

North East Linguistics Society

Volume 29 *Proceedings of the North East Linguistic Society 29 -- Volume One: Papers from the Main Sessions*

Article 30

1999

Morphology-Syntax Interface in Lai Relative Clauses

Andreas Kathol
UC Berkeley

Ken Vanbik
UC Berkeley

Follow this and additional works at: <https://scholarworks.umass.edu/nels>



Part of the [Linguistics Commons](#)

Recommended Citation

Kathol, Andreas and Vanbik, Ken (1999) "Morphology-Syntax Interface in Lai Relative Clauses," *North East Linguistics Society*. Vol. 29 , Article 30.

Available at: <https://scholarworks.umass.edu/nels/vol29/iss1/30>

This Article is brought to you for free and open access by the Graduate Linguistics Students Association (GLSA) at ScholarWorks@UMass Amherst. It has been accepted for inclusion in North East Linguistics Society by an authorized editor of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

Morphology-Syntax Interface in Lai Relative Clauses

Andreas Kathol and Ken Vanbik

UC Berkeley

1. Introduction

Lai (Hakha Chin) is a Tibeto-Burman language spoken in Western Burma (Chin State) with predominant SOV order.¹ Like other SOV languages it allows for what are known as *internally headed relative clauses* (IHRC). Such structures are constituents with NP status in which the (head) nominal that contributes the referent of the whole NP occurs inside the relativizing clause, rather than occurring outside of it as in languages such as in English. Thus, IHRCs apparently are internally built up like regular clauses while having external NP syntax. For instance in (1), the noun *lawthlawpaa* ('farmer') occurs as the subject of a finite clause. At the same time, the referent of that noun is also understood as the patient of the verb *mu?* ('see') occurring in the matrix clause.

- (1) [Lawthlawpaa vok rool ?a pee] mii ka mu?
farmer pig food 3SG-SUBJ give REL 1SG-SUBJ see
'I saw the **farmer** [who gave food to the pig].'

The status of relative clause is signalled by the relative marker *mii* which follows the relative clause.

In this paper we examine certain aspects of the syntax of relative clause structures in Lai, both internally and externally headed ones. Of central interest will be the categorial status of relative markers in the different relative clause constructions. Moreover, it will be shown that both construction types are subject to the same kind of interaction between verbal morphology and the status of the relativized phrase. To address these issues we will propose a lexicalist approach couched in Head-Driven Phrase Structure Grammar (HPSG).

¹We would like to thank the participants in the Stanford HPSG Research Group for much helpful discussion, in particular Emily Bender, Paul Hirschbuehler, Marie Labelle, Rob Malouf, Paul Kay, Ivan Sag, and Tom Wasow.

2. Constraints on relativization

In (1) the relativized nominal is the subject of the relative clause. Relativization of nonsubjects is also possible, as shown in (2).

- (2) [Lawthlawpaa vok rool ?a peek] mii ka mu?
 farmer pig food 3SG-SUBJ give REL 1SG-SUBJ see

'I saw the pig which the farmer gave food to.'

'I saw the food which the farmer gave to the pig.'

The ditransitive verb *peek* ('give') has two nonsubject dependents corresponding to theme (*rool* 'food') and recipient (*vok* 'pig') arguments. Consequently the sentence is ambiguous depending on which of those nonsubject arguments is construed as relativized.

There is an important complication pertaining to the interplay of morphology and grammatical functions of relativized arguments. Lai verbs exhibit a morphological alternation, which we will refer to here as "form I" vs. "form II". In the context of a subject relative clause, only form I is possible, i.e., *pee*, while form II results in ungrammaticality:

- (3) *[Lawthlawpaa vok rool ?a peek] mii/tuu ka mu?
 farmer pig food 3SG-SUBJ give-II REL 1SG-SUBJ see-II

Relativization of nonsubjects is also constrained morphologically; it is possible only with form II verbs. Hence the nonsubject relativization interpretation of (2) becomes unavailable with the form I version (*pee*):

- (4) *[Lawthlawpaa vok rool ?a pee] mii/tuu ka mu?
 farmer pig food 3SG-SUBJ give-I REL 1SG-SUBJ see

(Intended:) 'I saw the pig which the farmer gave food to.', etc.

