STRUCTURAL PROPERTIES OF RUTOORO DITRANSITIVE CONSTRUCTIONS: A LEXICAL FUNCTIONAL ANALYSIS

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ABSTRACT

Ditransitive verbs in Rutooro (JE12, Uganda) are mainly realized multimorphemically in the double object constructions (DOC), while there are a few cases of prepositional phrase constructions (PPC). Couched within the Lexical Functional Grammar (LFG) formalism, the current study shows that despite the existence of both the DOC and the PPC in Rutooro, it seems implausible to posit that the derivation process of the verb in the DOC involves the permutation of grammatical functions by rearranging semantic participants of the base verb to different grammatical relations, as Ndoleriire & Oriikiriza (1996) suggest in consonance with Kroeger's (2004) applicative rule. Rather, this study reverts to Alsina & Mchombo's (1993) applicative rule, and augments it so as to accommodate both the DOC and PPC, whereby all multimorphemic ditransitive verbs in Rutooro are derived from monotransitive verbs which have the potential of introducing a third argument (Harford 1993) by means of a verb extension mechanism or provided that such verbs can be used with appropriate prepositional phrases. Since the Rutooro goal PPC is constrained by the 'locomotional criterion' (Isingoma 2012), there are very few occurrences of goal PPCs in Rutooro, which moreover are ambiguous. While structural ambiguity is usually resolved in LFG by providing a different constituent structure for each meaning, the ambiguity of the Rutooro PPC cannot be resolved at this level, since one interpretation contains a non-overt NP that would appear here as an empty category in contravention of LFG axioms. Thus, a functional structure that treats the non-overt NP as 'higher structure' (cf. Attia 2008) is posited in one of the interpretations.

Keywords: derivation, ditransitive, monotransitive, ambiguity, non-overt NP

1. INTRODUCTION

While studies on ditransitive constructions in Bantu abound (e.g. Kroeger 2004, Baker 1988, Harford 1993, Jerro 2015, Pacchiarotti 2017), as far as I can tell, little is known about ditransitive constructions in Rutooro (JE12, Uganda), modulo the only work by Isingoma (2012) and the sporadic mention of ditransitive verbs in Ndoleriire & Oriikiriza (1996). There are two formal varieties of ditransitive constructions, namely the Double Object Construction (DOC) (1) and the Prepositional Phrase Construction (PPC) (2). The Rutooro DOC has both monomorphemic (1b) and multimorphemic (1a) verbs (though the former are fewer), while the Rutooro goal PPC is only possible if the verb meets the "locomotional constraint", a semantic criterion that requires the governing verb in the Rutooro PPC to encode a change in the physical location of an entity as well as a directional meaning (Isingoma 2012). This means that there are very few verbs that participate in the realization of the goal PPC in Rutooro. Furthermore, as is the case with other

Bantu languages, the Rutooro ditransitive constructions present cases of ambiguity. Isingoma (2012) discusses the ambiguity of Rutooro DOCs and only hints at the ambiguity of the Rutooro PPC, which involves two interpretations: (3a) 'the non-sentient goal' and the 'sentient goal' (3b) interpretations. Unlike the ambiguity in the Rutooro DOC, the ambiguity in the Rutooro PPC has a bearing on the structural properties of ditransitive constructions in Rutooro, since each interpretation entails a different structure, as Bresnan (2001: 56) states that "ambiguous sentences may have multiple c-and f-structures" (i.e. more than one constituent and functional structure)[1]:

(1) (a) Jeeni a-ka-twek-er-a Toomu egaali.
Jane 3s-PAST-send-APP-FV Tom bike
'Jane sent Tom a bike.'

(b) Jeeni a-ka-h-a Toomu egaali.
Jane 3s-PAST-give-FV Tom bike
'Jane gave Tom a bike.'

(2) Jeeni a-ka-twek-a egaali owa Toomu.
Jane 3s-PAST-send-FV bike to Tom
'Jane sent a bike to Tom/Tom's place.'

(3) (a) Jane sent a bike to Tom's place.
(b) Jane sent a bike to Tom.

As can be seen, the Rutooro DOC with multimorphemic verbs is similar to other Bantu DOCs, since the verb is applicativized. As Isingoma (2012, 2020) reports, applicativization in Rutooro mainly uses the affix *-ir* and its various phonologically conditioned allomorphs (see also Rubongoya 1999). Two main derivational approaches have been advanced in the available literature: (i) the applicativized ditransitive verb in the DOC derives from the PPC (cf. Baker 1988, Kroeger 2004) or vice versa (Dryer 1986); (ii) the applicativized ditransitive verb in the DOC derives from a monotransitive verb, which has the potential of selecting an additional argument (Alsina & Mchombo 1993, Harford 1993). The former approach focuses on the permutation of grammatical functions by rearranging semantic participants of the base verb to different grammatical relations, while the latter enables the introduction of a new argument into the base verb's valency. Additionally, recent studies (e.g. Rappaport Hovav & Levin 2008, Levin 2015) have proposed an approach according to which ditransitive verbs can best be analyzed on the basis of a verb's core semantics.

The present study will attempt to situate the Rutooro ditransitive verbs in the different derivational approaches, with a focus on Lexical Functional Grammar (LFG) approaches in a bid to establish which approach accommodates best the Rutooro ditransitive verbs, as well as

[1] While I am aware of the debate on referring to entities such as the Rutooro locative *owa* as prepositions (cf. Rubongoya 1999), following Taylor (1985), Ndoleriire & Oriikiriza (1996) and Ndoleriire, Kintu, Kabagenyi & Kasande (2009), I refer to the Rutooro locative *owa* as a preposition and I use the term here descriptively.

augmenting the approach in question in order to fully account for what takes place in the Rutooro ditransitive constructions, bearing in mind the 'locomotional constraint' (Isingoma 2012) mentioned above. As stated above, since the Rutooro goal PPC is structurally ambiguous, the current study will provide an LFG analysis using two different structural representations to account for the ambiguity (cf. King, Dipper, Frank, Kuhn & Maxwell III 2004, Bresnan 2001: 56) in order to broaden our understanding of how an ambiguous goal PPC can be analyzed, a phenomenon that has hitherto, to my knowledge, not been dealt with in the available relevant literature on Bantu ditransitive constructions.

