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Title: **The syntax of relative clauses in Lalo Yi**

Author name: Hongyong, LIU (Given name, SURNAME)
Email: hongyongliu@umac.mo
Affiliation: Department of Chinese, University of Macau
Postal address: E21-2083 Humanities and Social Sciences Building, University of Macau, Avenida da Universidade, Taipa, Macau, China

Second Author: Bu Weimei
Email: yb77710@connect.umac.mo
Affiliation: Department of Chinese, University of Macau
Postal address: E21-2071 Humanities and Social Sciences Building, University of Macau, Avenida da Universidade, Taipa, Macau, China

Contents

The syntax of relative clauses in Lalo Yi

Abstract: In Lalo Yi (Tibeto-Burman), there are three different types of relative clauses (RCs), namely, head-initial, head-internal, and head-final. The relativizer in H-initial RCs serves as a nominalizer, which nominalizes an unsaturated relative clause and turns it into an argument (in the form of a Determiner Phrase (DP)), and the relative head noun combines with the DP via the process of variable restriction. The relativizer in H-internal RCs also serves as a nominalizer, which nominalizes a saturated clause and accesses the patient argument as the denotation of the nominalized clause. The relativizer in H-final RCs serves as a modification marker, and in this case the relative head noun does not allow NP-ellipsis.
Keywords: Lalo Yi; relative clause; nominalizer

1. Introduction

Relative clauses (henceforth RCs) are often treated as noun-modifying clauses in Tibeto-Burman languages, and the modified element, which can either be bare nouns (NP), numeral phrases (NumP), or demonstrative phrases (DP), is called the relative head. A relativizer is the element that links the RC with the relative head; hence, a relative construction is normally made up of three components: a relative clause, a relativizer, and a relative head. In Sino-Tibetan languages, relativizers are often assumed by nominalizers, classifiers, or demonstratives (Matisoff 1972; Matthews and Yip 2001; Huang 2008; LaPolla 2008; Yap et. al. 2011).

According to the position of the relative head within the relative construction, relatives can be divided into H(ead)-initial RCs, H-internal RCs, and H-final RC. English is a typical language with H-initial RCs, and Mandarin Chinese is a typical language with H-final RCs. Japanese has both H-final and H-internal RCs. It is rare for a language to have all the three types of RC. In Lalo Yi[1], all the three types of RCs exist, as shown in (1).

[1] **Lalo Yi** (Chinese: 腊罗彝语; Western Yi) is a Yi language spoken in western Yunnan, China by about 300,000 speakers. Lalo speakers are mostly located in southern Dali Prefecture, especially Weishan County, considered to be the traditional homeland of the Lalo people. The data used in this paper were collected from Laoheipeng village, Niujie Town, Weishan County, Dali Prefecture, Yunnan Province (中国云南省大理州巍山县牛街乡老黑棚村).

(1) a. [**a^{55} vi^{31}** mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ die PFT
'The pig(s) that **Muga fed** died.'

b. [mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31} a^{55}] hɯ^{55} a^{55}tɕi^{55}.
Muga pig feed ASP NMZ die PFT
'The **pig(s)** that Muga fed died.'

c. [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55} **a^{55} vi^{31}**] hɯ^{55} a^{55}tɕi^{55}.
Muga feed ASP NMZ pig die PFT
'The **pig(s)** that Muga fed died.'

Semantically, the head-initial relative clause in (1a) is focused on the information provided by the relative clause. When comparing the pigs fed by Muga and those fed by Ayi, we need to use the H-initial relative clause, as shown in (2a). In addition, when we answer the question "which pigs died?", we have to use the H-initial relative clause, as shown in (2b).

(2) a. a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] hɯ^{55} a^{55}tɕi^{55},
pig Muga feed ASP REL die PFT
[a^{33} ʑi^{55} hõ^{55} ta^{31} a^{55}] ma^{31} hɯ^{55} a^{55}tɕi^{55}.
Ayi feed ASP REL NEG die PFT
'The pig(s) that Muga fed died, and those that Ayi fed didn't die.'

b. Q: a^{55} vi^{31} ɛ^{13} tʂhi^{31} ku^{33} hɯ^{55} a^{55}tɕi^{55} u^{55}?
pig which one Cl die PFT Q
'Which pigs died?'
A: a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP REL die PFT
'The pig(s) that Muga fed died.'

In contrast, the focused information carried by the H-internal relative in (1b) and the H-final relative in (1c) is on the relative head, which can be observed by the contrast shown in (3a) and (3b). In addition, when we answer the question "what thing that Muga fed died?", we have to use the H-internal or H-final relative clause, as shown in (3c).

(3) a. [mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31} a^{55}] hɯ^{55} a^{55}tɕi^{55},
Muga pig feed ASP NMZ die PFT
a^{55}nɯ^{31} ma^{31} hɯ^{55} a^{55}tɕi^{55}.
yellow.cattle NEG die PFT
'The pig(s) that Muga fed died, and the cattle that Muga fed didn't die.'

b. [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55} **a^{55} vi^{31}**] hɯ^{55} a^{55}tɕi^{55},
Muga feed ASP NMZ pig die PFT
a^{55}nɯ^{31} ma^{31} hɯ^{55} a^{55}tɕi^{55}.
yellow.cattle NEG die PFT
'The pig(s) that Muga fed died, and the cattle that Muga fed didn't die.'

c. Q: mu^{31}ka^{33} hõ^{55} ta^{31} a^{55} a^{55} tʂhu^{31} hɯ^{55} a^{55}tɕi^{55} u^{55}?
Muga feed ASP REL what die PFT Q
'What thing that Muga fed died?'
A1: [mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31} a^{55}] hɯ^{55} a^{55}tɕi^{55}.
A2: [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55} **a^{55} vi^{31}**] hɯ^{55} a^{55}tɕi^{55}.

