

EVIDENCE FOR HEAD RAISING
IN KISWAHILI RELATIVE CLAUSES*

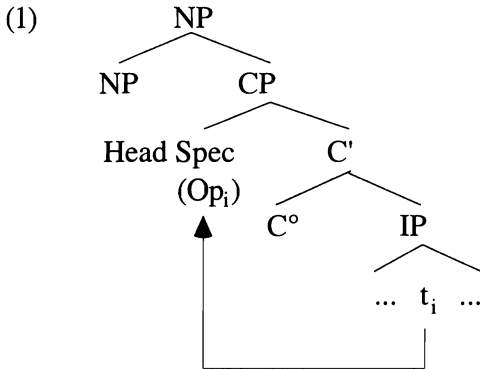
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The author presents evidence from Kiswahili supporting a head-raising analysis recently proposed in Kayne (1994) and Bianchi (1999), in which the relative clause is generated as a complement of the determiner. Three kinds of evidence are presented: (1) selectional relations between demonstratives and some relative clauses; (2) quantified noun phrase-pronoun binding, in which the bound pronoun appears inside the head of the relative clause while its binder is located in the relative clause; and (3) relativization of objects comprising part of idiomatic expressions. The evidence supports both the head-raising hypothesis and the determiner complementation hypothesis.

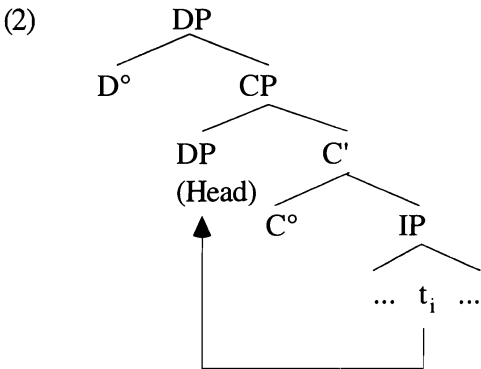
1. Introduction

Analyses of Bantu relative clauses within the Principles and Parameters framework have assumed the existence of a null *wh*-operator binding the variable inside the relative clause [Demuth & Harford 1999; Harford & Demuth 1999; Ngonyani 1999; Kinyalolo 1991; Barrett-Keach 1985]. In this structure, represented in (1), the relative clause (the complementizer phrase or CP) appears adjoined to the right of the head NP. The head of the relative clause is base-generated in a position outside the relative clause. The *wh*-phrase moves from a position inside the relative clause. This analysis is based on the assumption that the relative clause is a modifier of the head. It is consistent with the standard adjunction analysis of relative clause constructions [Chomsky 1977].

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Recently, the adjunction analysis of relative clauses has been called into question and an alternative has been advanced. Kayne [1994] proposes to analyze the relative clause as complement of the determiner (D°). The head of the relative clause occupies the specifier of the CP position. The head of the relative clause is base-generated inside the relative clause. In some languages, the head raises to a position outside the relative clause. This analysis is shown in (2). This head raising analysis shows that the relative clause is a sister to D° , head of the Determiner Phrase (DP) and, therefore, a complement.



In this paper, I present evidence from Kiswahili that favors the head-raising analysis. Using examples similar to those of Bianchi [1999], I show that some relative clauses exhibit selectional relations with demonstratives. More evidence comes from binding and scope reconstruction and from idiom chunks. Before examining the evidence, a brief overview of relative clause constructions in Kiswahili is presented.

2. Kiswahili Relative Clauses

Kiswahili has four relative clause constructions that are illustrated below (from Ngonyani [1999]). All relative clause verbs contain a relative marker (REL) made up of /-o-/ and an agreement marker attached before it.¹ The constructions are exemplified below with the relative clauses in square brackets.

