Tense Encoding, Agreement Patterns, Definiteness and Relativization Strategies in Changana

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1. Introduction

Changana, also referred to as Xitchangana in the literature, is one of the several native languages catalogued by the Geographic Atlas of Mozambique. The language belongs to the Bantu branch of the Niger-Congo languages and is mainly spoken in the Gaza District and in Maputo, in the southern region of Mozambique. Changana is also spoken in some of the countries that lie along the boundary line of Mozambique, such as South Africa and Zimbabwe. According to recent data, the most frequently spoken language in Mozambique is Emakhuwa (26.3%), the second most spoken is Changana (11.4%), and third most spoken is Elomwe (7.9%).[1] Zerbian (2007:64) considers Changana a dialect of Xitsonga. According to her, "Xitsonga is spread over a wide area in the South-Eastern part of Southern Africa. It is one of the eleven official languages of South Africa, it is widely used in southern Mozambique as a lingua franca (…) and is also spoken in Zimbabwe. It is spoken by 1,992,207 people in South Africa (*Statistics South Africa* 2004) and by 1,379,045 in Mozambique (INDE 1997)." Though quite similar, Changana presents some grammatical peculiarities that make it slightly different from Xitsonga.

This paper will present an analysis of the structure of independent and relative clauses. Then, in the next sections, the analysis will focus on themes such as the verb-subject agreement, the close connection that exists between definiteness and object shift in topic constructions, and the structure of the wh-questions. An additional goal is to explain why the tense encoding in the relative clauses differs from those found in independent clauses. This difference becomes particularly evident when we compare the verbal morphology of the relative clauses with the one found in the nonsubordinate clauses.[2] The relevant data appear in (1) and (2).

(1a)	yena	a-dla-∅	pawa
	he	CL1-eat-PRES	bread
	"He eats (some) bread."		

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[1] For more detailed literature on Changana, refer to Junod (1932), Baumbach (1987), and Sitoe (2000, 2001).

[2] During the analysis, the label "nonsubordinate clauses" will be used to refer to those sentences that can be realized either as independent or as main. In general, the grammatical tradition presents at least two main types of clauses, as follows:

(i) independent (main) clauses, which need nothing further, or
(ii) dependent (subordinate/relative) clauses which need, or are subordinate to, an independent clause.

 Selected Proceedings of the 40th Annual Conference on African Linguistics, ed. Eyamba G. Bokamba et al., 80-94. Somerville, MA: Cascadilla Proceedings Project.

(1b) na-mu$_i$-tiva-∅ a mufana$_i$ lweyi a$_i$-dla-ku pawa
1SG-him/CL1-know-PRES DEF boy-CL1 this-CL1 CL1-eat-REL bread
"I know the boy who eats (some) bread."

(2a) a mufana a-dl-ile pawa
DEF CL1-boy CL1/3SG-eat-PAST bread
"The boy ate (some) bread."

(2b) na-mu$_i$-tiva-∅ a mufana$_i$ lweyi a-nga-dla pawa
1SG-him/CL1-know-PRES DEF boy/CL1 who-CL1 CL1-REL-eat bread
"I know the boy who ate (some) bread."

Notice that the tense encoding clearly varies depending on the grammatical nature of the sentence. For this reason, I will assume hereafter that the affixes {-nga-} and {-ku} make part of the relative clause formation strategy, whereas the affixes {-∅} and {-ile} are restricted to the contexts of nonrelative clauses. Based on these facts, during this analysis I will evaluate whether the distribution of the verbal affixes {-nga-} and {-ku} may be viewed as a grammatical reflex of how the finiteness and tense features are encoded in the C/TP domain in relative clauses.

This paper is organized in four sections. Section 1 focuses on the structure of independent clauses, examining topics such as subject inversion in impersonal constructions, the definiteness effect in topicalized constructions, and the structure of the wh-words. Section 2 is devoted to showing the strategies of relative clause formation. Section 3 discusses the grammatical status of the affixes {-nga} and {-ku} in order to examine their connection to the tense and finiteness encoding in the CP level of the relative clauses. Finally, section 4 summarizes the analyses and concludes the paper.

2. Independent Clauses

In independent clauses, the verb stems can combine with both prefixes and suffixes. The prefixes comprise the ones related to the subject agreement, the tense morphemes, the negation, and to the object agreement, whereas the suffixes are the ones related to tense and negation. The agglutinative structure yields the following linear order of the morphemes:

(3) {Agrs+tense/negation+Agro+VERB+tense/negation}

In general, a finite verb presents the following set of subject agreement prefixes. In the paradigm below, the third person prefix will vary depending on the nominal classes to which the D/NP[3] in the subject position belongs.

