

RESEARCH

Internally and externally headed relative clauses in Tagalog

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Head nominals in Tagalog relative clauses can surface in three distinct positions: preceding the clause, immediately following the embedded verb, and in argument position within the clause. This paper accounts for these possibilities by positing that the head nominal is base generated within the clause as a property-denoting NP rather than a full DP and identifying the gap position by means of complex predicate formation between this NP and the rest of the clause. If the head NP raises to [Spec, CP], it forms a complex predicate with the embedded TP in that position and is spelled out preceding the clause. If the head NP does not raise to [Spec, CP], it either remains in its base position in the embedded clause and undergoes complex predicate formation with the embedded verb in situ, or it undergoes head movement and forms a complex predicate with the embedded verb via incorporation. I also account for the distribution of linkers in Tagalog relative clauses by proposing that all unsaturated categories within a Tagalog DP are headed by linkers. Consequently, both the relative clause and the head nominal are preceded by a linker, accounting for the fact that a linker always appears between the clause and head NP, regardless of their relative order. Finally, analyzing the head nominal as an NP rather than a DP also accounts for the locality restriction in Tagalog relativization such that genitive DPs are ineligible for movement. This is prevented on my analysis by ensuring that the head NP is not merged in a position which would be assigned inherent case.

Keywords: incorporation; linker; extraction restriction

1 Introduction

This paper proposes analyses of different types of relative clause in Tagalog. Tagalog relative clauses are cross-linguistically unusual in allowing the head nominal to surface in a variety of positions. In (1a), the head NP precedes the entire modifying clause. A linker *ng* (pronounced as the velar nasal), intervenes between the head nominal and the clause. I analyze this type as an externally headed relative clause (EHRC), the NP moving to [Spec, CP] in the embedded clause. Tagalog also has two types of internally headed relative clause. In (1b), the head NP surfaces in its base position in the embedded clause. I refer to these as “stranded internally headed relatives” (SIHR). This NP is preceded by a linker. In the internally headed relative in (1c), the head NP surfaces between the verb and the genitive (ergative) external argument. A linker is situated between the verb and the head noun. I analyze this head noun as undergoing incorporation to the embedded verb and refer to this type of relative clause as “incorporated internally headed relatives” (IIHR). In this paper, externally and internally headed relative clauses are distinguished on the basis of whether the head NP surfaces in [Spec, CP] or a position internal to TP. Tagalog also has headless relatives like (1d), in which a determiner like the case marker *ang* is followed by a clause containing a gap.

- (1) a. ang **libro** = ng b <in> ili ng babae (External head)
 NOM book = LK <PFV> buy GEN woman
 ‘the book which the woman bought’
- b. ang b <in> ili ng babae = ng **libro** (Stranded internal head)
 NOM <PFV> buy GEN woman = LK book
 ‘the book which the woman bought’
- c. ang b <in> ili = ng **libro** ng babae (Incorporated internal head)
 NOM <PFV> buy = LK book GEN woman
 ‘the book which the woman bought’
- d. ang b <in> ili ng babae (Headless)
 NOM <PFV> buy GEN woman
 ‘what the woman bought’

Building on earlier work by Aldridge (2003; 2004a), Law (2016) derives all four types by raising the head NP to [Spec, CP] in the embedded clause. The different surface positions of the head nominal in (1b) and (1c) are the result of spelling out lower copies of the moved NP. The headless relative in (1d) is derived by deleting all copies of the NP.

This paper follows previous approaches in deriving EHRCs by moving the head NP to [Spec, CP] in the embedded clause. But I do not assume movement to [Spec, CP] in the case of internally headed relatives. If the head NP is a phrasal category, it remains in its base position and undergoes complex predicate formation with the embedded verb in situ, thus deriving an SIRC. When this NP is not phrasal, the head noun undergoes head movement and incorporates to the embedded verb. I also do not adopt Law’s deletion analysis of headless relative clauses and propose instead that the gap in the clause is a null pronominal.

A fundamental aspect of my proposal is the analysis of the role and distribution of linkers. Building on Scontas and Nicolae’s (2014) proposal that linkers are associated with unsaturated categories, I propose that both the CP and the NP in relative clauses are headed by linkers. As unsaturated categories, they can combine semantically with other unsaturated categories to produce a complex property or predicate. Thus, the NP and clause can combine after the NP raises to [Spec, CP]. But analyzing the head nominal as an unsaturated category selected by a linker also allows this NP to undergo complex predicate formation within the relative clause, either in situ or by incorporating to the embedded verb.

Analyzing the head nominal as a linker phrase also accounts for the well-known locality constraint on movement in Tagalog whereby only the argument that would have nominative case in a declarative clause is eligible to undergo relativization. I propose that relative C is defective and unable to value case. Consequently, there is no case for the argument which would value nominative case in a declarative clause. So in a relative clause this argument can only be an LkP, which is a reduced nominal category and does not need case.

The discussion and proposals in this paper are laid out in the following way. In the next section, I summarize the analyses proposed by Aldridge (2003; 2004a) and Law (2016) and point out relevant shortcomings of both. Section 3 examines the properties of the linker and spells out the proposal that linkers are heads which select unsaturated categories. Section 4 presents my analyses of the four types of relative clause. Section 5 provides the analysis of locality.

2 Previous approaches to Tagalog relative clauses

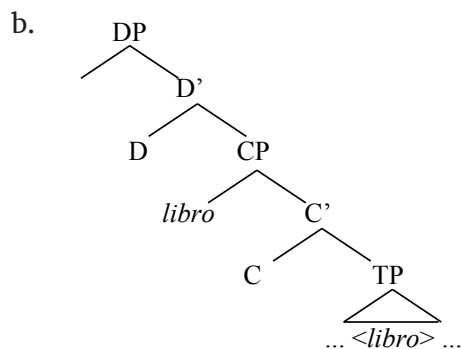
In this section, I summarize previous analyses of Tagalog relative clauses. Before beginning, let me first point out some basic facts of Tagalog clause structure. Tagalog is a verb-initial language with a type of non-accusative alignment which has

been characterized in several different ways. Following Payne (1982), Gerdtz (1988), de Guzman (1988), Aldridge (2004b; 2008; 2012), and others, I treat Tagalog as an ergative language. Objects in transitive clauses and subjects in intransitive clauses take absolutive (glossed as nominative) case. This is *ang* for common nouns and *si* for proper names. Subjects in transitive clauses are marked with ergative case (morphologically genitive in Philippine languages). This is *ng* (pronounced [naŋ]) for common nouns and *ni* for proper names.

- (2) a. T <um>awa **ang** **babae**.
 <INTR.PFV>laugh NOM woman
 ‘The woman laughed.’
- b. B <in>ili *ng* *babae* **ang** **isda**.
 <TR.PFV>buy GEN woman NOM fish
 ‘The woman bought the fish.’

Turning to relative clauses, Aldridge (2003; 2004a) and Law (2016) propose analyses that employ head raising along the lines of Kayne (1994) in order to derive EHRCs and SIHRs. In EHRCs, the derivation simply involves movement of the head NP to [Spec, CP] in the embedded clause. I adopt this analysis for EHRCs in section 4.1.

- (3) a. **ang libro** = *ng* *b* <in> *ili* *ng* *babae* (EHRC)
 NOM book = LK <PFV>buy GEN woman
 ‘the book which the woman bought’

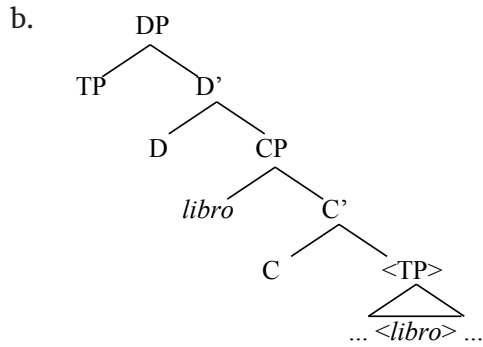


Law (2016) offers evidence like the following connectivity effects to argue for the raising analysis. The reflexive inside the head NP can be bound by the external argument inside the clause.