Unless otherwise noted, all the Rutooro data is based on the intuition and insights of the author as a native speaker, supported by grammaticality judgments from other native speakers of Rutooro drawn from Fort Portal in Kabarole District and Karugutu in Ntoroko District, Western Uganda.

2. DERIVATIONAL APPROACHES TO RUTOORO DITRANSITIVE CONSTRUCTIONS

It has been argued that the two formal varieties are derivationally-related syntactic structures, whereby, the PPC is basic and the DOC is derived from it (Baker 1988, Kroeger 2004), or the DOC is basic and the PPC is derived from it (Dryer 1986).[2] Both facets of the above approach have looked at the derivation process of the two linear orders as a process of rearranging semantic participants of the base verb to different grammatical functions. Following Baker (1988), Ndoleriire & Oriikiriza (1996: 108f.) claim that the Rutooro DOC (4a) is derived from the PPC in (4b), which they treat as the deep structure of (4a):

(4) (a) Omukazi a-ka-twek-er-a iba ebbaruha.
Woman 3-PAST-send-APPL-FV husband letter
'The woman sent her husband a letter.'

(b) Omukazi a-ka-twek-a owa iba ebbaruha.
Woman 3-PAST-send-FV to husband letter
'The woman sent a letter to her husband.'

An obvious reflex against the above approach is the fact that in most cases Rutooro goal DOCs do not have corresponding PPCs from which they should be derived ((5) vs. (6)), because the verbs do not meet the 'locomotional constraint':

(5) (a) Jeeni a-ka-h-a Toomu ekitabu.
Jane 3s-PAST-give-FV Tom book
'Jane gave Tom the book.'

(b) Jeeni a-ka-sig-ir-a Toomu enju.

[2] See Ormazabal & Romero (2010: 222ff.) for what they term "a modern version of the classical derivational approach to dative constructions."

Jane 3s-PAST-leave-APPL-FV Tom house
'Jane left Tom the house.'

(c) Jeeni a-ko-olek-a Toomu ekisisani
Jane 3s-PAST-show-FV Tom picture
'Jane showed Tom a picture.'

(d) Jeeni a-ka-guz-a Toomu esimu.
Jane 3s-PAST-sell-FV Tom phone
'Jane sold Tom a phone.'

(6) (a) *Jeeni a-ka-h-a ekitabu owa Toomu.
Jane 3s-PAST-give-FV book to Tom
'Jane gave a book to Tom/Tom's place.'

(b) *Jeeni a-ka-sig-a enju owa Toomu.
Jane 3s-PAST-leave-FV house to Tom
'Jane left the house to Tom.'

(c) *Jeeni a-ko-olek-a ekisisani owa Toomu
Jane 3s-PAST-show-FV picture to Tom
'Jane showed a picture to Tom.'

(d) *Jeeni a-ka-guz-a esimu owa Toomu
Jane 3s-PAST-sell-FV phone to Tom
'Jane sold a phone to Tom.'

As stated in Section 1 and following Isingoma (2012), the 'locomotional constraint' requires a verb to have directional properties so as to allow the goal PPC in Rutooro, since the Rutooro preposition *owa* is not inherently specified in terms of directional properties, i.e. [α dir]. This means that *owa* can acquire either the feature [+dir] or the feature [–dir], whose activation is induced by the governing verb that has [+dir] or [–dir] specification. Hence, if the governing verb has the feature [+dir], i.e. it meets the 'locomotional constraint', e.g. *-tweka* 'send' in (4), *owa* displays the feature [+dir]. Conversely, if the verb has the feature [–dir], e.g. the verbs *-ha* 'give', *-siga* 'leave', *-oleka* 'show', *-guza* 'sell', *owa* displays the feature [–dir] and cannot therefore allow the goal PPC. By contrast, the English preposition *to*, for example, is lexically specified as [+dir], that is, irrespective of whether the governing verb is [+dir], e.g. 'send' or [–dir], e.g. 'give'. Relevantly, Talmy (1985) and Baker (1992) show that conceptual structures are lexicalized in different ways by different languages. Thus, for the Rutooro DOCs in (5), there are no corresponding PPCs, as opposed to English, for example. In other words, directionality vs. non-directionality for Rutooro *owa* is contingent on contextual specification, while English *to* is

inherently specified in terms of directionality and can therefore not acquire the non-directionality property. The allative semantics which is lexically encoded in *to* allows it to combine with [–dir] verbs in order to realize goal PPCs, since it expresses the path traversed by the theme (cf. Colleman & De Clerk 2009, Jackendoff 1983), while *owa* lacks this semantics unless the main predicate has the property [+dir].