(4a)

SINGULAR		PLURAL	
ni-	"I"	hi-	"we"
u-	"you"	mu-	"you"

[3] During the analysis, I will be assuming the DP-hypothesis, according to which the noun phrase is a determiner phrase. This view entails that an NP designates a subpart of the noun phrase and is often considered to be the complement of the determiner. This proposal contrasts with the traditional view that determiners are specifiers of the noun phrase. For this reason, I will consider nouns not determiners, but the heads of noun phrases. Therefore, the syntactic label D/NP intends to capture the fact that an NP usually projects a functional category DP to encode features such as [+/-definite], as the configuration below indicates:

(i) $[_{DP} \ldots [_{D} \ldots [_{NP} \ldots [_{N} \ldots]]]]$

(4b)	SINGULAR			PLURAL	
class 1:	a-	“he”	class 2:	ṽa-	“they”.
class 3:	u-	“he”	class 4:	yi-	“they”.
class 5:	li-	“he”	class 6:	ma-	“they”.
class 7:	yi- ~ li	“he”	class 8:	ti-	“they”.
class 9:	xi-	“he”	class 10:	swĩ-	“they”.

Thus, a verb like *ku famba*, “to walk, go,” will have the following morphological paradigm to convey the present, past, and future tense. Notice that the present tense remains morphologically unmarked, while the past and future tenses are marked by the suffix {-ile} and by the prefix {ta-}, respectively.

(5) **PRESENT**

mina	ni-famba-∅	“I am walking (now)”
wena	u-famba-∅	“you are walking (now)”
yena	a-famba-∅	“he is walking (now)”
hina	hi-famba-∅	“we are walking (now)”
nwĩna	mu-famba-∅	“you are walking (now)”
ṽona	ṽa-famba-∅	“they are walking (now)”

(6) **PAST**

mina	ni-famb-ile	“I walked”
wena	u-famb-ile	“you walked”
yena	a-famb-ile	“he walked”
hina	hi-fambile	“we walked”
nwĩna	mu-famb-ile	“you walked”
ṽona	ṽa-famb-ile	“they walked”

(7) **FUTURE**

mina	ni-ta-famba	“I will walk”
wena	u-ta-famba	“you will walk”
yena	a-ta-famba	“he will walk”
hina	hi-ta-famba	“we will walk”
nwĩna	mu-ta-famba	“you will walk”
ṽona	ṽa-ta-famba	“they will walk”

In unmarked SVO sentences, the verb usually agrees with the subject in person, number, and noun class. The examples below show the occurrence of the tense morphemes to convey the present, past, and future.

(8) **PRESENT TENSE**

Mary	a-fundha-∅	xitchangani
Mary	CL1-study-PRES	Changana

“Mary studies Changana.”

(9) **PAST TENSE**

a	mudondzici	a-hanan-ile	a	buku	ka	wansati
DET	teacher -CL1	CL1-give-PAST	DET	book	to	woman

“The teacher gave the book to the woman.”

(10) **FUTURE TENSE**

a	mufana	a-ta-dla	pawa
DET	boy-CL1	CL1-FUT-eat	bread

"The boy will eat (some) bread."

The next subsection will show the correlation between topicalization and definiteness in Changana. The assumption will be made that the definite particle **a**, which usually precedes D/NPs, encodes that the constituent is taken as specific and old information in the discourse.

2.1. Definiteness and Topicalization

In the sentence (8), repeated below as (11), if we move the object to a topic position, it will receive the definite particle **a**. Nonetheless, when the object does not occur with the definite particle and is not moved to Spec-ToP, as in (11), only the indefinite interpretation is achieved. These facts suggest that in Changana, topics, when left dislocated, tend to be followed by the definite particle **a** as shown in (12). This analysis also shows that topicalized objects will necessarily be interpreted as old information.

(11)

Mary	a-fundha-∅	xitchangani
Mary-CL1	CL1-study-PRES	Changana

"Mary studies Changana."

(12)

a	xitchangani$_i$	Maria	a-fundha-∅	t_i
DEF	Changana	Maria	CL1-study-PRES	

"Changana, Mary studies."

A similar contrast is obtained in the semantic contrast shown in (13a-b), in which the specific and identifiable noun phrase triggers the anaphoric pronominal clitic on the verb, while the indefinite noun phrase does not trigger the agreement on the verb, nor is it preceded by the definite particle.