- (3) a. *vi-tabu [amba-vyo Juma a-li-nunu-a] ni ghali* C1
 8-book amba-8.REL Juma 1-PST-buy-FV COP expensive
 ‘The books Juma bought are expensive.’
- b. *vi-tabu [a-li-vyo-nunu-a Juma] ni ghali* C2i
 8-book 3S-PST-8.REL-buy-FV Juma COP expensive
 ‘The books Juma bought are expensive.’
- c. *vi-tabu [a-si-vyo-som-a Juma] ni-ta-vi-uz-a* C2ii
 8-book 3S-NEG-8.REL-read-FV Juma 1S-FUT-8-sell-FV
 ‘The books that Juma does not read I will sell.’
- d. *vi-tabu [a-nunu-a-vyo Juma] ni ghali* C3
 8-book 3S-buy-FV-8.REL Juma be expensive
 ‘The books Juma buys are expensive.’

The first construction (C1 in (3a)) has REL affixed to *amba-*, marking the left edge of the relative clause. The second construction (C2i) has REL following the tense marker.² In the third construction (C2ii), REL appears after the negative marker *-si-*, a negation marker different from that found in main clauses.³ Finally, in the fourth construction (C3), non-tensed verbs may take REL as a suffix, as shown in (3d).

¹ Abbreviations:

APP	applicative	INF	infinitive prefix	PST	past tense
CAUS	causative	NEG	negative	REL	relative
CON	connective	P	plural	RFL	reflexive
FUT	future tense	POSS	possessive	S	singular
FV	final vowel	PR	present tense	SP	subject prefix
HAB	habitual	PASS	passive	T	tense marker

Numbers alone in the glosses identify noun classes, and follow the traditional numbering system for Bantu languages. Numbers with S or P identify person.

² The only relevant tenses are past *-li-*, present *-na-*, and future *-ta-/taka-*. Other tense markers do not co-occur with this construction.

³ Negation in the main clause is marked twice on the verb as the contrast between the affirmative and negative sentences shows in the following.

i. *Watoto walinunua vitabu* ‘The children bought books.’

ii. *Watoto hawakununua vitabu* ‘The children did not buy books.’

The verb in sentence (ii) carries the negative prefix *ha-* followed by the subject marker and the negative form of the past tense.

There are four features of interest with respect to relative clauses. The first feature is the existence of a gap in an argument position (an A-position), clearly seen when the object is relativized, as shown in (4). The relative clause enclosed in square brackets does not have an object in the canonical post-verbal position.

- (4) *tu-ta-nunu-a vi-tabu [amba-vyo bondia a-ta-andik-a ---]*
 we-FUT-buy-FV 8-book [amba-8.REL1.boxer 1-FUT-write-FV]
 ‘we will buy the books that the boxer will write’

The second feature, island effects, such as the Complex NP Constraint, can be observed in (5). The object of *-nunua* ‘buy’ in (5b) is *gari* ‘car.’ However, this noun is a constituent of a complex NP, *mgeni aliyeuza gari* ‘the guest who sold the car.’ This NP is complex because it is made up of a head and a relative clause. Relativization of constituents of such NPs is prohibited—the Complex NP Constraint. Relativization of *gari* ‘the car’ has extracted the NP from inside the complex NP, thereby violating the subjacency constraint. These effects were first noted in Kiswahili by Barrett-Keach [1985]. The gap and subjacency effects suggest the existence of wh-movement in Kiswahili relative clause constructions (see also Ngonyani [1999]).

- (5) a. *m-geni a-li-ye-uz-a gari*
 1-guest 1-PST-1.REL-sell-FV 5.car
 ‘the guest who sold a car’
- b. **gari wa-li-lo-nunu-a m-geni a-li-ye-uz-a*
 5.car 3P-PST-5.REL-buy-FV 1-guest 1-PST-1REL-sell-FV
 ‘the car they bought the guest who sold’

The third feature is the complex morphological structure of REL as found in many Bantu languages. For example, Kiswahili REL is made up of two parts: (i) agreement that co-varies with the head of the relative clause; (ii) a constant, (for example, in Kiswahili *-o* (dubbed as “-o of reference” Ashton [1947])). The examples in (6) illustrate some of the Swahili RELs.

