Chapter 18

Differential object marking in Mozambican languages

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This article investigates differential object marking (DOM) in four Bantu languages spoken in Mozambique. In Shimakonde DOM is triggered when the direct object is an animate noun of classes 1, 2, 5, 7 and 9, whereas in Emakhuwa DOM can be understood as the consequence of a noun class hierarchy. In Changana and Rhonga DOM is regulated not by animacy, but by definiteness and specificity in that only specific and definite DPs can trigger object agreement in simple and complex transitive predicates. The paper also explores the grammatical status of the object prefixes that occur in the verb. In all four languages the object prefixes behave more like referential agreement than pronoun incorporation because the object prefixes match in person, number and gender/class with the DP object. In these languages, a syntactic adjacency condition is present between the DP objects and the verb in the transitive verb structure, which indicates that the DP object really occurs in an internal argument position. As for double object constructions, the proposal is that Changana and Rhonga are asymmetrical object languages since GOAL arguments carry primary object properties, while THEME arguments do not. This analysis is confirmed by the facts that (i) GOALS must precede THEMES in unmarked ditransitive sentences; (ii) verb agreement only occurs with the GOALS; and (iii) only GOALS can be passivized. In double object constructions, it is postulated that the reason the THEME object is never cross-referenced on the verb is because it is not the closest DP in the search domain of the little *v*. We then hypothesize that the applied GOAL object is generated in a higher position than the THEME object.

1 Introduction

This paper has three main objectives. First, it seeks to examine the grammatical status of the object marker[1] in four Bantu languages that are spoken in Mozambique. In Changana and Rhonga the object marker can optionally co-occur with the DP object (i.e. a lexical or free pronominal expression of the object) in the same clause. However, in Shimakonde the object marker is triggered in the verb morphology if the direct object is an animate noun of classes 1, 2, 5, 7 and 9. Emakhuwa differs slightly in this regard owing to the fact that the object marker is always obligatory whenever the DP expression of the object is of classes 1 or 2, regardless of whether it is animate or not.

Since the 1980s, there has been intense debate over whether object markers in Bantu languages are instances of referential agreement or simply pronominal arguments that are incorporated onto the verbal complex. Bresnan & Mchombo (1987), for instance, propose that object marking in Chichewa is best understood as an incorporated pronoun and not as a referential agreement marker. They assume that when an overt lexical DP co-occurs with the object marker, the latter signals that the DP object has been dislocated to a right or left-peripheral position. Their analysis is based on three arguments: (i) object marking on the verb stem is related to alterations of the basic order of the DP object; (ii) DP objects that are referred to by an object marker in the verbal complex are prosodically separated from the verb; and (iii) focused elements cannot be referred to with an object marker. By contrast, Baker (2008) and Riedel (2009) argue that the object marking in languages such as Chichewa is indeed a manifestation of referential agreement on an active vP. Strong evidence in favor of Baker's analysis comes from the fact that object markers cannot appear on verbs that are in passive or reciprocal voice (see §4.1). Additionally, Downing (2014) contends that the distribution of object markers in Chichewa fails to consistently satisfy all three of the diagnostics for anaphoric status, i.e. as proposed by Bresnan & Mchombo (1987).

Given these theoretical debates in the literature, the second purpose of this paper is to present evidence that the object markers in the four Mozambican languages mentioned above are indeed best analyzed as instances of referential agreement. The third purpose is to bring further syntactic diagnostics to bear in order to demonstrate that the occurrence of the object markers on the verb reflects the fact that the verb agrees with definite and specific objects in a very local syntactic domain. In simple and complex transitive constructions, definite and specific objects move systematically to Spec-vP in order to establish an agree operation with the little v, whereas indefinite objects remain inside the VP. Details of this proposal are developed in §4.

The article is organized into five sections. §2 outlines the theoretical assumptions on which the analysis is based. §3 and §4 present the relevant data that serves to advance the theoretical proposal. We contend that the definiteness scale is relevant in Changana and Rhonga, whereas, apart from the classes 1 and 2 constraint, it is the animacy hierarchy

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[1] In this paper, we use the term *object marker* to refer to an agreement relation that is established between a definite/specific direct object and a (di)transitive verb. Furthermore, the expression *internal argument* will be used to refer to a direct object that is projected as a complement of a transitive verb.

that determines the differential object agreement in Shimakonde. As for Emakhuwa, we propose that it is classes 1 and 2 that constrain the appearance of the object marker on the verb. §5 concludes the paper.

2 Theoretical background

Research over the last decades across various languages has shown that verbal agreement with a DP object (=internal argument) must usually present certain conditions in order to license differential object agreement. By *differential object agreement* we mean that agreement on the verb may serve as a grammatical device to encode certain semantic differences. In line with this, we follow Comrie's (1981) and Croft's (1988, 1990) assumptions that specificity, animacy and person-number features play a major role regarding the activation of differential object agreement across languages. Within the typological literature (Givón 1976; Comrie 1981; Croft 1988; 1990; Bentley 1994), it has been assumed that the relevant semantic features that trigger object agreement on the verb stem are the ones that occupy a higher position in the hierarchies in (1).

(1) Relevant hierarchies for licensing object agreement

    a. Definiteness Hierarchy: definite > specific > indefinite > non-specific

    b. Animacy Hierarchy: human > animate > inanimate

Differential object agreement constrained by the specificity of the object is attested, for instance, in Palauan. According to Woolford (2000: 218), a definite and specific object in this language triggers verbal agreement, whereas an indefinite object does not (2).

(2) Palauan (Georgopoulos 1991: 30)

    a. te-'illebed-ii   a bilis a rengalek.
       3PL-PRF.hit-3SG dog   children

       'The children hit the dog.'

    b. te-'illebed   a bílis a rengalek.
       3PL-PRF.hit dog   children

       'The children hit a dog/some dogs.'