- (4) Law (2016: 721)
 Na-kita = ko **ang** [_{CP} [_{NP} larawan *ng* *kanya* = *ng* *sarili*_i] na
 TR.PFV-see = 1SG.GEN NOM picture GEN 3SG = LK self LK
b <in> *ili* *ni* *John*_i *t*_{NP}].
 <TR.PFV>buy GEN John
 ‘I saw the picture of himself that John bought.’

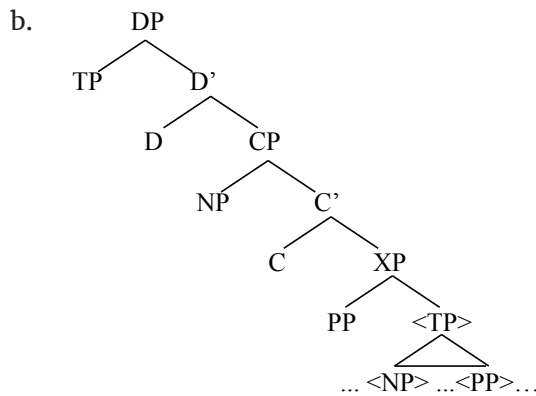
Aldridge’s evidence for head raising, however, is of a rather different nature. Again following Kayne (1994), Aldridge (2003) analyzes SIRC as head-final relatives, in which the remnant TP fronts into the DP layer after of the head NP raises to [Spec, CP].

- (5) a. ang b<in>ili ng babae = ng libro
 NOM <PFV>buy GEN woman = LK book
 ‘the book which the woman bought’



Primary evidence for the raising analysis comes from examining material which can be stranded following the head NP. In (6a), this NP is followed by a goal PP. Aldridge (2003) claims that the stranded constituent achieves its position by means of scrambling out of TP before the remnant TP fronts to the DP layer.

- (6) a. ang i-b<in>igay ng babae = ng kendi sa bata (SIHR)
 NOM APPL-<TR.PFV>give GEN woman = LK candy to child
 ‘the candy that the woman gave to the child’



Aldridge argues against an alternative approach in which the head NP remains internal to the relative clause on the basis of the following asymmetry. She shows that constituents that cannot undergo scrambling cannot be stranded. In (7), what is stranded is a DP and not a PP.

- (7) *ang b<in>igy-an ng babae = ng bata ng kendi (SIHR)
 NOM <TR.PFV>give-APPL GEN woman = LK child GEN candy
 ‘the child to whom the woman gave candy’

(7) is a crucial part of her argument, because it suggests that the difference between (6a) and (7) is the consequence of constraints on movement. In Tagalog, PPs (and also adverbials) are allowed to move freely to clause-initial position when they are focused, as shown in (8b).

- (8) a. I-b<in>igay ng babae ang kendi sa bata.
 APPL-<TR.PFV>give GEN woman NOM candy to child
 ‘The woman gave the candy to the child.’

- b. **Sa bata** i-b <in> igay ng babae ang kendi.
to child APPL- <TR.PFV> give GEN woman NOM candy
'To the child, the woman gave the candy.'

In contrast, movement of DPs is more constrained. When A'-extraction takes place, only the nominative argument is eligible to move. This restriction is commonly viewed as a general characteristic of syntactically ergative languages (Bittner 1994; Dixon 1994; Campana 1992; Manning 1996; Aldridge 2004b; 2008; and others). The following paradigm illustrates this constraint, showing that neither the genitive (ergative) external argument nor the genitive object can be fronted. In this way, Aldridge concludes that material stranded after the head nominal achieves its position as a result of movement and not base-generation in that position.

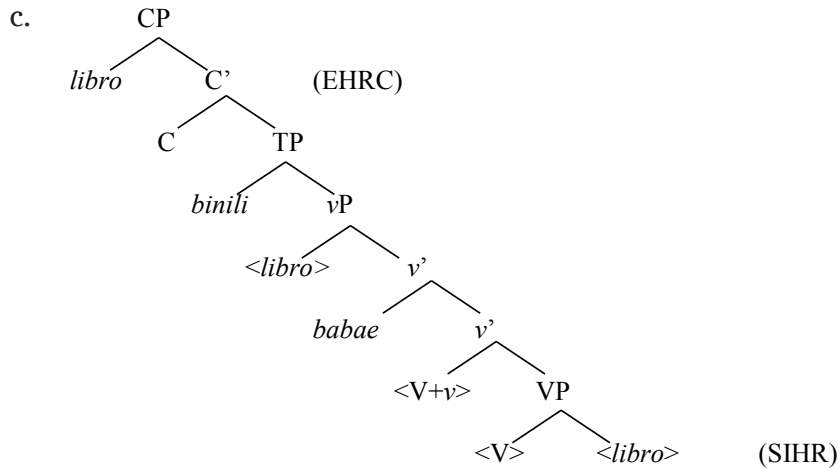
- (9) a. B <in> igy-an ng babae ang bata **ng kendi**.
<TR.PFV> give-APPL GEN woman NOM child GEN candy
'The woman gave the child some candy.'
- b. ***Ng babae** b <in> igy-an ang bata ng kendi.
GEN woman <TR.PFV> give-APPL NOM child GEN candy
'The woman, (she) gave the child some candy.'
- c. ***Ng kendi** b <in> igy-an ng babae ang bata.
GEN candy <TR.PFV> give-APPL GEN woman NOM child
'Candy, the woman gave the child.'

Law (2016) rejects the TP-fronting derivation of SIHRs. He correctly points out a lack of motivation for movement of the remnant TP. He (2016: 732) additionally counters Aldridge's crucial empirical evidence for a movement-based approach, showing that if the linker preceding the head NP is changed from *ng* to *na* and a pause is inserted before the linker, then Aldridge's example in (7), which is repeated below as (10a), becomes grammatical, as shown in (10b) below.

- (10) a. *ang b <in> igy-an ng babae = ng bata ng kendi (SIHR)
NOM <TR.PFV> give-APPL GEN woman = LK child GEN candy
'the child to whom the woman gave candy'
- b. ang b <in> igy-an ng babae # na bata ng kendi (SIHR)
NOM <TR.PFV> give-APPL GEN woman LK child GEN candy
'the child to whom the woman gave candy'

Given that the head NP in SIHRs can be followed by material which cannot independently undergo movement, Law rejects Aldridge's (2003) approach employing scrambling and remnant TP-fronting and proposes that this type of relative clause is internally headed on the surface. Specifically, EHRCs and SIHRs are both derived through head raising to [Spec, CP]. The different surface positions for the head nominal are the result of spelling out different copies of the NP. If the highest copy, in [Spec, CP], is spelled out, the result will be an EHRC. Spelling the head NP out in its base position results in an SIHR.