These properties are contained in the semantic information derived from the lexical meaning of the predicate's argument structure. As these semantic features are mapped onto grammatical functions, we see either the realization of the PPC in Rutooro or its non-realization. As can be seen, the features involve both the main predicate and the preposition, which points to a computation of feature summation in terms of unification. Thus, the following summation features (7) are realizable:

(7) Feature summation for goal verbs and prepositions

	V[α dir]		P[α dir]		∑ [α dir]
(a)	[+dir]	∪	[–dir]	=	[+dir, –dir]
(b)	[–dir]	∪	[+dir]	=	[–dir, +dir]
(c)	[–dir]	∪	[–dir]	=	[–dir, –dir]
(d)	[+dir]	∪	[+dir]	=	[+dir, +dir]

Therefore, the 'locomotional constraint' requires a feature summation that has at least one instantiation of [+dir], which means for Rutooro, it is (7a), since *owa* is not inherently [+dir]. Ideally, English does not need the 'locomotional constraint' because its preposition *to* is inherently directional. Nonetheless, when extrapolated to English, the feature summations in (7) allow (7b) and (7d) in the realization of PPCs in this language, e.g. the verbs *give* and *send*, respectively. That is, since *give* is [–dir], directionality is realized by means of the preposition *to* (i.e. the summation [–dir, +dir] in (7b)), while *send* is [+dir] and the preposition *to* is [+dir]; this gives rise to the summation [+dir, +dir], i.e. (7d), which is not problematic, given that the rule simply requires at least one [+dir].

However, Baker (1988) demonstrates that the lack of corresponding PPCs in a given language (as is the case in the Rutooro cases in (5) vs. (6)) poses no problem to his theory, since he treats the applicative affix as a preposition. Crucially, Baker's (1988) approach, and consequently Ndoleriire & Oriikiriza's (1996), involves movement, as well as the notion deep vs. surface structure, which is outside the LFG approach. On the other hand, Kroeger (2004: 69), working within LFG, proposes a lexical rule, dubbed the 'applicative rule' (8), that purportedly derives the lexical entry (9b) of the verb in the DOC (10b) from the lexical entry (9a) of the verb in the PPC (10a). Kroeger (2004: 62) defines a lexical rule as "a rule which derives one lexical entry from another, expressing a regular pattern of relationship between words." According to Kroeger's (2004) 'applicative rule', the OBL of the PPC becomes the OBJ_1 in the DOC, and the OBJ of V in the PPC becomes the OBJ in the DOC. [X] in (8) represents "the phonological shape of the base form, which in this case is the verb root" (Kroeger 2004: 69). Kaplan & Bresnan (1995: 35) advance a similar rule dubbed the "dativizing lexical rule", while Kibort (2008: 312) subscribes to the same tenets of the rule but her model "keeps constant the syntactic argument

positions with their fixed pre-specifications and allows the semantic participants to re-align with them"[3]:

(8) APPLICATIVE RULE (Kroeger 2004: 69)

$$\begin{bmatrix} [X]v & \rightarrow & [X-ir]v \\ OBL & \rightarrow & OBJ \\ OBJ & \rightarrow & OBJ_2 \end{bmatrix}$$

(9) (a) -tumiz- <agent theme goal>
| | |
SUBJ OBJ OBL

(b) -tumiz-ir <agent theme goal>
| | |
SUBJ OBJ_2 OBJ
(Chichewa)

(10) (a) Ndi-na-tumiz-a kalata kwa mfunu.
1s-PAST-send-FV letter to chief
'I sent a letter to the chief.'

(b) Ndi-na-tumiz-ir-a mfumu kalata.
1s-PAST-send-APPL-FV chief letter
'I sent the chief a letter.' (**Chichewa**: Kroeger 2004: 69)

Ndoleriire & Oriikiriza's (1996) derivational account of the Rutooro DOC in (4) fits in well with this rule. Thus, the lexical entry for (4a) can be assumed to derive from the lexical entry in (4b), as shown in (11):

(11) (a) -twek- <agent theme goal>
| | |
SUBJ OBJ OBL

[3] Kibort (2015) uses the following schemata to represent the goal argument expressed as an OBL in (i) and as a core argument in a shifted dative in (ii):

	x	y	b
(i)	|	|	|
	<arg_1	arg_2	arg_4>
	[-o]	[-r]	[-o]
	SUBJ	OBJ	OBL_θ
(ii)	x	b	y
	|	|	|
	<arg1	arg_2	arg_3>
	[-o]	[-r]	[+o]
	SUBJ	OBJ	OBJ_θ

(b) -twek-er- <agent theme goal>
SUBJ OBJ_2 OBJ

Although Kroeger (2004) does not claim that his 'applicative rule' is universal, he contends that it "is typical of applicative constructions in many languages." Since Ndoleriire & Oriikiriza's (1996) account of the Rutooro sentences in (4) fits in well with Kroeger's (2004) 'applicative rule', we could stipulate that Rutooro should be one of those languages whose applicative constructions are governed by the rule. However, since Kroeger's (2004) 'applicative rule' is couched within LFG, it could possibly only hold for languages in which each DOC has a corresponding PPC. Rutooro is not such a language and the example in (4) is just one of the very few cases where the verb admits both the DOC and the PPC; whence, Kroeger's (2004) rule cannot apply to Rutooro. A language where Kroeger's (2004) rule could be said to apply is Chichewa with respect to its goal ditransitives, where verbs that do not meet the 'locomotional constraint' are used in the PPC (12), although, as we will see shortly, the rule cannot apply to Chichewa benefactives:

(12) (a) Joni a-na-pats-a ntochi kwa amai.
John 3s-PAST-give-FV bananas to mother
'John gave bananas to his mother.' (**Chichewa**: Baker 1988: 281)

(b) Ndi-na-lemb-a kalata kwa Banda.
1s-PAST-write-FV letter to Banda
'I wrote a letter to Banda.' (**Chichewa**: Bentley 1999: 168)

(c) Ndi-na-onets-a vidio kwa alenje.
1s-PAST-show-FV video to hunters
'I showed the video to the hunters.' (**Chichewa**: Sam A. Mchombo, p.c.)

The use of the above Chichewa verbs in the goal PPC (i.e. verbs which preclude the PPC in Rutooro as shown in (6)) makes it possible to derive the DOC from the PPC in Chichewa, a resource that Rutooro does not have, since the verbs do not meet the 'locomotional constraint'. Not surprisingly, Kroeger (2004: 61) gives a caveat which clearly predicts that lexical rules do not usually apply to every situation; "rather, they apply on a case-by-case basis." A case-by-case basis could also mean that the rules are language-specific, which we could consider to be a parameter of variation – a property that characterizes languages of the world (Haegeman & Guéron 1999: 585).