In addition to the relative marker *mii*, Lai has another marker of relative clauses, *tuu*, which also follows fully clausal structures, cf. (5).

- (5) [Lawthlawpaa vok rool ?a pee] tuu ka mu?
 farmer pig food 3SG-SUBJ give REL 1SG-SUBJ see

'I saw the farmer who gave food to the pig.'

Relativization with *tuu* exhibits the same correlation with verbal morphology seen earlier. Thus, the example in (5) with form II (*peek*) leads to unacceptability.

Unlike its counterpart *mii*, the marker *tuu* is not possible in the case of relativization of nonsubjects; hence the example in (2) with *tuu* is not available, regardless of the morphology of the verb chosen, cf. (6):

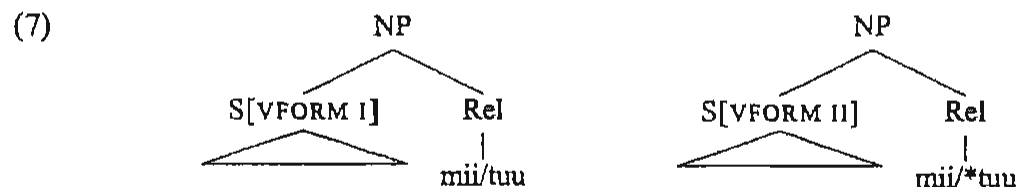
- (6) *[Lawthlawpaa vok rool ʔa pee/peek] tuu ka muʔ.
 farmer pig food 3SG-SUBJ give-I/give-II REL 1SG-SUBJ see

(Intended: 'I saw the pig which the farmer gave food to.'
 or: 'I saw the food which the farmer gave to the pig.')

The interplay between choice of relative marker and grammatical function of the relativized element is theoretically significant because at first blush there appears to be a problem of locality of syntactic dependencies. This is an important notion for theories of grammar which attempt to constrain the amount of linguistic information that is in principle accessible in grammatical dependencies. For instance, in Head-Driven Phrase Structure Grammar (HPSG, cf. Pollard & Sag (1987); Pollard & Sag (1994)), selectional requirements that have been satisfied do not project to higher levels of structure. As a result, the internal composition of clausal structures in terms of grammatical functions is in principle unavailable for grammatical dependencies outside of that clause. Considering only the dependency between *mii/tuu* and the grammatical function of the relativized element, it appears as if Lai relativization constitutes a challenge to the locality of subcategorization. In particular, the relative marker *tuu* seems to be able to identify the subject of the relative clause.

However, such a conclusion would fail to take into account the role of verbal morphology. In a relative clause context, the grammatical function of the relative phrase and the morphology on the verbal head are correlated with each other in the way seen above.² Since morphosyntactic distinctions of this kind are precisely the kind of information that gets projected via the head projection path, the morphological distinction in question is marked on the clause itself.

The difference, then, between the two relative markers in Lai is that while *mii* combines with relative clauses of both verbal forms, *tuu* only permits combination with clauses containing form I verbal heads, summarized in (7):

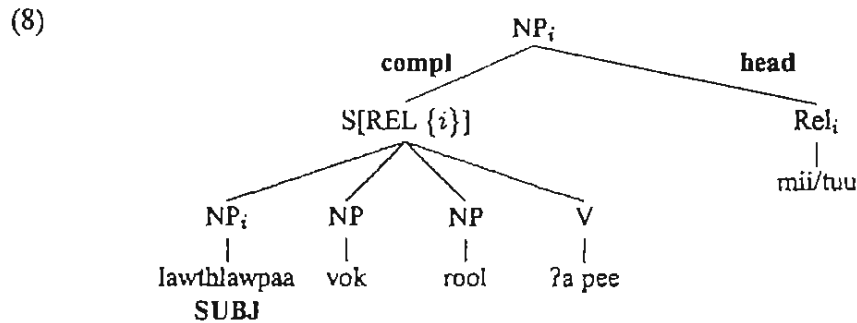


The next issue to address is how the correlation between morphology and relativizability of grammatical functions is captured.

²Note that forms I and II can also occur in other contexts where are associated with other functions. Here, we are exclusively interested in the role they play in relative clause formation.

