Structure and Features:
the Ordering of Object Markers in Kinyarwanda

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Overview

The goals of this talk are:

- To present reported and elicited data that show an interesting ordering pattern of object markers (OMs) in Kinyarwanda

- To show that this pattern can be captured by the syntactic structure of the sentences in conjunction with the features of object markers

The structure of this talk is as follows:

1. Introduction

2. Data: sentences with two object markers

   - Ditransitve sentences (reported and elicited)
   - Benefactive applicative sentences (elicited)

3. Contini-Morava's (1983) account: hierarchies

4. Proposed account: structure and features

5. Conclusion

1 Introduction

- Kinyarwanda (D61) is spoken primarily in Rwanda but also in parts of Burundi, Eastern Congo, and southern Uganda

- Kinyarwanda is a symmetrical language

(1)   a. Umuhoro watemeshejwe igití.

          umu-horo   u-a-tem-iish-w-ye   iki-ti

          CLiii-machete CLiii.SM-PST-cut-INSTR-PASS-PERF CLvii-tree

          Lit: 'The machete was cut the tree with' = 'The machete was used to cut the tree'

b. Igití cyatemeshejwe umuhoro.

iki-ti   ki-a-tem-iish-w-ye   umu-horo
CLvii-tree   CLvii-PST-cut-INSTR-PASS-PERF   CLiii-machete

'The tree was cut with the machete'

(Zeller and Ngoboka 2014: (16))

- Kinyarwanda allows multiple object marking

- Kinyarwanda object markers (OMs) and their corresponding full DP objects do not cooccur (i.e., no OM doubling)

(2)   a. Umugore arahera umugabo imbwa ibiryo.

Umu-gore   a-   ra-   he   -er   -a   umu-gabo   im-bwa   ibi-ryo.
CLi-woman   CLi.SM- PRS- give -APP -FV   CLi-man   CLix-dog   CLviii-food

'The woman is giving food to the dog for the man.'

b. Umugore arabiyimuhera.

Umu-gore   a-   ra-   bi-   yi-   mu-   he   -er   -a.
CLi-woman   CLi.SM- PRS- CLviii.OM- CLix.OM- CLi.OM- give -APP -FV

'The woman is giving it (the food) to it (the dog) for him (the man).'

(Kimenyi 1976, Dryer 1983: 137)

- There are 16 noun classes in Kinyarwanda, and the relevant noun classes are listed below together with their abbreviations and corresponding object markers

NC	1 [HUMAN]			2 [HUMAN]			7	8	9
Person	1SG	2SG	3SG	1PL	2PL	3PL	3 NON-HUMAN		
Gloss	1SG	2SG	CLi	1PL	2PL	CLii	CLvii	CLviii	CLix
OM	n-	ku-	mu-	tu-	ba-	ba-	ki-	bi-	yi-

2   Data: sentences with two object markers

2.1   Ditransitives (Contini-Morava 1983; Congolese dialect)

(3)   a. Azakumpa.   (1 × 2)

a-   za-   **ku-**   **n-**   ha
CLi.SM- FUT- 2SG.OM- 1SG.OM- give

'He will give you to me' OR 'He will give me to you'

b. *Azanguha

a-   za-   **n-**   **ku-**   ha
CLi.SM- FUT- 1SG.OM- 2SG.OM- give

(4)   a. Azamumpa.   (1 × 3 HUMAN)

a-   za-   **mu-**   **n-**   ha
CLi.SM- FUT- CLi.OM- 1SG.OM- give

'He will give her to me' OR 'He will give me to her'

b. *Aza(m)muha.

a-	za-	**n-**	**mu-**	ha
CLi.SM-	FUT-	1SG.OM-	CLi.OM-	give

(5) a. Azakimpa. (1 × 3 NON-HUMAN)

a-	za-	**ki-**	**n-**	ha
CLi.SM-	FUT-	CLvii.OM-	1SG.OM-	give

'He will give it (the crow) to me' OR 'He will give me to it (the crow)'

b. *Azangiha.

a-	za-	**n-**	**ki-**	ha
CLi.SM-	FUT-	1SG.OM-	CLvii.OM-	give

(6) a. Azamuguha. (2 × 3 HUMAN)

a-	za-	**mu-**	**ku-**	ha
CLi.SM-	FUT-	CLi.OM-	2SG.OM-	give

'He will give him to you' OR 'He will give you to him'

b. Azakumuha.