When comparing the pigs and the cattle fed by Muga, we need to use the H-internal or the H-final RC, as shown in (3). When relative clauses modify bare nouns, the relative construction is interpreted as a generic concept, referring to the type of individuals with the same property described by the relative clause. To talk about particular individuals, classifiers and demonstratives will be used. Relevant examples are given below.

(4) a. [**a^{55} vi^{31}** [[mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] tʂhi^{55} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ DEM Cl die PFT
'That pig which Muga fed died.'

b. [[[mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31}] a^{55}] tʂhi^{55} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
Muga pig feed ASP NMZ DEM Cl die PFT
'That pig which Muga fed died.'

c. [[[mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] **a^{55} vi^{31}** tʂhi^{55} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
Muga feed ASP NMZ pig DEM Cl die PFT
'That pig which Muga fed died.'

We need to notice that the Dem-Cl sequence has to occur at the right peripheral position of the relative construction. The following examples are infelicitous, because the demonstrative and the classifier (Dem+Cl) are in wrong syntactic position.

(5) a. * **a^{55} vi^{31}** tʂhi^{55} ma^{55} [[mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig DEM Cl Muga feed ASP NMZ die PFT

b. * [[mu^{31}ka^{33} **a^{55} vi^{31}** tʂhi^{55} ma^{55} hõ^{55} ta^{31}] a^{55}] hɯ^{55} a^{55}tɕi^{55}.
Muga pig DEM Cl feed ASP NMZ die PFT

Finally, we find that numeral quantifiers (in the form of Num-Cl) are incompatible with relative clauses in Lalo Yi. For example, in (6a), the numeral quantifier *sa^{33}ma^{55}* cannot form a constituent with the preceding relative construction. The sentence is ungrammatical. However, if we change the state predicate 'very fat' into the action predicate 'died', the sentence turns out to be grammatical, as shown in (6b). This contrast shows that numeral quantifiers in Lalo Yi cannot serve as nominal quantifiers, but only verbal quantifiers, quantifying over events. The adjective phrase 'very fat' describes a state rather than an event; therefore, the numeral quantifier is banned in (6a).

(6) a *[a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] sa^{33} ma^{55} tʂhɳ^{31}ʐo^{31} tshɳ^{55}.
pig Muga feed ASP NMZ three Cl very fat
Intended: 'Three pigs that Muga fed are very fat.'

b. [a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] sa^{33} ma^{55} hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ three Cl die PFT
'Three pigs that Muga fed died.'

From the above examples (1)-(6), we can see that Lalo Yi relative constructions have the following features:

(7) a. The existence of three types of RC: H-initial, H-internal, and H-final
b. The obligatory use of the nominalizer serving as the relativizer
c. The obligatory right peripheral position of determiners
d. The absence of nominal numeral quantifiers

In light of these features, we will address the following four questions in this paper. The first question is why Lalo Yi needs three types of RCs (H-initial, H-internal, and H-final). The second question is what function the nominalizer performs in RCs of Lalo Yi. The third question is what internal structures these three types of RCs have in Lalo Yi. The fourth question is how Lalo Yi expresses the referential property of the relative construction.

The paper is structured as follows. Section 2 introduces the formation of nominal argument in Lalo Yi, focusing on the grammatical behaviors of numeral quantifiers. Section 3 addresses the function of the nominalizer/relativizer in Lalo Yi RCs. Section 4 introduces the three types of relative clauses in Lalo Yi and explains why all the three types are needed. Section 5 offers the nominalization-based syntactic analysis for the three types of RCs, addressing the function of the nominalizer, the numeral quantifier, and the determiner. Section 6 concludes the paper.

2. The formation of nominal arguments in Lalo Yi

Before we go into the detailed discussion of each type of the RCs in Lalo Yi, we need to look at the syntactic and semantic properties of nominal arguments in this language.

We start with bare nouns. In Lalo Yi, bare nouns can be used to refer to kinds in generic sentences. In episodic sentences, bare nouns in subject position can have a definite reading, while they will get an indefinite reading in object position. Different from such languages as Japanese and Korean which have both split and non-split numeral quantifiers (Nakanishi 2007), Lalo Yi only has split numeral quantifiers, as illustrated in (8a).

(8) a. lu^{55}ka^{31} ba^{31}tha^{33} a^{55}ni^{55}za^{31} ɣa^{31} a^{55}hen^{55} sa^{33} ma^{55} ŋu^{55} ki^{33} a^{31}mu^{31}.
river-side child hard three Cl cry PRG EVI
'Three children are crying hard by the river.'

b. *lu^{55}ka^{31}ba^{31}tha^{33} ɣa^{31} a^{55}hen^{55} a^{55} ni^{55} za^{31} sa^{33} ma^{55} ŋu^{55} ki^{33} a^{31}mu^{31}.
river-side hard child three Cl cry PRG EVI
Intended: 'Three children are crying hard by the river.'

c. *lu^{55}ka^{31}ba^{31}tha^{33} a^{55} ni^{55} za^{31} sa^{33} ma^{55} ɣa^{31} a^{55}hen^{55} ŋu^{55} ki^{33} a^{31}mu^{31}.
river-side child three Cl hard cry PRG EVI
Intended: 'Three children are crying hard by the river.'