3. Morphology-syntax interaction

Following Culy (1990) and Pollard & Sag (1994), we assume that relative structures are mediated by a set-valued feature REL which identifies the referent of the entire NP as being identical with that of the relativized phrase. Moreover, we follow much recent work in HPSG that assumes that certain properties of dependents (such as unscoped quantifiers (Q-STORE) or information about missing constituents (SLASH)) are “amalgamated” by the syntactic head. For the problem at hand this means that the verb “inherits” the relative index from its syntactic arguments. For instance, we propose the structure in (8) for the subject relativization in (1). Here the verb inherits the relative index from its subject and in turn passes it up to the clause level. For simplicity, we take Lai clause structure to be flat, though nothing in this paper hinges on that assumption.



One important aspect of this analysis is that we treat the relative markers themselves as a subtype of *noun*. This makes them eligible to bear an index of their own. In addition, since they are treated as heads, their nominal status automatically guarantees that IHRCs indeed have the same syntactic distribution as nominals in general.

The lexical descriptions for the two relative markers are as given in (9):

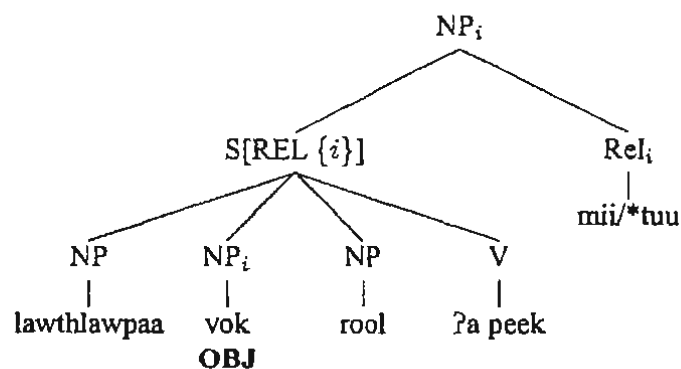
- (9) a. *tuu*
- $$\left[\begin{array}{l} \text{HEAD } \textit{noun} \\ \text{COMPS } \langle \text{S} \left[\begin{array}{l} \text{VFORM } i \\ \text{REL } \{i\} \end{array} \right] \rangle \\ \text{CONTENT } \mid \text{INDEX } i \end{array} \right]$$
- b. *mii*
- $$\left[\begin{array}{l} \text{HEAD } \textit{noun} \\ \text{COMPS } \langle \text{S} \left[\text{REL } \{i\} \right] \rangle \\ \text{CONTENT } \mid \text{INDEX } i \end{array} \right]$$

Each relative marker combines with a clause by means of its COMPS value. The relative index of that clause is the same as the index of the relative marker itself. In addition, the

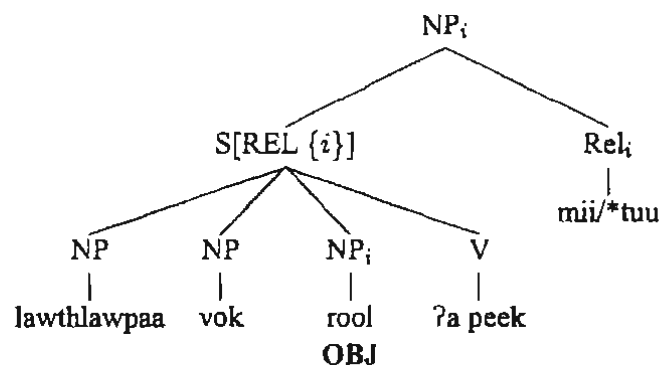
cooccurrence restrictions observed earlier are immediately captured by assuming that *tuu* only combines with form I clauses, whereas *mii* tolerates clauses of either kind.

The lexical description in (9b) assigns the following structures to the nonsubject IHRC structures in (2). The different possible interpretations follow naturally from the choice of argument that the relative index is shared with,³ that is the patient argument in (10a) and the recipient argument in (10b).

(10) a.



b.



