

Specifier/Head Agreement in Kinande¹

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0. Introduction

This paper presents a preliminary study of the syntax of agreement in Kinande, a Bantu language spoken in northeastern Zaire. An inspection of the data will reveal that the distribution of various agreement morphemes in Kinande is crucially dependent on the occurrence or non-occurrence respectively of wh-expressions in A'-positions that are in a certain local relationship to the agreement morphemes in question. More precisely it will be demonstrated that the distribution of agreement morphology in Kinande can be accounted for under the assumption that agreement morphology is subject to binding.

The first section of this paper describes the relevant agreement phenomena. The second section focuses on aspects of the syntax of agreement and its interaction with extracted elements. The third section provides an account for the distribution of various agreement morphemes based on the binding theory. A possible alternative account is considered and rejected.

This paper represents research completed in 1986 and 1987. Due to this fact some of the questions and issues that would be important today (e.g., in light of the goals of the Minimalist program) are not directly addressed here. Moreover, due to the history of this research, some of the claims and observations made here have in the meantime been made independently elsewhere. Nonetheless, this study of Kinande reveals a number of properties of specifier/head agreement that are still quite interesting and relevant today.

¹ I wish to thank my colleague Phillip Nguessimo Mutaka and his wife Jackie for their patience and help in gathering the Kinande data, as well as their insightful comments about the language. I also want to thank the participants of the 2nd Niger-Congo Syntax and Semantics Workshop for their comments and suggestions.

1. Types of Agreement Morphemes

Like many Bantu languages, Kinande, a null subject language, has a very rich agreement system which is based on agreement in terms of person and 'class' (see, for instance, N. Mutaka (1986), and Valinande (1984) for details).² The concept of 'class' essentially parallels that of 'gender' in Indo-European languages, the only real difference being the greater variety of categories in languages which distinguish class. In Kinande there are over 20 classes.³

It is possible to descriptively distinguish two types of agreement morphemes in Kinande. I will refer to these two types as A-agreement and A'-agreement for reasons that will become clear shortly.

1.1. A-Agreement

A-agreement is an agreement relation that holds between an agreement marker and a chain in argument position. An example, involving subject/verb agreement, is given in (1):

² With respect to word order, Kinande is rigidly SVO in matrix and embedded clauses alike. In this way Kinande contrasts with a number of Bantu languages in which the co-occurrence of an object clitic and an object allows for freedom of word order at the clausal level. Kinande has no such strategy. However, there is some freedom of word order in Kinande within the VP itself when double object constructions are involved. See, for example, Gotstajn (Progovac) (1986), Mutaka (1986), and Schneider-Zioga (1987) for a discussion thereof.

³ Classes can be further subdivided in terms of the feature of number. For instance, the difference between class one and class two in Kinande is that class two, which marks lexical items with a distinct morphology, consists of lexical items that are the plural of class one. In Indo-European gender marking languages the traditional grammar does not distinguish an additional gender for plural forms but, nonetheless, the plural of any particular gender is usually morphologically distinct from its corresponding singular and in this sense, we could just as easily conceptualize of the plural forms as being a different gender; i.e., the behavior is similar to plural in classifier languages. I set aside any discussion of plurality for the remainder of this article and will simply refer to different classes following the traditional terminology of Bantu grammarians.

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- (1) [_{IP} Yosefu_q [_r a_q-ka-yenda]]
Joseph AGR-PRES-leave
(cl.1) (cl.1)
"Joseph is leaving."

Here the agreement is with the specifier of IP: "Yosefu," which is a (trivial) chain in A-position. The form of the agreement, a prefix on the verbal complex, varies according to the class of the subject.⁴ Examples of subject/verb agreement with different class subjects are as follows:

- (2)a. [_{IP} aBana_q [_r Ba_q-ka-yenda]]
children AGR-PRES-leave
(cl. 2) (cl.2)
"The children are leaving."

- b. [_{IP} EmbEnE_q [_r yI_q-ka-Ila EBItI]]
goat AGR-PRES-eat grass
(cl.9) (cl.9)
"A goat eats grass."

A second type of A-agreement in Kinande is found in double object (and similar) constructions (DOCs). In this case, the first object is immediately followed by an agreement morpheme that agrees in class with it.⁵ The agreement marker forms a prosodic word with the following NP (i.e., the agreement marker is a proclitic) when it precedes a word that begins with a vowel and an independent word prosodically when preceding a word beginning with a consonant).⁶

⁴ For simplicity, I don't assume an exploded I⁰ since it is irrelevant to the phenomena under investigation here. Consequently, the inflected verb is indicated as heading I⁰.

⁵ This agreement morpheme is not a demonstrative although it is morphologically similar to one for most classes, varying only in that this agreement morphology lacks the augment, or initial vowel, of the demonstrative.

⁶ There is a constraint in Kinande such that there can be no prosodically independent mono-moraic words. When two vowels come together as they do in the example mentioned above, the final vowel of the preceding word must

The following example illustrates DOC agreement; the agreement marker in (3) is 'ky':

- (3) [_{IP}Yosefu [_I a-ka-ha EkItabU_j ky_j'aBana]]
Joseph AGR-TENSE-give book AGR children
(cl.7)(cl.7) (cl.2)
"Joseph is giving the book to the children."

As with subject/verb agreement, the phonological shape of the agreement morphology varies according to the class of the direct object. To see this, contrast (3) where the direct object is class 7 with (4) where the direct object is in class 8; notice that the A-agreement morpheme in the DOC varies accordingly:

- (4) [_{IP}Yosefu [_I a-ka-ha EBikEnE_j Byo_j Marya]]
Joseph AGR-TENSE-give yams AGR Mary
(cl.8)(cl.8) (cl.1)
"Joseph is giving the yams to Mary."

