Original Article

Binding Connectivity in Kipsigis Copula Clauses

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ABSTRACT

Research in language typology is geared towards explaining and describing the facts of natural language structure. Several linguists have developed an interest in the study of copula clauses in various languages. In linguistics, a copula (plural copulas or copulae; abbreviated COP) is a word or phrase that links the subject of a sentence to a subject complement. This study aimed to investigate the binding connectivity of copula clauses in Kipsigis. Kipsigis is a Nilo-Saharan language of the Kalenjin language subgroup spoken by approximately 1.9 million people, according to the 2019 Census. The Kipsigis are the southernmost of the Kalenjin people. They inhabit the current administrative counties of Kericho and Bomet, but they also live in parts of Nakuru, Nandi, Uasin Gishu and Narok counties. The main objective of the study was to investigate the binding connectivity of Kipsigis copula clauses. This research was based on Chomsky's Minimalist program, which has a track record of effectively analysing diverse language structures. As a result, it appears reasonable to apply this model to investigate copula clauses in the Kipsigis dialect. The approach emphasises using concise representations in linguistic analysis and descriptions, ensuring that syntactic specifications and derivational procedures contain only the necessary elements. The study adopted a descriptive research design and the data was collected through self-introspection and triangulation. This study established that Kipsigis has only one copula element ko. In the literature of Binding theory, binding principles do not apply to Kipsigis copula clauses, where the two phrases flanking the copula come into the structure with the same index. It also shows that Kipsigis copula clauses exhibit different behaviour with regard to copula constructions. That is, connecting two referential expressions with the copula means that the same reference is given to both of them hence violating the principles of Binding Theory. This implies that the study of any human language is important for its own sake. The findings from this study can be also used in linguistic analysis of copula clauses in future studies.

INTRODUCTION

Kipsigis is a Nilo-Saharan language of the Kalenjin language subgroup spoken by approximately 1.9 million people, as recorded in the 2019 Census. As the southernmost group of the Kalenjin people, the Kipsigis inhabit the administrative counties of Kericho and Bomet, with additional populations in Nakuru, Nandi, Uasin Gishu, and Narok counties. Linguistically, Kalenjin consists of several dialects, including Nandi, Terik, Kipsigis, Marakwet, Keiyo, Pokot, Tuken, Sebei, and Kony (Towett, 1979). Chesaina (1991) notes that these dialects exhibit mutual intelligibility, with geographic proximity influencing the degree of comprehension among speakers. Specifically, Kipsigis and Nandi have a higher degree of mutual intelligibility compared to more distant dialects such as Kipsigis and Kony.

Despite previous research on the Kipsigis dialect, studies have primarily focused on internal syntax within noun phrases, particularly regarding the morphology-syntax interface in grammatical number expression and adjectival modification. Work by Kouneli (2019) and Kibet (2014) has examined verbal extensions in Kipsigis using principles of theta theory, while Diercks (2019) has analyzed the basic word order properties of Kipsigis, emphasizing predicate-initial structures and the influence of information structure on postverbal order. However, there has been no in-depth exploration of Kipsigis copula clauses, leaving a significant gap in syntactic research on this language.

The study of copula clauses is essential in linguistic analysis because the copula verb 'be' functions as a syntactic linker, joining elements without imposing overt syntactic or semantic restrictions. Previous studies have shown that in some languages, a pronoun may function as a copula alongside a verbal copula. Given the limited research on Kipsigis syntax, particularly on copula clauses, this study seeks to fill this gap by analyzing the binding connectivity of Kipsigis copula clauses.

This study is crucial for advancing the understanding of Kipsigis syntax, contributing to the broader linguistic discourse on copula constructions, and offering insights into how binding connectivity operates within these clauses. By applying X-bar theory to analyze the syntactic structures, this study aims to elucidate language-specific features of Kipsigis and enhance the theoretical framework surrounding copula constructions. The findings will be valuable to linguists interested in syntax, particularly in copula clause structures, and will contribute to future research on the Kipsigis language and related dialects.

LITERATURE REVIEW

The Binding Theory has been the focus of much research for years. It was first presented in

Government and Binding Theory by Chomsky (1981). Since the early works of Chomsky (1981), the referential status of DPs constraints their distribution. Despite the fact that these constraints are being dealt with by other mechanisms in the current Minimalist Program, they can be usefully appraised from the perspective of Government and Binding Theory, in which they were initially formulated. How these constraints are expressed in Kipsigis copula sentences is the major concern of this study. The objective is to show that copula sentences are indeed subject to mechanisms of principles of Binding Theory (Principle A, Principle B and Principle C). The principles allow descriptive basic facts. The purpose of binding theory is to give an account of the process that leads to the interpretation of the nominal and pronominal elements in languages.