In addition to verbal agreement, other strategies are also found across languages to convey semantic differences among objects. Danon (2002), for instance, shows that in Hebrew the case particle *et* is obligatorily triggered whenever the object is definite, as in (3).

(3) Hebrew (Danon 2002: 1)

    a. Dan kara **et**   **ha**-sefer.
       Dan read ACC DEF-book

       'Dan reads the book.'

b. *Dan kara **ha**-sefer.
   Dan read DEF-book

   ('Dan reads a book.')

Sentence (3b) is ungrammatical because the definite object *ha-sefer* 'the book' must be preceded by the case marker *et*. Nonetheless, if the object is indefinite, this case marker cannot appear. Compare (4a-b):

(4) Hebrew (Danon 2002: 1)

   a. Dan kara sefer.
      Dan read book

      'Dan reads a book.'

   b. *Dan kara **et** sefer.
      Dan read ACC book

      ('Dan reads a book.')

In sum, the data presented for Palaun and Hebrew clearly indicate that differential object marking, henceforth DOM, is directly connected to the semantic reading of the object in some languages of the world. The strategies of DOM vary from language to language, but the purpose is the same, encoding semantic contrasts such as those outlined in (1). With this theoretical background in mind, the purpose of §3 and §4 is to investigate how DOM operates in Emakhuwa and Shimakonde on the one hand, and in Changana and Rhonga on the other hand.

3 DOM realization in Shimakonde and Emakhuwa

DOM in Emakhuwa[2] is obligatorily triggered in the verb morphology if the direct object is an animate noun of either class 1, if singular as shown in (5a), or class 2, if plural as indicated in (6a). According to our consultants, classes 1 and 2 basically comprise human and animate nouns:

(5) Emakhuwa (human object)

   a. mulopwana o-o-**mu**-on-a   **m'miravo**.
      1.man   1.SM-PST-1.OM-see-FV 1.boy

      'The man has seen the boy.'

   b. *mulopwana o-o-on-a   m'miravo.
      1.man   1.SM-PST-see-FV 1.boy

      ('The man has seen the boy.')

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[2] The data for this study were collected during fieldwork in Mozambique, where these languages are spoken as mother tongues. In Bantu language studies, noun classes are named by Arabic numerals (hence, 1 means class 1 (and not first person), for instance).

(6) Emakhuwa (animate object)

    a. mulopwana o-o-**wo**-on-a   **apaakha**.
       1.man   1.SM-PST-2.OM-see-FV 2.cat

       'The man has seen the cats.'

    b. *mulopwana o-o-on-a   apaakha.
       1.man   1.SM-PST-see-FV 2.cat

       ('The man has seen the cats.')

On the other hand, animate DPs that belong to other nominal classes never trigger the agreement object prefix on the verb, as shown in (7a), (7c) and (7e) and in the ungrammaticality of (7b), (7d) and (7f) with the object prefix present:

(7) Emakhuwa (animate object)

    a. mulopwana o-h-on-a   nikhule.
       1.man   1.SM-PST-see-FV 3.rat

       'The man has seen the/a rat.'

    b. *mulopwana o-o-**mu**-on-a   nikhule.
       1.man   1.SM-PST-3.OM-see-FV 3.rat

       ('The man has seen the rat.')

    c. mulopwana o-h-on-a   njojo.
       1.man   1.SM-PST-see-FV 5.giraffe

       'The man has seen the/a giraffe.'

    d. *mulopwana o-o-**ni**-on-a   njojo.
       1.man   1.SM-PST-5.OM-see-FV 5.giraffe

       ('The man has seen the giraffe.')

    e. mulopwana o-o-on-a   ekhuluwe.
       1.man   1.SM-PST-see-FV 7.pig

       'The man has seen the/a pig.'

    f. *mulopwana o-o-**yi**-on-a   ekhuluwe.
       1.man   1.SM-PST-7.OM-see-FV 7.pig

       ('The man has seen the pig.')

The ungrammaticality of (7b), (7d) and (7f) is due to the fact that only object markers of classes 1 and 2 are allowed to occur on the verb stem. Furthermore, examples (7a), (7c) and (7e) without the object prefix on the verb stem allow either a definite or indefinite reading of the object. This suggests that the presence versus absence of the object marker does not contribute to the definiteness reading of the referent of the DP object. In conclusion, DOM in Emakhuwa is based on a noun class hierarchy, as follows:

(8) CL 1/2 > CLs ≠ 1/2 (i.e. classes that are different from 1/2)

Shimakonde differs from Emakhuwa due to the fact that Shimakonde object marking is not limited to classes 1 and 2, which generally include [+HUMAN, +ANIMATE] nouns, but is also extended to animate nouns of other classes, such as singular classes 5, 7, and 9 and their plural counterparts. For the most part, the singular forms in these classes take the nominal class prefixes {li-}, {shi-} and {(i)N-} and the plural forms take {ma-}, {vi-}, {di-}, respectively. The only exception is nouns of class 10 that can take either the prefix {di-} or the prefix {va-}, as shown in the end of Table 2. It is important to point out that in these classes there are both [-ANIMATE, -HUMAN] and [+ANIMATE, -HUMAN] nouns. Compare the data in Tables 1 and 2.