In Schneider-Zioga (1987) I suggested that in double object constructions the verb governs an Agreement Phrase with the agreement morpheme located in the head of AGRP (cf. Kayne's analysis of small clauses), the first object occupying the specifier of Agreement Phrase, and the second object occupying the complement of AGR⁰ position.⁷ Another possible analysis could invoke a Larsonian VP shell construction in which case the first object in the DOC would be the subject of the Larsonian inner VP (cf. Larson (1988)); in Kinande we could simply say that all subjects express agreement with their predicates. Somewhat problematic is that when a direct object occurs alone, there is no VP

delete. Since words in Kinande must consist of at least two moras, the agreement marker cliticizes just in these cases.

⁷In fact the DOC agreement phenomenon is not restricted to DOCs proper. It also occurs in resultative small clauses (agreement between the "subject" and predicate), and when a direct object and certain adjuncts (instrumentals and certain locatives) co-occur. See Schneider-Zioga (1988) for some discussion.

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internal agreement although there is a VP internal subject.

In sum, we see that there is a widespread process of agreement in Kinande affecting chains in argument positions.

1.2. A'-Agreement

There is also an agreement relation that holds between an agreement morpheme and a chain whose head is in a non-argument (A'-) position. I will call this type of agreement relation, as well as the agreement morpheme that marks the relation, A'-agreement. An example of this is to be observed in wh-question constructions in Kinande where a wh-element can overtly move in the syntax in which case it appears in pre-IP position and is immediately followed by a morpheme that agrees in class with it:

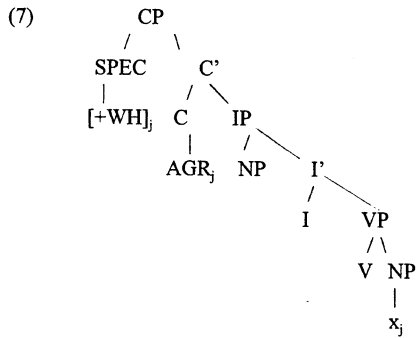
- (5) $EkIhI_j$ kyO_j Mary'a-ka-langIra x_j ?
what that Mary SM-PRES-see
(cl.7) (cl.7)
"What does Mary see?"

As with the other type of agreement relation, the form of the A'-agreement morpheme varies according to the class of the extracted element.
cf.:

- (6)a. $[_{CP} aBahI_j [_C BO_j [_{IP} Yosefu alangIra x_j]]]$
Who that-A'-AGR Joseph saw
(cl.2) (cl.2)
"Who did Joseph see?"
- b. $[_{CP} IyOndI_j [_C yO_j [_{IP} Yosefu alangIra x_j]]]$
who that-A'-AGR Joseph saw
(cl.1) (cl.1)
"Who did Joseph see?"

I would like to propose that in wh-constructions the agreement morpheme, which expresses agreement with the extracted element in

A'-position, occurs in the head of CP position.⁸ This is then, like other agreement relations, simply an instance of specifier/head agreement, in this case the head C⁰ agreeing with the specifier [SPEC,CP]; the specifier in this case is in A'-position. The suggested structure, virtually identical to simple interrogation in English, is as follows:



The expression of agreement in the head of COMP can be likened to the mechanism of COMP-indexing (Aoun, Hornstein, and Sportiche (henceforth: AHS): 1981). I reformulate the device slightly here to bring it in line with my adopted assumption that the X'-system has regularized projections for all categories:⁹

$$(8) \quad \begin{matrix} [@_i & \dots & [[]]] \\ \text{CP} & & \text{C} \end{matrix} \longrightarrow \begin{matrix} [@_i & \dots & [[]]] \\ \text{CP}_i & & \text{C}_i \end{matrix}$$

COMP-indexing states that the specifier and the head of COMP must bear the same index; i.e., they must **agree**. In Kinande, this mechanism is simply

⁸This would then fit in with a view of Comp as conceptualized in Barriers (Chomsky (1986)).

⁹ The original Comp Indexing rule is as follows:

(i)_{[comp Xⁿ_i...}] → [comp Xⁿ_i...] iff COMP dominates only i-indexed elements

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morphologically realized, a fact that is not surprising given the rich agreement system of the language.¹⁰ In fact, agreement appears anytime there is an operator like movement: agreement occurs on a complementizer with relative clauses; this would reflect movement of an operator to the specifier of CP in the relative clause:

- (9) Mary'anzIrE [_{NP} EBiIalya_i [_{CP} EbyO_j [_{IP} OmUkali ahuka x_j]]
Mary liked the food AGR-that the woman cooked
(cl.8) (cl.8)
"Mary liked the food that the woman cooked."

Moreover, agreement occurs with the complementizer in cleft constructions, again reflecting an operator movement:

- (10) EkIhI_j ky_j-a-bya EkyO_j Mary'alangIra x_j?
what AGR-PAST-BE AGR-that Mary SM-PAST-see
(cl.7) (cl.7)
"What was it that Mary saw?"

Agreement also appears with fronted focused expressions; and although I don't have language-specific evidence bearing on the nature of focus in Kinande, it is well established cross-linguistically that focus behaves like A'-movement.:

- (11) EkItabU_j kyO_j Mary'alangIra x_j.
book that Mary saw
"The BOOK Mary saw."

We can see from Kinande that COMP-indexing is obligatory: if there is overt operator movement and overt COMP-indexing has not applied, the sentence is ungrammatical. cf.:

¹⁰ Impressionistically, there seems to be a strong tendency for a correlation between the following two properties: having rich agreement morphology and syntactic extraction; i.e., it seems that in languages with syntactic agreement, COMP-indexing must apply in the syntax; conversely, it seems that in languages without syntactic agreement, movement, and consequently COMP-indexing, applies at LF. It would appear then that the morphological expression of agreement of any kind goes along with overt extraction.