a-	za-	**ku-**	**mu-**	ha
CLi.SM-	FUT-	2SG.OM-	CLi.OM-	give

Only 'He will give you to him'

(7) a. Azakimuha. (3 HUMAN × 3 NON-HUMAN)

a-	za-	**ki-**	**mu-**	ha
CLi.SM-	FUT-	CLvii.OM-	CLi.OM-	give

'He will give it to him' OR 'He will give him to it'

b. Azamugiha.

a-	za-	**mu-**	**ki-**	ha
CLi.SM-	FUT-	CLi.OM-	CLvii.OM-	give

Only 'He will give him to it'

(8) a. Azamubaha. (3 HUMAN× 3 HUMAN)

a-	za-	**mu-**	**ba-**	ha
CLi.SM-	FUT-	CLi.OM-	CLii.OM-	give

'He will give her to them'

b. Azabamuha.

a-	za-	**ba-**	**mu-**	ha
CLi.SM-	FUT-	CLii.OM-	CLi.OM-	give

'He will give them to her'

(Contini-Morava 1983: (3)-(6))

(9) Person combinations and their interpretation(s) [ditransitive] (Contini-Morava 1983)

	2nd position			
1st position	1	2	3 HUMAN	3 NON-HUMAN
1		*	*	*
2	THM-GOL GOL-THM		THM-GOL	*
3 HUMAN	THM-GOL GOL-THM	THM-GOL GOL-THM	THM-GOL	THM-GOL
3 NON-HUMAN	THM-GOL GOL-THM	THM-GOL GOL-THM	THM-GOL GOL-THM	THM-GOL

(1st position-2nd position-VERB)

2.2 Ditransitives (elicited; Rwandan dialect)

(10) a. Yakunyeretse.   (1 × 2)

     a-   a-   **ku-**   **n-**   eerek -ye.
     CLi.SM- PST- 2SG.OM- 1SG.OM- show -PERF

     'He showed you to me.' OR 'He showed me to you.'

   b. * Yankweretse.

      a-   a-   **n-**   **ku-**   eerek -ye
      CLi.SM- PST- 1SG.OM- 2SG.OM- show -PERF

      (Intended) 'He showed me to you.'

(11) a. Yamunyeretse.   (1 × 3 HUMAN)

     a-   a-   **mu-**   **n-**   eerek -ye.
     CLi.SM- PST- CLi.OM- 1SG.OM- show -PERF

     'He showed her to me.' OR 'He showed me to her.'

   b. * Ya(m)mweretse.

      a-   a-   **n-**   **mu-**   eerek -ye
      CLi.SM- PST- 1SG.OM- CLi.OM- show -PERF

      (Intended) 'He showed me to her.'

(12) a. Yayinyeretse.   (1 × 3 NON-HUMAN)

     a-   a-   **yi-**   **n-**   eerek -ye.
     CLi.SM- PST- CLix.OM- 1SG.OM- show -PERF

     'He showed it (the dog) to me.' OR 'He showed me to it (the dog).'

   b. * Yanyeretse.

      a-   a-   **n-**   **yi-**   eerek -ye
      CLi.SM- PST- 1SG.OM- CLix.OM- show -PERF

      (Intended) 'He showed me to it (the dog).'

(13) a. Yamukweretse.   (2 × 3 HUMAN)

     a-   a-   **mu-**   **ku-**   eerek -ye
     CLi.SM- PST- CLi.OM- 2SG.OM- show -PERF

     'He showed her to you.' OR 'He showed you to her.'

b.   * Yakumweretse.

a-   a-   **ku-**   **mu-**   eerek -ye
CLi.SM- PST- 2SG.OM- CLi.OM- show -PERF

(Intended) 'He showed you to her.'

(14)   a. Yayimweretse.   (3 HUMAN × 3 NON-HUMAN)

a-   a-   **yi-**   **mu-**   eerek -ye.
CLi.SM- PST- CLix.OM- CLi.OM- show -PERF

'He showed it (the dog) to her.' OR 'He showed her to it (the dog).'

b. % Yamuyeretse.

a-   a-   **mu-**   **yi-**   eerek -ye
CLi.SM- PST- CLi.OM- CLix.OM- show -PERF

'He showed her to it (the dog).'