The interplay between morphology and relativizability of grammatical function is captured by means of the two constraints in (11).⁴ The first states that any verb whose subject index instantiates the relative index must occur with form I morphology. Note that in the formulation of this constraint we refer to the subject as the first element on the argument structure list ARG-ST, rather than valence proper (SUBJ). As we will see below, this has important implications in connection with unrealized syntactic arguments. Conversely, in (11b), any nonsubject argument that contributes the relative index requires form II morphology.⁵

³Lai does not permit double relativization. This is accounted for straightforwardly by permitting at most singleton sets as possible values of the REL attribute.

⁴Alternative ways of formalization in HPSG are imaginable, for instance by means of a hierarchy of permissible types of verb. The particular choice is immaterial to our argument.

⁵We presuppose that an independent constraint rules out the possibility of relative indices that are not linked to any argument of the verb.

(11) a. *Morphological constraint on subject relativization*

$$\left[\begin{array}{l} \text{HEAD verb} \\ \text{ARG-ST } \langle \text{NP}_i, \dots \rangle \\ \text{REL } \{i\} \end{array} \right] \rightarrow \left[\text{HEAD } \left[\text{VFORM I} \right] \right]$$

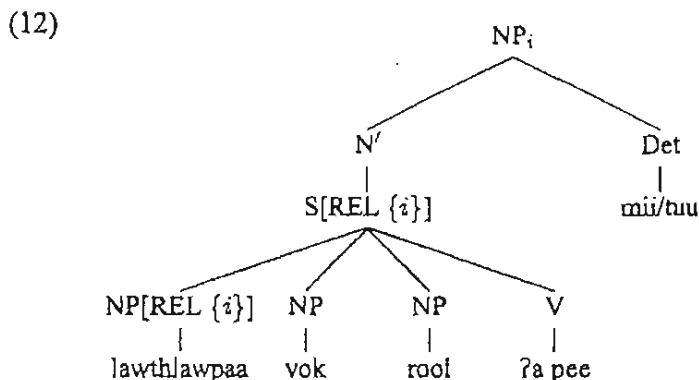
b. *Morphological constraint on nonsubject relativization*

$$\left[\begin{array}{l} \text{HEAD verb} \\ \text{ARG-ST } \langle \text{NP}_i, \dots \rangle \\ \text{REL } \{j\} \\ i \neq j \end{array} \right] \rightarrow \left[\text{HEAD } \left[\text{VFORM II} \right] \right]$$

Next, let us turn to a comparison of our approach with previously proposed analyses of similar constructions.

4. Comparison with Culy 1990

As previously mentioned, we follow earlier HPSG-based analyses of IHRC in avoiding empty heads of the kind proposed for instance in Cole (1987). However, we reject the idea of extending to Lai the particular analysis of IHRCs proposed by Culy (1990) (and adopted by Pollard & Sag (1994:234)) for languages such as Donno Sa. Applied to Lai, such an analysis would involve an exocentric structure in which the relative clause is recategorized as a nominal. In addition, the relative marker would be classified as a determiner that combines with the relative clause N' to form an NP which would produce the structure in (12) for the example in (1) above.



This approach would predict that the relative markers *miu* and *tauu* are able to combine with nominals quite generally to form NPs (or DPs for that matter). However, this is not what we find. While those elements have uses outside of relativization, free combination with nominals is not possible, arguing strongly against their classification as determiners.

Moreover, and more significantly, IHRCs can cooccur with demonstratives such as *kha* ('that'), as is illustrated in (13):⁶

- (13) a. [Tsoo ʔa that *(mii) kha] ka ɱuʔ.
 cow 3SG-SUBJ kill-I REL DEM 1SG-SUBJ see.
 'I saw that one who killed the cow.'
- b. [Tsoo ʔa thaʔ *(mii) kha] ka ɱuʔ.
 cow 3SG-SUBJ kill-II REL DEM 1SG-SUBJ see.
 'I saw the cow that he killed.'

On the standard classification of demonstratives as determiners, the cooccurrence with the relative marker would be rather unexpected. Note also that the relative marker *mii* in (13) is obligatory. This is significant because it shows that the relative clause itself without the marker has no nominal status. Otherwise we would expect the demonstrative to be in free variation with the relative marker.