Jacobson (1994) observes that the standard view of binding and binding constraints is that there are two items - a binder and bindee - and that these have to be in some particular syntactic relationship in order for binding to take place. It is, however, well known that there are many cases where on the surface the two items are not in fact in the appropriate configurational relationship, the usual solution is thus to posit some abstract level at which they are. Copula clauses are particularly illuminating in this regard since they in fact exhibit a variety of connectivity effects.

 a) Binding of reflexive within predicative constituent

What John is, is proud of himself

(Higgins 1978)

b) Binding of reflexive within an NP

What John hated was the picture of himself in the year book   (Higgins 1978)

c) Binding of "bare" reflexive

What the missile destroyed was itself.

(Higgins 1978)

In sentence (1a) the reflexive 'himself' which is within the predicative constituent 'is proud of himself' is bound by the NP 'John' in the pre-copula constituent. In sentence (1b), the reflexive 'himself' which is within an NP 'the picture of himself' is bound by the NP 'John' in the pre copula constituent. In sentence (1c) the bare reflexive 'himself' in the post-copula is bound by an NP 'Missile' in the pre-copula constituent.

There are cases of unexpected connectivity in copula clauses which is noticed in Dahl (1981) as shown in examples (2a & b)

a). The woman who every Englishman admires (the most) is his$_i$ mother.

b) The only woman that no Englishman will invite to dinner is his$_i$ mother (Jacobson 1994)

Here we find a pronoun in the post-copula constituent which is (apparently) bound by a quantified NP in the relative clause in the pre-copula constituent. This is surprising for several reasons. May (1985) observes that in certain cases involving "inverse linking" and genitive NPs - a quantified NP must c-command a pronoun that it binds. Lakoff (1970) elaborates that in order for the quantificational NP to bind the pronoun it would have to scope over it, yet it has been known since the work in Generative Semantics that a quantified NP can normally scope out of a relative clause only with great difficulty. Therefore, there are contrasts robustly as in example (3a &b).

*a).? *The woman who every Englishman likes the most killed his$_i$ mother.*

b) ? *The woman who no Englishman invited to dinner killed his$_i$ mother (Jacobson 1994)

Dahl (1981) notes that even if a quantified NP can in some cases scope out of a relative clause, this cannot be the explanation for (3). He noted that assigning the widest scope to the quantified NP in (3) does not actually give the right meaning. This is easiest to demonstrate with (3b); note that its

meaning (or at least its most prominent meaning) is not the one paraphrased as shown in example 4:

> *For no Englishman x is it the case that the only woman that x invited to dinner is x's mother.*

(Jacobson 1994)

Ruys (2000) states that there is one further striking fact about this kind of binding. It appears to be sensitive to Weak Crossover effects. He noted that the contrast between (5) and (6)

a)? *The woman who loves every Englishman the most is his$_i$ mother.*

b) ? *The woman who invited no Englishman to dinner is his$_i$ mother (Jacobson 1994)

A plausible hypothesis here is that the contrast between (5) and (6) reduces to a run-of-the-mill Weak Crossover effect as in (6a) vs. (6b):

a) *No Englishman invited his$_i$ mother to dinner.*

b) ? *His$_i$ mother invited no Englishman to dinner*
(Jacobson 1994)

On the basis of Principle C of Binding Theory, Cecchetto & Donati (2007:24) underline this fact: The canonical formulation of Principle C makes an embarrassingly wrong prediction, since (7) should be a patent violation of Principle C. In fact, it is perfectly true.

He$_i$ is John$_i$
(Cecchetto & Donati 2007: 24)

Sentences like (24) are conveniently ignored in most discussions about Principle C. Heim & Kratzer (1998) propose that equative sentences be treated in a way similar to the accidental coreference that is present in the following sentence:

Everyone likes John, Bill likes John, Mary likes John, Robert likes John. He$_i$ likes John$_i$, too.

Example (8) is rather strange and Cecchetto & Donati (2007) note that it is rather doubtful that their example (8) above could be of the same type as example (8) and that it could correspond to a case of accidental reference.

Cecchetto & Donati (2007:24) explain that Heim (1998) relies on Frege (1892) and on the fact that a sentence with equative can have a reading "a = a", which is not informative, and a reading "a = b" which is informative. She proposes to associate this reading "a= b" with an analysis in terms of "guises": the same individual can take various appearances, thus the sentence with equative would associate two different appearances or "guises" of the same entity and in this way is not blocked by Principle C (Schlenker, 2003).