- (6) a. *m-toto ni-li-ye-mw-ona* → *niliyemwona*
 1-child 1S-PST-1.REL-1-see
 ‘the child whom I saw’
- b. *wa-toto ni-li-w+o-wa-ona* → *niliowaona*
 2-child 1S-PST- 2+REL-2-see
 ‘the children whom I saw’
- c. *m-ti ni-li-u+o-u-ona* → *niliouona*
 3-tree 1S-PST-3+REL-3-see
 ‘the tree which I saw’

- d. *mi-ti ni-li-i+o-i-ona* → *niliyoiona*
 4-tree 1S-PST-4+REL-4-see
 ‘the trees which I saw’
- e. *ki-tabu ni-li-ki+o-ki-ona* → *nilichokiona*
 7-book 1S-PST-7+REL-7-see
 ‘the book which I saw’

Let us take (6b), for instance. The head of the relative clause is a Class 2 noun. The relative marker combines Class 2 agreement *-wa-* and *-o-* to derive *-o-*. The relative marker is made up of a single syllable. The two parts of REL always coalesce into one syllable. Ngonyani [1999] analyzes the relative marker as the head of the CP to which a verbal element incorporates. The verbal elements are: (a) *amba-* which is diachronically derived from a verb *kuamba* ‘to say/speak’; (b) tenses and negation (Inflection heads or INFL); and (c) the verb stem. I shall come back to the status of REL as the head of the complementizer projection in §6 below.

The fourth feature is verb movement, from verb to inflection to complementizer (V-to-I-to-C). Using VP ellipsis and VP adverbs, Ngonyani [1998, 1996] suggests that, in Kiswahili tensed clauses, the verb moves from its base-generated position inside the VP to incorporate into an Inflection head (INFL). Furthermore, Demuth and Harford [1999] and Harford and Demuth [1999] suggest that what appears to be subject-verb inversion in object relative clauses in some Bantu languages, including Kiswahili, is a result of the verb raising to C. Their evidence is the prevalent correlation between the affixal REL and inversion as in Kiswahili, while languages with a disjunctive REL lack this phenomenon. Kiswahili has both, as shown in (7).

- (7) a. *vi-tabu a-li-vyo-nunu-a Juma ni ghali*
 8-book 3S-PST-8.REL-buy-FV Juma COP expensive
 ‘The books Juma bought are expensive.’
- b. **vi-tabu Juma a-li-vyo-nunu-a ni ghali*
 8-book Juma 3S-PST-8.REL-buy-FV COP expensive
 ‘The books Juma bought are expensive.’
- c. *vi-tabu amba-vyo Juma a-li-nunu-a ni ghali*
 8-book amba-8.REL J. 3S-PST-buy-FV COP expensive
 ‘The books Juma bought are expensive.’

Subject-verb inversion is obligatory for object relativization with affixal REL as the ungrammatical sentence in (7b) shows. In addition to subject-verb inversion, Kiswahili has an alternate form using an independent form *amba-REL* (7c). This is comparable to what is found in other Bantu languages, such as Sesotho, in which only the independent word REL is found and subject-verb inversion is not permitted.

Having sketched out a description of the relative clause construction, I shall now present evidence, first, to show selectional relations between the determiner and the relative clause, and subsequently, to demonstrate that reconstruction effects and idiom chunks suggest that the head is generated inside the relative clause.

3. Selectional Effects

In certain constructions we find relative clauses exhibiting features consistent with selection by demonstratives. Consider the relationship between the demonstrative and the relative clause in these common expressions. In (8a) and (8b), the relative clauses are complements of the demonstratives *kile* and *yule*, respectively.⁴ The use of the demonstrative with a clause that is not marked for relativization results in ungrammatical constructions, as demonstrated by the examples in (9).