(13a)

na-mu$_i$-tiva	a	mufana$_i$
1SG-him/CL1-know	DET	boy

"I know the boy."

(13b)

ni-tiva	mufana
1sg-know	boy

"I know (a) boy."

Based on these empirical data, I contend that the main role of the particle **a** is to indicate that the noun phrase to which it co-occurs must be both definite and specific. Hence, the semantic effects obtained in the examples above, regarding the definiteness feature of the objects in transitive sentences, bring further evidence to the theoretical proposal advanced by Givón (1972), Bokamba (1976, 1979), Bresnan & Mchombo (1987), Machobane (1987), Demuth & Mmusi (1997), Demuth & Harford (1999). These scholars propose that postverbal or VP-internal material in Bantu languages tend to receive new information or focus interpretation, whereas preverbal elements such as relativized DPs and definite and specific DPs function as old information, usually occupying topic positions. Therefore, the syntax of the definite particle **a** will constitute one of our most direct tools for diagnosing when a particular phrase is definite or not in Changana.

2.2. Subject-Inversion Constructions

Changana allows subject inversion in unaccusative and existential constructions. In such contexts, the verb shows a subject concord marker of class 17, the subject is positioned after the verb, and there is no verb agreement with the post-verbal subject, as shown in examples (14b) and (15b). Following

Zerbian (2007:70), I will assume, hereafter, that Class 17 prefix,[4] originally reserved for locative expressions, is used as default prefix in the unaccusative and existential constructions.

(14a) timhaka ti kona hi xitchangani
CL8-problems CL8- exist on Changana
"Problems are/exist on Changana."

(14b) ku ni timhaka hi xitchangani
CL17 exist CL8-problems on Changana
"There are problems on Changana."

(15a) ti-fundho ta kala hi xitchangani
CL8-study CL8 lack on Changana
"Studies do not exist on Changana."

(15b) ku kala ti-fundho hi xitchangani
CL17 lack CL8-study on changana
"There are not studies on Changana".

Just as the Changana examples above, Xitsonga also exhibits logical subjects in postverbal positions in impersonal construction (see Zerbian 2007:70 for a more detailed analysis of this theme). In this construction, there is no subject agreement of the verb, but only the default concord.

(16) *ku n'wi nghena.
CL 17 CL 1 enter
Intend: "There enters he."

(17) ku nghena yena.
CL 17 enter she-CL1
"There enters she (nobody else)."

(18) ku tirha vava-nuna, kungari vava-sati.
CL 17 work CL 2-man but CL 2-woman
"There are working men, not women."

In Changana, the subject inversion is also possible in transitive clause, particularly in interrogative clauses when a wh-word refers to the D/NP in the syntactic position of the subject. In such situations, the subject inversion is obligatory and the subject concord marker of class 17 **ku** precedes the verb. Nevertheless, there is no agreement between the verb and the subject, only the default agreement. Additionally, if we move the wh-word to the CP region, the sentence becomes ungrammatical, as is shown by the contrast below.

(19a) ku dl-ile mani pawa
EXPL eat-PAST who bread
"Who ate bread?"

(19b) *mani a-dl-ile pawa
who CL1-eat-PAST bread
"Who ate bread?"

[4] Zerbian (2007:70) assumes that, in impersonal construction in Xitsonga, "the verb shows a subject concord marker of class 17." She also points out that "Class 17 was originally reserved for locative expressions, but is used as default prefix also in the other Southern Bantu languages like Nguni and Sotho."

Contrary to the syntactic behavior of the wh-words, topicalized DPs can undergo movement from complement position to Spec-ToP, without making the sentence ungrammatical. In this case, the subject must remain in a post-verbal position.

(20) a pawa ku dl-ile mani
DEF bread EXPL eat-PAST who
"THE BREAD, who ate?"

(21) a pawa ku ta-dla mani
DEF bread EXPL FUT-eat who
"THE BREAD, who will eat?"

These examples clearly demonstrate that the particle **a** marks that the topicalized object is specific and definite, a situation that clearly favors the analysis, outlined above, according to which only definite phrases, usually those carrying old information, can move to Spec-ToP. Nonetheless, although the topicalized objects do trigger subject inversion in transitive construction, they cannot agree with the verb, as opposed to what happens in other Bantu languages. Bokamba (1976, 1979) and Henderson (2006) point out that, in Dzamba, when objects are topicalized, there occurs subject inversion and the agreement between the verb and the object is necessary, as is given in (22).

(22) Imukanda$_i$ **mu$_i$**-tom-aki omwana. Dzamba
5 letter 5 AGR-send-PERF 1child
"The letter, the child sent it."