In (8a), the numeral quantifier *sa^{33} ma^{55}* is separated from its associated noun *a^{55} ni^{55} za^{31}* 'child' by the adverb *ɣa^{31}a^{55}hen^{55}* 'hard'. Is it possible that the associated noun floats away from the

numeral quantifier? This is not possible, since both (8b) and (8c) are ungrammatical. From (8), we can draw a conclusion that Lalo Yi is a language that does not have the nominal numeral quantifier; namely, the language does not have the sequence of N+Num+Cl, a basic nominal structure found in many other Tibeto-Burman languages. This conclusion is also supported by the evidence from the coordinate construction, as shown in (9).

(9) a. mu^{31}ka^{33} pi^{13} nɯ^{31} tʂɿ^{31} vɛ^{55}ka^{33}la^{55} lɛ^{33} thi^{31}u^{31} sa^{55} pen^{13} vɛ^{55}ka^{33} la^{55} .
Muga pen two Cl buy-PFT and book three Cl buy-PFT
'Muga bought two pens and three books.'

b. *mu^{31}ka^{33} pi^{13} nɯ^{31} tʂɿ^{31} lɛ^{33} thi^{31}u^{31} sa^{55} pen^{13} vɛ^{55} ka^{33} la^{55} .
Muga pen two Cl and book three Cl buy-PFT
Intended: 'Muga bought two pens and three books.'

In Lalo Yi, the numeral quantifier has a fixed syntactic position. It always occurs immediately before the main verb, as shown in (8a) and (9a). Syntactically, the numeral quantifier forms a constituent with the verb, but semantically it quantifies over the argument in the subject position (8a) and the object position (9a). The reason why (9b) is ungrammatical is that the numeral quantifier *nɯ^{31} tʂɿ^{31}* does not have a verbal host to attach to. We need to pay special attention to the following two points here.

First, even if the numeral quantifier and the associated noun are adjacent in some sentences, they do not form a constituent, which can be observed in the following examples involving topicalization.

(10) a. tsɿ^{55}tsɿ^{33}-di^{31} thi^{31}u^{31} tʂhɳ^{31} tʂu̱^{31} ʔna^{31} pɛ^{33}.
table-LOC paper one Cl$_{piece}$ stick- RES-DURA
'There is a piece of paper sticking to the table.'

b. * thi^{31}u^{31} tʂhɳ^{31} tʂu̱^{31} ma^{55} tsɿ^{55}tsɿ^{33}-di^{31} ʔna^{31} pɛ^{33}
paper one Cl$_{piece}$ TOP table-LOC stick-RES-DURA

c. thi^{31}u^{31} ma^{55} tsɿ^{55}tsɿ^{33}-di^{31} tʂhɳ^{31} tʂu̱^{31} ʔna^{31} pɛ^{33}
paper TOP table-LOC one Cl$_{piece}$ stick-RES-DURA
'A piece of paper is sticking to the table.'

In (10a), the numeral quantifier is adjacent to its associated noun, but they cannot be topicalized

as a constituent, as shown in (10b). The associated noun alone, however, can be topicalized, as shown in (10c).

Second, although Lalo Yi lacks the N+Num+Cl sequence to express indefinite readings, it does not mean that Lalo Yi cannot encode indefiniteness. Imagine we have a scenario that a mother is talking to her two-year son. Pointing to two pigs in a picture, the mother says,

(11) **Mother:** tsa^{55} a^{55}tsa^{55} ŋa^{55} u^{55}?
this what be EVI
'What are these?'

Son: tsa^{55} nɯ^{31} ma^{55} a^{55}vi^{55} ŋa^{55} mu^{31}.
This two Cl pig be EVI
'These two (things) are pigs.'

Instead of saying 'these are two pigs', the son will have to answer the mother's question by saying 'these two things are pigs', simply because *a^{55}vi^{55}-nɯ^{31}-ma^{55}* 'pig-two-Cl' is not available in this language. There is another way to express the indefinite reading, as in (12).

(12) mu^{31}ka^{33}- di^{31} ɕi^{31} a^{55}tɕi^{55} a^{31}pa^{31} sa^{33} ma^{55}.
Muga-PAT kill PFT NMZ three Cl
'Muga was killed by three persons.'
(Literally: The number of the people who killed Muga is three.)

Based on such syntactic tests as reconstruction (8), nominal coordination (9), topicalization (10), and alternative ways of expressing indefiniteness (11)-(12), we are led to the conclusion that Lalo Yi lacks nominal numeral quantifiers. Numeral quantifiers in this language are always pre-verbal.[2]

Although Lalo Yi does not have nominal numeral quantifiers to express indefiniteness, it has definite numeral quantifiers to express definiteness, as shown in (13b).

[2] Lalo Yi numeral quantifiers are VP-internal syntactic objects. Semantically, they quantify over events. Nakanishi (2007) proposes a homomorphism function that links the measurement of events to the measurement of individuals. Such a mechanism is also needed in Lalo Yi if we want to explain the syntax and semantics mismatch with regard to the grammatical behaviors of numeral quantifiers in this language.

(13) a. *mu^{31}ka^{33}- di^{31} tʂhu^{55} sa^{33} ma^{55} ɕi^{31} a^{55}u^{31}.
Muga-PAT person three Cl kill PFT
Intended: ‘Muga was killed by three persons.’

b. mu^{31}ka^{33}-di^{31} tʂhu^{55} na^{55} sa^{33} ma^{55} ɕi^{31} a^{55}u^{31}.
Muga-PAT person that three Cl kill PFT
‘Muga was killed by those three persons.’

From the above discussion, we can see that nominal arguments without modifying elements in Lalo Yi can only have two syntactic forms: [$_{NP}$ N] or [$_{DP}$ N+Dem+Num+Cl]. The NP argument does not contain information on quantity, while the DP argument contains the information on quantity in addition to the definiteness specification.