While Baker's (1988) approach treats the applicative affix as a preposition, which heads the PP and then moves to be incorporated into the verb, this is not possible in Kroeger's (2004) approach, because it is formalized within LFG. One of the reasons for this is that such an approach would violate the 'Lexical Integrity Principle' in (13):

(13) THE LEXICAL INTEGRITY PRINCIPLE (Asudeh & Toivonen 2010: 429)

The terminal nodes of c-structures are morphologically complete words.

The 'Lexical Integrity Principle' (13) requires only complete lexical items at c-structure. Indeed, Kroeger (2004) does not claim that the applicative affix is a kind of preposition, as Baker (1988) does. We are also aware that there is movement, as well as deep vs. surface structure, in Baker's (1988) approach, which is disallowed in LFG. In other words, while Baker's (1988) approach may dispense with actual prepositions such as Chichewa *kwa*, Rutooro *owa*, etc., the same prepositions are required in order to apply Kroeger's (2004) rule.[4]

Crucially, apart from the non-applicability of Kroeger's (2004) approach to Rutooro, the approach has one problem. Kroeger (2004: 69) states that his 'applicative rule' "accounts very well for the recipient and *benefactive* applicatives in Chichewa [my emphasis]." The problem lies in the fact that Kroeger (2004) points out that Chichewa lacks a preposition to mark benefaction, which is only expressed through the DOC. Thus, one has to ask how the 'applicative rule' (8) would account for Chichewa benefactive constructions when there are no benefactive PPCs from which to derive lexical entries for applicativized constructions (i.e. benefactive DOCs). In a similar vein, even if Rutooro was to be one of the languages where Kroeger's (2004) 'applicative rule' would be used, the same problem would make it inapplicable. Significantly, the fact that Kroeger (2004) acknowledges that there are no benefactive PPCs in Chichewa poses the problem of the full applicability of the rule even to Chichewa ditransitive verbs, which form the basis of his approach.

From the foregoing, we discern that the need to have an adequate lexical rule in order to account not only for all Rutooro goal DOCs and PPCs, but also for its benefactives (and other thematic roles) as well as benefactives in other languages, e.g. Chichewa. In other words, despite Kroeger's (2004) caveat on the application of lexical rules on "a case-by-case basis", it is rewarding in syntactic theory to have a rule which has robust explanatory power to provide a unified account for all ditransitive derivations for at least one language with the potential of cross-linguistic applicability (although the latter is not the focus of the current study). Alsina & Mchombo (1993: 28) propose the rule in (14), according to which the DOC is derived from a monotransitive verb, by adding an argument which corresponds to no argument in the lexical entry of a monotransitive verb – a rule that Toivonen (2013: 513) applies to English ditransitive verbs as well. This is possible because the verb has the potential of selecting this additional argument (Harford 1993). In other words, such verbs obligatorily subcategorize for two arguments (monotransitive), but a non-subcategorized argument is potentially present (see also

[4] An anonymous reviewer points out that "couldn't the applicative affix be treated as a base-generated, lexically incorporated preposition in LFG? So it would be a preposition, but there would be no movement involved." Right from its formative times, the LFG approach to this has been that syntactic analyses of Bantu languages should not be modeled on the categories and configurations of European languages, since in some cases Bantu languages lack such categories and configurations (Bresnan & Moshi 1993: 86). And this makes us echo what Talmy (1985) and Baker (1992: 40) state as regards the fact that different languages lexicalize conceptual structures differently. Thus, while the applicative affix and some prepositions have similar functions (i.e. introducing an extra argument), they are obviously morpholexically unrelated and display different morphosyntactic behavior (Katamba 1993: 286, Petzell 2004: 157).

Toivonen 2013 for English benefactives) and can be realized with the addition of the applicative to the verb in Bantu languages (cf. Harford 1993: 103). This renders the verb a ditransitive one:[5]

(14) MORPHOLEXICAL APPLICATIVE OPERATION/RULE (Alsina & Mchombo 1993: 28)

$$\phi$$
$$|$$
$$<\ldots\theta_{appl}\ldots>$$

With the rule in (14), we can account for the lexical entries of verbs like *-twekera* 'send' derived from *-tweka* 'send' and *-cumbira* 'cook' from *-cumba* 'cook', etc., as shown in (15) and (16), respectively. Recall that with Kroeger's (2004) rule (8), we cannot account for the lexical entries of verbs like *-cumbira* 'cook':

(15) (a) -twek- <agent theme>
SUBJ OBJ

(b) -twek-er- <agent theme goal>
SUBJ OBJ_2 OBJ

(16) (a) -cumb- <agent patient>
SUBJ OBJ

(b) -cumb-ir- <agent patient beneficiary>
SUBJ OBJ_2 OBJ

However, being an 'applicative rule', (14) does not cater for PPCs. Hence, we need to adjust it, by replacing the term 'applied argument' with a more inclusive term, i.e. 'additional argument' (17).[6] We can refer to (17) as the 'ditransitivizing rule'. Thus, the additional argument is either the OBJ in the DOC or OBL in the PPC. As for inherently ditransitive verbs (e.g. *-ha* 'give'), we do not need the rule, because there is no argument to add. The verbs inherently subcategorize for three arguments (cf. Rappaport Hovav & Levin 2008, Levin 2015), which means there is no derivation process for such verbs. And such verbs in Rutooro only accept the DOC and are monomorphemic.