Table 1: Shimakonde: [-HUMAN, -ANIMATE] nouns of classes 5, 7, and 9

Class 5 (Singular)	English	Class 6 (Plural)	Class 2 (Plural)
li-dodo	'leg'	*ma-dodo*	**va-dodo*
li-pela	'pear'	*ma-pela*	**va-pela*
li-pote	'pot, bowel'	*ma-pote*	**va-pote*
li-pipa	'drummer'	*ma-pipa*	**va-pipa*
li-kalale	'basket'	*ma-kalale*	**va-kalale*
ly-atu	'ear'	*ma-atu*	**va-tu*

Class 7 (Singular)	English	Class 8 (Plural)	Class 2 (Plural)
shi-julu	'hat'	*vi-julu*	**vajulu*
shi-latu	'shoe'	*vi-latu*	**valatu*
sh-elo	'sieve'	*vy-elo*	**velo*
shi-ja	'thigh'	*vi-ja*	**va-ja*

Class 9 (Singular)	English	Class 10 (Plural)	Class 2 (Plural)
i-kanywa	'mouth'	*di-kanywa*	**va-kanywa*
im-bedo	'ax'	*di-mbedo*	**va-mbedo*
i-pete	'ring'	*di-pete*	**va-pete*
i-kiti	'chair'	*di-kiti*	**va-kiti*
ing'-owu	'banana'	*di-ng'owu*	**va-ng'owu*
ing'-ope	'face'	*di-ng'ope*	**va-ng'ope*

In Shimakonde, any animate object DP, regardless of the class prefix that the noun itself has, can be referenced in the verb by *m(V)-* 'singular class 1' and *va-* 'plural class 2'. The morphological distribution of the object prefixes {*mu-* ~ *m-* ~ *n-*} and {*va-*} that occur on the verb can be understood by the examples in (9) and (10). It is important to point out that these animate object markers occur in the verb, regardless of the class of the noun. If the object prefix does not appear in the verbal complex when the object DP is animate, the sentence becomes ungrammatical, as shown in (9) and (10).

Table 2: Shimakonde: [-HUMAN, +ANIMATE] nouns of classes 5, 7, and 9

Class 5 (Singular)	English	Class 6 (Plural)	Class 2 (Plural)
ly-umu	'frog'	*ma-umi*	**va-umi*

Class 7 (Singular)	English	Class 8 (Plural)	Class 2 (Plural)
shi-n'gila	'scorpion'	*vi-n'gila*	**va-n'gila*
sh-uvi	'leopard'	*vy-uvi*	**va-uvi*
sh-uni	'bird'	*vy-uni*	**va-uni*

Class 9 (Singular)	English	Class 10 (Plural)	Class 2(Plural)
ng'avanga	'dog'	*di-ng'avanga*	*vang'vanga*
namembe	'fly'	*di-namembe*	*vanamembe*
imbudi	'goat'	*di-mbudi*	*vambudi*

(9)   Shimakonde

    a.   nangu ni-ndi-**n**-kody-a   munu   n'ng'ande.
        I   1SG.SM-PST-1.OM-find-FV 1.person inside.the.house

        'I found someone inside the house.'

    b.   *nangu ni-ndi-kody-a   munu   n'ng'ande.
        I   1SG.SM-PST-find-FV 1.person inside.the.house

        ('I found someone inside the house.')

(10)   Shimakonde

    a.   nangu ni-ndi-**va**-kody-a   vanu   n'ng'ande.
        I   1SG.SM-PST-2.OM-find-FV 2.people inside.the.house

        'I found some people inside the house.'

    b.   *nangu ni-ndi-kody-a   vanu   n'ng'ande.
        I   1SG.SM-PST-find-FV 2.people inside.the.house

        ('I found some people inside the house.')

Examples (9) and (10) illustrate these facts for nouns of classes 1 and 2. But in addition to objects of class 1 and class 2, the object markers are also extended to cross-reference animate nouns belonging to classes 5, 7 and 9. This thus signals that it is not noun class but animacy that regulates DOM in Shimakonde. Notice that there is a mismatch in the glossing in (11) as the object prefix {*n-*} that appears on the verb stems is of class 1, whereas the DP objects belong to classes 5 and 7, respectively. To explain this mismatch one might assume that {*mu- ~ m- ~ n-*} 'singular' and {*va-*} 'plural' have become specialized as differential object markers to indicate animacy in Shimakonde, regardless of whether the object belongs to the (singular) classes 1, 5, 7 or 9.

(11) Shimakonde

   a. nangu ni-ndi-**n**-nivat-a   lipuluputu.
       I   1SG.SM-PST-1.OM-step-FV 5.butterfly

       'I stepped on the butterfly (a definite one).'

   b. nangu ni-ndi-**n**-kang'an-a   shiboko na   upanga.
       I   1SG.SM-PST-1.OM-poke-FV 7.hippo with 14.machete

       'I have poked the hippo (a definite one) with a machete.'

   c. nangu ni-ndi-**n**-gang'ol-a   mbudi.
       I   1SG.SM-PST-1.OM-push-FV 9.goat

       'I pushed the goat (a definite one).'

That animacy really matters to trigger DOM in Shimakonde becomes evident in contexts where the object is not an animate noun, but an inanimate one. In such contexts, the object prefix cannot appear in the verb morphology (12a-13a). Then, if the inanimate DP object triggers the agreement prefix, the sentence becomes ungrammatical (12b-13b):

(12) Shimakonde

   a. ngw-on-ile   lijanga.
       1SG.SM-see-PST 5.stone

       'I saw a stone.'

   b. *ngw-li-on-ile   lijanga.
       1SG.SM-5.OM-see-PST 5.stone

       ('I saw the stone (a definite one).')

(13) Shimakonde

   a. nangu ni-ndy-on-a   shijiko.
       I   1SG.SM-PST-see-FV 7.spoon

       'I saw a spoon.'

   b. *nangu ni-ndy-shi-on-a   shijiko.
       I   1SG.SM-PST-7.OM-see-FV 7.spoon

       ('I saw this spoon (a definite one).')

Nonetheless, the object prefix {*n*-} is omitted when the animate object referent is indefinite and not given in the previous discourse. This indicates that the occurrence of this prefix is regulated not only by animacy but also by the definiteness property of DP objects that belong to nouns of classes 5, 7 and 9, as comparison of (11a-c) and (14a-c) shows.

