphology rather than pronouns. In this section, I focus on subject agreement markers of classes 1, 1a, 2, and 2a, which are +human noun classes. There are two idiosyncratic forms of the 3rd person singular subject agreement marker for classes 1 and 1a, *u* and *a*, the morphological form of which is determined by mood or negation.

4.1 Mood. I begin the discussion by investigating the interaction of subject markers with mood. Class 1 (human 3rd person singular) subject NPs in sentences in the indicative mood either take the agreement marker *u-* or *w-a-*, depending on aspect, but they never take the agreement marker *a*. Class 1 subject NPs in subjunctive sentences (47) and certain WH-interrogative sentences (48a,b), however, take the agreement marker *a*. The allomorph *a-* in the subjunctive occurs even in bare subjunctives such as (47c). The allomorph *a-* in interrogatives occurs only in sentences in which the WH phrase is extracted. When the WH phrase is *in-situ*, as in (48c), then the *a-* allomorph does not surface. Instead, we observe the regular agreement morpheme *u-*.

- (47) a. Neo (ng)a - a - bik -e.
 Neo_{1a} should -SM_{1a-} cook-subjunctive
 ‘Neo should cook.’
- b. *Neo nga - w-(a) - bik -e.
 Neo_{1a} should-SM_{1a} - cook -subjunctive
 ‘Neo should cook.’

c. A -bik -e.

SM₁-cook-subjunctive

‘He/she should cook’.

(48) a. I -ni Neo cha -a -no - bika?

Foc-what₇ Neo_{1a} Agr₇ -SM_{1a}-pres - cook

‘What is Neo cooking?’

b. *I -ni Neo cha -u -no - bika?

Foc-what₇ Neo_{1a} Agr₇ -SM_{1a} -pres- cook

‘What is Neo cooking?’

c. Neo u -no -bika -ni?

Neo_{1a} SM_{1a}-pres.-cook -what

‘What is Neo cooking?’

The ungrammaticality of (47b) and (48b) shows that subject NPs of subjunctive and extracted interrogative clauses do not take the agreement markers *u*. This indicates that agreement is sensitive to change in the morphological mood of the verb. The fact that the subject marker has morphophonological idiosyncratic forms controlled by syntactic phenomena such as mood provides evidence that they are agreement prefixes, that is, they form part of the verb and are not independent syntactic units (i.e. pronouns). Zwicky and Pullum (1983) make the observation that inflectional affixes such as past tense forms (*go* ~ *went*, *talk* ~ *talked*) and plural forms (*mouse* ~ *mice*, *goose* ~ *geese*) are morphophonologically idiosyncratic. That the substitution of *a-* for *u-* is a morphological idiosyncrasy is further shown by (49), where the 2nd person singular *w-* is not subject to replacement.

(49) I -ni cha - w -a - ka - bika?

Foc-what₇ Agr₇ -SM_{2s} -past-past -cook

‘What did you cook?’

4.2 Negation. 3rd person singular subject NPs of negated declarative sentences also take the agreement marker *a* (50a). The ungrammatical (50b) illustrates that a subject NP in a negated sentence is not compatible with the agreement markers *w-* *a* or *u*.

- (50) a. Neo a - a -to - bika.
 Neo_{1a} Neg.-SM_{1a}-pres- cook
 ‘Neo does not/isn’t cook(ing).’
- b. *Neo a- w-a/u - to - bika.
 Neo_{1a} Neg SM_{1a} -pres- cook
 ‘Neo does not/isn’t cook(ing).’

Since the negation morpheme and the agreement morpheme take the same form in (50a), we can tease them apart by using a plural subject NP as in (51).

- (51) Bo-Neo a - ba -to -bika.
 Neo_{2a} Neg-SM_{2a} -pres-cook
 ‘Neo and others do not/are not cook(ing).’

The second *a* is the one that changes to *ba* agreeing in number with the subject NP, which is now plural, leading us to conclude that it (the second *a* in (50a)) is the subject marker.