(17) DITRANSITIVIZING RULE

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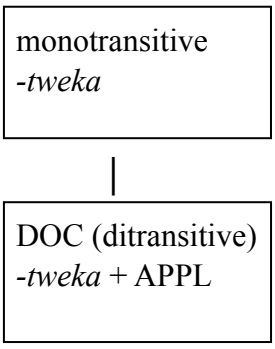
5 The notation…θ_{appl}… means 'applied argument.'

6 The term 'applied argument' is used in Bantu linguistics in relation to applicative constructions only, i.e. the DOC (cf. Pylkkänen 2002: 17).

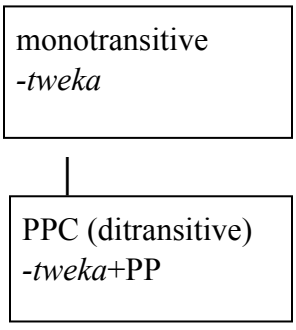
ϕ
|
<…θ*additional*…>

On the basis of (17), we can account not only for the lexical entries of the Rutooro applicativized verbs in (15) and (16), but also the lexical entries for verbs such as *-tweka* 'send', *-twara* 'take' when used in the PPC (cf. (18)). Therefore, it seems plausible to postulate that the base forms of the verbs in the PPC and the DOC (involving multimorphemic verbs) are typically monotransitive and they are only used ditransitively as shown in (18). The derivational connection is between the DOC or the PPC and the monotransitive verb and not between the DOC and the PPC. The lexicon provides that, in order to be used ditransitively, the mainly monotransitively used Rutooro verbs (e.g. *-tweka* 'send') can select an additional argument introduced by either the applicative suffix, or by the locative *owa* in the goal PPC if the governing verb meets the 'locomotional constraint'. Note that unlike the base forms of the verbs that are used benefactively (e.g. *-cumba* 'cook'), which exclusively imply two arguments (agent and patient), the base forms of goal verbs such as *-tweka* 'send' typically imply a third argument (goal) in addition to the monotransitively licensed arguments (agent and theme). However, in order to introduce the third argument (i.e. the goal argument), one has to have recourse to applicativization (DOC) or a PP headed by the locative *owa* (PPC). Otherwise, the third argument cannot be realized, despite the conceptual goal constituent embedded in the semantics of the verbs. As for the verbs used benefactively (e.g. *-cumba* 'cook'), even though such verbs do not contain a conceptual benefactive constituent in their semantics, they have the potential of selecting a benefactive argument provided an applicative affix is attached to the base form of such verbs (cf. Harford 1993). As Toivonen (2013: 518) observes, "some arguments are basic and others are added":

(18) (a)



(b)



For Rutooro, the rule in (17) and the resultant schemata in (18) cater for all sorts of ditransitive constructions, namely benefactives (DOCs only, e.g. (19)), goals (DOCs + PPCs, where the PPCs are subject to the 'locomotional constraint', e.g. (20)), locatives (DOCs only, e.g. (21)), instrumentals (DOCs +PPCs, e.g. (22)), temporals (DOCs only, e.g. (23)) and purposive constructions (DOCs only, e.g. (24)):

(19) Benefactive

(a) Jeeni a-ka-cumb-a ebyokulya. → monotransitive
Jane 3s-PAST-cook-FV food
'Jane cooked food.'

(b) Jeeni a-ka-cumb-ir-a Toomu ebyokulya → ditransitive (DOC)
Jane 3s-PAST-cook-APPL-FV Tom food
'Jane cooked Tom food.'

(20) Goal

(a) Jeeni a-ka-samb-a omupiira. → monotransitive
Jane 3s-PAST-kick-FV ball
'Jane kicked the ball.'

(b) Jeeni a-ka-samb-ir-a Toomu omupiira → ditransitive (DOC)
Jane 3s-PAST-kick-APPL-FV Tom ball
'Jane kicked Tom the ball.'

(c) Jeeni a-ka-samb-a omupiira owa Toomu → ditransitive (PPC)
Jane 3s-PAST-kick-FV ball P Tom
'Jane kicked the ball to Tom/Tom's place.'

(21) Locative

(a) Jeeni a-ka-zaan-a omupiira. → monotransitive
Jane 3s-PAST-play-FV ball
'Jane played football.'

(b) Jeeni a-ka-zaan-ir-a omupiira ha isomero → ditransitive (DOC)
Jane 3s-PAST-play-APPL-FV ball at school
'Jane played football at school.'

(c) Jeeni a-ka-zaan-ir-a omupiira Kampala → ditransitive (DOC)
Jane 3s-PAST-play-APPL-FV ball Kampala
'Jane played football in Kampala.'

(22) Instrumental

(a) Jeeni a-ka-tem-a omuti. → monotransitive
Jane 3s-PAST-cut-FV tree
'Jane cut (down) the tree.'

(b) Jeeni a-ka-tem-es-a omuti ekipanga → ditransitive (DOC)
Jane 3s-PAST-cut-APPL-FV tree machete
'Jane cut (down) the tree with a machete.'

(c) Jeeni a-ka-tem-a omuti n' ekipanga. → ditransitive (PPC)
Jane 3s-PAST-kick-FV ball with machete
'Jane cut (down) the tree with a machete.'

(23) Temporal

(a) Jeeni a-ka-som-a Orufaransa. → monotransitive
Jane 3s-PAST-study-FV French
'Jane studied French.'

(b) Jeeni a-ka-som-er-a Orufaransa emyaka ikumi → ditransitive (DOC)
Jane 3s-PAST-study-APPL-FV French years ten
'Jane studied French for ten years.'

(24) Purposive

(a) Jeeni a-ka-teer-a omwana. → monotransitive
Jane 3s-PAST-beat-FV child
'Jane beat the child.'

(b) Jeeni a-ka-teer-r-a omwana ebyokulya → ditransitive (DOC)
Jane 3s-PAST-beat-APPL-FV child food
'Jane beat the child because of food.'