(Bokamba 1976)

Though not identical to the agreement pattern found in Dzamba, Changana also allows the verb to agree with topics, but only in locative constructions. In such contexts, when a locative phrase occurs in topic position, there occurs subject inversion and the verb must agree with the locative by means of the locative prefix **ku** of class 17.

(23) a ka masimu$_i$ lawa$_i$
DEP LOC-CL17 field-CL6 this-CL6

ku$_i$ humelela wa-nuna
CL17 appear CL1-man
"At these fields there appears a man."

The fact that the locative phrase is preceded by the definite particle **a** serves once again as another piece of evidence for assuming that this constituent is indeed in a topic position, and not internal to the predicate.

2.3. Wh-questions

The structure of the wh-questions in Changana is relatively simple. The basic interrogative sentences leave all the wh-words in situ, a constraint that entails that the alternative of fronting the wh-words to the initial position, as happens in English and in Portuguese, does not exist in Changana. In general, wh-words must be retained in the thematic position where they are initially merged. The following examples illustrate this grammatical pattern.

(24a) u-dla xini? [-habitual]
you-eat what?
"What are you eating?"

(24b) ni-dla nkompfa [-habitual]
I-eat banana
"I am eating banana."

(25a) u-famba siku muni
2SG-go day what
"What day are you going?"

(25b) ni-famba mundzuku
1SG-go tomorrow
"I am going tomorrow?"

(26a) u-tshama kwihi
2SG-live where
"Where do you live?"

(26b) ni-tshama kola (kola = kona + lana)
1SG-live here
"I live here."

Based on these data, a natural assumption is that Changana can be typologically classified as a wh-in-situ language. The side effect of this is that a wh-word functioning syntactically as the subject of the sentence will not be allowed to come in sentence initial position, as the ungrammaticality of the examples below suggest.

(27) *Xini u-dla
what you-eat
"What are you eating?"

(28) *Mani a-famba?
who CL1-wallk
"Who is walking?"

The way of preventing the ungrammaticality above is to place the wh-subject after the lexical verb and to insert the expletive particle **ku** in what seems to be the subject position, as is illustrated by the example below.

(29) **ku** famba mani?
EXP walk who
"Who is walking?"

A possible explanation for the patterns just outlined is to hypothesize that the movement of the wh-pronouns is delayed, until LF. Chomsky (1995:291) argues that, when the head C^o of a language has weak Q feature, the structure will reach PF without essential change. Thus a wh-pronoun will remain in situ at PF (and also at LF). In such a situation, the wh-feature does not adjoin to Q; both are interpretable and need not be checked for convergence. According to Chomsky's theory, "languages commonly have wh-in-situ (…). They must, then, employ an alternative interpretive strategy for the construction Q[…wh…], interpreting it, perhaps, as something like unselecting binding." Nonetheless, because of limitation of time and space, I will leave this topic open for a future investigation. As for the tense morphology, there is no difference with the affirmative independent clauses, as the verbs in wh-questions receive the same affixes that also occur in the non-interrogative clauses. The following examples show the occurrence of the morphemes {-ile} and {-ta} in interrogative sentences.

(30) u-dl-ile xini?
you-eat-PAST what?
"What did you eat?"

(31) u-ta-dla xini?
you- FUT- eat what?
"What will you eat?"

3. Relative Clauses

This section is specifically devoted to presenting an analysis of the strategies of relative clause formation in Changana.[5] According to Keenan and Comrie (1977:64), there occur at least two strategies for forming the relative clauses, as follows:

(i) the head occurs to the left of the restricting clause (postnominal relative clause strategy).

(ii) the head occurs to the right (prenominal relative clause strategy).

Based on the example (32) below, one can conclude that Changana does select the option (i), inasmuch as the relativized noun is positioned before the restricting relative clause.

(32)	a	xi-ngove$_i$	le-xi$_i$	ni-nga-ta-xi$_i$-vona
	DET	CL9-cat	this-CL9	I-REL-FUT-it/ CL9-see

xi$_i$-dla nyama
CL9-eat meat
"This cat that I will see (it) eats meat".

Moreover, the verb morphology in the relative clauses is usually extended with two relative affixes: the prefix {-nga} and the suffix {-ku}. The head noun is usually referred inside the relative clause through a pronominal clitic or a subject prefix, depending on whether the head noun has the role of subject or object. The relativized noun is followed by a relative marker, whose morphological form is identical to the demonstrative pronouns. Therefore, regarding the fact that there are specific inflectional morphemes for singular and plural for each noun class, at least ten different demonstratives emerge in the system, as indicated below.