(15)   a. Yamuberetse.   (3 HUMAN × 3 HUMAN)

a-   a-   **mu-**   **ba-**   eerek -ye.
CLi.SM- PST- CLi.OM- CLii.OM- show -PERF

'He showed her to them (people).'

b. Yabamweretse.

a-   a-   **ba-**   **mu-**   eerek -ye
CLi.SM- PST- CLii.OM- CLi.OM- show -PERF

'He showed them (people) to her.'

(16)   Person combinations and their interpretation(s) [ditransitive] (Elicited data)

		2nd position			
		1	2	3 HUMAN	3 NON-HUMAN
1st position	1		*	*	*
	2	THM-GOL GOL-THM		*	*
	3 HUMAN	THM-GOL GOL-THM	THM-GOL GOL-THM	THM-GOL	% THM-GOL
	3 NON-HUMAN	THM-GOL GOL-THM	THM-GOL GOL-THM	THM-GOL GOL-THM	THM-GOL

2.3   Benefactives (elicited; Rwandan dialect)

(17)   a. Yakumboneye.   (1 × 2)

a-   a-   **ku-**   **n-**   bon -er   -ye.
CLi.SM- PST- 2SG.OM- 1SG.OM- find -APP -PERF

'He found you for me.'
≠ %'He found me for you.'

b. *Yankuboneye.

Y-	a-	**n-**	**ku-**	bon	-er	-ye
CLi.SM-	PST-	1SG.OM-	2SG.OM-	find	-APP	-PERF

(Intended) 'He found me for you.'

c. Yamboneye wowe.

Y-	a-	**n-**	bon	-er	-ye	**wowe.**
CLi.SM-	PST-	1SG.OM-	find	-APP	-PERF	2SG.PRO

'He found me for you.'
≠ 'He found you for me.'

(18) a. Yamumboneye. (1 × 3 HUMAN)

a-	a-	**mu-**	**n-**	bon	-er	-ye
CLi.SM-	PST-	CLi.OM-	1SG.OM-	find	-APP	-PERF

'He found her for me.'
≠ 'He found me for her.'

b. *Ya(m)muboneye.

Y-	a-	**n-**	**mu-**	bon	-er	-ye
CLi.SM-	PST-	1SG.OM-	CLi.OM-	find	-APP	-PERF

(Intended) 'He found me for her.'

c. Yamboneye we.

Y-	a-	**n-**	bon	-er	-ye	**we**
CLi.SM-	PST-	1SG.OM-	find	-APP	-PERF	CLi.PRO

'He found me for her.'
≠ 'He found her for me.'

(19) a. Yayimboneye. (1 × 3 NON-HUMAN)

a-	a-	**yi-**	**n-**	bon	-er	-ye.
CLi.SM-	PST-	CLix.OM-	1SG.OM-	find	-APP	-PERF

'He found it (the dog) for me.'
≠ 'He found me for it (the dog).'

b. *Yanyiboneye.

Y-	a-	**n-**	**yi-**	bon	-er	-ye
CLi.SM-	PST-	1SG.OM-	CLix.OM-	find	-APP	-PERF

(Intended) 'He found me for it (the dog).'

c. Yamboneye yo.

Y-	a-	**n-**	bon	-er	-ye	**yo**
CLi.SM-	PST-	1SG.OM-	find	-APP	-PERF	CLix.PRO

'He found me for it (the dog).'
≠ 'He found it (the dog) for me.'

(20)   Person combinations and their interpretation(s) [benefactive] (Elicited data)

	2nd position			
1st position	1	2	3 HUMAN	3 NON-HUMAN
1		*	*	*
2	THM-BEM (%BEN-THM)		*	*
3 HUMAN	THM-BEN	THM-BEN (%BEN-THM)	THM-BEN	*?
3 NON-HUMAN	THM-BEN	THM-BEN	THM-BEN	THM-BEN

3   Contini-Morava's (1983) account: hierarchies

- Contini-Morava (1983) gives an account for the pattern in (9) using the following hierarchies

(21)   Egocentricity hierarchies ($\approx$ Person/animacy hierarchy)

HUMAN > NON-HUMAN
SPEAKER > HEARER > other

(22)   Potency/contribution hierarchy
($\approx$ Structural/thematic hierarchy; cf. Duranti 1979, Duranti and Byarushengo 1977, Hyman and Duranti 1982)