As can be seen, the locative applicative argument in (21b) is preceded by a locative (here *ha* 'at') in order to locativize the argument – a feature that is found in other Bantu languages as well (see, e.g. Jerro 2016: 293 for Kinyarwanda). However, as (21c) shows, when the locative applicative argument is a proper noun of a place, no locative is added. Despite the presence of the locative in (21b), the argument is treated as an applicative (or applied) object (cf. Jerro 2016: 293), since its presence in the sentence is licensed by the applicative affix. However, Thwala (2006: 216ff.) argues that such constituents should be referred to as "derived adjuncts", which are obligatory as they are licensed by the applicative affix. As we are aware, the debate on the issue of arguments vs. adjuncts is a recurrent one and as Kroeger (2004: 10) puts it, the distinction between the two is not always evident. Thus, abstracting away from the debate, I follow e.g. Jerro (2016: 293) and treat cases such as (21b) (and other applicative-licensed constituents) as DOCs, and the presence of the locative in (21b) simply indicates that the applied object encodes location. It is also worthwhile to note that the instrumental applicative affix (22b) is morphologically distinct from all the other applicative affixes. This is not peculiar to Rutooro, as Natumanya (2012) and Jerro (2017) note the same behavior in Runyankore-Rukiga (Uganda) and Kinyarwanda, respectively. The rule in (17), therefore, takes care of all ditransitive constructions in Rutooro whether the verbs involved allow both the DOC and the PPC or allow one of the configurations only.

3. SYNTACTIC PROPERTIES OF RUTOORO GOAL PREPOSITIONAL PHRASE CONSTRUCTIONS

As pointed out above, the Rutooro PPC in (2), repeated here as (25), has two interpreations, i.e. 'non-sentient goal' vs. 'sentient goal' interpretation ((3), repeated here as (26)), and to my knowledge, the implications of this property for the syntax of the PPC have not received enough attention in the analysis of Bantu syntax:

(25) Jeeni a-ka-twek-a egaali owa Toomu.
Jane 3s-PAST-send-FV bike to Tom
'Jane sent a bike to Tom/Tom's place.'

(26) (a) Jane sent a bike to Tom's place ('non-sentient goal').
(b) Jane sent a bike to Tom ('sentient goal').

Other verbs that allow the goal PPC in Rutooro with the same level of ambiguity are, for example, *-twara* 'take', *-leeta* 'bring', *-sindika* 'send/push', *-samba* 'kick' and *-hungura* 'throw'. Some sentential examples are given in (27):

(27) (a) Jeeni a-ka-leet-a ekitabu owa Toomu.
Jane 3s-PAST-bring-FV book to Tom
'Jane brought a book to Tom/Tom's place.'

(b) Jeeni a-ka-hungur-a omupiira owa Toomu.
Jane 3s-PAST-throw-FV ball to Tom
'Jane threw the ball to Tom/Tom's place.'

The ambiguity observed in (25) and (27) above is not only restricted to Rutooro goal PPCs, as Kiswahili goal PPCs also present more or less the same ambiguity, as in the following examples (28):

(28) (a) A-li-pelek-a kitabu kwa Juma.
3s-PAST-send-FV book to Juma
'He sent a book to Juma/Juma's place.'
(**Kiswahili**: Assibi Amidu, p.c.)[7]
(b) A-li-let-a kitabu kwa-ngu
3s-PAST-bring-FV book to-me/my place
'He sent a book to Juma/Juma's place.'
(**Kiswahili**: Abdulaziz 1996: 121.)

As can be seen in the idiomatic translations of the sentences in (28), both the 'sentient goal' and 'non-sentient goal' interpretations are available for the Kiswahili goal PPCs. Thus, both Kiswahili *kwa* and Rutooro *owa* are used not only to encode motion to(wards) the location of a human referent ('non-sentient goal') but also as a direction expression with human landmarks (provided that for Rutooro the governing verb meets the 'locomotional constraint'). According to Luraghi 2011: 218, fn. 13), Alsatian French *chez* also has these two uses. In addition, just like *chez* (Luraghi 2011), Rutooro *owa* is also used to indicate the habitual location of a human referent – an aspect that is outside the scope of this study.

Crucially, we should note that ambiguity in ditransitive constructions is pervasive in the languages of the world, involving both the DOC and the PPC for some languages (e.g. Rutooro) and the PPC only (e.g. English). It is a known fact that the English benefactive PPC has several interpretations. For example, the sentence *I will cook a meal for Tom* has three interpretations of benefaction: (i) 'recipient benefaction', that is Tom is the (intended) recipient of the meal so that

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he can eat it; (ii) 'deputative benefaction', i.e. the meal was cooked by the subject referent so that Tom didn't have to; (iii) 'plain benefaction', i.e. the beneficiary (Tom) simply derives a psychological effect, e.g. being happy but he was not the (intended) recipient or even the meal was no cooked on his behalf (Van Valin & LaPolla 1997: 383f., Toivonen 2013: 512). However, unlike the English benefactive DOC (e.g. *I will cook Tom a meal*), which is not ambiguous, the Rutooro benefactive DOC (as well the benefactive DOC in other Bantu languages) is ambiguous and has similar interpretations as those of the English PPC as well as a maleficiary reading; the Rutooro goal DOC is also ambiguous. Isingoma (2012) provides the following examples (29), among others, involving cases of ambiguity:

(29)	(a)	Jeeni	a-ka-cumb-ir-a	Toomu	ebyokulya.
		Jane	3s-PAST-cook-APPL-FV	Tom	food
		'Jane cooked Tom food.'			(Isingoma 2012: 151)
	(b)	Jeeni	a-ka-kingur-r-a	Toomu	orwigi.
		Jane	3s-PAST-cook-APPL-FV	Tom	door
		'Jane opened the door for Tom.'			(Isingoma 2012: 154)

According to Isingoma (2012), (29a) has both the 'recipient benefaction' and 'deputative benefaction' readings, while (29b) has the 'deputative benefaction' and 'plain benefaction' readings. As is the case in many other Bantu languages (cf. Baker 1988), a maleficiary reading is also available for the cases in (29); for example, (29b) may involve the object referent (Tom) getting out of the house to go and commit suicide.