(33)	SINGULAR	PLURAL	
meaning	"this"	"these"	
	Class 1: lweyi	Class 2:	laṽa
	Class 3: lowu	Class 4:	leyi
	Class 5: leli	Class 6:	lawa
	Class 7: leyi	class 8:	leti
	Class 9: lexi	class 10:	lesw̃i

In subject and (in)direct relative clauses, Changana patterns in all relevant ways with other Bantu languages such as Sotho, Tsonga and Nguni in that the relativized noun usually agrees with the relative marker. Thus, Changana uses the same strategies as Sotho, Tsonga, and Nguni in that the subject agreement morphemes are used on the verbal stem to refer to the relativized noun. Compare the Changana examples with the Tsonga, Sotho, and Nguni examples.

[5] I will assume throughout the analysis that the semantic-based definition proposed by Keenan and Comrie (1997:63), according to whom a role of a relative clause is to specify "a set of objects . . . in two steps: a larger set, called the domain of relativization, and then restricted to some subset of which a certain sentence, the restricting sentence is true."

A. CHANGANA

(34a) **INDEPENDENT CLAUSE**

a	mudondzici	a-hanan-ile	a	buku	ka	wansati
DET	teacher- CL1	CL1-give-PAST	DET	book	to	woman

"The teacher gave the book to the woman."

(34b) **SUBJECT RELATIVE CLAUSE**

a	mudondzici	lweyi	a-nga-hanana	a	buku	ka	wansati
DET	teacher- CL1	REL-CL1	CL1-PAST-give	DET	book	to	woman

"The teacher that gave the book to the woman."

B. TSONGA

(35) **SUBJECT RELATIVE CLAUSE**

munhu	[*loyi*	a-famba-ka]
person1	REL-CL1	3CL1-travel-REL

"A person who travels . . ."

(Doke, 1954: 204)

C. SOUTHERN SOTHO

(36) **SUBJECT RELATIVE CLAUSE**

ngwana	[*ya*	bala-ng	hantle]
child-1a	REL-1a+SP1a	read-REL	well

"The/a child who reads well . . ." (Zeller, 2004:77)

D. NGUNI (ZULU)

(37) **SUBJECT RELATIVE CLAUSE**

indoda	[*e*-hleka	kakhulu]
man9	REL9-laugh	a lot

"The man who laughs a lot . . ."

(Zeller, 2004:79)

Similar to the subject relative clauses, there are obvious similarities between the indirect and direct relative clauses in Changana and those in languages like Twana and Tsonga. In all three, the head noun is followed by a relative marker and the syntactic role of the head noun in indirect relative clauses is encoded by means of a pronominal clitic in the relative clause. Both elements, i.e., the relative marker and the pronominal clitic, agree in noun class with the head noun. Compare the examples below.

A. CHANGANA

INDIRECT RELATIVE CLAUSE

(38)

a	wansati$_i$	lweyi
DET	woman-CL1	REL-CL1

mudondzici	a-nga-mu$_i$-hanana	a	buku
teacher-CL1	CL1-REL-him/CL1-give	DET	book

"The woman (to)whom the teacher gave the book."

B. TSWANA

DIRECT RELATIVE CLAUSE

(39) monna [*yô*-batho ba-mo-nyatsa-ng]
man1 REL1-person2 SP2-him/CL1-disrespect-RS
"The man whom the people disrespect . . ."

(Zeller, 2004:77)

C. TSONGA

DIRECT RELATIVE CLAUSE

(40) buku [*leyi* munhu a yi hlaya-ka]
book9 REL-CL9 person-CL1 SP1 it/CL9 read-RS
"The book that the person is reading . . ."

(Zeller, 2004:79)

However, Changana does not always trigger the anaphoric pronominal clitic in the verb stem. This pattern clearly contrasts with the one found, for example, in Tswana. According to Zeller (2004), in Tswana, "the syntactic function of the head noun is always marked through a *pronominal clitic* inside the relative clause…. The object clitic is obligatory; without it, the constructions are ungrammatical." A similar constraint was not found in Changana, due to the fact that the object clitics are not always obligatory. For this reason, in (41), even though the anaphoric clitic is not realized in the verb morphology to refer to the relativized noun, the construction is perfectly grammatical.

DIRECT RELATIVE CLAUSE

(41) a buku leli mudondzici a-nga-hanana ka wansati
DET book-CL5 REL-CL5 teacher- CL1 CL1-REL-give to woman
"The book that the teacher gave to the woman . . ."