3. The function of the relativizer in relative clauses

A common property shared by all the three types of RCs (H-initial, H-internal, and H-final) in Lalo Yi is that they have to be introduced by relativizer: a^{55}, a^{31}pa^{31}, or a^{55} po^{33}, the most frequently used nominalizers in Lalo Yi. It is a well-known fact that relative clauses in many Sino-Tibetan languages are based on the syntactic operation of nominalization (see Yap et.al 2011), and nominalized clauses can serve as arguments of the main predicate, as the following Lalo Yi examples show.

(14) a. [dʐ^{33}ʔ mu^{55} li^{33} khu^{55} **a^{31}pa^{31}**] dza^{31} a^{31}pɛ^{55} li^{33}.
fair participate go plan NMZ eat first IMP
‘Let those who plan to go to the fair eat first.’

b. [u^{33} bi^{33} **a^{55}**] ʔna^{55} ma^{31} da^{55}.
3sg say NMZ listen NEG can
‘You cannot trust what he said.’

In (14a), the nominalized clause refers to the people who planned to go to the fair in the utterance context. The nominalized clause can be readily changed to a relative construction by adding the relative head noun. In this case, the nominalizer is recruited as the relativizer.

(15) a. dʐ̩³³ʔ mu⁵⁵ li³³ khu⁵⁵ a³¹pa³¹ **tʂhu⁵⁵** dza³¹ a³¹pɛ⁵⁵ li³³.
fair participate go plan NMZ person eat first IMP
'Let the people who plan to go to the fair eat first.'

b. u³³ bi³³ a⁵⁵ **ɣa⁵⁵lu⁵⁵** ʔna⁵⁵ ma³¹ da⁵⁵.
3sg say NMZ word listen NEG can
'The words that he said cannot be believed.'

It is important to notice that this kind of relative construction is completely different from the relative construction found in English and other European languages which require a relative pronoun or the relative complementizer to link the RC and the relative head, as in (16).

(16) a. I cannot find the interesting book.
b. I cannot find the book which/that I bought yesterday.
c. *I cannot find which/that I bought yesterday.

In English, a relative clause is similar to an adjective. It can only serve as a modifier, and cannot serve as a syntactic argument. In Lalo Yi, like many other Sino-Tibetan languages, a nominalized clause can not only serve as arguments, as shown in (14), but also modifiers, as shown in (15). It is puzzling why a nominalized clause (of semantic type <e>) can also serve as a modifier (of semantic type <e,t>). This makes us doubt whether it is correct to claim that the nominalized clauses in (15) serve as modifiers. Is there a possibility for a unified analysis that all nominalized clauses serve as arguments? In the following, we will explore this avenue and use the notorious nominalizer *de* in Mandarin Chinese as an example to illustrate a unified analysis to be adopted in this paper.

(17) a. Mali zuo **de** bu-hao-chi.
Mary do NMZ NEG-tasty
'What Mary cooks is not tasty.'

a'. λP.GENx[COOK (Mary, x)&P(x)]

b. Mali zuo **de** { yu fish / mi-fan rice / …… } bu-hao-chi.

b'. λP.GENx[FISH (x) & COOK (Mary, x)&P(x)]

The variable *x* is bound by the generic operator in (17a); however, this variable is not restricted. What Mary cooks could be fish, rice, and so on, as in (17b). In other words, the variable in (17a) is a bound but unrestricted variable. The function of the so-called relative head noun 'fish, rice, …' is to restrict the variable by specifying the sub-kind of what Mary cooks. With this in mind, we can see that in Mandarin Chinese it is not the case that the relative clause modifies the relative head noun. Rather, the relative head noun restricts bound variables (bound by different quantificational operators in different utterance contexts). The function of the nominalizer *de* in Mandarin Chinese, like nominalizers in many other Sino-Tibetan languages, is to form syntactic arguments (of semantic <e>) out of unsaturated constituents. The nominalized clause is argumental. The nominalized clause can be followed by a noun, the function of which is to restrict the variable and specify the sub-kind of the argument denoted by the nominalized clause. In other words, nominalized clauses are no longer regarded as modifiers in this analysis. Rather, they serve as independent arguments. This kind of analysis of RCs is based on the process of nominalization. We can call it a nominalization-based analysis of RCs.

Cross-linguistically, we can divide languages into two different types based on the form of their relativizers. The first type is represented by English which has different relative pronouns and the relative complementizer. RCs in this type of languages are most suitable for the matching adjunction analysis (Aoun and Li 2003; Huang 2016). The second type is represented by Amharic which uses the definite article as the relativizer. RCs in this type of languages can be best analyzed by the raising analysis, i.e. the D-CP complementation analysis (Kayne 1994; Ouhalla 2004; Simpson 2003, 2005). If a language has neither relative pronouns nor definite articles to be used as relativizers, it might use nominalization constructions to express similar meanings, as shown in Mandarin Chinese. Different from RCs in English and Amharic, nominalized clauses in Mandarin Chinese are not modifiers. The composition of the relative construction in Mandarin Chinese is not via argument saturation or predicate modification, but via variable restriction.