Cecchetto & Donati (2007:24) conclude that even if Heim's approach could be extended to the informative reading, it would have nothing to say about the tautological reading of equative sentences, which is not ruled out, contrary to what the standard formulation of Principle C predicts. Furthermore, as acknowledged by Schlenker, this approach runs into the risk of opening a Pandora's box. If we introduce guises to explain the absence of binding violations in equative sentences – why couldn't we always introduce different implicit descriptions to refer to a given individual, thus circumventing any kind of binding-theoretic violation? The problem of Principle C in copula sentences was raised by Fiengo & May (1994) but quickly rejected. Their argument relates to the following sentence, which is their example:

Griswold$_i$ is [the best cook of the town]$_j$
(Fiengo & Mays 1994:22)

Fiengo & May (1994:22) comment on this fact in the following way: Now, since the referents of NP1 and NP2 are the same. But clearly, we do not want to impose it as a grammatical requirement that i = j, since then would be analytic, because it would be a part of the meaning determined by its linguistic form that the NPs in this sentence corefer. When coupled together with the meaning of the verb be, this will make (9) in effect to the form a = a, and hence uninformative. Thus, Fiengo & May propose

that the two XPs (NPs in their words) do not bear the same index so that Principle C of Binding Theory is respected:

As we have stated matters, it only follows that a sentence of the form 'NP_i'be NP_j'(with i ≠ j) does not carry as part of its meaning that NP_i and NP_j are coreferential by virtue of the interpretation of indices, just as it is not part of the indexically determined meaning of NP_i saw NP_j or NP_i hit NP_j. (Fiengo & May, 1994) Conclude that an indexing of equative statements can be consistent with Principle C; hence they can be informative since coreference is not indexically required as part of their meaning. And since non-coreference is not the interpretation of non-coindexing, they can be true (Fiengo & May 1994). The analysis of Fiengo & May concerning the copula sentences with equative seems to pose a certain number of questions among which: (i) what can be said about tautologies? and (ii) the indices are only a formalism for coreference, therefore indexing belongs to interpretation. Where and when does Principle C apply? Under Fiengo & May (1994), there would be no presupposition of coreference for the two terms since coreference is asserted by the sentence, and thus coreference would be external to the binding. This explanation seems to us to be a pirouette: considering Fiengo & Mays's, if we replace the verb *is* by *likes* the sentence is out if '*Griswold*' and '*the best cook of the town*' are the same person.

Griswold_i likes [the best cook of the town]_I
(Fiengo & Mays 1994:22)

Here, there would be a presupposition: the indices show that we already know that '*Griswold*' and '*the best cook of the town*' are the same person. But what is at stake here is precisely the difference in semantics between the two verbs *'to be'* implies the coreference, and it imposes the same indices to the two XPs as a part of the derivation. We do not need a presupposition, because the semantics of '*to be* 'supposes that the two XPs are one and the same. Even though we would go for the argument of no

presupposition with '*to be'*, Macià (1996: 97) shows in a very convincing way that this argument cannot hold: on the basis of the sentence "*This man is Higginbotham*" said to somebody who does not know Higginbotham (thus the presupposition here would hold, '*this man*' and '*Higginbotham*' are each introduced with a different reference and the assertion makes it possible to say that they correspond to the same person). The person to whom this sentence is addressed answers "*Yes, certainly he is Higginbotham*". Consequently, now, the two interlocutors know precisely that *he* and *Higginbotham* are coreferential. Macià proposes to repeat several times the sentence "*He is Higginbotham*", a situation that the author admits being more or less bizarre, but possible, and the sentence remains good, although the presupposition is clearly posed: *He* and *Higginbotham* are coreferential. Pereltsvaig (2001) makes an interesting attempt to solve the problem, while she assumes the same premises as the present study: the two XPs flanking the copula come into the structure with the same index, Binding Principles apply in syntax, and they apply to copula sentences. Her analysis is based on the syntactic configuration of *be*-sentences, and on the nature of the Small Clause (bare or rich).

METHODOLOGY

The researcher used self-introspection since the researcher is a native speaker of the language and also triangulation to collect the data. According to Patton (1999), triangulation is viewed as a qualitative research strategy to test validity through the convergence of information from different sources. The researcher organized the sentences in the language generative exercises, which were confirmed by competent native speakers of the language. The purpose was to enhance validity, create a more in-depth picture and interrogate different ways of understanding.

FINDINGS

The following sentences show the general overview of how binding principles apply to Kipsigis.