(14) Shimakonde

   a. nangu ni-ndi-nivat-a   lipuluputu.
       I   1SG.SM-PST-step-FV 5.butterfly

       'I stepped on a butterfly.'

    b. nangu ni-ndi-kang'an-a   shiboko na   upanga.
        I   1SG.SM-PST-poke-FV 7.hippo with 14.machete

        'I have poked a hippo with a machete.'

    c. nangu ni-ndi-gang'ol-a   imbudi.
        I   1SG.SM-PST-push-FV 9.goat

        'I pushed a goat (an indefinite one).'

In conclusion, the examples in (14) demonstrate that when the object prefix is absent the referent of the DP object must be interpreted as indefinite, whereas the presence of the prefix entails that the object constitutes given information in discourse. An alternative way to encode definiteness of the referents of in- animate nouns of classes 5, 7 and 9 is by placing modifiers after the noun, such as the demonstrative {*a-*} 'this'. This strategy is illustrated with the demonstratives *a-li* and *a-shi* in (15).

(15)   Shimakonde

    a. ngw-on-ile   lijanga a-li.
        1SG.SM-see-PST 5.stone this-5

        'I have seen this stone (a definite one).'

    b. nangu ni-ndy-on-a   shijiko a-shi.
        I   1SG.SM-PST-see-VF 7.spoon this-7

        'I saw this spoon (a definite one).'

Based on these data, one may postulate that the differential object marking in Shimakonde is mainly regulated by a more complex set of criteria than in Emakhuwa. In Shimakonde the agreement prefix is obligatory if it refers to animate nouns of classes 1 and 2, whereas when it cross-references nouns of classes 5, 7 and 9, the object is both animate and definite. The Shimakonde data require us to postulate a slightly different generalization from the one proposed by Liphola (2001: 23), who says "verbs in Shimakonde only take OPs (object prefixes) of classes 1 and 2, which have a feature [+ANIMATE]". Instead, Liphola's analysis must be refined to state that the Shimakonde object prefix agrees with DP objects of class 1 and 2 and may agree with DP objects of classes 5, 7 and 9 that carry the semantic features [+ANIMATE, +HUMAN, +DEFINITE], as shown in Table 2.

4 DOM in Rhonga and Changana

Changana and Rhonga differ from Emakhuwa and Shimakonde in that it is not animacy, or animacy-plus-definiteness, or a specific noun class, but only definiteness that regulates the appearance of object marking on the verb. We will argue that the following grammatical constraint is operative in Changana and Rhonga, at least in simple transitive constructions:

(16)   Changana and Rhonga DOM: Object agreement in the verb is possible but structurally optional if the object is definite/specific. It is forbidden if the object is indefinite/non-specific.

As a preliminary illustration of first part of this generalization, consider (17) below, which was taken from a narration of the pear story film (Chafe 1980).[3] In this narrative, the noun phrase *mufana* 'boy', which is introduced as the head of the relative clause in (17a), is cross-referenced as object on the verbs in (17c, e) by means of the class 1 object prefix {*mu-*}. Notice that the main function of the object agreement prefix in this discourse section is to keep the reader updated about the main topic of the discourse. In contrast to (17c) and (17e), no object marker occurs on the transitive verbs in (17b) and (17d), even though 'his hat' (17b) and 'that hat' (17d) are presumably definite/specific.

(17)   Changana

   a. a   lew (luwayi) wa mufana luwiya a-nga-dib-a   ni   basek-e(ni).
       PART that   1   1.boy   who 1SG.SM-REL-fall-FV from bicycle-LOC
       'That boy has fallen from the bicycle'

   b. a-a-khohlw-e   xigqoko xa-kwe.
       1-T/A-forget-FV 7.hat   7-his
       'and (then) (he) forgot his hat (on the ground).'

   c. se…   svi-**mu**ᵢ-vitan-a.
       then… 8.SM-1.OM-call-FV
       'Then they called him'

   d. a ku va a-tek-a   xigqoko lexiya.
       for   1SM-pick-FV 7.hat   that
       'in order for him to pick up that hat.'

   e. swi-**mu**ᵢ-nyik-et-a.
       8.SM-1.OM-hand-CONT-FV
       '(then) they handed him back (his hat).'

In order to demonstrate that the agreement prefix occurrence is really dependent on the definiteness of the object, we investigate in the next subsections how DOM operates in simple transitive and double object constructions. Another purpose is to present evidence in favor of the hypothesis that object markers are purely agreement morphemes.

4.1 Simple object constructions

In Rhonga and Changana, object agreement can occur with definite DPs, regardless of whether the object is animate/human or not. Compare the (a) and (b) examples in (18) through (22).

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[3] The six-minute film made at the University of California at Berkeley in 1975, and described in Chafe (1980), can be downloaded at http://www.linguistics.ucsb.edu/faculty/chafe/pearfilm.htm.

(18) Rhonga (human object)

    a. mufana a-von-ile   wansati.
        1.boy   1.SM-see-PST 1.woman

        'The boy has seen a woman.'

    b. mufana a-**mu**-von-ile   **wansati**.
        1.boy   1.SM-1.OM-see-PST 1.woman

        'The boy has seen the woman (a specific and definite one).'

(19) Rhonga (animate object)

    a. mufana a-von-ile   xipixi.
        1.boy   1.SM-see-PST 7.cat

        'The boy has seen a cat.'

    b. mufana a-**xi**-von-ile   **xipixi**.
        1.boy   1.SM-7.OM-see-PST 7.cat

        'The boy has seen the cat (a specific and definite one).'

(20) Rhonga (inanimate object)

    a. mufana a-von-ile   zambana.
        1.boy   1.SM-see-PST 5.potato

        'The boy has seen a potato.'

    b. mufana a-**dri**-von-ile   **zambana**.
        1.boy   1.SM-5.OM-see-PST 5.potato

        'The boy has seen the potato (a specific and definite one).'