In Lalo Yi, relative clauses must be nominalized. The agent nominalizer is $a^{31}pa^{31}$, and the patient nominalizer is $a^{55}po^{33}$, and the general nominalizer is a^{55}, which can be used as both an agent nominalizer and a patient nominalizer. There is a constraint with the use of the general nominalizer, i.e., it can only be used in realis relative clauses. For example,

(18) a. lɑ^{31}sɿ^{33}-di^{31} dɛ^{31}u^{31} **a^{31}pa^{31}** ɕo^{13}sen^{33} tʂhɿ^{55} ma^{55} ʔla^{55}ty^{55} kuɛ^{13}.
teacher-PAT hit NMZ student that Cl run.home PFT
'The student who hit the teacher ran home.'

b. a^{31}gu^{55}ʔny^{33} ʑy^{31} **a^{55} po^{33}** a^{55}tha^{31} ŋa^{55} tshɿ^{31}-ta^{31} pɛ^{55}.
next.morning use NMZ knife 1sg wash-RES PFT
'The knife that will be used tomorrow morning, I have washed.'

c. ŋa^{55} pi^{55}- ta^{31} **a^{55}** dza^{55} tʂhɿ^{55} ku^{33} tʂhɿ^{31} tin^{31} ma^{31} mi^{55} .
1sg cook-RES NMZ rice that Cl a.little NEG tasty
'That pot of rice that I have cooked is not tasty at all.'

In (18a), the nominalizer can be either the agent nominalizer or the general nominalizer. In (18b), only the patient nominalizer can be used here. The general nominalizer cannot be used here, because the relative clause has the irrealis temporal feature. The relative clause in (18c) has the realis temporal feature, and in this case, both the general nominalizer and the patient nominalizer can be used. From (18), we can see that the correct choice of nominalizers in Lalo Yi relative constructions depends on semantic roles on the one hand, and on temporal features of the relative clause on the other hand.

When combining with adjectives, a^{55} also displays special properties. In Lalo Yi, adjectives cannot modify nouns unless a modification marker is used. When a^{55}pa^{31} is used, the modified head noun must refer to humans, while a^{55} does not have this semantic constraint. However, when a^{55} is used as a modification marker, it has to be post-nominal, while a^{31}pa^{31} does not have this syntactic constraint.

(18') a. za^{31} me^{31} me^{31} a^{55}
girl pretty Mod
'pretty girls'

a'. ɤa^{55} lu^{33} me^{31} a^{55}
flower pretty Mod
'beautiful flowers'

b. za^{31} me^{31} me^{31} a^{31}pa^{31}
girl pretty Mod
'pretty girls'

b'. *ɤa^{55} lu^{33} me^{31} a^{31}pa^{31}
flower pretty Mod
Intended: 'beautiful flowers'

c. za^{31} me^{31} me^{31} a^{31}pa^{31}

c'. za^{31} me^{31} me^{31} a^{55}

d. me^{31} a^{55}pa^{31} za^{31} me^{31}

d'. *me^{31} a^{55} za^{31} me^{31}

These contrasts suggest that there exists a difference between APs and RCs on the one hand, and that there exists a difference between a^{55} and $a^{31}pa^{31}$ on the other hand. When AP modifiers are post-nominal, the modification marker can be a^{55} or $a^{31}pa^{31}$. When AP modifiers are pre-nominal, the modification marker can only be $a^{31}pa^{31}$.

4. The three types of relative clauses in Lalo Yi

4.1 H-initial relative clauses

The simplest H-initial relative constructions in Lalo Yi are formed by bare nouns plus nominalized clauses, as shown in (19).

(19) dza^{55} $ŋa^{55}$ pi^{55} a^{55} ma^{31} mi^{55} u^{55}.
rice 1sg cook NMZ NEG tasty EVI
'The rice that I cook is not tasty.'

The meaning of the whole relative construction is definite. The relative head noun specifies the specific type of food that I cook. The relative head noun can be elided in (19), and the nominalized clause can serve as the subject of the sentence with a meaning of 'whatever I cook is not tasty.'

For H-initial RCs, the contrastive focus is on the RC rather than on the relative head noun, as shown in (20).

(20) a^{55} vi^{31} $mu^{31}ka^{33}$ $hõ^{55}$ ta^{31} a^{55} $tʂho^{13}$ $tshi^{55}$,
pig Muga feed ASP NMZ very fat
a^{33} $ʑi^{55}$ $hõ^{55}$ ta^{31} a^{55} ma^{31} $tshi^{55}$.
Ayi feed ASP NMZ NEG fat
'The pig(s) that Muga fed are very fat, and those that Ayi fed are not fat.'

The second type of H-initial relative clause is in the form of N+RC+Dem-Num-Cl, which expresses the definite reading, as shown in (21a). If we omit the demonstrative, the sequence of (N+RC)+Num+Cl cannot be taken as a felicitous constituent, because Lalo Yi does not have nominal numeral quantifiers, as argued in Section 2. The numeral quantifier in (21b) has to be taken as a verbal numeral quantifier, as shown in (21c).

(21) a. [a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] na^{55} sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ Dem three Cl die PFT
'Those three pigs that Muga fed died.'

b. * [a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ three Cl die PFT
Intended: 'Three pigs that Muga fed died.'

c. [a^{55} vi^{31} [mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] sa^{33} ma^{55} hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ three Cl die PFT
'Of all the pigs that Muga fed, three died.'

When the indirect object is relativized, it is obligatory to use the H-initial RC, and H-internal and H-final RC cannot be used, as shown in (22a). When the possessor is relativized, a resumptive pronoun u^{33} has to be used, and in this case, it is also obligatory to use the H-initial RC, as shown in (22b).