(12)*Eklh_j Yosefu alangIra x_j
what Joseph saw

It is now a fairly standard assumption that the obligatoriness of COMP-indexing--in more modern terms, feature checking--follows from the idea that linguistic processes are a) not optional and that b) movement is not for free. Movement is assumed to always be motivated by the need to check a feature. In my original research (1986) I assumed, following a suggestion of L. Rizzi (p.c.), that the obligatoriness of COMP-Indexing follows from the fact that it is an identification of a *wh*-feature (or more generally an operator feature).

To summarize what we have seen so far: in Kinande we observe that there are agreement relations affecting chains in A- and A'-positions. Moreover, I have proposed that we must view A-agreement (i.e., agreement with a chain in A-position) and A'-agreement (i.e., agreement with a chain in A'-position) as distinct agreement relations. In the next section we will see that the claim that Kinande distinguishes between the two kinds of agreement relations (A- versus A'-agreement) is not wholly justified empirically and instead we will see that the distribution of agreement morphology when subjects and objects are extracted has a binding theoretic basis.

2. The Distribution of A and A'-Agreement

2.1. Local A'-Extraction

Consider extraction of a *wh*-expression to the specifier of the structurally closest CP. Given the above definition of A- and A'-agreement, it is perhaps not surprising to find that in this context the two types of agreement are in complementary distribution with each other since we wouldn't expect the head of a chain to be in both an A- and an A'-position and thus in both an A- and A'-agreement relation at the same time.

As an illustration of the fact that a chain in a local A'-agreement relation cannot also be in a relation with an A-agreement morpheme, consider first extraction involving subjects and hence involving subject/verb agreement. If a

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subject is locally extracted, thereby entering into an A'-agreement relation with the local C⁰ (whereby an agreement morpheme which expresses agreement with the A'-chain appears in C⁰), the canonical A-agreement between subject and verb cannot be expressed: (Recall that the A-agreement marker for class one is *a-*.)

(13)*_{[CP IyOndI_q [C' y'_q [IP x_q a_q-ka-langIra Marya]]]}

who	A'-AGR	AGR-PRES-see Mary
(cl-1)	(cl-1)	(cl-1)

Although the canonical A-agreement morphology cannot occur in cases involving local A'-extraction, subject/verb agreement is nonetheless obligatory in Kinande. In order to resolve this contradiction, a subject/verb agreement marker with a phonological shape different from the canonical A-agreement marker appears in the verbal complex when a subject is extracted. For class one subjects this special agreement is "u-" (or "U-" depending on vowel harmony) as illustrated in the following example:

(14)_{[CP IyOndI_q [C' y'_q [IP x_q U_q-kalangIra Marya]]]}

who	A'-AGR	A'-AGR-PRES-see Mary
(cl-1)(cl-1)	(cl.1)	

"Who sees Mary?"

This special subject agreement marker occurs only if the subject with which it agrees has been extracted; so this special subject marker is an A'-agreement marker in the sense that it can be in an agreement relation only with an A'-chain.¹¹

This same complementarity of A- and A'-agreement holds for the object in a DOC. If the first object in the double object construction is locally extracted, thereby entering into an A'-agreement relation with the local C⁰, the A-agreement morpheme is obligatorily suppressed. The contrast between the

¹¹ Furthermore, it can be demonstrated that the A'-subject/verb agreement marker is not simply prefixed to the standard A-agreement subject marker: instead, it replaces it (for details see Schneider-Zioga (1986)).

grammatical (15a), which lacks the A-agreement morpheme when the object has been extracted, and the ungrammatical (15b), where A- and A'-agreement co-occur, illustrates this fact:

(15)a. [_{CP} EBIh_j [_C ByO_j [_{IP} Yosefu akaha x_j Marya]]]
 what A'-AGR Joseph gives Mary
 (cl.8) (cl.8)
 "What is Joseph giving to Mary?"

b. * [_{CP} EBIh_j [_C ByO_j [_{IP} Yosefu akaha x_j ByO_j Marya]]
 what A'-AGR Joseph gives AGR Mary
 (cl.8) (cl.8) (cl.8)

Notice that, in contrast to subject/verb agreement, agreement is not obligatory in DOCs when extraction has taken place and therefore, there is simply no agreement morphology in DOCs in this case.¹²

2.2. Long Distance A'-Extraction

When extraction is long distance, that is, not to the most local specifier of CP position, but to a more superordinate one, A- and A'-agreement are no longer in complementary distribution with each other; instead, they can co-occur. To see this, consider first extraction of the subject. As already demonstrated, in cases of local extraction of a subject, subject/verb A-agreement cannot occur. Recall (13):

(13)* [_{CP} IyondI_q [_C y'_q [_{IP} x_q a_q-ka-langIra Marya]]]
 who A'-AGR AGR-PRES-see Mary
 (cl-1) (cl-1) (cl-1)

However, when extraction is long distance, A'-agreement in C⁰ and the so-called A-agreement can in fact co-occur, as illustrated in (16a,b). In these examples we see that an embedded subject has been moved to the superordinate specifier of

¹²It is really any kind of special A'-agreement morpheme that is missing. I have nothing interesting to say here about what governs this obligatoriness of agreement morphology (but see Schneider-Zioga (1995) for a proposal).

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CP and A'-agreement with the extracted NP is indicated in that superordinate C⁰. In the embedded clause appears 'a', the subject/verb agreement morphology that until now we have seen occurs only with A-chains:

(16)a. [_{CP} IyOndI_q [_C yO_q [_{IP} Yosefu a-sOndIrE [_{CP} In' [_{IP} x_q
 who A'-AGR Joseph AGR-want subjunctive
 (cl.1) (cl.1)
 a_q-gEnda]]]]]]
 AGR-left
 (cl.1)
 "Who did Joseph want to leave?"

b. [_{CP} IyOndI_q [_C yO_q [_{IP} Yosefu a-ka-Bula [_{CP} ng' [_{IP} x_q
 who A'-AGR Joseph AGR-PRES-wonder if
 (cl.1) (cl.1)
 a_q-gEnda]]]]]
 AGR-left
 (cl.1)
 *"Who did Joseph wonder if left?"