From the discussion above, it is clear that the form of the subject marker varies with syntactic phenomena such as mood (subjunctive and focused interrogatives) and negation. The fact that the subject marker changes in response to changes in mood is behavior that is characteristic of standard agreement morphology and not resumptive pronouns. Second, the fact that the subject marker is obligatory distinguishes it from resumptive pronouns/incorporated pronouns since these two are not obligatory, at least in Ikalanga. Based on these facts, I conclude that subject markers are agreement morphology and not resumptive pronouns. In the next section I turn the discussion to agreement within the DP.

5. Agreement Outside of Verbal Morphology

One of the reasons why Zwart argues that subject markers are not agreement morphology is because of their distribution. Specifically, Zwart points out that subject markers cannot be agreement markers because although they do occur on the verb, they also occur outside of the verbal domain, among other places in DP-internal positions. The observation that agreement morphology occurs outside verbal morphology is indeed an accurate one. However, Zwart confuses clausal agreement with agreement on DP modifiers, these being sometimes homo-

phonous. Thus, although agreement morphemes within DP are sometimes homophonous with subject markers, they are not *subject markers*; they are still DP agreement morphemes that take the form of the subject marker of the inherent head noun. As already pointed out in the introduction, the fact that DP-internal agreement is sometimes homophonous with subject markers is a phonological matter and is not significant in terms of the syntactic mechanism for agreement. What is important is that in both cases, the agreement relation is realized in a specific configuration; the spec-head configuration.

The discussion in this section focuses on DP-internal agreement. It specifically focuses on cases that Zwart uses as evidence for the argument that “subject markers” are not agreement morphology but are resumptive pronouns. I use the same data that Zwart uses in his arguments to argue for the view that what he calls resumptive pronouns is agreement morphology holding between a head of a DP and its modifiers. The agreement on the modifiers is checked when the head noun undergoes movement for feature checking.

It is well known that noun modifiers in Bantu languages such as Ikalanga, Setswana and Swahili show agreement with the noun they modify; for example, adjectives, demonstratives and quantifiers show agreement with the nouns they modify. In this section, I show that the distribution of agreement morphology within the DP is not a puzzling fact, and that it can be understood in light of the analysis proposed in this paper, namely that agreement is a relation realized in a specific configuration which holds following head or XP movement. As already noted, XP/head movement is motivated by feature checking. I begin the discussion by investigating agreement between a head noun and its adjective modifiers.

5.1 Adjectives, relative clauses and agreement. Nouns can be modified in two ways in Ikalanga: by the use of an adjective which can copy the noun prefix (example 52) or a stative verb which, as expected, takes the agreement morphology similar to that observed between the subject NP of a sentence and its finite verb as shown in example (53).

(52) N-lume n-lefu
 man₁ tall₁
 ‘tall man’

(53) ngwanána wá - ká -náka
 girl₁ Rel.₁-past-beautiful
 ‘beautiful girl’ (“Girl who is beautiful”)

Adjectival agreement does not take the form of the “subject marker”. Instead, it copies the class prefix of the noun as shown in example (52). A question that comes to mind then is whether in Zwart’s analysis the noun class prefix *n-* on the adjective *-lefu* in (52) is analyzed as a resumptive pronoun. I leave aside agreement which manifests itself as a copy of the noun prefix and focus the discussion on the stative verb type since this is the type that Zwart discusses. Turning to example (53), I will assume that such sentences are cases of relativization, like the Setswana example (54) and Swahili example (55 = Zwart 1997 ex. 11b).

(54) Ngwanyana yo - montle
 girl₁ Rel.₁ - beautiful
 ‘beautiful girl’ (literally “Girl who is beautiful”)

(55) Mi-ti amba-yo i -ta -fa -a
 tree₄ comp -Rel₄ SM₄-Fut-suffice-IND
 ‘Trees which will do’

Evidence that a clause such as Ikalanga (53) should be treated as a relative clause comes from the fact that *kunaka* is a fullblown verb which takes the usual verbal morphology (for example, tense, as shown in this example) and negation. Thus (53) can be negated as follows:

(56) Ngwanáná ú -sá -ká -náka.
 Girl₁ Rel₁-Neg.-past-beautiful
 ‘The girl who is not beautiful’

Ikalanga forms relatives in exactly the same way as example (53). For example, consider (57a), an example of object NP relativization and example (57b), a case of subject relativization. Both of these sentences are similar to example (53) both structurally and in terms of tone. I therefore conclude that in order for stative verbs to be used to modify nouns in Ikalanga, the clause takes the form of a relativization structure.