(21) Changana (human object)

    a. ni-tiv-a   mufana.
        1SG.SM-know-FV 1.boy

        'I know a boy.'

    b. na-**mu**-tiv-a   a[4]   **mufana**.
        1SG.SM-1.OM-know-FV PART 1.boy

        'I know the boy (a specific and definite one).'

(22) Changana (inanimate object)

    a. xin'wanani xi-rhandz-a madonsi.
        7.child   7.SM-like-FV 6.candy

        'The child likes candies.'

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[4] According to Duarte (2011), the particle *a* occurs only in some dialectical varieties of Changana and Rhonga. When it precedes a DP object, its major role is to encode definiteness and to indicate that the referent of that object has already been given in previous discourse.

b. xin'wanani xa-**ma**-rhandz-a   **madonsi**.
   7.child   7.SM-6.OM-like-FV 6.candy
   'The child likes the candies (a specific and definite type of candy).'

The data show that definiteness and specificity play a major role in regulating the occurrence of DOM in Rhonga and Changana simple transitive constructions. Moreover, the Rhonga and Changana data further support certain theoretical assumptions within the generative literature, according to which agreed-with objects are usually interpreted as definite, whereas unagreed-with objects are interpreted as indefinite. According to Baker (2008: 199), "a standard account of this sort of phenomenon since Diesing (1992) is to say that the verb phrase is the domain of existential closure. NPs that remain in the verb phrase are within the domain of existential closure, and get weak/indefinite/nonspecific readings, whereas NPs that escape the verb phrase get strong generic, specific, or (in article-less languages) definite readings." In sum, this theory predicts that, if an object remains in the VP, it is more likely to be interpreted as indefinite/nonspecific. In contrast, an object that is raised out of the VP may obtain a definite and specific reading, as the tree diagram in Figure 1 shows.
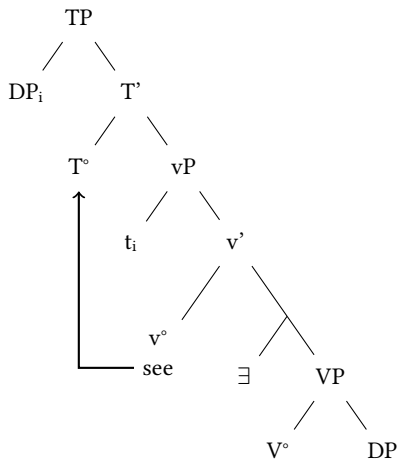

Figure 1: An object in situ allows an indefinite reading

Given these background assumptions, we will assume, hereafter, that Rhonga and Changana set "yes" to Baker's Directionality of Agreement Parameter (23). Notice that "F" can be read as the little v^{o} that heads the vP projection in Figure 2.

(23) The Directionality of Agreement Parameter (Baker 2008: 155)
      F agrees with D/NP only if D/NP asymmetrically c-commands F.
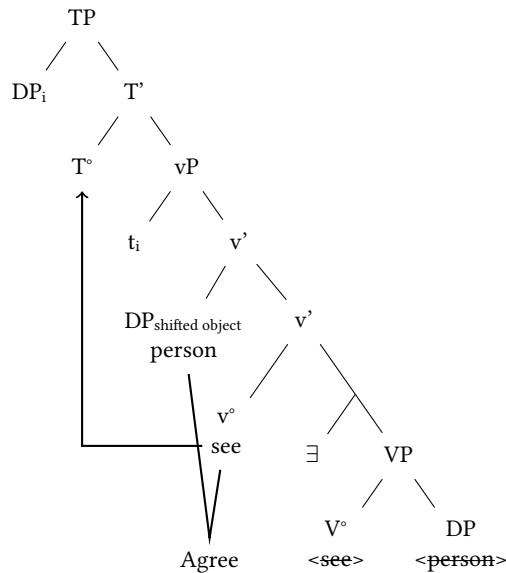
Figure 2: An object raised out of the VP allows a definite reading

This syntactic analysis entails that the head *v* searches upward for the theme object to agree with, not downward. This accounts for why DP objects must move to Spec-*v*P, or even to a higher position such as to a topic position.

4.2 Arguments for the referential agreement analysis

The data also provide evidence that the object prefixes behave more like referential agreement than pronoun incorporation, insofar as the object prefixes can co-occur with and match in person and number with the DP object in Emakhuwa, Shimakonde, Rhonga and Changana. All these languages allow a syntactic adjacency condition between the DP objects and the object prefixes in the transitive verb structure (though the DP need not occur in some discourse conditions, as in (17c) and (17e)), which must be interpreted as indicating that the DP object occurs in an internal argument position. This syntactic adjacency becomes apparent in the fact that DP objects that are referred to by the agreement prefix in the verbal complex are not prosodically separated from the verb, as would be expected if they were dislocated to an adjunct position. This syntactic co-occurrence possibility is taken here as evidence that the object prefixes are not incorporated pronouns, but are instances of referential agreement. This proposal is also in accordance with the assumption that pronominal inflection is clearly absent in languages that have agreement. In incorporated pronominal languages there is no DP inside the vP domain with which this inflection could agree (Jelinek 1989). This is the case in languages like Egyptian Arabic, where pronominal inflections and DP objects are mutually exclusive (Jelinek 1989), as is shown in (24).

(24) Egyptian Arabic

 a. šuft-uh.
  see-3SG.M
  'I saw him.'

 b. šuft il-walad.
  see the-boy
  'I saw the boy.'