Further suggestive evidence for the nominal status of the relativizers comes from the fact that *mii* is historically related to a homophonous form meaning 'person', occurring for instance as the subject in examples such as (14) or with attributive adjectives in (15):

- (14) Mii ʔan raa.
 person 3PL-SUBJ come-I
 'People are coming.'
- (15) a. mii nung
 person living
 'a living person'
- b. mii thii
 person dead
 'a dead person'

5. Externally headed relative clauses

In addition to IHRCs, Lai also has externally headed relative constructions, which resemble closely the pattern familiar from languages such as English. Thus, alongside the subject relative clause in (1) and (5), we also find examples such as the one in (16) with the relative head noun *lawthlawpaa* ('farmer') occurring outside of the relative clause. As in the IHRC counterparts, both *mii* and *tuu* are possible relative markers.

⁶While demonstratives commonly precede the noun, special uses are possible in which they follow.

- (16) [[Vok rool ?a pee] mii/tuu lawthlawpaa] ka ꞎu?
 pig food 3SG-SUBJ give REL farmer 1SG-SUBJ see
 'I saw the farmer who gave food to the pig.'

Similarly, nonsubject relativizations are possible; hence the ambiguous example in (2) has two external relative alternants distinguished by which noun occurs as the head:

- (17) a. [[Lawth. rool ?a peek] mii/*tuu vok] ka ꞎu?
 farmer food 3SG-SUBJ give-Π REL pig 1SG-SUBJ see
 'I saw the pig which the farmer gave food to.'
- b. [[Lawth. vok ?a peek] mii/*tuu rool] ka ꞎu?
 farmer pig 3SG-SUBJ give-Π REL food 1SG-SUBJ see
 'I saw the food which the farmer gave to the pig.'

There are two important properties to note. First, externally headed relative clauses are subject to the very same condition relating verbal morphology and relativized dependent that applies to IHRCs. As a result, the relative marker *tuu* is never eligible to occur with relativized nonsubjects. Therefore the distribution of morphological forms in (17) mirrors that in (6) above.

Second, the relativized head is understood as referentially linked to a constituent left unexpressed within the relative clause. The question that this fact immediately raises is the nature of the lack of overt expression. Given the structure of relative clauses in languages like English in terms of long-distance relations one might assume the same for Lai. Depending on one's theoretical conviction, this relation would either involve some kind of (empty) operator movement or the threading of SLASH information. What makes such assumptions questionable, however, is the fact that the relation between the external head and the occurrence of a missing constituent has to be a strictly local. The head cannot be linked to a missing constituent within a more deeply embedded clause—contrary to the what we should expect on the basis of a unbounded dependency-based approach. Moreover, we do not have independent evidence for unbounded dependencies of the filler-gap kind elsewhere in Lai grammar. There is no equivalent of topicalization from clausal structures or *wh*-movement.

Finally, and most importantly, a filler-gap-based strategy would fail to extend to other cases of missing syntactic arguments. In particular, Lai exhibits a productive pattern of argument drop in which every syntactic argument can be missing, provided it can be contextually retrieved. This is shown with the question-answer pairs in (18–20):

- (18) a. Lawthlawpa zayda? ?a tua??
 farmer what 3SG-SUBJ do
 'What is the farmer doing?'

b. Vok rool ?a pee.
pig food 3SG-SUBJ give
'He is feeding the pig'

(19) a. Vok zayda? ?a tsaj?
pig what 3SG-SUBJ become
'What is happening to the pig?'

b. Lawthlawpaa rool ?a peek.
farmer food 3SG-SUBJ give
'The farmer is feeding it'

(20) a. Rool ta??
food also
'How about the food?'

b. Lawthlawpaa vok ?a peek.
farmer pig 3SG-SUBJ give
'The farmer is feeding it to the pig'

In order to account for argument drop of this kind, we will assume, with much of the recent HPSG literature, that one has to distinguish between ARGUMENT STRUCTURE and VALENCE. At the lexeme level, only the argument structure ARG-ST is specified, whereas in the case of actual words, those syntactic arguments are then mapped into specific modes of realization. In English, arguments can be associated with SLASH information, giving rise to filler-gap dependencies. Cliticization is another argument realization strategy adopted in many Romance languages. As for Lai, argument drop then simply means that rather than having all arguments realized as valence elements (as is shown for a ditransitive predicate in (21a)), there is a mismatch between the value of ARG-ST and SUBJ/COMPS. The description in (21b) illustrates subject drop, while (21c) exhibits the situation of a dropped object.⁷