The facts are quite similar with long distance object extraction: local object extraction forbids the co-occurrence of A- and A'-agreement (recall (15b)), whereas, in cases of long distance extraction of the object, A'-agreement in the superordinate C⁰ and direct object A-agreement can grammatically co-occur:^{13,14}

(17) EkIhI_j ky'_j u-ka-BUla Yosefu ng'aha x_j ky'_j aBana?
 what A'-AGR you-PRES-wonder J. if gave AGR-the children
 (cl.7) (cl.7) (cl.7)
 "What do you wonder if Joseph gave it to the children?"

¹³ Although sentences like (17) are accepted by my consultants, they are considered to belong to a sub-standard dialect.

¹⁴ The complementizer "nga" occurs internal to the clause in examples like (17) due to the fact that mono-syllabic complementizers are second position clitics. Disyllabic complementizers, which are not clitics, do not show any variation in word order. Due to their second position clitic status, monosyllabic complementizers became very closely associated with agreement morphology; it is plausible that this is the original source of AGR in C⁰.

The fact that A- and A'-agreement can apparently co-occur (in agreement with the same chain) is surprising if the generalization is correct that one type of agreement morphology indicates agreement with the head of a chain in A position and the other type indicates agreement with the head of a chain in A'-position since we would not expect the head of a chain to be in both an A- and A'-position at the same time.

A priori it seems that there are two possible directions for an account of why A- and A'-agreement can co-occur with long distance extraction: either (a) the initial generalization that one type of agreement morphology indicates agreement with an A-chain and the other type indicates agreement with an A'-chain is indeed correct in which case we must take a closer look at the exceptional behavior of agreement in this situation; or (b) the claim that there are two types of agreement that correlate with the A versus A' nature of the chain with which they agree is inaccurate and we must instead seek some other account of their nature/distribution.

The first option does not seem plausible upon further examination. Nonetheless, it is in principle possible, consistent with assumption (a), that A- and A'-agreement could co-occur if the syntactic subject of a sentence is an expletive whereas the semantic subject is extracted from a postverbal position (as, for instance, proposed for Italian by Rizzi (1982)).¹⁵ In this way, A-agreement would express agreement with the expletive subject, which is in an A-position, and A'-agreement would express agreement with the extracted semantic subject which heads an A'-chain. Despite the technical possibility of such a state, this does not seem like a probable solution for Kinande since first of all, as noted previously, Kinande is strictly SVO and otherwise does not

¹⁵The original writing of this article predates the internal subject hypothesis which would of course be relevant here with the VP internal subject conceivably corresponding to Rizzi's postverbal subject for Italian. In any case, the conclusion with respect to the Kinande data remains the same regardless of the validity of the internal subject hypothesis.

allow postverbal subjects.¹⁶ Moreover, even if it were somehow possible to have expletive subjects and extract semantic subjects from some other position such as a postverbal position, this conclusion would seem to beg the issue of explaining why such a state holds only when long distance extraction occurs and not when local extraction occurs. It seems that assumption (a) is not a real option then.

Consistent with assumption (b), the complementarity of A- and A'-agreement relations in local contexts in contrast to co-occurrence possibilities in contexts of long distance extraction can be straightforwardly accounted for under the proposal that their complementarity is the expression of an antilocality effect. Under this view, the so-called A-agreement morphemes could be seen as having the status of an A'-pronoun.¹⁷

3. A Binding Theoretic Account of Agreement Morphology

3.1 A'-pronominal Agreement

According to the generalized binding theory, an A'-pronoun must be locally A'-free in the relevant domain, which means it could not be coindexed with an A'-element in the apposite local domain but nothing would prevent this kind of coindexing with an A'-element outside the local domain. Given that an agreement relation involves coindexing and that the relevant domain is CP (a

¹⁶The same conclusion holds even given that extraction were possible directly from a VP internal position instead of any truly postverbal position. With respect to word order, Kinande is not topologically like a null subject language in this way. (Kinande does not allow free or even stylistic inversion of the subject.)

¹⁷The existence of expressions that stand in a binding relation to the A' system makes sense under the generalized theory of binding proposed by Aoun (1982), (1986). This theory suggests that nominal expressions can have the status of anaphors, pronouns or r-expressions with respect to the A'-system; that is, this theory generalizes to the A'-system the standard theory of binding which was restricted to relations within the A-system.

typical domain within which a pronoun must be free), we would expect that an NP that is in an agreement relation expressed by a so-called A-agreement morpheme cannot be extracted to the local specifier of CP since then the A'-pronominal agreement morpheme (the so-called A-agreement morpheme) would be A'-bound within the CP containing it. This relation would violate Principle B of the binding theory with respect to the A'-system. In contrast, long distance extraction of an NP that is in an agreement relation expressed by an A'-pronominal morpheme (i.e., the so-called A-agreement morpheme) to a position outside of the local CP accords with Principle B as generalized to the A'-system since the morpheme would then be A'-free within the CP containing it. The following schematic examples illustrate the distribution of A'-pronominal agreement (cf.(13) and (16a,b) for actual examples):

(18) A'-PRONOMINAL AGREEMENT

UNGRAMMATICALLY BOUND IN LOCAL DOMAIN:

a.*[_{CP} who_q [_C A'-AGR_q [_{IP} x_q A'-PRO.AGR_q-V ...]]]