- (8) a. *ki-le [wa-li-cho-ki-it-a u-chokozi]*
 7-that 3P-PST-7.REL-7-call-FV 14-provocation
 'that which they called provocation'
- b. *yu-le [a-na-ye-m-tak-a] h-a-j-i*
 1-that 3S-PR-1.REL-1-want-FV NEG-1-come-NEG
 'That one whom she/he wants is not coming.'
- (9) a. **ki-le wa-li-ki-it-a u-chokozi*
 7-that 3P-PST-7-call-FV 14-provocation
 'what they called provocation.'
- b. **yu-le [a-na-m-tak-a] h-a-j-i*
 1-that 3S-PR-1-want-FV NEG-1-come-NEG
 'the one she/he I wants is not coming.'

In the two examples in (9), the clause that appears after the demonstrative does not have a relative marker. These ungrammatical sentences show that the relative clause is selected by the demonstrative. That is, the relative clause is the complement of the demonstrative. There is agreement between the head noun, the determiner and the relative marker (REL). The determiner selects an NP or a relative clause. These facts suggest that the determiner is generated outside the relative

⁴ Kiswahili has three demonstratives: (a) proximate, (b) medial, and (c) distal, illustrated below. Notice the agreement between the noun and the demonstrative. All three demonstratives can occur in the relative construction incorporating the demonstrative.

Proximate	Medial	Distal
a. <i>kitabu hiki</i> 'this book'	<i>kitabu hicho</i> 'that book'	<i>kitabu kile</i> 'that book'
b. <i>mtu huyu</i> 'this person'	<i>mtu huyo</i> 'that person'	<i>mtu yule</i> 'that person'
c. <i>miti hii</i> 'these trees'	<i>miti hiyo</i> 'those trees'	<i>miti ile</i> 'those trees'
d. <i>mawe haya</i> 'these rocks'	<i>mawe hayo</i> 'those rocks'	<i>mawe yale</i> 'those rocks'

clause. This is further supported by the interpretation of the distributivity of a universal quantifier in its relation with determiners presented in the next section.

4. Binding and Scope Reconstruction

Further evidence in support of the head raising analysis is found in the interpretation of pronouns bound by quantified noun phrases (QNP) found lower in the relative clause, as the example in (10) shows.

- (10) *ki-tabu ch-akej ch-a kwanza [amba-cho kila mw-andishij*
 7-book 7-3S.POSS 7-CON first amba-7.REL every 1-writer

hu-ji-vun-i-a t] hu-w-a ki-zuri sana]
 HAB-RFL-be proud-APP-FV HAB-be-FV 7-good very
 ‘Her/his first book for which the writer is very proud is very good.’

The possessive pronoun *chake* ‘her/his’ is inside the head of the relative clause. It is interpreted as a variable bound by QNP *kila mwandishi* ‘every writer’ located inside the relative clause. It is generally assumed that the scope of a quantifier is determined by the c-command relation at the level of Logical Form (LF), the level of syntactic representation at which the logical meaning of the sentence is represented. On the surface, the universal quantifier phrase does not seem to c-command the pronoun. For the QNP to take scope over the pronoun, the head must be reconstructed at LF to the position inside the relative clause where it is c-commanded by the QNP.