(57) a. Nlúmé Nchídzi wá -á -ká - bóna
 man₁ Nchidzi_{1a} Rel₁-SM₁-past-see
 ‘The man that Nchidzi saw’

- b. Nlúmé wá -ká -bóna Nchídzi
 man₁ Rel₁ -past-see Nchidzi
 'The man who saw Nchidzi'

I assume the analysis of relative clauses proposed in Kayne (1994) in which the head noun of the relative clause occupies the specifier of a DP which is in the specifier position of CP. For concreteness, let us use example (57a) to show how this analysis applies to the Ikalanga data. Following Kayne's analysis, the DP which contains the NP *nlume* of the relative clause in (57a) is base generated as a complement of the verb *bóna*. This DP then moves to spec-CP. Further movement takes place within the moved DP; that is, the NP *nlume* then moves to the specifier of DP. The structure of this relative clause is shown in (58).⁹

- (58) [_{CP} [_{DP} nlúmé_i [_{D'} [_D ∅ [_{NP} t_i]]]]_j] C [_{XP} Nchídzi [_{VP} wá- á- ká- bóna t_j]]]

There are no overt relative pronouns in Ikalanga. Relativization is indicated by agreement morphology and tone. There are two tone distinctions between a declarative sentence and a relativized clause. In the declarative sentence, the tense morpheme has a low tone while the second syllable of the verb *bona* has a high tone. In relative clauses, the high tone of the relative agreement morpheme spreads to the tense-aspect prefix *ka*, while the second syllable of the verb stem *bona* takes a low tone. Compare example (57b) with (59).

- (59) Nlúmé wá - ka -bón-á Nchídzi.
 Man₁ SM₁ - past -see -FV Nchidzi₁
 'The man saw Nchidzi'.

Going back to the issue of whether what we observe in (57) is agreement morphology or a resumptive pronoun, I argue that the *wá* in this sentence is agreement morphology which holds between the null relative pronoun and its predicate, that is, its TP complement. Kinyalolo (1991) makes a similar observation regarding WH sentences in KiLega, that WH sentences other than direct questions involve a null WH operator and that WH agreement is obligatory in such sentences because it serves to identify and license the null operator. The discussion above makes one wonder whether agreement within the relative clause should really

⁹ I have used XP instead of IP/TP in example (58) because it is not clear that the subject NP *Nchidzi* is in IP/TP in such sentences.