(22) a. tʂhu^{55} [za^{31}ma^{31} na^{55} ma^{55} Ø thi^{31}u^{31} sa^{55} pen^{31} gu^{31} a^{55}] na^{55} ma^{55}
person girl Dem Cl book three Cl give NMZ Dem Cl
'that person to whom the girl gave three book'

b. ʑo^{33}pa^{31} [**u^{33}**-tsa^{33} za^{31} ŋa^{33} di^{31} sa^{31} a^{55}] na^{55} ma^{55}
man 3sg-POSS son 1sg-PAT know NMZ Dem Cl
'that man whose son knew me'

4.2 H-internal relative clauses

Various linguists have proposed different parameters for H-internal RCs (see Basilico 1996 for a detailed discussion). The famous Langendon-Kuroda-Cole generalization states that HIRCs are restricted to SOV languages. In addition to the word order constraint, H-internal RCs are also observed to be restricted to Wh-in-situ languages. In addition, it has been observed that the internally headed relative head noun cannot be marked by any definiteness marker. Cross-linguistically H-internal RCs can be either introduced by nominalizers or definiteness markers. Lalo Yi is an example of the first choice. H-internal RCs in Lalo Yi does not involve any movement. The underlined clause in (23) is a saturate proposition, with a complete SOV internal structure, and the whole clause is marked by the nominalizer at the clause final position.

(23) u^{33} ʤa^{31} pi^{55}-ta^{31} a^{55} tʂhɿ^{31} ku^{33} tʂhu^{55}.
3sg rice cook-RES NMZ one Cl_{pot} exist
'There is a pot of rice that she cooked.'

In Lalo Yi H-internal RCs, only patient arguments are allowed to be relativized, and no ambiguity will ever occur as to which argument is relativized. In other words, in Lalo Yi, agent arguments can only be relativized in externally headed RCs. In (24a), a^{55}nɯ^{31} 'bull' is the agent, and ŋa^{33} is the patient. (24a) cannot express the meaning 'That bull which had attacked me was sold', because a^{55}nɯ^{31} 'bull' is the agent. In this case, only externally headed RCs can be used, as shown in (24b) and (24c).

(24) a. *ŋa^{33} di^{31} **a^{55}nɯ^{31}** gu̱^{31} pɛ^{55} a^{55} tʂhɿ^{55} khɯ^{55} ʔvu^{31} a^{55} tɕi^{55} a^{55}.
1sg-PAT bull attack-EXP NMZ Dem Cl sell PFT IND
b. **a^{55} nɯ^{31}** ŋa^{33}-di^{31} gu̱^{31} pɛ^{55} a^{55} tʂhɿ^{55} khɯ^{55} ʔvu^{31} a^{55}tɕi^{55} a^{55}.
bull 1sg-PAT attack-EXP NMZ Dem Cl sell PFT IND
'That bull which had attacked me was sold.'
c. ŋa^{33}-di^{31} gu̱^{31}-pɛ^{55} a^{55} **a^{55} nɯ^{31}** tʂhɿ^{55} khɯ^{55} ʔvu^{31} a^{55} tɕi^{55} a^{55}.
1sg-PAT attack-EXP NMZ bull Dem Cl sell PFT IND
'The bull which had attacked me was sold.'

H-internal RCs in Lalo Yi, like in many other languages, display the lack of definiteness marking. The internally headed noun must be bare without any definiteness marking, as shown in the contrast in (25).

(25) a. [[[mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31}] a^{55}] na^{55} sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
Muga pig feed ASP NMZ Dem three Cl die PFT
'That three pigs that Muga fed died.'
b. * [[[mu^{31}ka^{33} **a^{55} vi^{31} na^{55} sa^{33} ma^{55}** hõ^{55} ta^{31}] a^{55}]] hɯ^{55} a^{55}tɕi^{55}.
Muga pig Dem three Cl feed ASP NMZ die PFT

Different from H-initial RCs, H-internal RCs in Lalo Yi place the contrastive focus on the head noun rather than the nominalized clause, as shown in (26).

(26) mu^{31}ka^{33} a^{55} vi^{31} hõ^{55} ta^{31} a^{55} tʂho^{13} tshi^{55},
Muga pig feed ASP NMZ very fat
a^{55}nɯ^{31} ma^{31} tshi^{55}.
cattle NEG fat
'The pig(s) that Muga fed are fat, and the cattle that Muka fed are not fat.'

4.3 H-final relative clauses

H-final RCs in Lalo Yi can be divided into two types. The nominalized clause can modify bare nouns, as in (27a), or determiner phrase, as in (27b).

(27)a. [[mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] a^{55} vi^{31}] hɯ^{55} a^{55}tɕi^{55}.
Muga feed ASP NMZ pig die PFT
'The pig(s) that Muga fed died.'

b. [mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] a^{55} vi^{31} na^{55} sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
Muga feed ASP NMZ pig Dem three Cl die PFT
'Those three pigs that Muga fed died.'

H-final RCs in Lalo Yi also place the contrastive focus on the head noun rather than the nominalized clause, as shown in (28).

(28) mu^{31}ka^{33} hõ^{55} ta^{31} a^{55} a^{55} vi^{31} tʂho^{13} tshi^{55},
Muga feed ASP NMZ pig very fat
a^{55}nɯ^{31} ma^{31} tshi^{55}.
cattle NEG fat
'The pig(s) that Muga fed are fat, and the cattle that Muga fed are not fat.'

5. The syntactic analysis of relative clauses in Lalo Yi

5.1 The syntactic analysis of RCs with bare heads

In the previous section, we have already shown that there are H-initial, H-internal, and H-final RCs in Lalo Yi. When the relative clause modifies the bare noun, the syntactic forms of RCs in Lalo Yi can be summarized as follows:

(29) a. H-initial RC: N+[RC-NMZ]
b. H-internal RC: [RC-NMZ]
c. H-final RC: [RC-NMZ]+N

When the relative head is assumed by a bare noun. The whole relative construction will get a generic reading. For head-initial relatives, the focused information is on the relative clause rather than the head noun, whereas for head-internal and head-final relatives, the focused information is on the head noun. In addition, for head-internal relatives, only the patient argument can be relativized, and this constraint does not hold for head-final relatives. We can use the examples in (30) to illustrate the internal syntactic structure of RCs with bare nouns serving as the relative head.