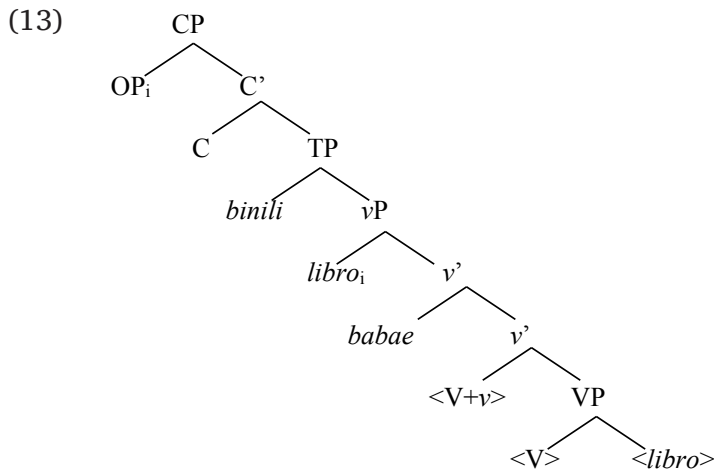
- (11) a. ang **libro** = ng b <in> ili ng babae (EHRC)
NOM book = LK <PFV> buy GEN woman
'the book which the woman bought'
- b. ang b <in> ili ng babae = ng **libro** (SIHR)
NOM <PFV> buy GEN woman = LK book
'the book which the woman bought'



In section 4.1, I propose an even simpler approach to SIHRs, which obviates covert movement to [Spec, CP] and allows the head NP to be interpreted in situ. Another way in which my approach differs significantly from the previous proposals is the derivation of IIHRs, where the head nominal surfaces between the verb and the external argument.

- (12) ang b<in>ili = ng **libro** ng babae (IIHR)
 NOM <PFV>buy=LK book GEN woman
 ‘the book which the woman bought’

Aldridge (2004a) proposes that the head NP moves to the edge of vP where it is bound by a null operator in [Spec, CP].



Law’s (2016) analysis of this type of relative is not extremely clear, since the base position of a theme argument is not expected to be structurally higher than the external argument. He further claims (in footnote 4) that word orders found inside relative clauses are the same as those found in declarative TPs. But placing the nominative object between the verb and external argument in a declarative clause is highly marked in Tagalog, as shown in (14b). Neutral word order is shown in (14a), in which the object follows the external argument.

- (14) a. B<in>ili ng babae **ang libro**.
 <PFV>buy GEN woman NOM book
 ‘The woman bought the book.’

- b. ??B<in>ili **ang libro** ng babae.
 <PFV>buy NOM book GEN woman
 ‘The woman bought the book.’

Law’s analysis could conceivably be amended to allow spell-out of copies in intermediate landing sites, [Spec, vP] in the case of IIHRs. Law’s own data, however, militate against such an approach, since he presents clear evidence from long distance movement which shows that the head NP cannot surface in intermediate landing sites. I discuss these examples in section 5.

A serious empirical problem faced by both Law’s and Aldridge’s approaches is that they predict no structural asymmetries among the head NPs in the various types of relative clause. In particular, since they both assume that the head NP undergoes movement in all relative clauses, they predict that this NP can be phrasal in all cases. This prediction is borne out for EHRCs and SIHRs, as shown by the following examples in which the head noun is accompanied by a phrasal modifier or complement, as shown below.

- (15) a. ang [bahay sa Maynila] na b<in>ili ni Maria (EHRC)
 NOM house in Manila LK <PFV>buy GEN Maria
 ‘the house in Manila that Maria bought’
 b. ang b<in>ili ni Maria na [bahay sa Maynila] (SIHR)
 NOM <PFV>buy GEN Maria LK house in Manila
 ‘the house in Manila that Maria bought’

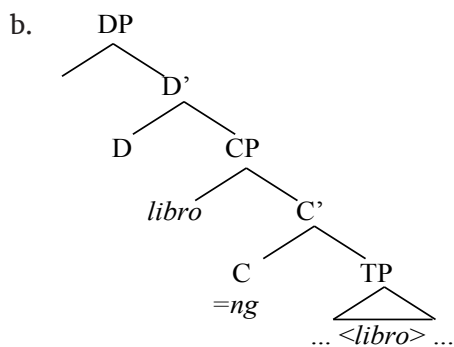
In contrast to this, IIHRs do not allow the head nominal to be phrasal.

- (16) *ang b<in>ili-ng [bahay sa Maynila] ni Maria
 NOM <PFV>buy-LK house in Manila GEN Maria
 ‘the house in Manila that Maria bought’

In section 4.2, I propose that the head nominal cannot be phrasal in IIHRs, because the head noun undergoes head movement and incorporates to the embedded verb.

An additional contribution I offer in this paper is an analysis of linkers. Law (2016) proposes that a linker can occupy one of two positions. In EHRCs, the linker is located in C. The head NP raises to [Spec, CP] in the embedded clause, so the linker in C will intervene between this NP and the rest of the clause.

- (17) a. ang libro =ng b<in>ili ng babae (EHRC)
 NOM book=LK <PFV>buy GEN woman
 ‘the book which the woman bought’



To account for cases in which the the head nominal surfaces inside the clause, Law claims that the linker occurs in the same position as the absolutive (i.e. nominative) case marker.

- (18) a. ang b<in>ili [_{DP} ng libro] ng babae (IIHR)
 NOM <PFV>buy LK book GEN woman
 ‘the book which the woman bought’
- b. ang b<in>ili ng babae [_{DP} ng libro] (SIHR)
 NOM <PFV>buy GEN woman LK book
 ‘the book which the woman bought’

Regarding why it is not the absolutive case marker itself which surfaces in this position, Law proposes with Schachter and Otnes (1972) that *ang* marks definiteness rather than case, and the internal head must be indefinite (Williamson 1987).

While I agree that the structural position of the linker is roughly the same as the case marker, Law’s proposal does not offer a very satisfying explanation for the function of the linker. First, it requires a nonuniform analysis of the linker itself, assuming that it sometimes surfaces with the NP and sometimes in C. It is also not clear what mechanism determines when the linker appears with the NP and when it appears on C. This is because all three relative clause derivations are identical in the syntax, the different surface position of the head NP being determined post-syntactically when copies of the chain are spelled out. A third problem is the fact that linkers iterate on the DP spine, for example selecting NumP, AdjP, and NP in the following examples.

- (19) a. ang dalawa = ng mahaba = ng libro
 NOM two = LK long = LK book
 ‘the two long books of Maria’s’
- b. ng dalawa = ng mahaba = ng libro
 GEN two = LK long = LK book
 ‘two long books of Maria’s’

It is unlikely that this iteration could be analyzed as some kind of concord, given the fact that the form of the linker is unchanged regardless of the case marker occurring with the argument as a whole, which can be nominative, as in (19a), or genitive, as in (19b).

There is also evidence against Law’s analysis of the absolutive case marker *ang* as a marker of definiteness. If this were true, then it would not be expected to surface with indefinite absolutive DPs in declarative clauses. While it is true that absolutive DPs in declarative contexts tend to be interpreted as definite, this is not necessarily the case. For example, the absolutive DP in (20a) is clearly indefinite in the given context. According to this newspaper article, three bodies were discovered. If the numeral here were *tatlo* ‘three’, then this absolutive might be definite, referring to these three bodies. However, the numeral is *dalawa* ‘two’ and is followed by a PP, clearly showing that this absolutive DP has a partitive interpretation and is therefore indefinite. In the case of (20b), this is the opening sentence of the article, so the absolutive argument is first introduced in this sentence and consequently cannot be understood as given information.

- (20) a. K<in>ilala ang dalawa sa mga bangkay nasa pamamagitan
 <TR.PFV>know NOM two of PL body by means
 ng na-kuha = ng pitaka at sedula na
 GEN TR.PFV-take-LK wallet CONJ residence.certificate LK
 ‘Two of the bodies have been identified as ... by means of the wallets and residence certificates taken (from them).’ (Remate; 8/30/2012)

- b. Patay **ang** 36 na katao matapos aksidente = ng b <um> angga
 dead NOM 36 LK person after accident = LK <INTR.PFV> hit
 ang kanila = ng s <in> a-sakyang bus sa isa = ng truck
 NOM 3PL = LK RED <TR.PFV> ride bus to one = LK truck
 na may karga = ng “methanol gas”. (RMN; 8/27/2012)
 LK exist cargo = LK methanol gas
 ‘36 persons are dead after an accident in which the bus they were riding in
 collided with a truck carrying methanol gas.’