(21) a. [ARG-ST ⟨[1]NP, [2]NP, [3]NP⟩]
| SUBJ ⟨[1]NP⟩ |
| COMPS ⟨[2]NP, [3]NP⟩ |

b. [ARG-ST ⟨[1]NP:c-pro, [2]NP, [3]NP⟩]
| SUBJ ⟨⟩ |
| COMPS ⟨[2]NP, [3]NP⟩ |

⁷In this paper we will not be concerned with the precise nature of the linkage between the lexeme and the descriptions in (21). Solutions based either on lexical rules or type constraints are imaginable.

c. [ARG-ST ⟨[1]NP, [2]NP:c-*ppro*, [3]NP⟩]
 | SUBJ ⟨[1]NP⟩ |
 | COMPS ⟨[1]NP⟩ |

One very important detail of the descriptions in (21) is that each syntactic argument that does not have a correspondence valence element—i.e., which is not syntactically realized—is automatically constrained to have a CONTENT value of type *c-ppro*. We propose this type as a subtype of *ppro*, the content type of personal pronouns in HPSG binding theory. This automatically ensures that unrealized arguments can only receive a pronominal interpretation, which then in turn requires that the discourse situation supply an accessible antecedent. More generally, we propose to distinguish *covert* personal pronouns (or “null anaphora”) from *overt* ones (*o-ppro*), the latter being reserved for phonologically realized pronouns.

(22)

```

      ppro
     /  \
  c-ppro o-ppro
  
```

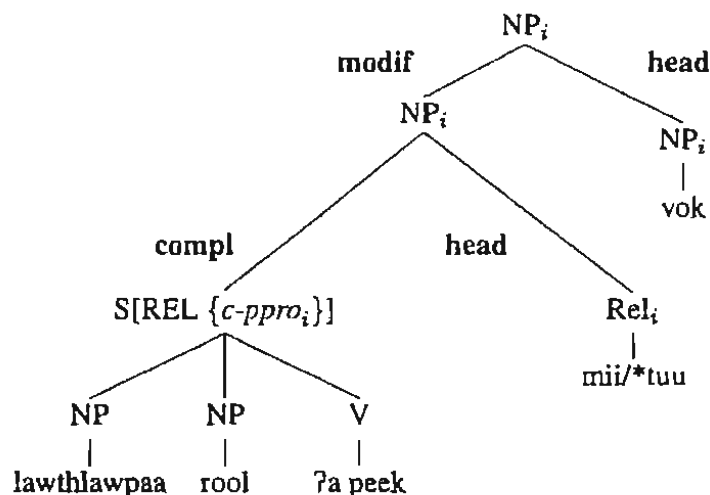
Returning now to the analysis of externally headed relative clauses, we propose to treat missing arguments not as instances of gaps that give rise to SLASH dependencies, but rather as covert pronouns. As a consequence, the subject relative clause example in (16) and (17a) will receive the structural descriptions in (23) and (24), respectively.

(23)

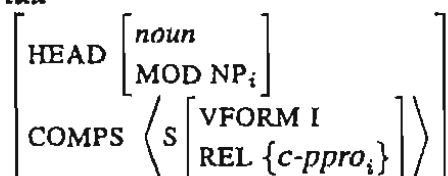
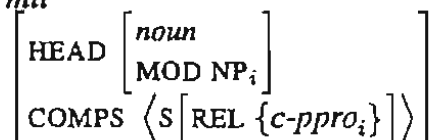
```

      NPi
     /  \
  modif head
   /    \
  NPi   NPi
   /  \   |
 compl head lawthlawpaa
  /  \  \
S[REL {c-pproi}] Reli
 /  \  \
NP   NP  V
|    |    |
vok rool ?a pee
  
```

(24)



In order to account for such structures, we propose that in addition to the descriptions in (9), the relativizers *tuu* and *mii* also have EHRC variants which are given in (25a,b).⁸