(AGENT) > GOAL/BENEFICIARY > PATIENT

- The order of OMs are determined based on the hierarchies

- The egocentricity hierarchies take precedence, and when the order breaks the egocentricity hierarchy (21), the interpretation has to conform to the contribution hierarchy (22)

- This does not explain why when the egocentricity hierarchy is satisfied, the sentences are ambiguous or why certain orders are not possible

- The dialectal differences cannot be straightforwardly explained

4   Proposed account: structure and features

- I suggest instead that these two hierarchies are encoded in the mental grammar in the form of syntactic structure and features

Articulated person features

- Building on the φ-feature system developed by Harley and Ritter (2002), Béjar and Rezac (2009) takes morphological φ-features to be visible to Agree. They adopt the following person specifications.

(23) Person Specifications (Béjar and Rezac 2009; cf. Harley and Ritter 2002)

3$^{\text{rd}}$ Person

DP
|
[π]

2$^{\text{nd}}$ Person

DP
|
[π]
|
[participant]

1$^{\text{st}}$ Person

DP
|
[π]
|
[participant]
|
[speaker]
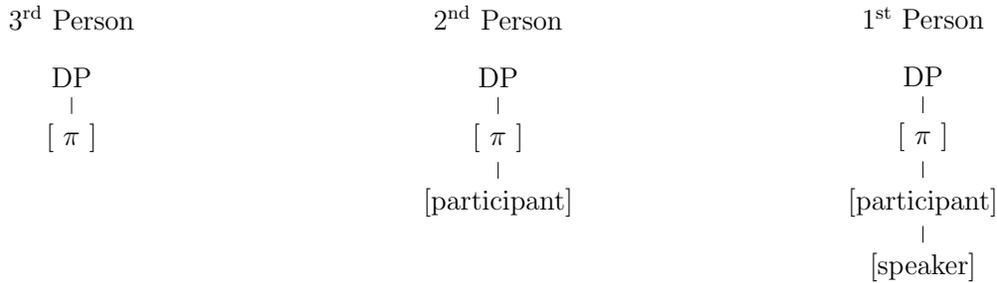
- I adopt the same person specifications for Kinyarwanda but with an additional feature [human]

(24) Kinyarwanda Nominal Feature Specifications

Non-human Nouns
(CLiii-CLxvi)

DP
|
[π]

Human Nouns
(CLi/ii)

DP
|
[π]
|
[human]

2$^{\text{nd}}$ Person

DP
|
[π]
|
[human]
|
[participant]

1$^{\text{st}}$ Person

DP
|
[π]
|
[human]
|
[participant]
|
[speaker]
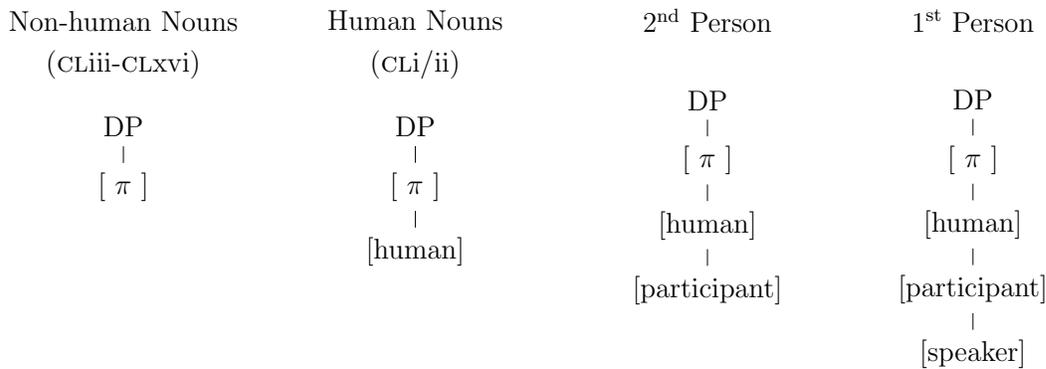
- These articulated features make it possible for the probe to search for a particular person