As argued convincingly by Rackowski (2002), the absolutive case marker *ang* should be analyzed as marking an object DP when it is specific, but this object is not necessarily definite. In the next section, I propose a different analysis of linkers, according to which they head unsaturated categories on the DP spine. The difference, then, between the specific DP marked with nominative case and a nominal selected by the linker is that the LkP is semantically a predicate or a property and consequently cannot refer to a specific individual.

3 Position and function of the linker

As mentioned briefly in the previous section, Tagalog has two linkers. The distinction between them is primarily phonological. Richards (1999) proposes that *ng* appears when the preceding constituent ends in a vowel and the linker can cliticize to it. This form of the linker surfaces most naturally when it is preceded by a relatively small constituent, in particular if this constituent consists only of a head. In (21a), the linker follows the head noun in an EHRC. In (21b), the linker surfaces between the embedded verb and head noun in an IIHR.

- (21) a. libro = **ng** b <in> ili ng babae (EHRC)
 book = LK <PFV> buy GEN woman
 ‘book which the woman bought’
 b. b <in> ili = **ng** libro ng babae (IIHR)
 <PFV> buy = LK book GEN woman
 ‘book which the woman bought’

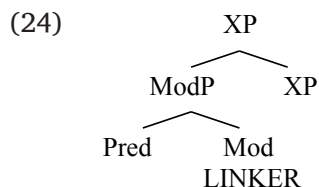
When following a consonant, the linker takes the form of *na*. According to Richards (1999), another environment for *na* is following a prosodic boundary. Of the speakers that I have consulted for the data used in this paper, many of them prefer to use *na* in SIHRs. Law (2016) also shows that *na* is strongly preferred when the head nominal is not immediately adjacent to the verb.

- (22) Hindi brand new [ito = ng [b <in> ili ng ahensya] **na/? = ng**
 NEG brand new this.NOM = LK <TR.PFV> buy GEN agency LK
 helicopter noong 2009]. (SIHR)
 helicopter in 2009
 ‘This helicopter that the agency bought in 2009 is not brand new.’

Linkers are found in a variety of structural contexts. Most relevant to an analysis of relative clauses is the distribution of linkers along the DP spine, a linker occurring with every unsaturated category within the nominal projection, as mentioned in the previous section.

- (23) ito = **ng** dalawa = **ng** mahaba = **ng** libro ni Maria
 this.NOM = LK two = LK long = LK book GEN Maria
 ‘these two long books of Maria’s’

Rubin (1994) and Scontas and Nicolae (2014) analyze Tagalog linkers as signaling the presence of non-saturating composition which combines two properties to create a new property. The linker forms a modification phrase together with its complement. This projection can additionally combine with a second predicate to create a new property XP. Scontas and Nicolae specifically propose that ModP is adjoined to the constituent that it modifies.



Scontas and Nicolae (2014: 25) note that this analysis allows Pred and XP to be generated in either order, since both the constituents flanking the linker are property-denoting. Their proposal is easily compatible with the positions of the head NP in the following relative clauses. Either the NP or the clause can be generated as Pred and XP, respectively.

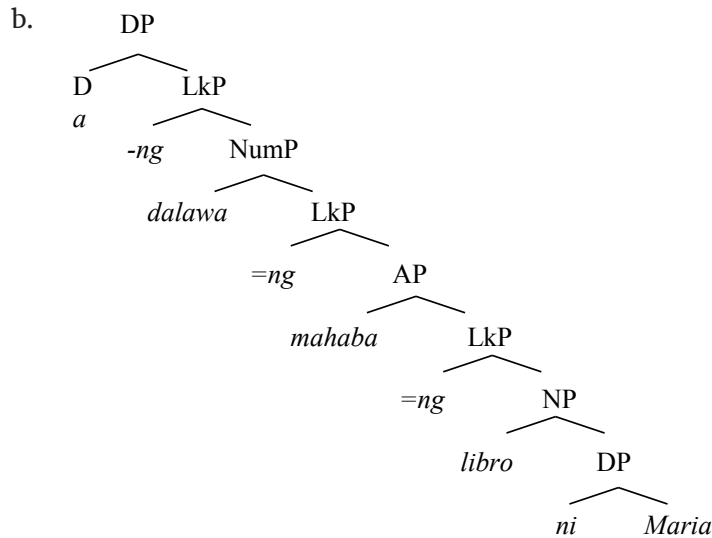
- (25) a. ang **libro**=ng b<in>ili ng babae (EHRC)
 NOM book=LK <PFV>buy GEN woman
 ‘the book which the woman bought’
- b. ang b<in>ili ng babae=ng **libro** (SIHR)
 NOM <PFV>buy GEN woman=LK book
 ‘the book which the woman bought’

However, it is less clear how this approach would account for internally headed relatives in which clause-internal material follows the head NP. It is not clear where in (26) the external argument *ng babae* ‘the woman’ could be generated, since the verb should occupy the Pred position, and the head NP should be located in XP.

- (26) ang [b<in>ili=ng **libro** ng babae] (IIHR)
 NOM <PFV>buy=LK book GEN woman
 ‘the book which the woman bought’

Based on the preceding discussion, I propose a revised analysis of the structural position of the linker. Recalling that linkers are found with all unsaturated categories on the DP spine, I propose that syntactically the linker is a head selecting each of these projections within DP. This proposal thus bears some similarity to approaches to linkers as DP-internal functional heads put forth by Li (1985) for Chinese and Larson (2009) for Chinese and Iranian languages. Aldridge (2016) also proposes that the Modern Mandarin linker *de* derives historically from a functional head on the DP spine below D.

- (27) a. a-**ng** dalawa=**ng** mahaba=**ng** libro ni Maria
 NOM=LK two=LK long=LK book GEN Maria
 ‘the two long books of Maria’s’



As shown in the preceding tree, I also analyze the Tagalog case markers appearing with common nouns as containing a linker. It is admittedly not standard practice in Tagalog syntactic research to gloss case markers as bimorphemic.¹ However, this proposal offers several advantages. First, it accounts for the morphological asymmetry between case markers occurring with common nouns, as opposed to those occurring with personal names. The former end in *-ng*, as shown in (28a) for the nominative marker *ang* and in (28b) for the genitive marker *ng* (pronounced [naŋ]).

- (28) a. a-*ng* babae
 NOM.CN-LK woman
 b. na-*ng* babae
 GEN.CN-LK woman

In contrast to this, case markers occurring with personal names do not have an *-ng* component. The lack of a linker in this case is expected, given that personal names refer to specific individuals and are not unsaturated properties or predicates.

- (29) a. si Maria
 NOM.PN Maria
 b. ni Maria
 GEN.PN Maria

Secondly, my analysis of linkers as selecting all unsaturated categories in DP accounts for the relevant interpretive properties within DPs. If we assume that the case marker occupies the highest position in DP, i.e. the D head itself, then we can say that linkers head all unsaturated categories in the DP and allow them to combine with another category, either through selection or in a specifier-head relationship. If the combining category is another unsaturated category, then the result is a complex predicate. In other words, the linker does not saturate this category but simply allows it to combine with another category.

¹ It is because the case marker and the linker are typically treated as a single word that I gloss the linker attached to the case marker as an affix and not as a clitic.

When the LkP combines with a determiner, the D will bind the variable introduced by this predicate to produce a nominal argument (cf. Szabolcsi 1983; Abney 1987; Longobardi 1994; among many others on this role of determiners).