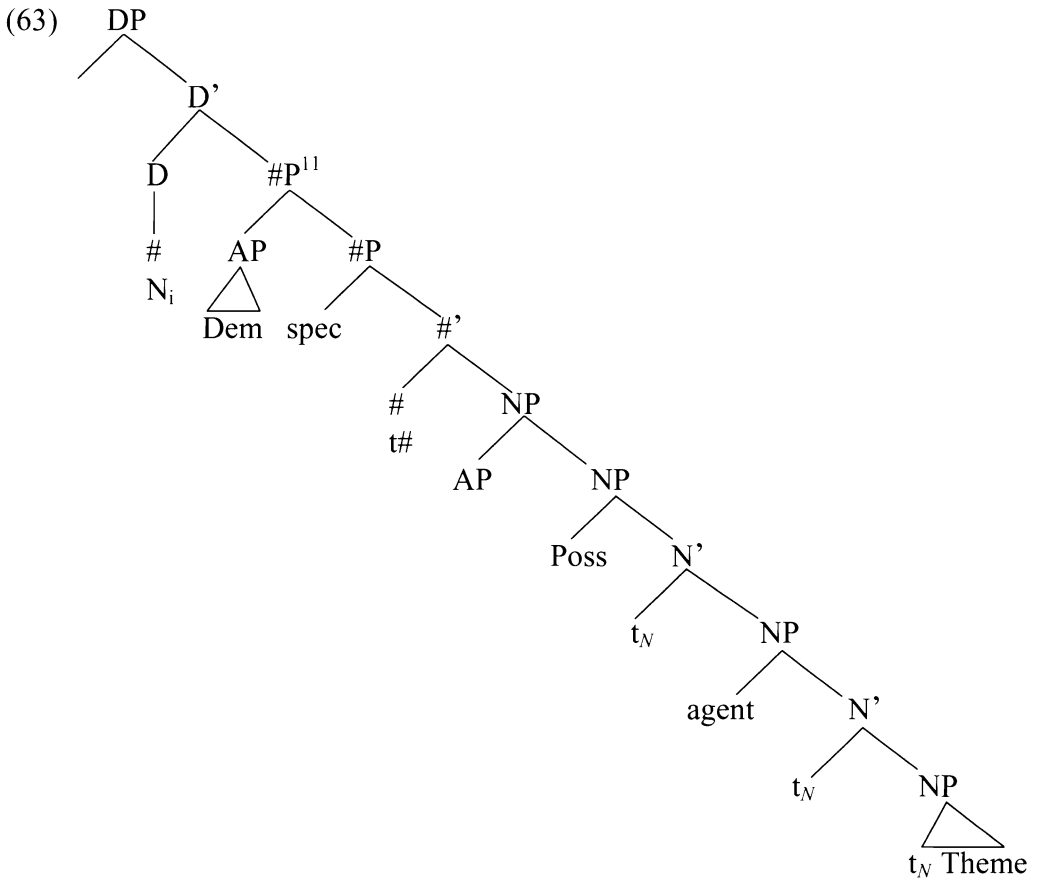
even be treated as agreement outside of the verbal domain. It would seem that agreement within the relative clause is not really different from agreement between the subject and its verb since the relation within the relative clause is that of a subject (the null relative pronoun) and its predicate (its TP complement). Therefore that the agreement morphology within the relative clause takes the form of the “subject marker” should not come as a surprise at all. The rest of this section therefore focuses on agreement which does not involve a predication relation but holds of a head noun and its modifiers, namely demonstratives and quantifiers.

5.2 Demonstratives, quantifiers and agreement within DP. Nouns in Bantu languages also show agreement with their demonstratives and quantifiers. I begin by discussing agreement between the demonstrative and the head noun in Bantu languages such as Ikalanga (60), Setswana (61) and Swahili (62). Zwart uses examples such as Swahili (62 = Zwart 1997 ex. 9a) to argue that a morpheme such as *u-*, which is the morpheme that indicates the subject agreement relation for class 3, is in fact not subject agreement. While it is true that *u-* is the morpheme that is used to express the subject-verb agreement relation in both Swahili and Ikalanga if the subject NP is a class 3 noun, it is also true that the *u-*s in (60) and (62) express a relation between the head nouns and their demonstratives; in other words, this is a case of morphological homophony between the head noun agreement and clausal agreement.

- | | | |
|------|---|----------|
| (60) | Nti u -wowuje tree ₃ Agr ₃ -Dem 'that tree' | Ikalanga |
| (61) | Setlhare se -le tree ₇ Agr ₇ -Dem 'that tree' | Setswana |
| (62) | m-ti u -le tree ₃ Agr ₃ -Dem 'that tree' | Swahili |

The agreement pattern observed in the DPs above can be accounted for if we assume the analysis of Bantu NPs proposed in Carstens (1991, 1993). Carstens proposes that although NPs in Bantu do not have articles such as *a/an* or *the*, they are

nevertheless DPs headed by an empty D^0 .¹⁰ The structure proposed for the Bantu DP is (63 = Carstens 1997 ex. 39).