Assumed syntactic structure

- I assume Low Applicative for ditransitive verbs and High Applicative for the benefactive applicative construction (Pylkkänen 2008)

```
              vP
             /  \
            v   Appl_H P
               /   \
         Beneficiary
                \
              Appl_H    VP
                       /  \
                      V   Appl_L P
                          /   \
                       Goal
                          \
                        Appl_L   Theme
```
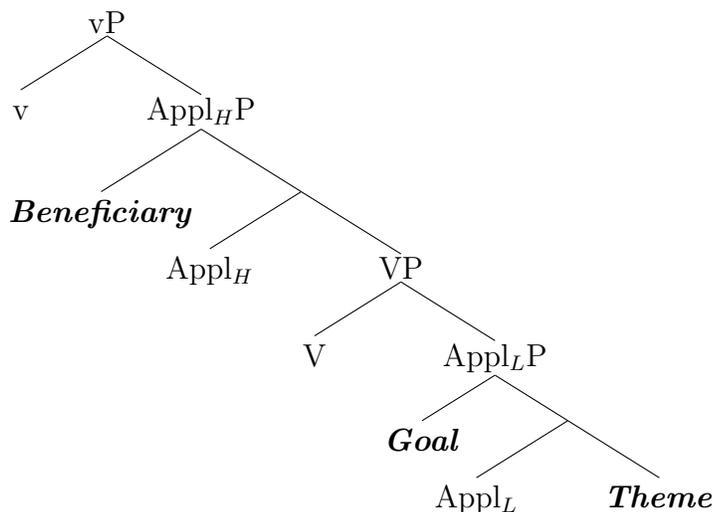
- I further assume that object markers are arguments that are merged in their thematic position and that they move to little v

- When there are two object markers, whichever moves first will end up adjacent to the verb root

Secondary movement   *Initial movement*
 1st position OM — 2nd position OM — $\bigvee$

4.1   Mechanism

- The probe at the little v initially searches specifically for 1st person OM

- When the probe finds a 1st person goal, the goal moves to the little v

- When the probe does not find a 1st person goal, it ceases the search and deletes some of its features

- When the probe only deletes its [speaker] feature, it searches for a 2nd person goal

- When the probe deletes both [speaker] and [participant] features, it searches for either a 2nd person or 3rd person human goal

Ditransitives

- In a ditransitive construction, the goal argument and the theme argument are equidistant from the little v

- Therefore, either argument can move first without violating locality

- Let us look at the case of 2SG OM and 3 human OM

(25)   a. 'give/show her to you'   b. 'give/show you to her'
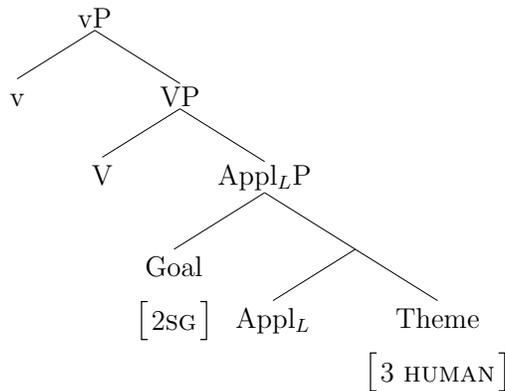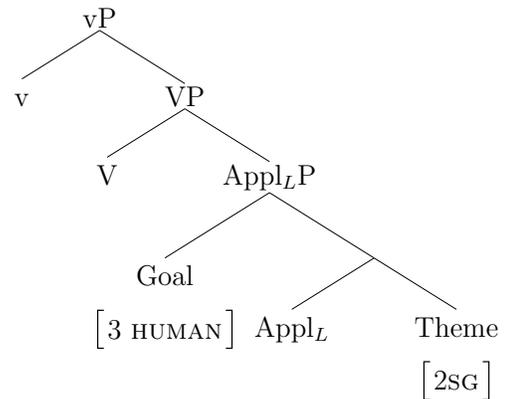
(26)   Comparison of the two dialects

|	Congolese Dialect		Rwandan Dialect	
3HUM-2SG-V	THM-GOL GOL-THM	(6a)	THM-GOL GOL-THM	(13a)
2SG-3HUM-V	THM-GOL	(6b)	*	(13b)

- The difference between the two dialects can be captured by which features can be deleted

- In the Congolese dialect, the probe can either delete only [speaker] or both [speaker] and [participants]

- When the latter is the case, either 2SGOM or 3HUMANOM is eligible for initial movement

- Therefore, the probe moves whichever OM it finds first (or whichever is in the goal position)

- In the Rwandan dialect, the probe can only delete [speaker]

- Therefore, the probe specifically looks for a 2nd person goal, which makes the order in (13b) impossible

Benefactives

- In a benefactive applicative construction, the beneficiary argument and the theme argument are not equidistant from the little v