Principle A of Binding Theory

According to Chomsky (1981) principle A of Binding Theory states that an anaphor must be bound in its governing domain.

 a) John$_i$ ko-ki-keer gei$_i$.

John foc-pst-see himself

'John$_i$ saw himself..'

b) *John$_i$ kobwoti kole James ko-ki-keer gei$_i$.

John thinks that James foc-pst-see himself.

'John$_i$ thinks that James saw himself'

Sentence (11a) is grammatical, since Principle A supports that the reflexive pronoun *'gei'* is linked with the antecedent 'John' in its given governing domain while sentence (11b) is ungrammatical since the reflexive 'gei' is not bound within the same domain with the antecedent 'John'.

Principle B of Binding Theory

According to Chomsky (1981), principle B of Binding Theory states that the pronoun must be free within its governing domain.

a). *John$_i$ ko ki-keer inee$_{*i/j}$

John foc pst-see him

'John$_i$ saw him$_{*i/j}$.'

b) John$_i$ kobwoti kole James ko-ki-keer inee$_i$

John pres. think that James foc-pst-see him

'John$_i$ thinks that James saw him$_{i/j}$.'

Sentence (12a) is ungrammatical, since Principle B has been violated, the pronoun 'inendet' cannot be coindexed with 'John' which is located in the same governing domain. Sentence (12b) is grammatical since 'John' c-commands 'inendet' the

coindexation is possible and therefore also coreference because 'John' is located outside the governing domain of 'inendet'

The following sentence has been explained with respect to principle B of Binding Theory.

a) Jane$_i$ kobwoti kole inee$_{i/j}$ ko kararan

Jane pres.thinks that 3.sg cop sg.beautiful

'Jane$_i$ thinks that she$_{i/j}$ is beautiful.'

In sentence (13a), **'inee'** may refer to Jane, since Jane is outside its governing domain or refers to another entity in the world. The freedom constraint applies only within the governing domain and there are no binding constraints as for the case of B-type pronouns. From the example 'inee' can have another reference other than 'Jane' which is noted by index 'j', this also applies to sentences (12a) and (12b).

Principle C of Binding Theory

According to Chomsky (1981), principle C of Binding Theory states that a referential expression must be free. The referential expressions cannot bear the same index as well as c-commands, whether this form is within its governing domain or not and whether it is in an argumental position or not.

*a) *Mary$_i$ kobwot-i kole John$_i$ ko ng'oom.*

prn.3.sg pres. think-prog that John   cop genius.sg

'Mary$_i$ thinks that John$_i$ is genius.'

b) *Mary$_i$ kobwot-i kole John$_j$ ko ng'oom.*

prn.3.sg pres.think-prog that John cop genius.sg

'Mary$_i$ thinks that John$_i$ is genius.'

Sentence (14a) is ungrammatical since the referential expression *'Mary'* get meaning from other entities in the world and not the NP, *'John'* hence "Mary" cannot be coindexed with 'John', while sentence (14b) is grammatical since the R-

expression *'Mary'* does not bear the same index with *'John'*, either within or not its governing domain.

According to Binding theory and referential disjunction. For Binding; A binds B if and only if A c-commands B and A and B bear the same referential index. For referential disjunction; For Principle A, an A-pronoun must be bound in its governing category, while in Principle B, a B-pronoun must be free in its governing category while in Principle C, R-expression must always be free within or out of the governing domain. The government category represents the domain in which these principles apply.

Binding Connectivity in Kipsigis Copula Clauses

Amary (2012) assumed that binding theory does not apply to copula sentences, though these type of sentences typically associates pronouns or referential expressions with pronouns or referential expressions. The binding theory applies to copula sentences, where these types of sentences typically associate pronouns or referential expressions with each other. According to the classifications suggested by Higgins (1979), the copula sentences are; Predicational, Specificational, Identificational and Equative.

Predicational Clause

Kipchoge ko lobotiendet nekorom

Kipchoge cop runner.sg reli.sg best.sg

'Kipchoge is the best runner.'

Specificational Clause

Ne korom en labatet ko Kipchoge

reli.sg best. sg at running cop Kipchoge

'The best runner is Kipchoge.'

Equative Clause

Ibireet ne kibet ko ki-teer ibira-noton

Ball.sg reli.sg lost cop different ball.sg-that

'The lost ball was different ball.'

Identificational Clause

Ngeta-i ko John

boy.sg-this cop John

'This boy is John.'