Thirdly, this analysis also allows a straightforward account of DP-internal word order variation. As in the case of relative clause modifiers, an adjective can also either precede or follow the noun it modifies. (30a) shows the unmarked order in which the adjective precedes the noun. This order is reversed in (30b). Scostas and Nicolae (2014) account for this variation by allowing the adjective and noun to be freely merged as either Pred or XP in the structure in (24). On my approach, nouns and adjectives are analyzed uniformly as such and the more marked noun-adjective order is derived by moving the nominal to a specifier above the adjective. The implementation shown in (30c) derives the desired result. The minimal LkP containing NP (LkP2 in the tree below) moves to the specifier of the linker selecting the adjective phrase (Lk1). The linker following the case marker is now the linker selecting the NP (Lk2).

- (30) a. a-ng malaki = ng aso
 NOM-LK big = LK dog
 ‘the big dog.’
- b. a-ng aso = ng malaki
 NOM-LK dog = LK big
 ‘the big dog.’
- c.
-

Note that my proposal separating case markers and linkers into different functional heads has a positive consequence for this movement. If the case marker and its following linker were analyzed as a single morpheme occupying the D position, then the movement in (30c) would result in the appearance of a superfluous linker between *ang* and the following NP, as in (31a). This problem could be circumvented by moving only the NP, but this would result in the stranding of the linker (Lk2) following the adjective, as in (31b).

- (31) a. *ang [_{LkP2} = ng aso] = ng malaki <LkP2>
 NOM = LK dog = LK big
 ‘the big dog.’
- b. *ang [_{NP} aso] = ng Malaki = ng <NP>
 NOM dog = LK big = LK
 ‘the big dog.’

In short, my analysis allows a uniform account of linkers and their distribution within nominal projections. Linkers head every unsaturated category within DP, and movement of LkPs can be allowed without disrupting these relationships.

I argue for the derivations of different types of Tagalog relative clause – particularly internally headed relatives – in the following section. At this point, let me briefly summarize how my analysis of linkers accounts for their distribution in relative clauses. Like Scontas and Nicolae (2014), I analyze both the head nominal and the relative CP as unsaturated categories that combine via complex predicate formation. On my analysis, both of these unsaturated categories are projected by linkers. The head nominal is base merged in argument position in the relative CP as an LkP rather than a full DP. Analyzing the head nominal as not projecting a DP layer is a natural consequence of merging the determiner outside of the embedded CP, as Kayne (1994) proposes. For Kayne, the category which moves inside the relative clause is NP. Bhatt (1999) also makes a similar proposal.

The idea that relative clauses are headed by linkers is also not new, proposed at least as early as Kroeger (1993) and adopted more recently by Law (2016). On my proposal, the role of the linker in relative clauses is the same as in other categories within DP, i.e. projecting an unsaturated category, given that relative clauses are also unsaturated projections. In addition to relative clauses, my proposal also accounts for declarative complement clauses, which Richards (1999) has also analyzed as being headed by linkers. Analyzing complement CPs as unsaturated categories also brings Tagalog complement clauses into line with semantic analyses like those put forth by Koster (1978), Moulton (2015),² and others that clausal complements do not saturate argument positions but rather combine with the higher verb through predicate modification. This is accomplished straightforwardly on my analysis through selection of the complement clause, which is headed by a linker. In effect, this allows the embedded clause to form a complex predicate with the verb that selects it.

- (32) S <in> abi = niya [=ng [da-rating bukas si Maria]].
 <TR.PFV> say = 3SG.GEN =LK RED-arrive tomorrow NOM Maria
 ‘He/she said that Maria will arrive tomorrow.’

On Scontas and Nicolae’s (2014) account, the appearance of linkers with complement clauses requires treating them as being adjoined to the verb that selects them. However, this approach immediately encounters a problem, since complement clauses can be extracted from, which would be surprising in an adjunction structure like (24).

- (33) **Ano** a-ng s <in> abi = mo-ng
 what NOM-LK <TR.PFV> say = 2SG.GEN-LK
 [_{CP} t_{ano} [_{TP} b <in> ili = niya t_{ano} sa Maynila]]?
 <TR.PFV> buy = 3SG.GEN in Manila
 ‘What did you say he/she bought in Manila?’

Treating the linker as the head of the CP allows this CP to be merged as the complement of the selecting verb, thereby allowing extraction from this CP. Note that Moulton (2015) also analyzes selected CPs as complements of the selecting verb, so the analysis of these CPs as non-saturating categories does not require that they be merged as adjuncts. Furthermore, analyzing linkers as selecting complements to the right maintains a uniform approach to word order in Tagalog, since it is a strictly head-initial language.

My proposal additionally accounts for the appearance of linkers between the existential verb and the pivot in an existential construction. Sabbagh (2009) analyzes the linker in this construction as indicating that the pivot is indefinite and property-denoting.

² Scontas and Nicolae cite a prepublication version of this article from 2012.

Consequently, it is not a full DP which satisfies an argument position in function application. The unsaturated nature of the pivot in existential constructions is easily accommodated on my analysis. Like Sabbagh, I view the LkP pivot as a predicate which introduces a variable. But my take on the role of the existential verb differs slightly from his analysis. Existential verbs are functional categories and have no lexical semantic content. Their semantic contribution can be understood as similar to determiners. Specifically, I propose that the variable introduced by the predicate LkP is bound by the existential verb, which asserts the existence of an individual with this property.

- (34) a. Mayroon-g libro.
 exist-LK book
 ‘There is a book.’
- b.
- ```

 VP
 / \
 EXIST LkP
 / \
 Lk NP

```

One final argument for my analysis of linkers is their distribution in nonrestrictive modification contexts.<sup>3</sup> My analysis predicts that a linker can select the modifier but not the head nominal, given that the nominal refers to a specific individual. This prediction is borne out. (35a) shows a nonrestrictive modifier following the head noun. Note that the head noun, which is a name, is also preceded by the nominative case marker for personal names, indicating that this DP refers to the specific (and definite) individual referred to by this name. In contrast, the modifier preceding the head noun in (35b) can only be understood as restrictive. The DP is also headed by the nominative case-marker for common nouns, indicating that the modifier is treating the name as a property, specifically the set of individuals with the name ‘Pedro’.

- (35) a. Schachter and Otanes (1972: 126)  
 si Pedro [=ng marunong]  
 NOM.PN Pedro =LK wise  
 ‘Pedro, the wise’
- b. Schachter and Otanes (1972: 128)  
 a-ng marunong na Pedro  
 NOM-LK wise LK Pedro  
 ‘the wise Pedro’

To summarize the discussion in this section, I am in fundamental agreement with previous semantic approaches which view the function of the linker as heading an unsaturated category and leaving it unsaturated. But I view the linker more as performing a morphological function than the semantic function of combining constituents in a modification relation. On my view, the job of the linker is to signal the presence of an unsaturated category which can combine with other grammatical formatives in semantically appropriate ways, one such way being modification. It is therefore unsurprising that Austronesian languages with less complex morphology can also form the types of modification structures, including the full range of relative clause types observed in Tagalog, in spite of the fact

<sup>3</sup> I thank an anonymous reviewer for their suggestion to include a discussion of nonrestrictive modification in conjunction with the analysis of linkers.

that they do not have linkers. This makes it clear that the semantic combination is not dependent on the presence of a linker, per se. I illustrate this for the Atayalic language Seediq, which like Tagalog, also has EHRCs, SIHRs, and IIHRs.

- (36) a. **sapah** s<n>malu na tama (EHRC)  
 <PFV>build GEN father  
 ‘house that Father built’
- b. s<n>malu **sapah** na tama (IIHR)  
 <PFV>build house GEN father  
 ‘house that Father built’
- c. s<n>malu na tama **sapah** (SIHR)  
 <PFV>build GEN father house  
 ‘house that Father built’

In the following section, I turn to the analyses of different types of relative clause in Tagalog. I also account for the distribution of linkers in relative clauses and show how they play an important role in identifying the head nominal.