Carstens (1993) argues that the surface structure of Bantu DPs is derived by movement of the head noun to #⁰ (to check the number feature) and finally to D⁰ (to check the determiner feature). Let us turn to the data in (60-62) to find out how the analysis of the DP in (63) can be used to explain agreement between the head noun and demonstratives. If Carstens is correct, we can account for the agreement in demonstratives by assuming that in examples (60-62), since the demonstrative is adjoined to #P, the number features of the demonstrative are checked when N adjoins to #⁰ before raising further to adjoin to D⁰ where it

¹⁰ See Carstens (1991, 1993) for arguments regarding why Bantu NPs are DPs.

¹¹ # represents “number”.

checks its D feature. Notice that this checking takes place in a spec-head relation since N adjoins to the head # and Dem (demonstrative) is adjoined to Spec #P. The result of N raising is shown in (64).¹²

(64) $[_{DP} D+\# +N_t, [_{\#P} [XP_{Dem}] \# +N_t, [_{NP} N_t]]]$

Agreement of the head noun with quantifiers (shown in 65-67) can also be explained straightforwardly using the DP analysis of Carstens (1993).

(65) mbili w -ose Ikalanga
 body₃ Agr₃-all
 '(my) whole body'

(66) Mmele o -tlhe Setswana
 body₃ Agr₃-all
 '(my) whole body'

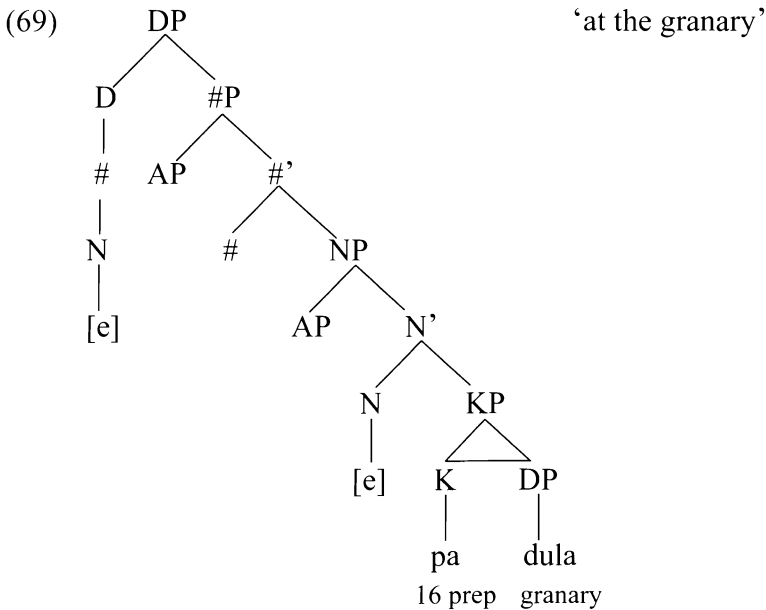
(67) m-wili w -ote Swahili
 body₃ Agr₃-all
 '(my) whole body'

In (65-67), the quantifiers *wose* (in Ikalanga), *otlhe* in Setswana and *wote* in Swahili modify the head nouns *mbili*, *mmele* and *mwili* respectively. Just as in examples (60-62) above, the head noun raises to # to check its # feature in a spec-head relation before proceeding to its final landing site, D⁰. The agreement feature of the quantifier (which I assume is adjoined to NP) is presumably checked in a spec-head configuration at LF when the quantifier raises to occupy a scope position. Quantifiers are analyzed as operators that bind variables, and thus, in order to be interpreted, they need to move from their base position and occupy a position that gives them the appropriate scopal interpretation (May 1985). I therefore assume that it is in the course of quantifier raising that the quantifier phrases in (65-67) adjoin to spec-#P and check their number feature in a spec-head relation. (68) shows the surface structure after N and quantifier raising.

(68) $[_{DP} D+\# +N_t, [_{\#P} [QP] \# +N_t, [_{NP} [QP] N_t]]]$

¹²A bar through a category, e.g. \bar{N} indicates that that category is a copy of a moved category. Note that only the relevant projections of DP have been used in (61).

5.3 Agreement within the locative phrase. Agreement within the locative phrase can also be understood in light of the analysis proposed in this paper coupled with Carstens' (1997) analysis of Bantu locatives. Carstens (1997) proposes that locatives are NPs headed by an empty place noun [N_e]. If locatives are NPs, that makes them DPs too. In addition, if [N_e] is the head of locative NPs, then [N_e] controls agreement on locatives in a way similar to the head noun controlling agreement on its modifiers in other DPs. The structure of locatives is shown in (69).