Jelinek (1989) posits that the suffix -*uh* does not function as agreement, but as an incorporated pronoun. She assumes that, as an incorporated pronoun occupies an argument position, it receives a theta-role in the usual way that core arguments of the verb do. The same pattern does not emerge in the Bantu languages examined here, since the object and the agreement prefix can co-occur without causing ungrammaticality, as data above show. Another piece of evidence that the Bantu object markers are really agreement in nature comes from the fact that they can only attach to the lower verb in contexts of verbal cluster constructions, as the Rhonga data in (25) indicate:

(25) Rhonga

 a. mufana a-gam-ile ku-**xi**-b-a **xipixi**.
  1.boy 1.SM-finish-PST INF-7.OM-hit-FV 7.cat
  'The boy finished hitting the dog.'

 b. *mufana a-**xi**-gam-ile ku-b-a **xipixi**.
  1.boy 1.SM-7.OM-finish-PST INF-hit-FV 7.cat
  ('The boy finished hitting the dog.')

The fact that the object marker must occur in the embedded clause in (25) suggests that the lower verb must establish agreement first with the closest DP that is located in the little v° c-command domain. The fact that the object markers stay close to the lower verb is expected if they are agreement. If they were object clitics or incorporated pronouns, they would be able to attach to higher verbs in the structure. This proposal serves to reinforce the hypothesis that the object prefix is not an incorporated pronoun, but agreement, since there should be no object agreement on v unless the agreed-with NP occurs in an argument position, that is, in the structural position of Spec, vP. Another piece of evidence in favor of this analysis comes from the fact that the object prefix cannot appear on the verb when it is in a passive voice, as in (26):

(26) Changana

 a. ngonyama yi-dlay-iw-ile hi muhloti.
  9.lion   9.SM-kill-PASS-PST by 1.hunter
  'The lion was killed (by the hunter).'

 b. *ngonyama yi-*yi*-dlay-iw-ile hi muhloti.
  9.lion   9.SM-9.OM-kill-PASS-PST by 1.hunter
  ('The lion was killed (by the hunter).')

The ungrammaticality of (26b) indicates that object agreement is sensitive to the locality condition and to the fact that the *v*P must be in the active voice, and not in the passive one. In (26a) with a passive *v*P, the DP object is raised from a position internal to the VP to the subject position, thereby blocking the occurrence of the object agreement prefix {*yi-*}.

The next section is devoted to an analysis of DOM in double object constructions in Rhonga and Changana. The objective is to explain why the theme object, even when it is definite and specific, never triggers agreement in contexts where the verb selects two internal objects.

4.3 Double object constructions

The double object constructions examined here all involve applicative constructions. In the literature, a distinction is proposed between *symmetrical* and *asymmetrical* object languages (Bresnan & Moshi 1990; Chimbutane 2002; Ngonyani & Githinji 2006). The two types of languages are diagnosed by syntactic tests involving: (a) object order, (b) passivization, (c) object marking and (d) relativization. In general, in Bantu languages it is observed that the GOAL or applied object (AO) can occur before the direct (THEME or base) object (DO) and vice-versa in symmetrical object languages, while the GOAL or applied object must precede the THEME or base object in asymmetrical object Bantu languages. Only the GOAL/applied object may be passivized in asymmetrical object languages, whereas both can be passivized in symmetrical object languages. Furthermore, either object may trigger the object prefix on the verb stem in symmetrical object languages, as opposed to asymmetrical object languages in which only the goal may be cross-referenced on the verb. Based on these three tests, Bresnan & Moshi (1990) propose the typology in Table 3 to differentiate both types of (Bantu) languages.

Table 3: Bantu asymmetrical and symmetrical object languages

	Symmetrical object languages	Asymmetrical object languages
Object order	(i) AO DO (ii) DO AO	(i) AO DO (ii) *DO AO
Passivization	(i) AO (ii) DO	(i) AO (ii) *DO
Object marking	(i) AO (ii) DO	(i) AO (ii) *DO

In line with the assumptions above, we address two questions about the Rhonga and Changana applicative constructions,[5] as follows: (i) Why does the verb never agree with

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[5] We will not address the double object construction in Shimakonde and Emakhuwa owing to lack of enough empirical data.

the THEME object, but only with the GOAL/BENEFICIARY object? and (ii) Why is there just one agreement slot in the verbal morphological complex? Our proposal is that Changana and Rhonga are asymmetrical object languages since GOAL arguments carry primary object properties, while THEME arguments do not. This is confirmed by the following grammatical facts: (i) GOALS must precede THEMES in unmarked ditransitive sentences as in (27a); (ii) verb agreement must occur with the GOAL whenever it follows the THEME object, as in (27b); (iii) only GOALS can be passivized, as in (27c). By unmarked ditransitive sentences, we refer to those syntactic contexts in which the GOAL is projected in a higher position than the THEME object, thereby giving rise to the [Subject + Verb + GOAL + THEME] word order.[6] The bolding in (27) indicates the GOAL, be it in an (indirect) object (27a-b) position or in a subject (27c) position. Compare the examples below:

(27) Changana

    a. nahani a-svek-el-a   **vapfumba** tihlampfi.
        1.aunt   1.SM-cook-APPL-FV 2.guest   10.fish

        'My aunt is cooking fish for the guests.'

    b. hahani a-**va**-svek-el-a   tihlampfi **vapfumba**.
        1.aunt   1.SM-2.OM-cook-APPL-FV 10.fish   2.guest

        'My aunt is cooking fish for them, the guests (and not chicken).'

    c. **vapfumba** va-svek-el-iw-a   tihlampfi (hi hahani).
        2.guest   2.SM-cook-APPL-PASS-FV 10.fish   by 1.aunt

        'The guests are being cooked some fish (by my aunt).'