#### 4 Tagalog relative clauses

This section presents my proposals for deriving different types of Tagalog relative clause. With Aldridge (2003; 2004a) and Law (2016), I assume a head raising analysis of EHRCs but propose that the head NP is base merged in the clause as an LkP, which is a non-referential, unsaturated category. Itself an unsaturated category, the relative CP is also headed by a linker, as proposed in the previous section. In an EHRC, the relative CP and the NP in its specifier form a complex predicate introducing a variable which can then be bound by a determiner to form an argument.

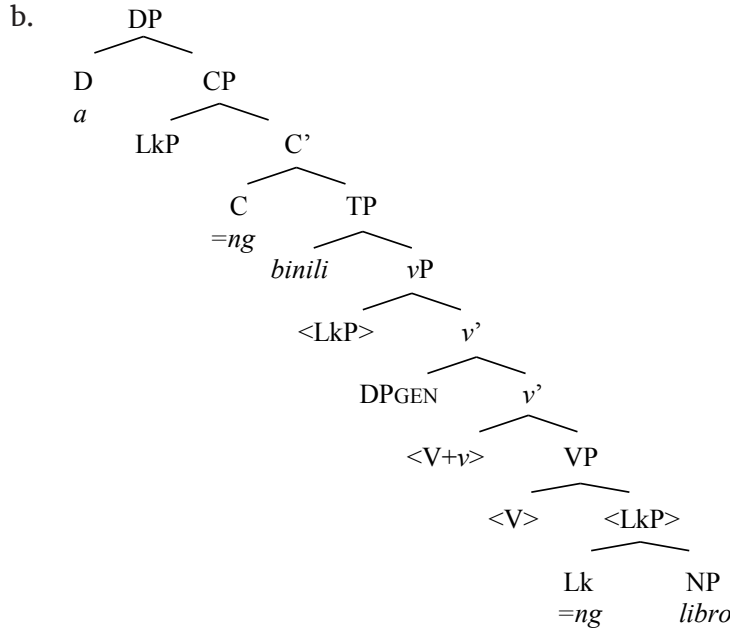
To derive SIRC, I propose that these are truly internally headed, the LkP remaining in its base position in the embedded clause and undergoing complex predicate formation in situ with the embedded verb. For IIHRs, I propose that complex predicate formation results from incorporation of the head noun to the embedded verb, with the result that it surfaces between the verb and external argument. In this section, I also propose an analysis of headless relative clauses in which the gap is a null pronominal rather than an LkP.

##### 4.1 Derivation of EHRCs and SIHRs

With Aldridge (2003) and Law (2016), I propose that Tagalog EHRCs are derived by raising the head NP to [Spec, CP] in the embedded clause. The NP and CP then form a complex predicate introducing a variable bound by the external determiner. As proposed in section 3, I analyze the head nominal and the relative CP as both being headed by linkers, given that both are unsaturated categories within DP.<sup>4</sup> This avoids the problem faced by Law of having to stipulate that linkers sometimes appear in C and sometimes with the NP. On my analysis, a linker surfaces both after the external determiner and between the head NP and the clause after the NP (LkP) moves to [Spec, CP].

- (37) a. a-ng **libro** = ng b<in>ili ng babae (EHRC)  
 NOM-LK book = LK <PFV>buy GEN woman  
 ‘the book which the woman bought’

<sup>4</sup> This effectively means that the label of “CP” is actually “LkP”. I continue to use “CP” in order to prevent confusion between the two LkPs, the one for the nominal and the one for the clause.



A further consequence is that, as a reduced nominal category, the head NP should not be expected to value case.<sup>5</sup> I propose that structural nominative case is not available in relative clauses, this C head being defective in the sense that it lacks an unvalued  $\phi$ -feature. In section 5, I show how this analysis of case additionally accounts for locality in relative clause formation.

SIHRs are derived very simply by leaving the head NP in situ inside the relative clause. Since the head nominal is not a referential DP but a property-denoting LkP, it can combine with another property or predicate and form a complex predicate. I propose that this LkP can combine with the embedded verb directly in the embedded VP and be interpreted as part of the complex predicate in the embedded clause.

- (38) a-ng b<in>ili ng babae = ng libro (SIHR)  
 NOM-LK <PFV>buy GEN woman = LK book  
 ‘the book which the woman bought’

In addition to allowing a simpler derivation without covert movement, the in-situ analysis gains empirical support from the following binding facts. As in English, a Tagalog reflexive pronoun is subject to Binding Condition A and must be c-commanded by its antecedent in order to be bound. In (39b), the intended antecedent is in direct object position and therefore does not c-command the anaphor contained within the external argument.

- (39) a. S<in>untok ng lalaki ang sarili = niya = ng kaibigan.  
 <TR.PFV>hit GEN man NOM self = 3SG.GEN = LK friend  
 ‘The man hit his own friend.’  
 b. \*S<in>untok ng sarili = niya = ng kaibigan ang lalaki.  
 <TR.PFV>hit GEN self = 3SG.GEN = LK friend NOM man  
 ‘\*His own friend hit the man.’

<sup>5</sup> Bhatt (1999: 38) makes the same assumption that DPs require case but not NPs.



In a relative clause, an anaphor can be bound by the external head in an EHRC, as in (40a). Note that this means that raising of the head NP establishes a new binding relation that is not available in the declarative clause in (39b). On the other hand, the ungrammaticality of (39b) is mirrored in the SIRC in (40b). The head nominal surfacing in situ in the SIHR is not able to bind the anaphor inside the external argument in the relative clause. This is unsurprising on my analysis, since I have proposed that the head NP does not move to [Spec, CP] in SIHRs. Consequently, there is no point in the derivation in which the intended antecedent c-commands the anaphor, just as is the case in the declarative clause in (39b). However, the lack of binding in (40b) is problematic for Law's (2016) approach, since he assumes that the head nominal moves to [Spec, CP] in SIHRs and receives its interpretation as the head of the relative clause in this position at LF. But if the head NP were interpreted in [Spec, CP], then binding would be predicted to be possible, just as it is in (40a). The inability of the head NP to bind the anaphor in (40b) strongly suggests that the head NP in SIHRs does not move to [Spec, CP].

- (40) a. a-ng lalaki = ng s <in> untok ng sarili = niya = ng kaibigan  
 NOM-LK man = LK <TR.PFV> hit GEN self = 3 SG.GEN = LK friend  
 'the man who his own friend hit'
- b. \*s <in> untok ng sarili = niya = ng kaibigan na lalaki  
 <TR.PFV> hit GEN self = 3 SG.GEN = LK friend LK man  
 'the man who his own friend hit'

Note further that the lack of binding in (40b) is not due merely to the fact that the intended antecedent does not precede the anaphor. The following IIHR is likewise ungrammatical, even though the head nominal now precedes the anaphor.

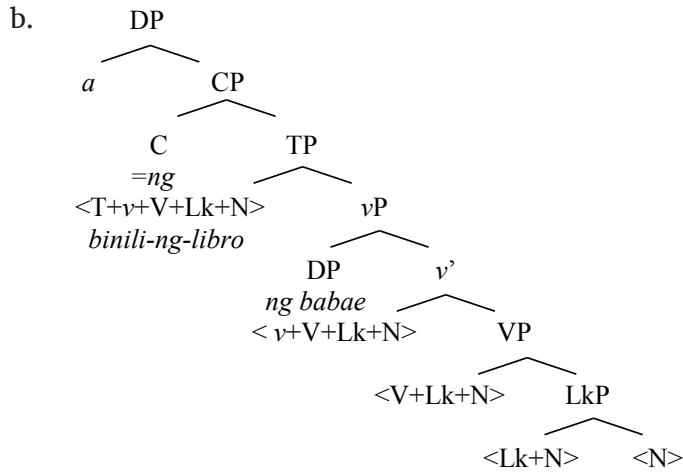
- (41) \*s <in> untok na lalaki ng sarili = niya = ng kaibigan  
 <TR.PFV> hit LK man GEN self = 3 SG.GEN = LK friend  
 'the man who his own friend hit'

In the following subsection, I argue for an analysis of IIHRs as derived through incorporation of the head noun to the embedded verb. Consequently, both IIHRs and SIHRs are analyzed as internally headed. The difference between the two types is in whether the head nominal is phrasal or consists of just the head noun.