The copula **'ko'** connects two referential expressions (post copula and pre copula constituent) in the form XP1 cop XP2, where XP1 and XP2 are referential. Only a predicational sentence has a non-referential element in the post-copula constituent connecting the two referential expressions with the copula means that the same reference is given to them.

By applying indices to sentences (15,16, 17 and 18) we obtain the following representations;

a) *[Lobotindet ne   korom]$_I$ ko Kipchoge $_i$*

Runner.sg reli.sg best. sg cop   Kipchoge

'[The best runner]$_i$ is Kipchoge$_{i,}$'

b) *Ibireet$_i$ ne kibet ko ki-teer ibira-noton$_i$*

Ball.sg reli.sg lost cop different ball.sg-that

'The lost ball was a different ball.'

c*). [Ngeetai]$_i$ ko Johni*

boy.sg-this cop John

'This boy$_i$ is John $_i$.'

After the insertion of indices, the sentences go against the Principles of Binding Theory, since for each, the XP2 is c-commanded by the XP1 with which it is coindexed, which should not be the case according to Principles of Binding Theory. In Kipsigis, Specificational, Equative and Identificational sentences, as shown in (19a-c), respectively indicate that XP1 is c-commanding XP2, which is coindexed in verbless copula constructions (the copula is the only verb).

In (19b), the referential expression 'ibireet ne kibet' (the lost ball) is coindexed and c-commanded by the second referential phrase 'ki-teer ibira-noton' (that different ball), violating Principle C, Similarly, in (19c), the referential 'ngeetai' (this boy) is bound by the C-command 'John.'

However, there are some exceptions where Principle C appears to be respected in copula clauses, such as the predicational example in (19a):

a) *[Lobotindet ne korom]i ko Kipchoge*i/j*

Runner.SG RELI.SG best.SG COP Kipchoge

'[The best runner]i is Kipchogej.'

In Kipsigis, equative sentences with copula **'ko'** are grammatical when making emphasise or clarification, when the intonation is changed, for example;

John$_i$ ko John$_i$

John cop John

'John$_i$ is John$_{i.}$'

In Kipsigis, when a speaker wants to show that 'John' has not changed, meaning John will always remain the same 'John ko John'. For example, a= a would be «John is John», and a= b, «John is Mr Smith.

Equative sentences allow some instances of violation of Principle C of binding theory, as proposed by Cocchetto and Danati (2007), the following sentences are grammatical.

a). *Inendet$_i$ ko chorindet$_i$*

3.sg.prn cop thief

'She$_i$ is a thief$_i$.'

b) Icheek$_i$ ko lagook$_i$

3.pl.prn cop children

'They$_i$ are children$_{i.}$'

These sentences have a reading a=a or a=b, which means that the same entity or person can take on various appearances. This analysis shows that Kipsigis copula clauses exhibit different behaviour with regard to copula constructions. Copula sentences typically associate pronouns or referential expressions with pronouns or referential expressions. This means that binding principles do not apply to Kipsigis copula sentences since connecting two referential expressions with the copula means that the same reference is given to both of them, hence violating the principles.

a) *Ne korom en labatet ko Kipchogei*

RELI.SG best.SG at running COP Kipchoge

'The best runner is Kipchogei.'

b) *Ngeetai ko Johni*

boy.SG-this COP John

'This boyi is Johni.'

Again, the referential expressions 'ne korom en labatet' (the best runner) in (23a) and 'ngeetai' (this boy) in (23b) are bound by the c-commanding 'Kipchogei' and 'Johni' respectively. This systematic binding connectivity pattern suggests that Principle C does not hold in Kipsigis copula clauses. The copula 'ko' seems to inherently equate or identify the two referential XPs, overriding the binding constraints.

CONCLUSION

In conclusion, Kipsigis has different types of copula clauses, namely, Predicational, Specificational, Equatives and Identificational clauses. All these types use the copula *'ko''* to link the subject and predicate in the form (XP1 COP XP2). Binding theory, binding principles apply to copula sentences, where the two XPs flanking the copula come into the structure with the same index. With the verbless copula construction, with the form XP1 cop XP2, where XP1 and XP2 are referential expressions when XP1 and XP2 are coindexed, they

agree with Principles A and B of binding theory but go against Principle C. A syntactical analysis of Kipsigis copula clauses was carried out using the Functional Category Hypothesis (FCH). In this analysis, the Pred head, which is a functional category, relates a subject to a predicate. It takes the predicative expression XP as its complement and the subject NP as its specifier. This study suggests then that the understanding to be drawn from the copular clause is that it is incorrect to characterise binding phenomena in terms of a particular syntactic configuration which must or can't hold between two NPs.

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