- Therefore, the theme argument cannot move over the beneficiary argument since the movement would violate locality

(27) 'find me for you'
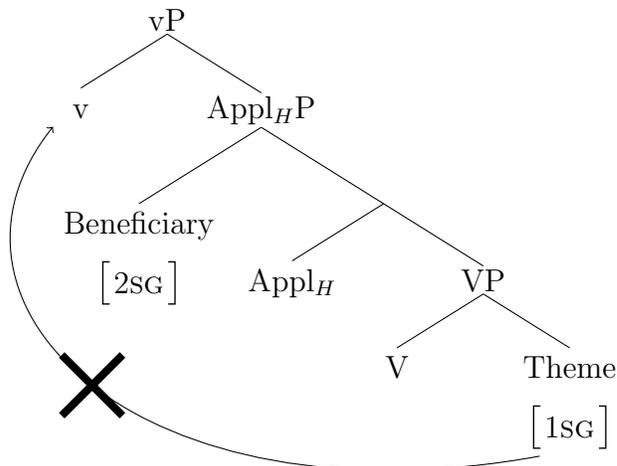
(28) Comparison of ditransitives and benefactives

	Ditransitive		Benefactive
2SG-1SG-V	THM-GOL GOL-THM	(10a)	THM-GOL (17a)
1SG-2SG-V	* (10b)		* (17b)

- Therefore, even if the probe at the little v is looking for a 1st person argument, it cannot attract the 1SGOM in the theme position before the beneficiary argument

- This is precisely why the sentence in (17a) is not ambiguous

- The only way to rescue this structure is to make the higher argument (beneficiary) ineligible for movement

- When the beneficiary is an independent pronoun as in (17c), there is no locality problem as the pronoun is not a candidate for movement

5 Conclusion

- I have shown that there is an interesting dialectal variation involving the order of OMs in Kinyarwanda

- The hierarchies were not enough to explain the ambiguity of some sentences or to explain the ungrammaticality of certain OM orders

- By encoding the hierarchies in the structure and the features and making use of the idea of feature deletion, we are able to capture the ordering pattern of Kinyarwanda object markers

- The present analysis suggests that there are languages that strictly follow the person/thematic hierarchies and those that loosely do so

- There is also an interesting prediction the present analysis makes, which is that for speakers of the Congolese variety should accept 2SG-3HUM-V and 3HUM-3NONHUM-V in a benefactive sentence with the interpretation that corresponds to THM-GOL-V

Acknowledgment

List of abbreviations

1=first person, 2=second person, APP=applicative, AUG=augment, CLi-CLxvi=noun class number, DJ=disjoint, FOC=focus, FV=final vowel, IMPERF=imperfecitve, OM=object marker, PST=past, PERF=perfective, PL=plural, PRS=present, PRO=pronoun, SM=subject marker

References

Béjar, Susana, and Milan Rezac. 2009. Cyclic Agree. *Linguistic Inquiry* 40(1):35–73.

Contini-Morava, Ellen. 1983. Ranking of participants in Kinyarwanda: The limitation of arbitrariness in language. *Anthropological Linguistics* 25(4):425–435.

Dryer, Matthew S. 1983. Indirect objects in kinyarwanda revisited. In *Studies in relational grammar i*, ed. David M. Perlmutter, 129–140. Chicago: University of Chicago Press.

Duranti, Alessandro. 1979. Object clitic pronouns in bantu and the topicality hierarchy. *Studies in African Linguistics* 10:31–45.

Duranti, Alessandro, and Ernest R. Byarushengo. 1977. On the notion of "direct object". 45–71. Los Angeles: Department of Linguistics, University of Southern California.

Harley, Heidi, and Elizabeth Ritter. 2002. Person and number in pronouns: A feature-geometric analysis. *Language* 78:482–526.

Hyman, Larry M, and Alessandro Duranti. 1982. On the object relation in Bantu. 217–239. New York: Academic Press.

Kimenyi, Alexandre. 1976. Subjectivization rules in kinyarwanda. In *Proceedings of the Second Annual Meeting of Berkeley Linguistics Society*. Berkeley, CA: Berkeley Linguistics Society.

Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.

Zeller, Jochen, and Jean Paul Ngoboka. 2014. On parametric variation in bantu, with particular reference to Kinyarwanda. *Transactions of the Philological Society* 00:1–26.

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