FREE IN LOCAL DOMAIN:

b. [_{CP1} who_q [_C A'-AGR_q[... [_{CP2} [_{IP} x_q A'-PRO.AGR_q-V ...]]]]]

The above proposal then correctly predicts that so-called A-agreement and A'-agreement cannot co-occur when extraction is to the local specifier of CP and that they can co-occur when extraction is long distance. Not only does this proposal account for the agreement distribution facts discussed up until this point, but the idea that agreement morphology is subject to binding can also capture the entire range of facts regarding the distribution of agreement morphology that we will now consider.

3.2. *A'-Anaphoric Agreement*

First consider further the case of long distance extraction we examined previously. We saw that A'-pronominal agreement is possible in this context

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(recall (16a,b)). In fact, not only is A'-pronominal agreement morphology possible here, it is required: thus the special A'-subject/verb agreement that we find with local extraction is not allowed in the long distance extraction configuration now under consideration. The following example illustrates this fact:

- (19)*IyOndI_q yO_q Mary'akaBula [CP [C [C nga]
 who A'-AGR Mary wonders if
 (cl-1)(cl-1)
 [IP x_q U_q-BIRI-gEnda]
 A'-AGR-PERF-leave
 (cl-1)
 *"Who did Mary wonder if has left?"

From the perspective of a binding theoretic account of agreement morphology in Kinande, the behavior of the special A'-subject/verb agreement can be captured by the hypothesis that it is an A'-anaphor. This means that it must be A'-bound in a local domain. Most plausibly this local domain is the CP containing the A'-anaphor. If there is no A'-antecedent within the local CP to bind the A'-anaphor, the configuration is ungrammatical because a generalized binding principle has been violated. The following examples schematically illustrate how this aspect of the account works:

(20) A'-ANAPHORIC AGREEMENT

GRAMMATICALLY BOUND IN LOCAL DOMAIN:

- a. [CP who_q [C A'-AGR_q [IP x_q A'-ANAPHORIC.AGR_q-V ...]]]

UNGRAMMATICALLY FREE IN LOCAL DOMAIN:

- b.*[CP₁ who_q [C A'-AGR_q [... [CP₂ [IP x_q A'-ANA.AGR_q-V ...]]]]]

To summarize, we can capture the distribution of the various subject agreement morphemes in Kinande given that they fall under the binding theory. I have suggested that the canonical agreement morpheme (the one occurring when no extraction takes place) is an A'-pronominal, thereby accounting for the

fact that it is incompatible with an agreeing wh-expression in the same CP minimally containing the A'-pronominal agreement morpheme. Moreover, I have suggested that the special subject/verb morphology that occurs when a subject is extracted to the local specifier of CP functions as an A'-anaphor. The view that this agreement morpheme is an A'-anaphor accounts for the restriction of the special agreement morphology to situations involving extraction of an agreeing NP to the most local specifier of CP. Finally, since the agreement morphemes are designated as being subject to binding with respect to the A'-system, but not the A-system, we correctly expect their distribution to be sensitive to agreeing extracted expressions, but not to agreeing expressions in argument position.¹⁸

Turning our attention away from subject/verb agreement morphology for the moment and toward A'-agreement in C⁰, until now we have considered cases where agreement in C⁰ occurs only in the head of the CP in whose specifier the wh-expression occurs. However, it is also possible for A'-agreement in C⁰ to occur in the embedded as well as the superordinate C⁰ in cases of long distance extraction, as the following example illustrates:¹⁹

- (21) EkIhI_q kyO_q Mary'akaBula [CP t_q [C' [C nga-kyO_q]
 what A'-AGR Mary wonders if-A'-AGR
 (cl-7)(cl-7) (cl-7)
 [IP Yosefu akalangIra x_q]]
 Joseph A-AGR sees
 *"What does Mary wonder if Joseph sees?"

¹⁸Of course agreement morphology that is subject to binding in the A'-system will still be affected by the absence of agreeing A' expressions if it is A'-anaphoric. In that sense it is also sensitive to expressions in A-positions. But, we can state the distribution of these agreement morphemes by making reference to the A'-system alone (i.e., A'-free or bound) whereas we cannot make any generalization about them by referring only to the A-system.

¹⁹Notice that the possibility of agreement occurring in multiple C⁰s when extraction has occurred helps confirm the idea that what we are looking at is AGR in C⁰ and not some extracted pronoun or cleft construction, etc.

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Earlier I proposed that the occurrence of agreement in C^0 is an overt reflex of the rule of COMP-indexing. If this is true, then we would expect that agreement in the head of CP appears only if there is an overt wh-expression or a trace thereof in the specifier of CP position since COMP-indexing expresses an agreement relation between the specifier of CP and the head of CP and agreement can only happen if there is a specifier with the appropriate features that stands in an agreement relation with the head.²⁰ This means that agreement in C^0 would occur in every C^0 only if extraction proceeds COMP to COMP, a situation that is morphologically realized in (21).²¹ In contrast, C^0 agreement morphology that we saw in the earlier long distance extraction examples (recall (16a,b)) where AGR occurred only in the superordinate C^0 (the specifier of which was occupied by the extracted wh-expression) indicated that extraction did not necessarily proceed through the specifier of the CP that is most local to the extraction site. Since IP is not a bounding node in Kinande, as demonstrated in Schneider-Zioga (1986), it is not necessary that wh-extraction proceeds COMP to COMP, therefore, agreement in C^0 need not occur in the C^0 that is most local to the extraction site. Since IP is not a bounding node, the most local CP can be skipped.²²

The above interpretation of AGR in C^0 leads us to expect that it will be incompatible with an agreeing A^1 -pronominal agreement morpheme in the same

²⁰From a more current perspective, notice that Chomsky's bare phrase structure approach handles agreement in a much more natural way than previous Principles-and-Parameters approaches because agreement would/could happen simply whenever there is a specifier; there are of course no empty specifiers in a bare phrase structure system. Under historically earlier assumptions, a distinction must be made between an empty and filled specifier.