However, as was shown in (38) and in the examples below, Changana does allow the occurrence of a pronominal clitic in the relative clause. The immediate consequence of this is that Changana tends to assimilate indirect objects to direct objects, a fact that clearly makes this language quite similar to other Bantu languages, like Shona, Luganda, Tsonga, Nguni, Twana etc. Examples below show the relevant examples in which there appears a pronominal clitic to refer to direct object or to indirect object.

RELATIVIZATION OF THE DIRECT OBJECT

(42) a ngwana$_i$ leyi [$_{\text{relative clause}}$ ni-nga-yi$_i$-rhandza] yi-f-ile
PART dog$_i$ -CL7 this-CL7 I-REL -him/CL7$_i$-love CL7-die-PAST
"This dog (that) I loved (him) died."

RELATIVIZATION OF THE INDIRECT OBJECT

(43) a wanuna$_i$ lweyi ni-nga-mu$_i$-yiv-ela a penicela
PART man-CL1 this-CL1 I-REL-him/CL7-buy-from PART pencil

a-ṽaṽisek-ile
CL1-unhappy-PAST
"The man from whom I stole the pencil is unhappy."

As for the grammatical status of the (demonstrative) relative markers, I will assume that they have grammaticalized as complementizer. A clear piece of evidence in favor of this analysis comes from the example in (44). In such a context, the relative marker co-occurs with a demonstrative pronoun that modifies the head noun, so that only the first demonstrative semantically scopes over the relativized noun. Additionally, the demonstrative *lweyi*, "this," is associated with the head noun by means of the agreement particle **wa**. In general, the role of this particle is to signal syntactic dependencies inside complex DPs. As for the other demonstrative (= the one that functions as the relative marker), I will hypothesize that it corresponds to the complementizer that introduces the relative clauses, as follows.

(44) a lweyi wa mufana luwiya a-nga-diba ni basekeni
DEP this-CL1 CL1 boy that-DIST 3CL1-REL-fall with bycicle
"This boy that fell down with the bicycle."

Finally, given the data presented thus far, I will argue that Changana relative clauses do not exhibit the V2 effect that is usually found in relative clauses of many Bantu languages. In general, this constraint requires that subject-verb inversion is obligatory, when the direct object or the indirect object is relativized (see Demuth and Harford 1999 for an overview and useful discussion). Although Changana does not present the V2 effect in relative clauses, in cleft interrogative sentences there exists a possibility of subject inversion in a way quite similar to the one found in the independent clauses shown in subsection 1.2. Let's assume that cleft, in Changana, is a two-clause sentence, of which the second contains a restricting relative clause.[6] In line with this viewpoint, clefts, also with a wh-element, are just another environment in which a restricting relative clause manifests itself. However, the agreement between the verb and the cleft object is not possible. The relevant examples are shown below.

(45) I $xini_j$ xi_i dla-ku a xi_i-$harhi_i$
be what-$CL9_j$ $CL9_i$ eat-REL DET $CL9_i$-ANIMAL
"What does the animal eat?"

(46) I $xini_j$ a_i-dla-ku $Joao_i$
be what-CL9 CL1-eat-REL John/ CL1
"What does John eat?"

3.1. The Accessibility Hierarchy

As for the syntactic positions that can be relativized, Keenan and Comrie (1977:66-69) propose the accessibility hierarchy (AH), which specifies ". . . the set of grammatical distinctions to which RC formation . . . may be sensitive." The hierarchy is stated as follows:

(47) SUB> DO> IO> OBL> GEN> OCOMP[7]

This hierarchy presupposes that each position on the AH is to be understood as specifying a set of possible grammatical distinctions that a language can make. It also postulates that the subject occupies a higher position, while the object of comparison is positioned lower. In order to capture the fact that some syntactic positions are more accessible than others, Keenan and Comrie (1977:67–68) propose the following constraints:

(48) (a) A language must be able to relativize subjects;
(b) Any RC-forming strategy must apply to a continuous segment of the AH;
(c) Strategies that apply at one point of the AH may in principle cease to apply at any lower point.

Based on these constraints, I contend that Changana is able to relativize lower positions in the accessibility hierarchy (AH), such as oblique positions (= indirect object, locative phrase and genitive). For this reason, as we descend the Acessibility Hierarchy, Changana exhibits a greater tendency to use anaphoric (resumptive) pronouns in the position from which the head nouns of relative clauses move. This fact clearly confirms one of Keenan and Comrie's typological predictions, according to which the

[6] I would like to thank one of the reviewers to have called my attention to the fact that cleft constructions are just another environment in which restricting relative clauses may occur.