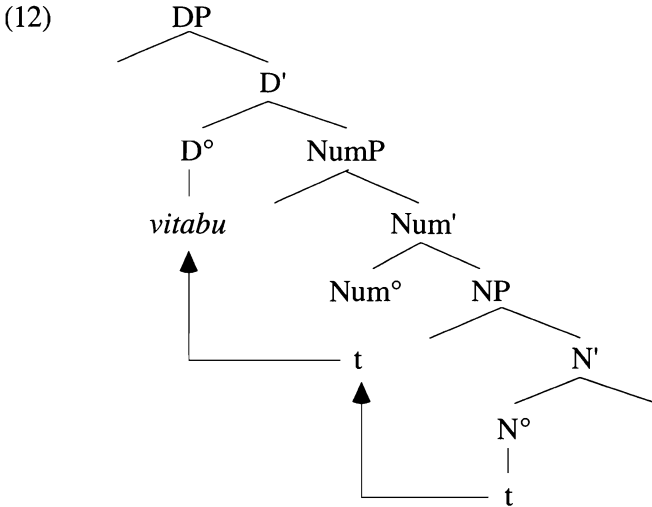
The scope effects of quantifiers inside the head and in the relative clause provide further evidence that the head is raised. First, notice the interaction of the universal quantifier in the subject and the definite/indefinite quantified phrase in the object position. Kiswahili has a general tendency of marking the human object on the verb. In some cases, though, plural indefinite objects may remain unmarked. However, demonstratives can be used to test definite determiner effects resulting in examples similar to Italian sentences provided by Bianchi [1999:46-47].

- (11) a. *kila daktari a-ta-wa-pim-a wa-gonjwa wa-wili.*
 each 1.doctor 1-FUT-2-examine-FV 2-patient 2-two
 ‘Each doctor will examine two patients.’

 b. *kila daktari a-ta-wa-pim-a wa-le wa-gonjwa wa-wili.*
 each 1.doctor 1-FUT-2-examine-FV 2-that 2-patient 2-two
 ‘Each doctor will examine those two patients.’

The universal quantifier in subject position takes scope over the object, which is presumably indefinite in (11a). The resulting interpretation allows for a reading in which every doctor may examine two different patients—a distributive reading. When a demonstrative is used with the object, as in (11b), the distributive reading

is not available. That is, each doctor will examine the same two patients. I will assume the Kiswahili DP structure proposed by Carstens [1991], shown in (12), in which the noun in (11a) occupies the D° position, having been raised from a position lower than Number Phrase (NumP). According to Carstens, the noun in Kiswahili is base generated in the NP, and raises to the Number Phrase and ultimately to the Determiner Phrase. In (11b), however, D° is occupied by the demonstrative *wale* 'those'.



Object relative clauses corresponding to (11) above provide a reversal of the scope of the universal quantifier, as shown in the sentences in (13). In these examples, it appears that the readings are now reversed. In sentence (13a), the relativized object is not introduced by a demonstrative. The reading available here does not allow distributivity. There are only two patients, and every doctor will examine

- (13) a. *ni-li-wa-it-a wa-gonjwa wa-wili a-taka-o-wa-pim-a*
 1S-PST-2-call-FV 2-patient 2-two 3S-FUT-2.REL-2-examine-FV

kila daktari.

each doctor

'I called two patients that every doctor will see.'

- b. *ni-li-wa-it-a wa-le wa-gonjwa wa-wili a-taka-o-wa-pim-a*
 1S-PST-2-call-FV 2-that 2-patient 2-two 3S-FUT-2.REL-2-examine-FV

kila daktari.

each doctor

'I called those two patients that every doctor will see.'

them. A distributive reading is available in (13b) where the relativized object is introduced by the demonstrative. It is possible that each doctor will see two different patients. This follows automatically if we assume that the determiner is generated outside the relative clause and is therefore not reconstructed to relative clause. In both cases the raised head is indefinite.

5. Idiom Chunks

It is commonly assumed that the nominal part of an idiomatic expression is generated as a complement of the verb of the idiom, and not independently [Schachter 1973]. Therefore, it cannot be expected to be base-generated in the head position. If we find the nominal part occupying the head position, we must conclude that it has been moved from the idiom chunk inside the relative clause. Two different examples of idioms yield the same results. The first example of an idiom is *kupaka matope* (14), which literally means ‘to smear with mud’ but whose idiomatic meaning is ‘to defame’. Without the verbal part of the expression, the nominal cannot maintain the idiomatic sense, as (14b) shows. However, the nominal can appear separate from the verb in relative clause constructions, as the examples in (15) show.