In example (27b), the object agreement prefix {*va-*} refers to the GOAL object and emphasizes that it corresponds to given information in the discourse. Therefore the GOAL object must be interpreted as definite and specific in such construction. As the THEME object carries new information in (27b), it must move around the GOAL object to a dedicated focus position in the left periphery of the *v*P. Evidence that the THEME object really represents the contrastive focus comes from the fact that sentence (27b) denotes the semantic interpretation that 'my aunt is cooking fish and not chicken for the guests'. This grammatical pattern is confirmed by the fact that the sentence becomes ungrammatical if the agreement prefix {*va-*} occurs on the verb stem and the GOAL object remains in its unmarked (i.e. immediately postverbal) position, thereby occupying a syntactic position before the THEME object, as in (28):

(28) Changana
    *hahani a-**va**-svek-el-a   **vapfumba** tihlampfi.
    1.aunt   1.SM-2.OM-cook-APPL-FV 2.guest   10.fish

    (*'My aunt is cooking fish for them, the guests.')

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[6] According to Chimbutane (2002: 111), "there is consensus that in such cases the NPs immediately after the verb are mapped onto the thematically higher roles. This suggests, though not without controversy, that the position adjacent to the verb belongs to the arguments ranked thematically higher".

Based on the fact that the GOAL (i) is generated in a high thematic position; (ii) controls object agreement; and (iii) is subject to passivization, one possibility is to posit that the GOAL argument is then introduced in a high syntactic position, while the THEME object is generated in a low syntactic position. Let's then propose that the GOAL object is first merged as a specifier of a high Applicative Phrase (ApplP), which allows it to be base-generated between the AGENT and the THEME objects, as depicted in Figure 3.

```
                    vP
                   /  \
              Agent    v'
                      /  \
                   v°    ApplP
                         /  \
                     Goal    Appl'
                            /  \
                       Appl°    VP
                               /  \
                             V°    theme
```
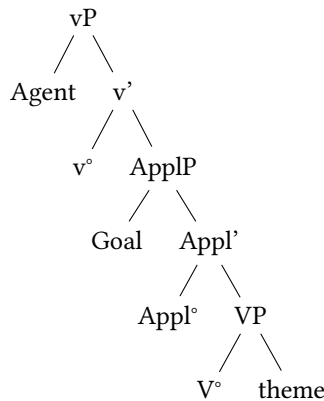
Figure 3: Double object construction structure in Changana

In double object constructions, at least in asymmetrical object languages such as Rhonga and Changana,[7] the THEME object is never cross-referenced on the verb. Let's then assume that the agreement between the GOAL and the little *v* takes place at the moment when the lexical verb performs successive cyclic movement from V-to-Appl and then from Appl-to-*v*. Additionally, let's postulate that this head movement operation is followed by the GOAL object shift from the specifier of ApplP to the specifier of *v*P. Under this view, the agreement between the applied object and the verb follows from the Directionality of Agreement Parameter, proposed in (23), according to which a head F (i.e. the little light verb) agrees with a DP only if that DP asymmetrically c-commands F. This proposal has the advantage of accounting for why only the applied (=GOAL/BENEFICIARY) argument controls the agreement on the verb complex, whereas the THEME argument cannot. In short, this analysis presupposes that both the verb and the applied object are in the same local domain at the moment that the Agree operation takes place. The derivation proposed here entails that the sentence in (29) has the syntactic derivation shown in Figure 4. In this derivation, moving the THEME object around the GOAL to Spec-*v*P would put it before the GOAL object and the verb, thereby yielding [THEME-GOAL-Verb] word order. A way to restore the superficial [Verb-THEME-GOAL] word order is to propose that the verb subsequently moves to the INFL node (Tense/Aspect/Mood domain) of the clause, as depicted by the derivation in Figure 4.

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[7] We refer the reader to Chimbutane's (2002) arguments for Changana as an asymmetrical object language.

(29)   Changana
       hahani a-va-svek-el-a   tihlampfi vapfumba.
       1.aunt 1.sm-2.om-cook-appl-fv 10.fish   2.guest
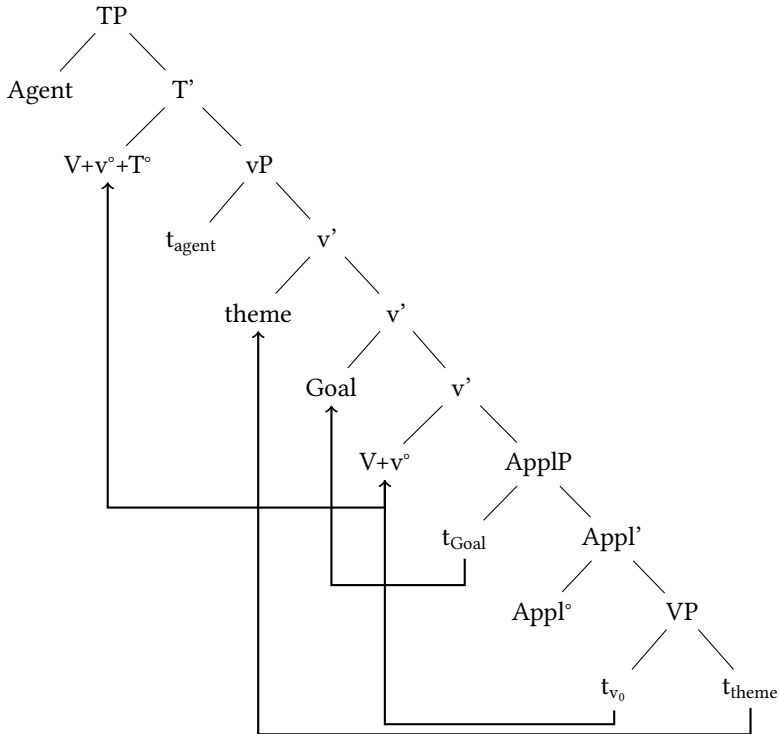   'My aunt is cooking fish for them, the guests.'