[7] Keean and Comrie (1977:66) proposes that "> means 'is more accessible than'; SUB stands for 'subject'; DO for 'direct object'; IO 'indirect object', OBL for 'major oblique case NP (. . . ; GEN stands for 'genitive' (possessor) (. . .); and OCOMP stands for 'object of comparison' (. . .)"

relative clause-forming strategy must apply to a continuous segment of the AH and tend to use anaphoric (resumptive) pronouns, especially when it relativizes the lower positions, as is the case of the oblique and the genitive in the sentences below.

OBLIQUE

(49) a yindlo$_i$ leyi$_i$ [$_{\text{relative clause}}$ ni-tsama-ku ka yona$_i$]
PART house$_i$-CL7 this- CL7 1SG-live-REL CL6 there$_i$

yi-sul-iwa hi nthombhi
CL7-clean-PASS by the girl
"The house where I live (there) is cleaned by the girl."

GENITIVE

(50) a buku$_i$ leli$_i$ ni-tiva-ku vito la lona$_i$ i li-tsongo
PART book/CL5 this-CL5 I-know-REL title/CL7 CL7 it- CL5 is CL5-small
"The book whose title I know is small."

Since, in the examples above, the lower positions in AH may be easily relativized, one can predict that the strategy of using anaphoric resumptive pronoun retention will be particularly triggered whenever the lower positions such as indirect objects, oblique and genitive, are accessed in the relative clause-forming strategies. The following table supports this prediction and shows that the relative clause-forming strategies of Changana are quite similar to those used by languages such as Aoban, Arabic, Batak, Genoese, Hausa, and Hebrew.

(51) **Patterns of Pronoun Retention and Object Agreement in Relative Clauses**

	SUB	DO	IO	OBL	GEN	OCOMP
Changana	-	+	+	+	+	?
Aoban	(+)	+	+	+	+	+
Arabic	-	+	+	+	+	+
Batak	-	0	+	+	+	
Genoese	-	(+)	+	+	+	
Hausa	-	-	+	+	+	-
Hebrew	-	+	+	+	+	+

[Adapted from Keenan and Comrie (1977:-92-93)]

4. On the Grammatical Status of the Relative Affixes -nga- and –ku

As was shown in the previous sections, independent and wh-questions usually employ the affixes {-∅} and -{ile} for indicating present and past tense, respectively. Nevertheless, a different paradigm emerges in the relative clauses, since the affixes {-∅} and {-ile} do not occur on the subordinated verb to encode present and past. Alternatively, the relative affixes {-nga-} and {-ku} are used to encode features related to the temporal meaning of the sentence. This becomes particularly clear when we examine the temporal contrast in the sentences below.

CLEFT CONSTRUCTIONS IN THE PRESENT

(52) I mani a-famba-ku
be who CL1-go-REL
"Who goes?"

CLEFT CONSTRUCTIONS IN THE PAST

(53) I mani a-nga-famba
be who CL1-REL-go
"Who went?"

RELATIVE SENTENCE IN THE PRESENT

(54) a yindlo$_i$ leyi$_i$ ni-tsama-ku ka yona$_i$
DET house /CL7 this/CL7 1SG-live- REL CL17 there

yi-sul-iwa hi nthombhi
CL7-clean-PV by the girl
"The house where I live (there) is cleaned by the girl."

RELATIVE SENTENCE IN THE PAST

(55) a moṽa lowu ni-nga-xava u-sasek-ile
PART car/CL3 this/ CL3 I- REL-buy CL3-beautiful-PAST
"This car (that) I bought is beautiful."

NONSUBORDINATE CLAUSE

(56a) ni-ta-vona xi-ngove
I-FUT-see CL9-cat
"I will see the cat."

RELATIVE SENTENCE IN THE FUTURE

(56b) a xi-ngove$_i$ lexi ni-nga-ta-xi$_i$-vona xi-dla nyama
DET CL-cat this-CL9 I-REL-FUT-him/CL9-see CL9-eat meat
"This cat that I will see (it) eats meat."