(25) a. *tuu*b. *mii*

Following standard practice in HPSG, we employ the feature “MOD” which indicates the category that the modifier is adjoined to. In particular, the index of the missing constituent is matched against the index of the modified nominal head. This ensures that the referent of the head noun is semantically construed as identical with the referent of the missing phrase in the relative clause. Since we propose to analyze this missing phrase as a covert pronoun, we require the minor adjustment of letting the set values of REL contain CONTENT values, rather than just indices, as is standardly assumed in HPSG. Importantly, as with

⁸The present account does not yet account to a kind of EHRC where the external head cooccurs with a coreferential overt expression inside the relative clause in the form of a possessive as in (i):

- (i) [ʔan_i pa ʔa thii] mii ʔin-tshung-khar, ka ɲuʔ.
 3PL.POS father 3SG-SUBJ die-I REL family 1SG.SUBJ see
 ‘I saw the family whose father died.’

We leave such cases and their exact relationship to ordinary EHRC constructions for further study.

the descriptions in (9), the choice of relative marker is sensitive to the morphology of the relative clause. Thus, while *tuu* requires form I marking, *mii* permits markings of either kind. This follows directly from the fact that the relativization constraints in (11) are formulated on the level of argument structure and hence apply regardless of the mode of syntactic realization.

Note next that in the descriptions above, both relative markers are treated as subinstances of nouns, on a par with the IHRC counterparts in (9). This may at first seem like a questionable claim given that these would be nominal structures modifying other nouns. However, this assumption is rather natural in view of the nature of attribute modification in Lai. N-N compound-like structures are strictly head-final. At the same time, however, attributive adjectives have to follow the modified noun, which is illustrated in the examples in (26).

- (26) a. [khua upa] fim
village elder wise
'wise village elder'
- b. [tlaaŋ thiŋ hnaʔ] hriŋ
hill wood leaf green
'green tree leaf'

These facts strongly suggest that only nominal categories can be involved in prenominal modification. Adjectives or locational modifiers can occur prenominally only predicatively, embedded in relative clauses. This is demonstrated in (27):

- (27) a. [ʔa fim *(mii)] khua upa
3SG-SUBJ wise REL village elder
'wise village elders'
- b. [tupi ʔaʔ ʔaʔum *(mii)] thiŋ
forest LOC be REL tree
'a tree in the forest'

6. Argument realization and the IHRC/EHRC distinction

The proposal to treat missing arguments in EHRC environments as cases of generally occurring pronominal argument drop leads to an interesting prediction. Since the analysis of covert pronouns in (21) did not impose constraints on the syntactic environments in which arguments could be dropped, we have no way of blocking their occurrence

as (understood) heads of *internally* headed relative clauses.⁹ This is a prediction which is in fact borne out, as the following example is indeed acceptable with the pronominal interpretation of the missing subject:

- (28) [Vok rool ?a pee] mii ka mu?
 pig food 3SG-SUBJ give REL 1SG-SUBJ see
 'I saw the one who gave food to the pig.'

Similarly, whatever is construed as the internal head in the object relativization cases in (2) does not have to correspond to a syntactically realized form either. Thus, so long as the proper morphological form of the verb and the concomitant relativizer are chosen, the resulting structures are acceptable, as seen in (29) and (30):

- (29) [Lawthlawpaa rool ?a peek] mii ka mu?
 farmer food 3SG-SUBJ give REL 1SG-SUBJ see
 'I saw the one which the farmer gave food to.'
 (also: 'I saw the food which the farmer gave to it.')

- (30) [Lawthlawpaa vok ?a peek] mii ka mu?
 farmer pig 3SG-SUBJ give REL 1SG-SUBJ see
 'I saw that which the farmer gave to the pig.'
 (also: 'I saw the pig which the farmer gave it to.')

The free occurrence of argument drop then leads to the peculiar situation of relative clauses that have neither an overt external nor internal head. The definition of internally headed can therefore only be given negatively by reference to the absence of an external head.

While it is possible for relative clause structures to not have any overtly realized nominal head at all, the reverse does not seem possible. That is, it is not possible for a nominal to occur both within the relative clause and also as the modified external head. Examples such as the following are illustrations:

- (31) *[\][Lawthlawpaa vok rool ?a pee] mii upa ka mu?
 farmer pig food 3SG-SUBJ give REL elder 1SG-SUBJ see
 (intended:) 'I saw the elder_i such that the farmer_i gave food to the pig.'