²¹Alternately, suppose that movement COMP to COMP in the case of long distance extraction need not leave a trace (see Lasnik and Saito: 1984).

²²From a minimalist perspective, we would not expect optional operations of any kind. I have no account for why the grammar (apparently) tolerates optionality when bounding is concerned.

CP, even if the *wh*-expression itself does not occur in the specifier of the most local CP because, given AGR in C⁰, clearly there is a local antecedent: the trace in the specifier of the local CP. Consider long distance subject extraction in this light. When A'-agreement in C⁰ appears in the local C⁰ of the clause from which the subject has been extracted as well as in the superordinate clause, A'-pronominal agreement cannot co-occur (see (22a)). Instead, the special A'-anaphoric agreement morphology obligatorily occurs on the embedded verb (see (22b)). Cf.:

(22)a.*<sub>[CP IyOndI_q [C⁰ yO_q [IP Mary' a-ka-Bula
 who A'-AGR Mary AGR-PRES-wonder
 (cl.1) (cl.1)
 [CP nga-y'_q [IP x_q a_q-BIrI-gEnda]]]]]
 if-A'-AGR AGR-PERF-left
 (cl.1)
 *"Who did Mary wonder if has left?"</sub>

b.IyOndI_q yO_q Mary'akaBula [_{CP} t_q [_C [C nga-y'_q]
 who A'-AGR Mary wonders if-A'-AGR
 (cl-1)(cl-1)
 [_{IP} x_q U_q-BIrI-gEnda]]
 A'-AGR-PERF-leave
 (cl-1) (cl-1)
 *"Who does Mary wonder if has left?"

We see then that, when agreement occurs in the most local C⁰, the subject/verb morphology is the same as what we find when extraction itself is to the most local specifier of CP. This indicates that the distribution of the various subject/verb agreement morphemes is sensitive to the distance from AGR in C⁰ and not to the distance from the extracted *wh*-expression per se. This behavior lends support to the view that AGR in C⁰ is a morphological reflex of COMP-indexing.

In (22a) we see that A'-pronominal agreement cannot appear in cases where there is a local antecedent as indicated by the agreement in the local C⁰ which is the reflex of a specifier/head relation between the trace of *wh*-movement and C⁰. This is an expected behavior given that this subject/verb

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agreement morphology really is an A'-pronominal which would be incorrectly locally A'-bound in (22a) by the trace in the specifier of the CP most local to the extraction site. (22b) is grammatical because, as indicated by the agreement in the most local C⁰, the A'-anaphoric agreement is locally A'-bound by the trace in the local specifier of CP.

3.3. Empirical and Conceptual Motivations

We have seen that the distribution of agreement morphology in Kinande can be captured based on the idea that agreement is subject to the Generalized Binding theory. Moreover, this approach can capture the fact that, at the same time agreement morphology displays a pronominal character in that its distribution is subject to an antilocality requirement, the empty category itself behaves as if it were a trace of wh-movement.

Wh-question formation in Kinande clearly involves movement as indicated by the fact that it is sensitive to constraints on movement such as the complex island constraint, which makes it impossible for a wh-expression to be related through movement to an argument position that is inside a complex NP such as a relative clause. We see that in Kinande a wh-expression may not be related to a gap inside a relative clause regardless of whether that argument position is associated with A'-pronominal agreement, A'-anaphoric agreement or no agreement at all. This is illustrated in the following examples:²³

- (23)a. Mary'anzIrE [_{NP} OmUkall_q [_{CP} OyO_q
Mary liked the woman that
[_{IP} x_q uahuka EBialya]]]
cooked the food
"Mary liked the woman who cooked the food."

²³The same generalization holds for extraction of the first object in double object constructions.

b.*IyOndI_q yO_q Mary'anzIra [_{NP} eBialya_j [_{CP} EbyO_j
 who A'-AGR Mary liked the food that
 [_{IP} x_q a_q-huka x_j]]]
 AGR-cooked

*"Who did Mary like the food that cooked?"

c.*IyOndI_q yO_q Mary'anzIra [_{NP} eBialya_j [_{CP} EbyO_j
 who A'-AGR Mary liked the food that
 [_{IP} x_q u_q-huka x_j]]]
 A'-AGR.cooked

*"Who did Mary like the food that cooked?"

d.*EBIhI_j ByO_j Mary'anzire [_{NP} OmUkall_q [_{CP} OyO_q
 what that Mary likes the woman that
 [_{IP} x_q uahuka x_j]]]
 cooked

*"What did Mary like the woman that cooked?"

The fact that extraction is sensitive to strong islands regardless of the agreement morphology used indicates that movement takes place, even when A'-pronominal agreement is involved. Because I no longer have access to native speakers of Kinande, I am unable to further establish that the site of extraction behaves like a variable. Relevant evidence for this would be, for instance, the fact that the extraction site could license a parasitic gap (a construction type that Kinande seems to lack), or that it induces weak crossover.

In addition to accounting for the dual pronominal/variable properties of wh-questions in Kinande, my proposal provides a straightforward account of the fact that the distribution of agreement as governed by the binding theory does not hold at LF, a fact I have not indicated until now. Consider that in Kinande it is possible for a wh-question to remain in situ, yet still be interpreted as a direct question; i.e., wh-movement in the syntax is optional. The following example illustrates this fact:²⁴

²⁴There are certain sentences involving wh-subjects but lacking overt COMP-indexing whose status is somewhat controversial. e.g.:

(i) IyOndI agEnda
 who left?