According to the analysis in (69), locative prefixes *pa*, *mu*, *ku* are syntactic heads independent of their DP complement. The prefixes are *phi*-feature-bearing heads which identify the empty place noun [N_e]. If the analysis adopted in this paper is correct, the empty [N_e]s (which are the heads of the locative phrases) control the agreement on their predicates.

- (70) *pa -nshá pá-chénachêna*
 Loc₁₆-dwelling place₃ 16 -white
 ‘at the white dwelling place’ (Ikalanga)

(71) pa-mushá apo p -ósé p-a-ká-chén-a
 16 - home₃ that₁₆ 16 -all AGR₁₆-white
 ‘at that whole white home’

(72) pa-mu-dzi p -athu p-ose
 16-3 -village 16-our 16-all
 ‘at all of our village’

Given (69) therefore, the agreement in examples (70-72: 71 = Carstens 1993 Shona ex. 51a; 72 = Carstens 1993 Chichewa ex. 35a) can be explained straightforwardly. The Ikalanga data in example (70) shows how agreement between [N_e] and the modifier of the locative *pachenachena* is realized. [N_e] is base generated as the head of NP, as shown in (69). I assume that the adjective *pachenachena* is adjoined to spec NP. Like other nouns in Bantu, [N_e] has a D feature and number features that need to be checked. This means that [N_e] raises first to #⁰ where it checks its number features before raising to D⁰. I assume that when [N_e] checks its # feature in a spec-head relation, the adjective *pachenachena* simultaneously gets its agreement features checked. However, this does not give us the right word order especially if we assume that adjective phrases are adjoined to NP as shown in (69). Carstens (1997) proposes that the covert D of locative DPs must have some feature which needs to be checked with a feature of the locative phrase (i.e. KP in 69). This requires that the locative phrase KP move to spec-DP. This movement results in the structure shown in (73).

(73) [_{DP}loc [_{KP}] D N_e+# [_{#P} [_{AP}] {N_e} # [_{NP} [_{AP}] N_e t_{KP}]]]]]

To summarize, I have argued that agreement that occurs outside the verbal domain (that is, DP-internal agreement) is sometimes homophonous with subject agreement; but it is still nevertheless agreement with the head noun and not resumptive pronouns as Zwart would have it. I also pointed out that it is not surprising that agreement within the DP is homophonous with “subject markers” because both clausal and DP-internal agreement are controlled by the head noun (the head noun of the grammatical subject and the head noun of the DP in which internal agreement takes place). I argued that the agreement within DP can be understood in light of the analysis of Bantu DPs proposed in Carstens (1993, 1997) in which the head noun (or [N_e] in locative phrases) undergoes movement to # and D⁰ for feature checking. It is in the course of these movements that the

agreement features of adjectives, demonstratives and quantifiers are licensed when N checks its own features.

6. Conclusion

This paper has argued that the controversial phenomenon usually analyzed as either “subject markers” or resumptive/incorporated pronouns is nothing other than agreement morphology. The paper has provided a unified analysis of both clausal agreement and DP-internal agreement by proposing that both types of agreement express a relation between the head noun of a subject XP and its predicate or the head noun of DP and its modifiers. Further, the paper has proposed that both clausal and DP-internal agreement are licensed in a spec-head configuration following movement of either the DP functioning as a subject of a sentence or movement of the head noun within DP. The paper has argued that the fact that the morphological form of the so called “subject markers” changes in response to changes in syntactic phenomena (such as mood and negation) is evidence that they are agreement morphology and not incorporated pronouns, because this kind of behavior is characteristic of agreement morphology rather than resumptive/incorporated pronouns. Agreement in expletive constructions has proved to be a problem for the analysis proposed in this paper. This is especially the case if the realization of agreement is not just a spec-head configuration but is also instantiated as a result of movement. I leave this issue open for future research.

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