#### 4.2 Incorporation in internally headed relatives

I also depart from previous approaches in my analysis of IIHRs. Both Aldridge (2004a) and Law (2016) assume phrasal movement of the NP, which surfaces in a position between the verb and external argument. However, there are numerous asymmetries between IIHRs and other types of headed relative that are not accounted for if LkPs undergo phrasal movement in IIHRs. Put simply, the head nominal in EHRCs and SIHRs can be phrasal, while in IIHRs it cannot. In this subsection, I explore these asymmetries and propose that complex predicate formation in IIHRs is the result of incorporation of the head noun to the embedded verb via head movement along the lines of Baker (1988). As in the case of SIHRs, merging the head NP as LkP, which is itself a predicate and not a referential argument, allows for the possibility that complex predicate formation takes place inside the embedded clause. Later in this section, I propose that incorporation is the default strategy for forming internally headed relative clauses in Tagalog. SIHRs only result when the head NP is a phrasal category.

- (42) a. a-ng b <in> ili = ng libro ng babae (IIHR)  
 NOM-LK <PFV> buy =LK book GEN woman  
 ‘book which the woman bought’



The main empirical difference between Tagalog IIHRs and other headed relative clauses is that the head NP can be phrasal in the latter but not in the former. For example, (43a) and (43b) show that the head NP can be possessed in EHRCs and SIHRs, respectively. Note that the head NP in the SIRC in (43b) is also followed by other clause-internal material, but this does not affect the grammaticality. The head NP cannot be possessed in an IIHR, as shown in (43c).

- (43) a. a-ng [libro ni Maria] = ng i- <ni> lagay ni Pedro (EHRC)  
 NOM-LK book GEN Maria =LK APPL- <TR.PFV> put GEN Pedro  
 sa lamesa  
 on table  
 ‘the book of Maria’s that Pedro put on the table’
- b. a-ng i- <ni> lagay ni Pedro = ng [libro ni Maria] (SIHR)  
 NOM-LK APPL- <TR.PFV> put GEN Pedro =LK book GEN Maria  
 sa lamesa  
 on table  
 ‘the book of Maria’s that Pedro put on the table’
- c. \*a-ng i- <ni> lagay na [libro ni Maria] ni Pedro (IIHR)  
 NOM-LK APPL- <TR.PFV> put LK book GEN Maria GEN Pedro  
 sa lamesa  
 on table  
 ‘the book of Maria’s that Pedro put on the table’

It may be countered that the problem with (43c) is the adjacency between the possessor and ergative external argument, which may result in processing difficulties. However, this is unlikely to be the source of the ungrammaticality, since Tagalog also has a possessive pronoun which precedes its possessum, but speakers still do not accept this possessor in IIHRs.

- (44) \*a-ng i <ni> lagay na [aki-ng libro] ni Maria sa lamesa (IIHR)  
 NOM-LK APPL- <TR.PFV> put LK 1SG.GEN book GEN Maria on table  
 ‘the my book that Maria put on the table’

The head noun in EHRCs and SIHRs can take a complement or modifying PP, as mentioned in section 2, but this is not possible in IIHRs.

- (45) a. a-ng [bahay **sa Maynila**] na b<in>ili ni Maria (EHRC)  
 NOM-LK house in Manila LK <PFV>buy GEN Maria  
 ‘the house in Manila that Maria bought’
- b. a-ng b<in>ili ni Maria na [bahay **sa Maynila**] (SIHR)  
 NOM-LK <PFV>buy GEN Maria LK house in Manila  
 ‘the house in Manila that Maria bought’
- c. \*a-ng b<in>ili-ng [bahay **sa Maynila**] ni Maria (IIHR)  
 NOM-LK <PFV>buy-LK house in Manila GEN Maria  
 ‘the house in Manila that Maria bought’

Coordination yields the same pattern. The head NP in EHRCs and SIHRs can be coordinated, as in (46a) and (46b). But this is not possible for IIHRs, as shown in (46c).<sup>6</sup>

- (46) a. Na-wala ang [**libro at CD**] na b<in>ili ni Maria.  
 PFV-not.exist NOM book and CD LK <TR.PFV>buy GEN Maria  
 ‘The book and CD that Maria bought have disappeared.’ (EHRC)
- b. Na-wala ang b<in>ili ni Maria-ng [**libro at CD**].  
 PFV-not.exist NOM <TR.PFV>buy GEN Maria-LK book and CD  
 ‘The book and CD that Maria bought have disappeared.’ (SIHR)
- c. \*Na-wala ang b<in>ili-ng [**libro at CD**] ni Maria.  
 PFV-not.exist NOM <TR.PFV>buy-LK book and CD GEN Maria  
 ‘The book and CD that Maria bought have disappeared.’ (IIHR)

It should be pointed out that the head nominal in an IIHR can combine with an adjective within the complex predicate, as in (47a). (47b) shows that the adjective can also precede the entire relative clause, being merged on the DP spine.

- (47) a. Hindi brand new [ito = ng **tatlo = ng** b<in>ili = ng **malaki = ng**  
 NEG brand new this.NOM = LK 3 = LK <TR.PFV>buy = LK big = LK  
 helicopter ng ahensya noong 2009]. (IIHR)  
 helicopter GEN agency in 2009  
 ‘These three big helicopters that the agency bought in 2009 are not brand new.’
- b. Hindi brand new [ito = ng **tatlo = ng malaki = ng**  
 NEG brand new this.NOM = LK 3 = LK big = LK  
 b<in>ili = ng helicopter ng ahensya noong 2009]. (IIHR)  
 <TR.PFV>buy = LK helicopter GEN agency in 2009  
 ‘These three big helicopters that the agency bought in 2009 are not brand new.’

Tagalog also allows a numeral to occur with the head NP,<sup>7</sup> as in (48a), or outside of the relative clause, as in (48b).

<sup>6</sup> This sentence is grammatical if *ni Maria* is understood as the possessor of the head NP. But if *ni Maria* were part of the head NP, then this relative clause would become an SIHR with the head NP in clause-final position.

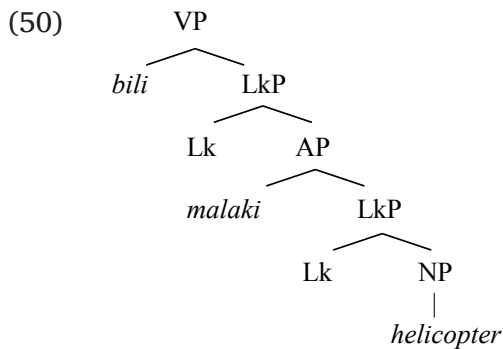
<sup>7</sup> Aldridge (2004a) claims that this is ungrammatical, but the speakers I consulted accept it.

- (48) a. Hindi brand new [ito = ng            b < in > ili = ng            **tatlo = ng**  
 NEG brand new this.NOM = LK < TR.PFV > buy = LK 3 = LK  
 helicopter ng ahensya noong 2009]. (IIHR)  
 helicopter GEN agency in 2009  
 ‘These three big helicopters that the agency bought in 2009 are not brand new.’
- b. Hindi brand new [ito = ng            **tatlo = ng**  
 NEG brand new this.NOM = LK 3 = LK  
 b < in > ili = ng            helicopter ng ahensya noong 2009]. (IIHR)  
 < TR.PFV > buy = LK helicopter GEN agency in 2009  
 ‘These three big helicopters that the agency bought in 2009 are not brand new.’