(14) a. *nungu wa-li-m-pak-a ma-tope sungura*
 2.porcupine 2-PST-1-smear-FV 6-mud 1.hare
 ‘Porcupine defamed Hare.’

b. **ma-tope ya-li-mu-um-iz-a sungura*
 6-mud 6-PST-1-hurt-CAUS-FV 1.hare
 ‘The mud hurt Hare.’

(15) a. *tu-li-sikit-ishw-a na ma-tope*
 1P-PST-be sad-CAUS-FV by 6-mud

[*a-li-yo-pak-w-a sungura*].
 1-PST-6.REL-smear-PASS-FV 1.hare
 ‘We were saddened by the defaming of Hare.’

b. *nungu a-li-m-pak-a ma-tope sungura*
 1.porcupine 1-PST-1-smear-FV 6-mud 1.hare

[*amba-yo ya-li-sikit-ish-a*].
 amba-6.REL 6-PST-be sad-CAUS-FV
 ‘Porcupine defamed Hare, which was sad.’

The verb ‘smear’ appears in the relative clause, but its nominal is the head of the relative clause, located outside the relative clause. Similar effects are derived

with another idiom, *kupiga maji*, which means ‘to drink alcohol’. *Kupiga* ‘to hit’ is combined with *maji* ‘water’ to derive a non-compositional VP, as shown in (16).

- (16) a. *komba a-li-pig-a ma-ji sana.*
 1.bushbaby 1-PST-hit-FV 6-water much⁵
 ‘Bushbaby drank much beer.’
- b. **ma-ji ya-li-ku-w-a ma-kali.*
 6-water 6-PST-INF-be-FV 6-fierce
 ‘The beer was strong.’

In (16a), normal usage of the idiom is exemplified. Without the verb, the object *maji* ‘water’ does not acquire the idiomatic reading, as (16b) shows. This indicates that the two words are generated as one item. In relative clause constructions, however, it is possible to get the object outside of the idiom VP. Consider the examples in (17).

- (17) a. *ma-ji amba-yo komba a-li-ya-pig-a ya-li-ku-w-a*
 6-water amba-6.REL 1.bushbaby 1-PST-1-hit-FV 6-PST-INF-be-FV
ma-kali.
 6-fierce
 ‘The beer that Bushbaby drank was very strong.’
- b. *ma-ji amba-yo komba a-li-pig-a ya-li-ku-w-a ma-kali.*
 6-water amba-6.REL 1.bushbaby 1-PST-hit-FV 6-PST-INF-be-FV 6-fierce
 ‘The beer that the bushbaby drank was very strong.’

The idiom chunk *maji* ‘water’ is the head that appears outside of the relative clause. Since it is base-generated inside the embedded clause, its surface location must be due to movement from the subordinate clause. The two examples of idioms show that, in isolation, the nominal cannot derive the idiomatic meaning. However, in displaced contexts of relative clauses, the separation between the verb and the nominal does not result in a loss of meaning. Assuming that the idiom is generated as a unit, it must be concluded that heads of relative clauses are moved from inside of the embedded clause to the head position.

As in the cases discovered by Schachter [1973], the raising point can be made using idiomatic expressions with indefinite objects. Let us look at the ‘defame’ example. First, I shall establish that the object in this case is obligatorily indefinite, which I will demonstrate through the use of a demonstrative. Consider the contrast between the two sentences in (18). In the grammatical sentence (18a), the idiom contains an indefinite nominal. When the object is definite as in (18b), we get an ungrammatical sentence. Therefore, this direct object must be indefinite for the

⁵ A bushbaby is a small, nocturnal primate of the genera *Galago* or *Euoticus* having large, round eyes and prominent ears, famous for its love of palm or bamboo wine.

idiom. In relative clause constructions, however, as shown in (19), the relativized idiomatic object can be introduced by the demonstrative.