- (24) Yosefu akaha ki kyo Marya?
Joseph gave what AGR Mary
"What did Joseph give to Mary?"

Notice that, in this example, A'-pronominal agreement (here involving DOC agreement) and a wh-expression that is interpreted as occurring in the local specifier of CP can unexpectedly co-occur. This fact indicates that the putative binding theoretic properties of the agreement morphology don't hold at LF, given that in-situ wh-expressions undergo movement at LF. The proposal that agreement morphology in Kinande is subject to generalized binding can provide a natural explanation for the unexpected compatibility of A'-pronominal agreement morphology with local extraction at LF: agreement morphology, not being thematic, is invisible at LF.²⁵ Alternately, we can take the Kinande data as evidence that in situ wh-expressions do not undergo movement to A'-positions at LF (cf. Aoun and Li (1993)).

Empirically, the proposal that agreement morphology is subject to (generalized) binding certainly accounts for all the facts discussed so far. Moreover, it accords with other accounts of "exotic" agreement/inflectional morphology as in Finer (1985), and Haik (1990), who have suggested that

Since this example involves a subject, it is difficult to determine whether or not overt wh-movement has taken place. Hualde (1986) claims that such sentences are acceptable as direct questions and he reports that in such cases a special morphology can appear that is diagnostic of absence of movement (see Hualde (ibid.) for further details). My consultants disagree as to the status of (i); one consultant finds it has an echo question interpretation only, while the other consultant accepts it as a direct question. I will treat (i) as a direct question, where extraction of the wh-subject takes place at LF.

²⁵The account of LF extraction and agreement morphology compatibility sketched in the text implies that the binding theory applies pre-LF (perhaps in the morphology). This is an empirical issue that the Kinande data alone can't decide. In any case, it is not necessary to my analysis that the binding theory apply pre-LF. In the text I also provide an alternative account of the in situ wh-questions and agreement morphology that is consistent with the Binding theory applying at LF.

agreement/inflectional morphology can be subject to the binding theory. Finer, for instance, has demonstrated that the syntax of switch reference in the languages he investigated can be accounted for under the assumption that agreement morphology is subject to the generalized binding theory. Haik indicates that the distribution of various inflectional morphemes in the languages she studied can also be accounted for by the binding theory.

The analysis of agreement morphology in Kinande proposed here has strong conceptual motivation. This study provides further support for attempts to provide a unified account of the distribution of nominal expressions (normally the purview of the binding theory) and the syntax of specifier/head agreement. In the literature, such a connection has been established with respect to reflexive anaphora; see, for example, approaches to the syntax of reflexives that attempt to account for their distribution and other aspects of their behavior via the idea that reflexives adjoin to INFL (e.g., Chomsky (1986)) or that reflexive anaphors actually instantiate some kind of specifier/head relation between reflexive and antecedent (Sportiche (1991)). It is well established that there is a tight relation between agreement and reflexive anaphora and thus between agreement and the binding theory, and this connection goes beyond the more initial descriptive observation that AGR creates an opaque domain for binding. Moreover, many of the notions needed to characterize the binding of reflexives are independently needed to talk about specifier/head agreement. For instance, an agreeing head always requires an "antecedent," namely, the NP it expresses agreement with. Furthermore, as with anaphors and their antecedents, agreement must be in an extremely local relation to the expression it expresses agreement with (namely, in a specifier/head relation). So it is conceptually natural to expect agreement morphology itself to display properties of nominal expressions since nominal expressions, at least reflexives, exhibit a number of the properties of agreement and in general have such a close relationship to INFL. The fact that the agreement morphology in Kinande expresses pronominal as well as anaphoric properties suggests that pronominal expressions themselves might have a tighter

relation to INFL and consequently specifier/head relations than generally posited. Finally, my analysis accords with the intuition behind Jelinek's (1984) proposal regarding so-called pronominal argument languages where she claims that agreement morphemes in some languages behave like arguments; agreement in Kinande is argumentlike in that it obeys the binding theory.

4. Alternative Approaches

I have demonstrated that it is possible to provide an account of the distribution of agreement morphology in Kinande in terms of the binding theory. But I have not yet considered another logical possibility: namely the possibility that, instead of the agreement morphology, what is actually A'-pronominal or A'-anaphoric is the content of the argument position associated with the agreement morphology, which could logically be *pro* or a variable (respectively).²⁶

To see the problem, consider that A'-pronominal morphology can clearly license a *pro* as illustrated in the following example:

- (25) *pro* a-langÍra Marya
AGR-saw Mary
(cl.1)
"She/he saw Mary."

Given that A'-pronominal agreement can license *pro*, does it always license a *pro* when it is in a specifier/head relation with an empty category? For proposals to this effect concerning extraction in various pro-drop languages, see Brandi and Cordin (1989) and Jaeggli (1984). And given that pro-drop agreement always licenses a *pro*, is this *pro* able to function as a variable; that is, can this *pro* be directly A'-bound by an operator? If this were the case we would have an explanation as to why the agreement morphology that can license a *pro* has

²⁶In the generalized binding system, a variable is analyzed as an A'-anaphor (and an r-expression with respect to the A-system, provided it is not an adjunct variable, which is solely an A'-anaphor).

the distribution of an A'-pronoun: it is always connected to an empty pronoun. This is the analysis given by Ouhalla (1993) for agreement phenomena in Berber and other languages that are similar to the Kinande data;²⁷ he suggests that local extraction in languages of this kind is not possible because extraction leaves behind a *pro* and this *pro* would be incorrectly locally A'-bound. In other words, Ouhalla's analysis is independently quite similar to that given here, except that the content of the argument position and not the agreement morphology itself is responsible for the antilocality effects.