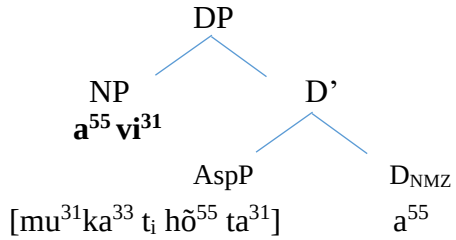
(30) a. **a^{55} vi^{31}** [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}]
b. [mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31} a^{55}]
c. [mu^{31}ka^{33} hõ^{55} ta^{31} a^{55}] **a^{55} vi^{31}**

Since all of them can serve as arguments, they are all DPs. For (30a), the nominalizer takes an AspP as its complement. The AspP lacks the internal argument; therefore, it can be taken as a predicate (<e,t>). The nominalizer serves as a type shifter, turning predicates into arguments. The D' element is good enough to serve as arguments, with a kind denotation. The relative head noun at SpecDP serves as a restrictor of the kind argument, turning the kind meaning into a specific sub-kind meaning. The bracketed nominalized clause in (30a) refers to all the animals that Muga fed, and together with the relative head noun, (30a) refers to the specific kind of animal PIG that Muga fed. The internal structure of (30a) is shown in (31a).

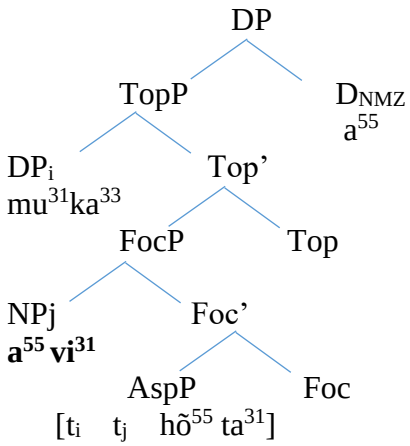
For (30b), the head noun is the focused information, so it will occupy the Spec,FocP position, and the subject will move to the Spec,TopP position. For H-internal RCs in Lalo Yi, only the patient argument can be relativized, so the word order of H-internal RCs will always be Top-Foc-verb, as shown in (31b). The function of the nominalizer in (31b) is to turn a sentential proposition into a nominal argument (the focused patient argument of the proposition).

For (30c), the head noun, the focused information, is out of the relative clause. The function of the pre-nominal relative clause is to modify the head-noun. In this case, the morpheme a^{55} turns a sentential predicate into a nominal modifier. In other words, it is no longer a nominalizer, but a modification marker.

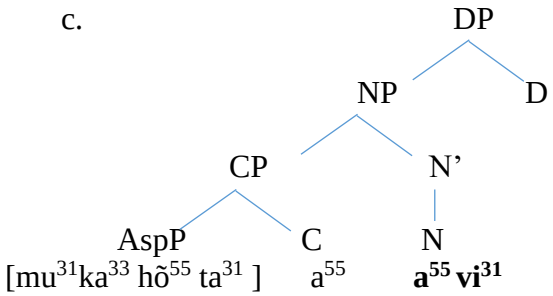
(31) a.



b.



c.



(30c) is in essence an NP, as shown in (31c), in which D will be contextually determined. If we take a^{55} in (30c) also as a nominalizer, then we will face the following problem, i.e., since nominalized phrases are argumental, they can stand alone to serve as argument, and the relative head noun should be able to be elided. However, if we omit the relative head noun, the contrastive focus gets lost, and the contrast shown in (28) cannot be expressed. The nominalized clause can only express the contrastive focus shown in (20), which is actually the realization of H-initial RCs with the relative head noun omitted. With this in mind, we are forced to the conclusion that the morpheme a^{55} actually has two functions: nominalizer (determiner) and modification marker (complementizer). For H-initial and H-internal RCs, a^{55} serves as the nominalizer, while for H-final RCs, it serves as a modification marker.

5.2 The syntactic analysis of RCs with complex heads

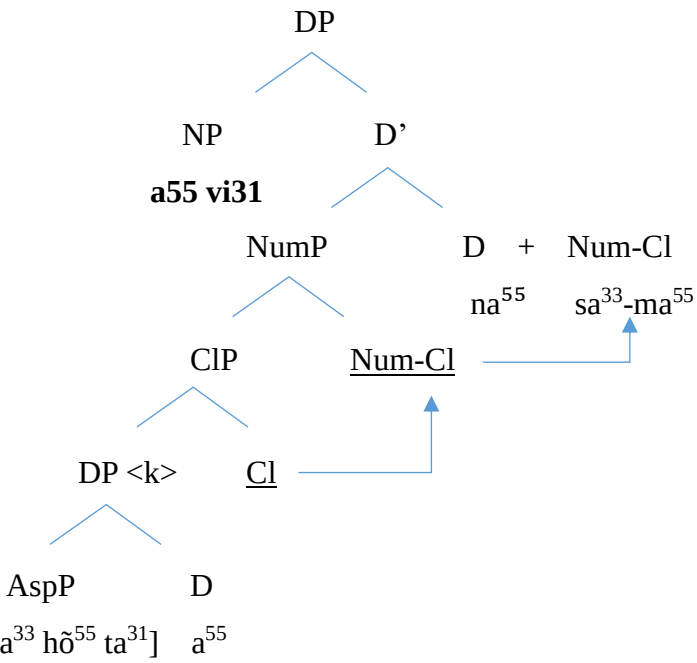
When the relative clause modifies the definite phrase, the syntactic forms of RCs in Lalo Yi can be summarized as follows:

(32) a. H-initial RC: N+[RC-NMZ]+Dem+Num+CL
b. H-internal RC: [RC-NMZ]+Dem+Num+CL
c. H-final RC: [RC-NMZ]+N+Dem+Num+CL

We can use the following example to illustrate the internal syntactic structure of H-initial RCs with complex heads.