We are aware that ambiguity is mainly either lexical or structural (Hurford, Heasley & Smith 2007). For example, *Tom waited by the bank* is a case of lexical ambiguity, whereby the two senses of the word *bank* (i.e. a financial institution and the side of a river) makes the sentence ambiguous (Hurford, Heasley & Smith 2007: 138f.). On the other hand, a sentence like *The chickens are ready to eat* is a case of structural ambiguity, because "the cause of the ambiguity is the interpretation of the subject of the reduced infinitival clause […] since the clause *to eat* has two possible syntactic structures. It can be analysed as *The chickens eat something* or as *Someone eats the chickens*, where the phrase *the chickens* can either function as the subject or the object of the embedded infinitival clause" (Handke 1995: 6).

Since *owa* is used to encode 'sentient goal' and 'non-sentient goal', as in (25), one could say that this is a case of lexical ambiguity with one meaning corresponding to French *à* 'to' and another meaning corresponding to French *chez* 'at/in the home of'.[8] However, one could also look at the case in (25) from a different perspective based on not only intuition but also possible diachronic perspectives. This means that one will have to consider here that the ambiguity resides in the interpretation of the complement of the preposition *owa* either as an overt NP or a non-overt NP with the meaning of 'place/house/home'. Very relevantly, Carstens (2008: 150) points out that in addition to the overt noun in Bantu locative phrases, i.e. such as the one in (25), there is a non-overt 'place' noun present. The non-overt NP in (25) could be a relic left behind by the process of grammaticalization in keeping with Hopper's (1991) principle of persistence.

[8] I thank an anonymous reviewer for pointing this out.

Isingoma (2012: 157) states that *owa* comes from *omwa*, i.e. class 17 locative *omu* + associative *-a*. However, since associative *-a* typically relates two nominal elements in Rutooro, it might be the case that *owa* comes from *omuka ya* 'at/in the home of', i.e. *omu* (locative) + *(e)ka* (noun) +*ya* (associative). Thus, the process of grammaticalization could have led to the disappearance of the nominal morpheme (*e*)*ka* 'home', thereby leaving behind *omu+a* only, as the concordial element *y-* had to disappear too since its antecedent had disappeared.[9] Then, the process of 'desemantization' led to the emergence of *owa* (see Isingoma 2012: 157ff. for a discussion). If this analysis indeed reflects what might have taken place, we are dealing here with a case in which a locative phrase (with a noun inside it) has grammaticalized into a simple locative. This is not surprising, as grammaticalization led to the Latin noun *casa* 'house' to become a simple French preposition, i.e. *chez* 'at/in the home of' (de Mulder & Laminoy 2012: 200). If we adopt the conjecture on the grammaticalization of the locative phrase *omuka ya* 'at/in the home of' into *omwa* and eventually *owa*, then we can provide an analysis that looks at (25) as a case of structural ambiguity, where a non-overt NP surfaces as a trace of the NP (*e*)*ka* 'home'.

When ambiguity is structural in nature, it can be resolved at the constituent structure (c-structure) level by providing one c-structure per meaning, because each meaning is related to a different structure of the sentence (cf. Haegeman & Guéron 1999, Bresnan 2001). C-structures are the concrete hierarchical exponence of constituents (Asudeh & Toivonen 2010). As has just been pointed out above, the Rutooro PPC in (25) also has two underlying structures, which give rise to the two interpretations ('non-sentient goal' and 'sentient goal') (26). Thus, it would be natural to have two c-structures for the Rutooro PPC. But one interpretation (the 'non-sentient goal') of the Rutooro PPC involves a non-overt NP, interpreted as 'home/house/place', which would surface at c-structure as an 'empty category'. Crucially, LFG disallows empty categories (Attia 2008), although Bresnan (2001) observes that empty categories can appear at c-structure where there has been extraction of a constituent. However, Dalrymple, Kaplan & King (2007: 85ff.) show that even in such cases empty categories are unmotivated. Thus, we are not allowed to have a separate c-structure to resolve the ambiguity in the Rutooro PPC (triggered by the non-overt NP), because this would put us in a situation where we will have an empty category, which is disallowed in LFG.

In order to analyze what takes place in the Rutooro goal PPC, I adopt Nordlinger & Sadler's (2007) approach to 'copula-less' constructions, as applied by Attia (2008). Nordlinger & Sadler (2007: 141) state that "verbless clauses have a more hierarchical f-structure in which the f-structure of the non-verbal predicate functions as an argument within a higher f-structure which itself has a PRED, but where there is no overt syntactic element corresponding to this predicate in the c-structure." Attia (2008: 170) adopts this approach in his analysis of Arabic 'copula-less' constructions and states that "the main predicator is H-STR for 'Higher-STRucture' instead of *be* in the LFG literature which entails the assumption that there is an elided *be*-like verb." While Nordlinger & Sadler (2007: 141) represent the higher structure with *be*, Attia (2008: 170) replaces the non-overt *be* with the label H-STR , which he represents in the phrase structure rules with ϵ, a symbol used to represent non-overt constituents in LFG (cf. Dalrymple, Dyvik & King 2004: 192). Thus, according to Attia (2008: 170), non-overt constituents are represented in

[9] For some differences in meaning between *owa* and *omwa*, see Isingoma (2012: 157ff.).