Ouhalla (ibid.) suggests that the proposal that pro-drop morphology is incompatible with variables because pro-drop morphology always licenses a *pro* in the relevant empty argument position and *pro* cannot function as a variable is wrong and he presents data suggestive of his conclusion. In fact the Kinande data provides strong additional evidence against the view that *pro* cannot function as a variable. Recall, as pointed out earlier, that since Kinande is a strict SVO language it is not plausible that wh-extraction ever proceeds from the postverbal position. When long distance subject extraction co-occurs with embedded A'-pronominal subject/verb agreement, the extracted expression must have originated in the preverbal subject position. Since such extraction is grammatical, if pro-drop agreement morphology always licensed a *pro* whenever it stood in a spec/head relation with an empty category, then that *pro* would have to necessarily be able to function as a variable as otherwise extraction would be impossible contrary to actual fact. In other words, if the hypothesis that pro-drop morphology always licenses a *pro* in empty positions is true, then it must be that such a *pro* can function as a variable.

The idea that a resumptive pronoun can function as a variable has been advanced by a number of researchers. Engdahl (1983), for instance, demonstrates

²⁷Ouhalla's work, as true regarding most of the research on languages that have similar agreement phenomena, postdates the research on Kinande. In fact it seems that much of the research on this and similar kinds of agreement phenomena was carried out independently of each other.

that overt resumptive subject pronouns in Swedish can function as variables and Koopman (1983) reaches the same conclusion for overt resumptive subject pronouns in Vata. Ouhalla (ibid.) suggests the same status for non-overt pronouns in various pro-drop languages (see also McCloskey (1990)).

Ouhalla claims that he bases his proposal on Chomsky's (1986) suggestion (see also Chomsky (1982)) that the content of an empty category should be freely determined subject to independent licensing conditions. In other words, the context would determine the content of the empty category: the trace of a moved operator could be *pro* if the trace occurred in the subject position of a pro-drop language since *pro* is licensed in this position. Although Ouhalla doesn't make it explicit, he in addition assumes that agreement in pro-drop languages always determines *pro* (this accords with the explicit ideas of Brandi and Cordin as well as Jaeggli). If Ouhalla didn't make this assumption, nothing would prevent a variable from being determined when extraction is local since the licensing conditions for a variable are met in this case, as illustrated schematically below:

(26) [_{CP} who_j [_{IP} x_j pro-drop.AGR_{j-v} ...]]

The variable is in a Case-marked position, co-indexed with an operator in A'-position, and doesn't violate the ECP (or whatever principle/constraint is responsible for determining the distribution of non-pronominal empty categories). Since, according to Ouhalla's analysis, the configuration in (26) isn't a possibility in the languages exhibiting the kind of agreement phenomenon discussed here, it cannot be that Ouhalla's analysis is theoretically grounded in the idea that empty categories are contextually determined, his own claim aside. Instead, his analysis is based on the hypothesis that pro-drop morphology always determines a *pro* in the empty argument position with which the morphology stands in a specifier/head relation.

Whatever the merits of the hypothesis that pro-drop morphology determines a *pro* whenever it stands in a specifier/head relation with an empty

category, it is empirically false to claim that pronouns that function as variables are invariably subject to an A'-antilocality requirement. This is clearly illustrated by data concerning extraction in Vata.

Koopman (*ibid.*) indicates that wh-subject extraction in Vata leaves behind a pronoun that functions as a variable as evidenced for example by its behavior with respect to weak crossover. The resumptive subject pronoun that functions as a variable occurs even when extraction is to the most local specifier of CP as illustrated here (from Koopman (*ibid.*)):

- (27) aO O le saka la
 who he-R eat rice WH
 "Who is eating rice?"

If the overt pronoun functioning as a variable were subject to an A'-antilocality requirement, it would be barred from occurring in cases of local subject extraction since the pronoun would be locally A'-bound. But since the resumptive pronoun is perfectly grammatical in this configuration, it cannot be that pronouns that function as variables are inherently subject to an A'-antilocality requirement. A similar phenomenon has been observed for Irish (cf. McCloskey (*ibid.*) and references cited therein as well as Ouhalla (*ibid.*)), where overt resumptive object pronouns are clearly not subject to an A'-antilocality requirement since they are compatible with a co-indexed wh-expression in the specifier of CP that is most local to the resumptive pronoun.

Ouhalla himself points out that pronouns in Irish do not co-occur with rich agreement. Likewise, we can note the same fact for Vata, a language which lacks subject/verb agreement morphology altogether. It appears then that the A'-antilocality requirement is a property of rich agreement and not pronouns per se. In this light it seems more accurate to attribute the locality and antilocality behaviors that are associated with wh-questions in languages such as Kinande directly to its rich morphology and not to any non-overt pronouns which might occur in these constructions.

5. Conclusion

I have proposed that agreement morphology in Kinande is subject to Generalized Binding and its distribution can be attributed to the A'-pronominal and A'-anaphoric properties of the various agreement morphemes in the language. A'-pronominal agreement morphology is prohibited whenever extraction is to the specifier of the CP that is most local to the agreement morphology as this would violate an A'-antilocality requirement placed on this particular morpheme. When extraction is local or comp to comp (as evidenced by special specifier/head agreement morphology that occurs whenever a wh-expression stands, or has stood in a specifier head relation with the relevant C⁰), a special agreement morpheme occurs (subject extraction) or no agreement occurs (object extraction in DOCs). The special agreement morpheme has the distribution of an A'-anaphor. The suppression of agreement morphology altogether circumvents the A'-pronominal antilocality effects in DOCs.

The agreement phenomena discussed here indicate that at least certain inflectional morphemes play a direct role in the syntax and fall under the binding theory; this fact has implications for the syntactic representation of functional categories in that it seems to suggest that agreement morphology is more than just the reflex of a relation between a specifier and a head since it can have properties that are indirectly independent of the specifier/head relation it expresses.

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