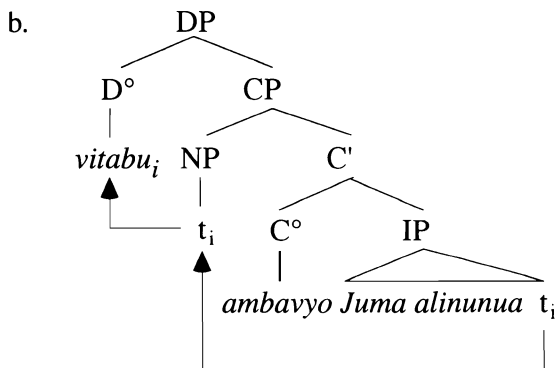
- (18) a. *nungu wa-li-m-pak-a ma-tope sungura.*
 2.porcupine 2-PST-1-smear-FV 6-mud 1.hare
 ‘Porcupine defamed Hare.’
- b. **nungu wa-li-m-pak-a ya-le ma-tope sungura.*
 2.porcupine 2-PST-1-smear-FV 6-that 6-mud 1.hare
 ‘Porcupine defamed that Hare.’
- (19) *ya-le ma-tope wa-li-yo-m-pak-a sungura ya-li-tu-kasirish-a.*
 6-that 6-mud 6-PST-6.REL-1-smear-FV 1.hare 6-PST-us-anger-FV
 ‘That defaming of Hare angered us.’

The relativized idiomatic object *matope* ‘mud’ is introduced by the demonstrative. Since it was established that this object is base-generated as indefinite, its definiteness in this example must be due to an external determiner.

6. Analysis

The foregoing discussion has presented evidence for twin hypotheses of head-raising, the head raising hypothesis and the determiner complement hypothesis. This section presents an analysis of relative clauses that is consistent with the evidence. It also outlines some relevant aspects of the verbal morphology in relative clauses. The tree diagram in (20b) represents the head-raising analysis of the Kiswahili relative clause presented in (20a). The head of the relative clause is base-generated as a complement of the verb in the embedded clause, raised to Spec,CP and finally to D°.

- (20) a. *vi-tabu [amba-vyo Juma a-li-nunu-a] ni ghali*
 8-book amba-8.REL 1.Juma 1-PST-buy-FV COP expensive
 ‘The books Juma bought are expensive.’



This analysis has not addressed the question of the status of the relative marker (REL) that appears as *-vyo* attached to *amba-* in this example. Following Ngonyani [1999], I analyze the relative marker as the C. This analysis is based on two considerations: (a) the distribution of REL, and (b) the internal structure of REL which consists of an invariant *-o-* and an agreement marker before it (see §2). The table in (21) summarizes the distribution of the relative marker. The relative marker appears on the right edge of (i) *amba-*, (ii) the tense/negation marker, or (iii) the verb stem. These have one characteristic in common, namely, REL consistently follows what is or was a verb. Synchronically, this is the verb stem. Diachronically, tense markers are derived from verbs (e.g., *-li-* < *-li* 'be', *-ta-* < *-taka* 'want) while *amba-* is from the verb 'to speak'.

(21) Distribution of REL in Kiswahili [Ngonyani 1999]

				Examples cited
(C1)	<i>amba-REL</i>	N	SP-T/NEG- STEM	(3a) → (23a)
(C2)		N	SP-T/NEG- REL- STEM	(3b, c) → (23b)
(C3)		N	SP-T/NEG- STEM- REL	(3d) → (23c)

The relative marker is the head of CP to which an agreement marker is attached.⁶ This head attracts the highest verbal element to incorporate at its left, as shown in (22b,c). When such incorporation is prevented, *amba-* is inserted (22a).

- (22) a. [CP [C ***amba-REL***] [IP INFL-[VPV]]] (C1)
- b. [CP [C INFL-REL] [IP -t- [VPV]]] (C2)
- ↑
- c. [CP [C V-REL] [IP [VP t]]] (C3)
- ↑

In (22b), REL attracts tense or negation, which are the highest verbal heads. When there is no inflectional head, REL attracts the verb stem (22c). When, for some reason, these are not available, REL acquires *amba-* (22a). These give us the relative clause constructions in (23), which we saw in (3) in §2 and which are repeated here for convenience.