functional structures, i.e. f-structures (which represent the abstract syntactic organization of a sentence), as higher f-structures with no overt syntactic elements corresponding to them at c-structure, as evidenced in 'copula-less' constructions where the 'higher f-structure' is assumed to be the non-overt *be*-like verb. Since the elided (=non-overt) *be*-like verb does not appear in the c-structure (but appears in the f-structure), it is not viewed as an empty category (cf. Dalrymple, Kaplan & King 2007). Thus, we can simply represent the non-overt NP in the Rutooro PPC in the f-structure. The parallelism between this 'non-sentient goal' interpretation and the 'copula-less' constructions is that both contain an entity that cannot overtly be expressed at c-structure. However, the major question concerns where the information about the non-overt element, which must be reflected at f-structure, comes from. According to Nordlinger & Sadler (2007), such information must be contributed to the f-structure via either the phrase structure rules (see, e.g. Bresnan, Asudeh, Toivonen & Wechsler 2015 for details on phrase structure rules) or information lexically associated with one of the elements in the clause (see also Isingoma 2020). Thus, following Attia (2008) and Isingoma (2020), we will look at the non-overt NP 'place' as a 'higher structure', which we will represent in the f-structure as 'H-STR'. Information about the 'H-STR' is directly associated with the preposition *owa,* which heads the PP in the PPC. We can now construct the f-structure for the Rutooro PPC with the 'non-sentient goal' interpretation, as shown in (30):

(30) F-STRUCTURE FOR THE RUTOORO PPC IN (25) WITH THE 'NON-SENTIENT GOAL' INTERPRETATION

$$\begin{bmatrix} PRED & 'send\langle(SUBJ),(OBJ),(OBL)\rangle' \\ TENSE & PAST \\ NOUN\ CLASS & 1 \\ SUBJ & \begin{bmatrix} PRED & 'Jane' \\ NOUN\ CLASS & 1 \\ GEN & FEM \end{bmatrix} \\ OBJ & \begin{bmatrix} PRED & 'bike' \\ NOUN\ CLASS & 10 \end{bmatrix} \\ OBL & \begin{bmatrix} PRED & 'to\langle(OBJ)\rangle' \\ OBJ & \begin{bmatrix} PRED & 'H-STR\langle NCOMP\rangle' \\ NCOMP & \begin{bmatrix} PRED & 'Tom' \\ NOUN\ CLASS & 1 \\ GEN & MAS \end{bmatrix} \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

I follow Chisarik & Payne (2001) in treating the 'possessor' NP in constructions of the type "the daughter of the king" as NCOMP (Nominal Complement). According to Chisarik & Payne (2001: 36), 'of the king' is the NCOMP of the NP 'the daughter'. They further state that 'of' in 'of the king' contributes nothing to the f-structure in line with the general view that, as a

grammatical preposition, its role is "to create a syntactically oblique PP complement for the head noun." Thus, essentially, we are dealing with two elements, i.e. the head NP and its NCOMP. In the Rutooro case in (30), we also have two NPs, i.e. the non-overt NP 'place' (which is a higher f-structure) and the NCOMP (*Toomu* 'Tom'). Structurally, *owa* contains the relational element *-a*, which is the equivalent of 'of' (cf. Bentley 1998). Therefore, this relational element is not part of our NCOMP, though we assume that it links the head NP to its NCOMP.

Finally, let us compare the f-structure of the 'non-sentient goal' and that of the 'sentient goal' interpretation (31):

(31) F-STRUCTURE FOR THE RUTOORO PPC IN (25) WITH THE 'SENTIENT GOAL' INTERPRETATION

$$\begin{bmatrix} PRED & 'send\langle(SUBJ),(OBJ),(OBL)\rangle' \\ TENSE & PAST \\ NOUN\ CLASS & 1 \\ SUBJ & \begin{bmatrix} PRED & 'Jane' \\ NOUN\ CLASS & 1 \\ GEN & FEM \end{bmatrix} \\ OBJ & \begin{bmatrix} PRED & 'bike' \\ NOUN\ CLASS & 10 \end{bmatrix} \\ OBL & \begin{bmatrix} PRED & 'to\langle(OBJ)\rangle' \\ OBJ & \begin{bmatrix} PRED & 'Tom' \\ NOUN\ CLASS & 1 \\ GEN & MAS \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

Essentially, the difference between the f-structure of the 'sentient goal' interpretation (31) and the 'non-sentient goal' interpretation (30) only resides in the fact that the OBJ referent of the NP inside the PP of the former (30) is a complex NP, as opposed to that of the 'sentient goal' interpretation (31). The overt NP in (31) is the actual OBJ of P referent, while the overt NP in (30) complements a non-overt NP. The overt NP and the non-overt NP form the complex NP that acts as the OBJ of P referent in (30).

4. CONCLUSION

This study has shown the problems associated with the applicability of Kroeger's (2004) applicative rule to Rutooro ditrantive constructions. The study has instead maintained Mchombo & Alsina's (1993) morpholexical rule but modified it a bit to accommodate both the DOC and the PPC. This also called for invoking Levin's (2015) analysis of ditransitive verbs, thereby reiterating the fact that non-protypical ditranstive verbs (expressed in Rutooro multimorphemically) are indeed derived from monotransitive verbs and not from the lexical

entries of the verbs used in the PPC (as Kroeger 2004 argues). The study has also attempted to provide a new analysis of the goal PPC, taking into account the ambiguity involved in the Rutooro PPC and how the ambiguity may be resolved at f-structure, by adopting Attia's (2008) 'higher structure' analysis for non-overt entities in LFG.

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APPENDIX

Abbreviations

1s, 3s	first, third person singular
APPL	Applicative
FV	Final vowel
GEN	Gender
NCOMP	Nominal complement
OBL	Oblique
PERS	Person
PRED	Predicate
SPEC	Specifier