Based on the data above, the assumption is made going forward that the grammatical role of the relative affixes {-ku} and {nga-} is twofold: (i) to encode the finiteness features of the sentence; and (ii) to convey that the sentence is relative. This entails that these markers function as a kind of complementizer which is located in a lower functional position in the CP region. Given the more articulated CP structure postulated by Rizzi (1997), I will propose that this position corresponds to the head of FinP. In line with this, I will hypothesize that the tense and finiteness features of Changana relative clauses may reside in the head Fin^o and not always in the head T^0.[8] If this analysis is correct, the relative morphemes must be taken as the morphological instantiation of the head of FinP. This proposal is reinforced by the syntax of cleft constructions. Assuming that cleft constructions do involve a restricting relative clause, a natural assumption is to posit that the inverted subject occupies Spec-TP, while the finite verb undergoes movement to the head Fin^o. The fact that the verb presents the nondefault agreement in this construction is clear evidence that the nominative Case is really assigned to the subject in the Spec-TP. The relevant examples of subject inversion are repeated below.

(57) I xini xi$_i$ dla-ku a xiharhi$_i$
be what/ CL9 CL9 eat-REL DET CL9-ANIMAL
"What does the animal eat?"

(58) I xini a$_i$-dla-ku Joao$_i$
be what-CL9 CL1-eat-REL John
"What does John eat?"

[8] Henderson (2007:174) assumes that features that are responsible for relativization and wh-movement generally reside in C while features associated with inflection reside in T. Considering that Fin is ambiguously a member of both the N-domain and the T-domain, we can imagine that just as clauses differ with regard to the locus of the features associated with a complementizer (in Force or in Fin), they may also differ with regard to the locus of features associated with inflection." Based on this theory, Henderson (2007:174) proposes the follow morphological parameter:

(i) INFL Position Parameter: INFL features may reside in T or Fin.

Another piece of evidence has to do with the fact that in some Bantu languages, complementizers do participate in the tense encoding of the relative clause. This is the situation of the relative markers in Venda whose overt forms depend on the tense of the relative clause. Zeller (2004:81-82) observes that, in Venda, the perfect tense require the short form ***dze***, while the present tense requires the regular form **dzine** of the complementizer.[9] Compare the examples below.

(59) nngwa [*dzine* dza huvha]
Dogs10 RCOMP10 RP10 bark
"The dogs which bark"

(Zeller, 2004:80)

(60) nngwa [*dze* dza huvha]
dogs10 RCOMP10 SP10 bark
"The dogs which barked"

(Zeller, 2004:82)

The difference between Venda and Changana is that the former employs the free relative complementizers *dzine* and *dze*, whereas the latter uses the relative affixes {-nga-} and {-ku}. Thus, both the complementizers in Venda and the relative affixes in Changana seem to spell out tense features associated with the head Fin^{o}. Thus, one way of giving a more precise theoretical status for the contextual distribution of the relative affixes in Changana is to assume that they realize the head Fin^{o}. If this is correct, then a natural assumption is to assume that the tense features of the head T^{o} is directly determined by the features of the higher head Fin^{o}. This assumption, in turn, conforms to one of the recent observations within the minimalism, according to which CPs are phases, the locus of determination of structural Case, whereas TP is not necessarily a phase, since "*it operates as a probe only derivatively by virtue of its relation to C*" (see Chomsky 2004). This analysis, in turn, allows us to propose that definite subjects in noninverted sentences move to Spec-ToP in Changana. This proposal conforms to Letsholo's (2003) theory, according to which overt subjects in some Bantu languages are topics residing in the CP domain, rather than structural subjects sitting in Spec-TP.

5. Final Remarks

The main purpose of this article was to give a general overview of the structure of independent and relative clauses in Changana. Additionally, the analysis shows that subject inversion is possible in unaccusative, existential and transitive constructions. However, in such contexts, there is no subject agreement on the verb, but the default concord. It was also proposed that definiteness is the relevant feature for allowing noun phrases to occur in topic positions. As for wh-questions, Changana can be typologically classified as a wh-in-situ language, as wh-pronouns are not moved to the left periphery of the sentences. In relative clauses, Changana uses resumptive pronoun and anaphoric clitic agreement to refer to the head noun in object and oblique syntactic position. It was discussed that D/NPs that occupy lower positions in the Accessibility Hierarchy can be relativized. This confirms one of Keenan and Comrie's typological predictions, according to which, when the lower syntactic positions are relativized, languages tend to use returning pronouns. Finally, the analysis shows that the occurrence of the affixes {-nga-} and {-ku}, both in relative and in cleft constructions, can be viewed as an instantiation of tense features in the CP domain. More precisely, this data proves that theses affixes are an instantiation of the higher head Fin^{o}.

[9] Zeller points out that a similar requirement also occurs in English, as the choice of the complementizers **that** and the preposition **for** is dependent on whether the clause is tensed or not, as follows.

a. I asked *for* him to drink his beer.
b. I know *that* he drinks beer.

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