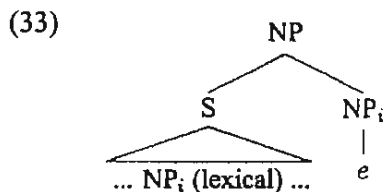
- (32) *[\][Lawthlawpaa vok rool ?a peek] mii vok ka mu?
 farmer pig food 3SG-SUBJ give REL pig 1SG-SUBJ see

⁹In fact Cole (1987:282) considers the possibility of null anaphora a necessary precondition for a language to have IHRC constructions.

The unacceptability of these examples follows directly from the descriptions in (25). The modification of an overt nominal by a relative clause requires the mediation by one of the relative markers in (25). They require that the external head be linked to a position inside the relative clause that is correlated with a covert pronoun, which automatically rules out the overt relativization within the relative clause in (32).

7. Comparison with Cole

The current analysis proposes to treat IHRC and EHRC as closely related, albeit separate construction types. The two are crucially distinguished in terms of whether there exists an external head that the relative clause modifies. In this we differ from Cole (1987), who treats both construction types as essentially externally headed. In the IHRC case the head position is instantiated by a null anaphor that is coindexed with an NP within the relative clause.



Furthermore, IHRCs are derivationally linked to EHRC; that is, Cole proposes that the lexical NP moves to the position of the empty anaphor at Logical Form.

While we agree that a proliferation of disparate structures is in general to be avoided, we doubt that Cole's approach is applicable in the Lai case. Since null anaphors are generally simply silent versions of pronominal elements, we have the immediate prediction that Lai should also permit EHRC structures in which the anaphor head is lexically realized by means of a pronoun. Yet, as the example in (34) shows, the result with the pronoun *ama?* is ungrammatical.

- (34) *[[Vok rool ʔa pee] mii/tuu ama?] ka muʔ.
 pig food 3SG-SUBJ give REL he 1SG-SUBJ see

Analyses of the kind given in (33) are therefore undesirable. In fact, on our analysis they are unavailable because the treatment of null anaphora as argument drop only affects true valence elements. External heads of relative clauses are licensed as modifiees, hence variation of the kind seen in (21) does not extend to them.

8. Conclusion

In conclusion, we have presented an analysis of IHRC constructions, which have remained relatively unexplored in the syntactic literature. By analyzing the relative markers in Lai as subtypes of noun, we were able to avoid any reference to empty heads or exocentric structures. In this our proposal draws on recent developments in HPSG which break down the strict dichotomy of lexical and functional category, for instance between complementizers and verbs (cf. Sag 1997).

Another connection with recent developments in HPSG lies in the idea that the realization of syntactic arguments and morphological form are mutually constraining. For instance, the standard analysis of cliticization in HPSG is to think of the clitic as the morphological reflex of a particular type of valence reduction. In a similar fashion, verbal morphology in Lai constrains the possible construal of dependent phrases as donors of relative indices.

The proposed analysis is significant not only in furthering our cross-linguistic understanding of relative constructions, but also for the role that morphology can play in syntactic realization.

References

- COLE, PETER. 1987. The structure of internally headed relative clauses. *Natural Language and Linguistic Theory* 5.277–302.
- CULY, CHRISTOPHER. 1990. *The syntax of internally headed relative clauses*. Stanford University dissertation.
- POLLARD, CARL J., & IVAN A. SAG. 1987. *Information-based Syntax and Semantics*. Volume 1, CSLI Lecture Notes Series No. 13. Stanford: CSLI Publications.
- , & ——. 1994. *Head-Driven Phrase Structure Grammar*. Chicago: University of Chicago Press and Stanford: CSLI Publications.
- SAG, IVAN A. 1997. English relative clause constructions. *Journal of Linguistics* 33.431–484.

Dept. of Linguistics
1203 Dwinelle Hall
UC Berkeley
Berkeley, CA 94707–2650
{kathol,vanbik}@socrates.berkeley.edu