(33) a. [**a^{55} vi^{31}** [[mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] na^{55} sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.
pig Muga feed ASP NMZ Dem three Cl die PFT
'Those three pigs that Muga fed died.'

b.



For H-initial RCs with complex heads, such as the bracketed part (33a), we can offer the following syntactic analysis, in which the head noun occupies the SpecDP position. In (33b), the nominalizer a^{55} turns a predicate into an argument with the kind denotation, and this argument is then selected by the classifier. The classifier picks out individuals, which are then quantified over by the numerals. The relative head at the SpecDP, which can be elided, further specifies the sub-kind.

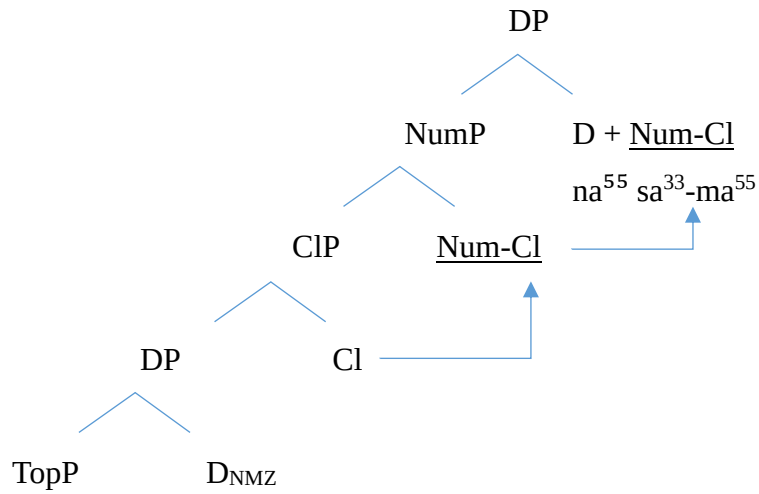
For H-internal RCs with demonstratives, such as the bracketed part (34a), we can offer the following syntactic analysis in (34b), in which the nominalizer a^{55} takes a Topic Phrase (TopP) as its complement, identical to the structure shown in (31b).

(34) a. [[[mu^{31}ka^{33} **a^{55} vi^{31}** hõ^{55} ta^{31}] a^{55}] na^{55} sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.

Muga pig feed ASP NMZ Dem three Cl die PFT

'Those three pigs that Muga fed died.'

b.



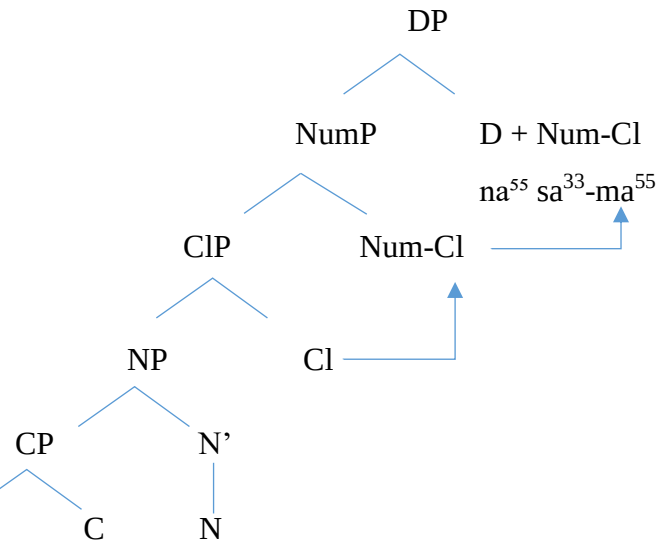
[mu^{31}ka^{33} a^{55} vi^{31} hõ^{55} ta^{31}] a^{55}

(35) a. [[[mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55}] **a^{55} vi^{31}** na^{55} sa^{33} ma^{55}] hɯ^{55} a^{55}tɕi^{55}.

Muga feed ASP NMZ pig Dem three Cl die PFT

'Those three pigs that Muga fed died.'

b.



[mu^{31}ka^{33} hõ^{55} ta^{31}] a^{55} a^{55} vi^{3}

For H-final RCs with demonstratives, such as the bracketed part (35a), we can offer the following syntactic analysis in (35b), in which the morpheme a^{55} serves as a modification marker, identical to the structure shown in (31c).

6. Conclusion

In Lalo Yi (Tibeto-Burman), there are three different types of relative clauses, namely, head-initial, head-internal, and head-final. For head-initial relatives, the focused information is on the relative clause rather than the head noun, whereas for head-internal and head-final relatives, the focused information is on the head noun rather than the relative clause. In addition, for head-internal relatives, only the patient argument can be relativized, and this constraint does not hold for head-final relatives. When the relative clause modifies a bare noun, the relative construction will get a generic reading. When the relative construction is marked definite by demonstratives, the Dem-Num-Cl sequence must be in the right peripheral position. Numeral quantifiers (in the form of Num+CL) are incompatible with relative clauses, because numeral quantifiers in Lalo Yi cannot serve as nominal quantifiers; they can only serve as verbal quantifiers.

The significance of the paper lies in two aspects. On the one hand, the nominalization-based analysis proposed in this paper offers a straightforward account for the syntactic properties associated with the three different types of relatives in Lalo Yi. On the other hand, Lalo Yi serves as a good example of a language that relative clauses in such languages are only compatible with a definite reading.

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