Since subject marking and object marking do not interfere or alter this distribution, Ngonyani [1999] concludes that they are not syntactic heads. This is consistent with Chomsky's [1995] proposal for IP structure that does not have Agreement heads. An analysis of REL as a pronoun cannot provide an elegant account for its distribution.

⁶ Other Bantuists have also suggested that the relative marker occupies C° [Demuth & Harford 1999; Kinyalolo 1991].

- (23) a. *vi-tabu [amba-vyo Juma a-li-nunu-a] ni ghali* (C1)
 8-book amba-8.REL Juma 1-PST-buy-FV COP expensive
 ‘The books Juma bought are expensive.’
- b. *vi-tabu [a-li-vyo-nunu-a Juma] ni ghali* (C2)
 8-book 3S-PST-8.REL-buy-FV Juma COP expensive
 ‘The books Juma bought are expensive.’
- c. *vi-tabu [a-nunu-a-vyo Juma] ni ghali* (C3)
 8-book 3S-buy-FV-8.REL Juma COP expensive
 ‘The books Juma buys are expensive.’

There is some evidence suggesting that this analysis may be extended to other Bantu languages. From the author’s field notes on Kindendeule and Kingoni, Bantu languages spoken in southern Tanzania, the test examples of idiom chunks and QNP-pronoun binding can be replicated with the same results as in Kiswahili. In (24), we see that an idiomatic expression in Kindendeule can be relativized.

- (24) a. *akanahota ba-ki-lapil-a mbamba*
 2.elders 2-PST-vow-FV 10.thunder/lightning
 ‘The elders cursed.’
- b. *mbamba [hya-ba-ki-lapil-a akanahota]*
 10.thunder 10.REL-2-RP-vow-FV 2.elders
 ‘the cursing that the elders did’

The nominal of the idiom, *mbamba* ‘thunder, lightning’, is the head of the relative clause in (24b). If the nominal is generated together with the verb, its position outside the relative clause must be the result of movement from within the relative clause. This example is similar to the Kiswahili examples in (15) and (17) above. Further research is needed to see whether these characteristics of relative clause constructions are related to other typological features.

5. Conclusion

This paper set out to provide evidence in support of the head raising analysis of relative clauses. This analysis subsumes two hypotheses: (a) the raising hypothesis and (b) the determiner complementation hypothesis. Evidence for the former is found in the interaction observed between the head nominal and constituents of the relative clause. The reconstruction effects and relativization of idiom chunks are explained by a raising analysis and not by an adjunction analysis. Evidence for the complementation effects is derived from selectional relation between the determiner and its complement, the relative clause. An adjunction analysis fails to explain the selectional relations between the determiner and the adjunct relative clause.

The raising analysis has several other advantages over the adjunction analysis. One advantage is that it provides a very simple account for the typology of relative clauses, as Kayne [1994] and Bianchi [1999] note. Externally headed relative clauses, such as those found in English and Kiswahili, involve head raising. However, internally headed relative clauses, such as those found in Quechua, Navajo, Bambara, and Japanese, involve no head raising.

One crucial consequence of this analysis of relative clauses regards the status of relative pronouns. If the analysis of the relative marker by Kinyalolo [1991], Demuth and Harford [1999], and Ngonyani [1999] is correct, there is no relative pronoun in Kiswahili. The relative marker is analyzed as occupying C°. In English, however, there are relative pronouns such as *who* and *which* and there is the complementizer *that*. In the raising analysis, the relative pronoun cannot be a full pronominal DP, as noted by Kayne [1994] and Bianchi [1999]. It must be an indefinite determiner which does not raise with the head out of the relative clause. It is possible that absence of relative pronouns in Kiswahili and other Bantu languages is related to the type of indefinite determiners found in those languages. Future research is necessary to evaluate this proposal.

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