Figure 4: Syntactic derivation of the [subject+verb+theme+goal] word order

An immediate consequence of the syntactic derivation outlined here is that it reinforces the proposal advanced in §4.1, according to which the object prefix is not an incorporated pronoun, but simply referential agreement. Evidence comes from the fact that the verb agrees only with the goal object, which must be positioned internal to the *v*P domain and not dislocated to a right or left-peripheral position. Additionally, the fact that the DP goal occurs inside the vP/ApplP domain corresponds to it not being in an adjunction position, but in an argument position. Recall that in incorporated pronoun languages the DP object and the pronominal inflection cannot co-occur in the same domain, since they are in complementary distribution. In conclusion, as the data above show, such distribution does not occur in the Bantu languages examined here, since the DP object, regardless of whether it is goal or theme, must remain within the domain of the *v*P for the verb to establish agreement with it.

5 Final remarks

In this paper, we have shown that object agreement in Emakhuwa can be interpreted as the realization of a noun class hierarchy, whereas in Shimakonde it is regulated by the animacy and definiteness hierarchy: human > definite animate > inanimate, with definite animate and human nouns controlling object agreement in the verbal complex. Object marking in Changana and Rhonga is regulated not by animacy, but only by definiteness and specificity. Only specific and definite DPs can trigger object agreement in simple transitive predicates.

Regarding double object constructions, the analysis has shown that there is just one slot per clause for object agreement. We have proposed that what regulates the occurrence of agreement in this context is locality, with the GOAL object merging in a higher position than the THEME object in the syntactic structure. This means that GOAL object is the closest candidate for the little *v* head to agree with. This in turn accounts for why agreement with THEME object is systematically forbidden in the double object constructions.

We have also presented empirical evidence in favor of the analysis that the object prefixes behave more like referential agreement than pronoun incorporation, namely: (i) object prefixes match in person and number with the DP object in Shimakonde, Rhonga and Changana; (ii) in these languages, the DP object that triggers the object prefix on the verb stem must appear within the *v*P, which is reflected in the fact that the object is not prosodically separated from the verb. The only exception is Emakhuwa where animacy/humanness overrides class/gender. These facts lead one to assume the DP object sits in an internal specifier position of *v*P. This then reinforces the hypothesis that the THEME object remains in a nuclear position within the v-VP and not in an adjunction position.

Abbreviations

1	1st person	LOC	locative
2	2nd person	M	masculine
3	3rd person	OM	object marker
ACC	accusative	PART	particle
AO	applied object	PASS	passive
APPL	applicative	PL	plural
CONT	contactive	PRF	perfective
DEF	definite	PST	past
DO	direct object	REL	relative marker
OM	double object marking	SG	singular
FV	final vowel	SM	subject marker
INF	infinitive	T/A	tense and aspect marker

References

Baker, Mark. 2008. *The syntax of agreement and concord*. Cambridge: Cambridge University Press.

Bentley, Mayrene Elizabeth. 1994. *The syntactic effects of animacy in Bantu languages*. Bloomington, IN: Indiana University. (Doctoral dissertation.)

Bresnan, Joan & Sam Mchombo. 1987. Topic, pronoun and agreement in Chichewa. *Language* 63(4). 741–782.

Bresnan, Joan & Lioba Moshi. 1990. Object asymmetries in comparative Bantu syntax. *Linguistic Inquiry* 21. 147–185.

Chafe, Wallace L. (ed.). 1980. *The pear stories: Cognitive, cultural, and linguistic aspects of narrative production* (Advances in Discourse Processes III). Norwood, NJ: Ablex.

Chimbutane, Feliciano. 2002. *Grammatical functions in Changana: Types, properties and function alternations*. Canberra: The Australian National University. (Master's dissertation.)

Comrie, Bernard. 1981. *Language universals and linguistic typology*. Oxford: Basil Blackwell.

Croft, William. 1988. Agreement vs. Case marking and direct objects. In Michael Barlow & Charles Ferguson (eds.), *Agreement in natural language: Approaches, theories, descriptions*, 159–180. Chicago: University of Chicago Press.

Croft, William. 1990. *Typology and universals*. Cambridge: Cambridge University Press.

Danon, Gabi. 2002. *Case and formal definiteness: The licensing of definite and indefinite noun phrases in Hebrew*. Telaviv: University of Telaviv. (Doctoral dissertation.)

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

Downing, Laura J. 2014. Differential object marking in Chichewa. (Paper presented at the workshop of The Diachronic Typology of Differential Argument marking, University of Konstanz, April 5-6, 2014.)

Duarte, Fábio Bonfim. 2011. Tense encoding, agreement patterns, definiteness and relativization strategies in Changana. In Eyamba G. Bokamba, Ryan K. Shosted & Bezza Tesfaw Ayalew (eds.), *Selected Proceedings of the 40th Annual Conference on African Linguistics*, 8–94. http://www.lingref.com, document no. 2567. Somerville, MA: Cascadilla Proceedings Project.

Georgopoulos, Carol. 1991. *Syntactic variables: Resumptive pronouns and A' binding in Palauan*. Dordrecht: Kluwer Academic Publishers.

Givón, Talmy. 1976. Topic, pronoun and grammatical agreement. In Charles Li (ed.), *Subject and topic*, 149–188. New York: Academic Press.

Jelinek, Eloise. 1989. The case split and pronominal arguments in Choctaw. In La´szló Maracz & Pieter Muysken (eds.), *Configurationality: The typology of asymmetries*, 117–141. Dordrecht: Foris Publications.

Ngonyani, Deo & Peter Githinji. 2006. The asymmetric nature of Bantu applicative constructions. *Lingua* 116. 31–63.

Riedel, Kristina. 2009. *The syntax of object marking in Sambaa: A comparative Bantu perspective*. Leiden: University of Leiden (Doctoral dissertation.)

Woolford, Ellen. 2000. Object agreement in Palauan: Specificity, humanness, economy, and optimality. In Ileana Paul, Vivianne Phillips & Lisa Travis (eds.), *Formal issues in Austronesian linguistics,* 215–245. Dordrecht: Kluwer Publishers.