However, the possibility of incorporating an adjective is not surprising on my analysis, given that adjectives in Tagalog can also serve as predicates, as in (49a). Interestingly, this is also true of numerals, as shown in (49b).

- (49) a. Malaki ito = ng            helicopter.  
 big this.NOM = LK helicopter  
 ‘This helicopter is big.’
- b. Tatlo ang helicopter.  
 three NOM helicopter  
 ‘There are three helicopters.’ (lit. ‘The helicopters are three.’)

As property-denoting heads, I assume that they can form part of the complex predicate in the IIHR. With the assumption that rightward adjunction is possible, successive-cyclic head movement from N to V will create the complex predicate shown in (47a): *biniling malaking helicopter* ‘bought large helicopter’.



It is worth pointing out that there seems to be a limit to the number of heads that can be stacked in forming an IIHR. Speakers typically do not allow both a numeral and adjective to appear inside the complex predicate, as shown in (51a). This is perfectly acceptable in a SIHR, as shown in (51b).

- (51) a. ?\*Hindi brand new [ito = ng            b < in > ili = ng            **tatlo = ng malaki = ng**  
 NEG brand new this.NOM = LK < TR.PFV > buy = LK 3 = LK big = LK  
 helicopter ng ahensya noong 2009]. (IIHR)  
 helicopter GEN agency in 2009  
 ‘These three big helicopters that the agency bought in 2009 are not brand new.’
- b. Hindi brand new [ito-ng            b < in > ili            ng ahensya na  
 NEG brand new this.NOM-LK < TR.PFV > buy GEN agency LK  
**tatlo-ng malaki-ng** helicopter noong 2009]. (SIHR)  
 3-LK big-LK helicopter in 2009  
 ‘These three big helicopters that the agency bought in 2009 are not brand new.’

I cannot say what exactly determines the limit on the number of heads in a complex verb. Regardless of the answer to this question, the asymmetry between potentially phrasal head NPs in EHRCs and SIHRs and non-phrasal head NPs in IIHRs clearly suggests separate derivations for the two types. The latter can be derived through incorporation of the head noun to the embedded verb, while the former cannot.

Before concluding this section, I show how my analysis of Tagalog internally headed relative clauses accounts for the other characteristics noted by Aldridge (2004a) for this construction. First is the indefiniteness restriction, found also in internally headed relative clauses in certain languages like Lakhota (Williamson 1987), Cocopa (Basilico 1996), and the Gur languages (Tellier 1989; Hiraiwa 2003). As Williamson (1987) shows, a definite determiner cannot appear with the head NP inside a HIRC in Lakhota.

- (52) *Lakhota* (Williamson 1987: 171)
- a. [[Mary owiža wə] kaḡe] ki] he ophewathu  
 Mary quilt a make the DEM I-buy  
 'I bought the quilt that Mary made.'
- b. \*[[Mary owiža ki] kaḡe] ki] he ophewathu  
 Mary quilt the make the DEM I-buy

I assume that this restriction can be accounted for in multiple ways, depending on how internally headed relatives are derived in different languages. The restriction in Tagalog is accounted for on my analysis, given that the head nominal is an LkP and not a referential DP. The question may be asked as to why the head nominal must be merged as an LkP. This is because case is not available for this argument in a relative clause, as proposed in section 4.1. I elaborate more on this proposal in section 5.

Another fact that is accounted for is the lack of ambiguity as to which clause-internal NP is the head of the relative clause in Tagalog internally headed relatives. Williamson (1987) notes the potential for ambiguity in the choice of head NP in Lakhota HIRCs, which do not involve overt movement of the head NP. Hastings (2004) shows that Imbabura Quechua HIRCs are likewise ambiguous.

- (53) *Imbabura Quechua* (Hastings 2004: 120)
- [Wawa alku-man rumi-ta shita-shka]-ka yana-mi.  
 child dog-DAT rock-ACC throw-NMLZ-TOP black-EVID  
 'The rock that the child threw at the dog is black.'  
 'The child who threw the rock at the dog is black.'  
 'The dog that the child threw the rock at is black.'

Hastings proposes that the internal head in Imbabura HIRCs need not undergo raising at LF. The ambiguity is the natural consequence of this analysis, since identity of the head is not determined syntactically but rather pragmatically through an anaphoric relationship. In contrast to this, the class of HIRCs which Basilico (1996) analyzes as involving overt clause-internal movement do not allow for such ambiguity in the choice of head, since movement of the NP places it in a position where it will be bound by the determiner external to the clause.

The lack of ambiguity in Tagalog falls out straightforwardly on my approach. As I discuss in the following section, there can only be one LkP in a relative clause. All other nominal arguments are selected in positions where inherent case is assigned and as a consequence project full DP structures. Incorporation cannot be launched from a referential DP, since a determiner would not be able to participate in complex predicate

formation. My assumption that incorporation is not launched from a DP is unsurprising from a cross-linguistic standpoint, since incorporated nouns do not appear with determiners or case-markers in other languages as well (Gerds 2001). In Nahuatl, the morpheme *in* (glossed as ‘the’) appearing with the free standing noun in (54a) does not appear on the incorporated noun in (54b). Gerds (2001) also points out that the absolute suffix *-tl* is absent from the incorporated noun.

- (54) *Nahuatl* (Sapir 1911; cited by Gerds 2001: 84)
- a. ni-c-qua in nacatl.  
I-it-eat the flesh  
‘I eat the flesh.’
  - b. ni-naca-qua.  
I-flesh-eat  
‘I eat flesh.’

My analysis also accounts for why incorporation generally does not take place in Tagalog declarative clauses. Unlike relative C, declarative C is not defective and comes equipped with a [ $u\phi$ ] feature to value nominative case. Since an LkP cannot value case, incorporation would cause the derivation to crash since [ $u\phi$ ] on C would not be valued.

Tagalog noun incorporation is thus likened to the detransitivizing type<sup>8</sup> of noun incorporation for which Baker (1988) proposes that there is no case available for the incorporated noun or for any material stranded in that noun phrase after movement of N to the verb. In the Greenlandic examples in (55), the verb agrees with both the subject and the free standing direct object in (55a), but noun incorporation in (55b) results in an intransitive predicate which can only agree with the subject.

- (55) *Greenlandic* (Saddock 1980; cited by Baker 1988: 123–125)
- a. Neqi neri-vara.  
meat.ABS eat-1SG.SUBJ/3SG.OBJ  
‘I ate the meat.’
  - b. Sapangar-si-voq.  
bead-get-3SG.SUBJ  
‘He bought beads.’

The difference between Tagalog and Greenlandic is that case is always available for an object in a declarative clause in the former. As mentioned in section 2, semantically transitive declarative clauses can be packaged in two ways in Tagalog. When transitive morphology appears on the verb, the object values nominative case and is typically interpreted as definite, as indicated by the translation of (56a). When intransitive morphology appears on the verb, structural case is valued on the external argument and the object receives inherent genitive case from the verb, as in (56b). This is an antipassive construction, and as in antipassives cross linguistically, the object is indefinite and also typically nonspecific.<sup>9</sup> (56b) is similar to (55b) in that the clause is detransitivized in the sense that structural case is valued only on the external argument. Intransitive morphology additionally appears on the Tagalog verb in (56b). However, the lack of structural case in Tagalog does not necessarily allow an object to undergo incorporation, because inherent case is still available for this object, which necessitates the presence of a full DP.

<sup>8</sup> See also Mithun (1984) for discussion of different types of noun incorporation in which case is or is not available for an internal argument.

<sup>9</sup> Sabbagh (2016) shows that it is not obligatory for the antipassive object to be nonspecific, but the tendency is still quite strong.

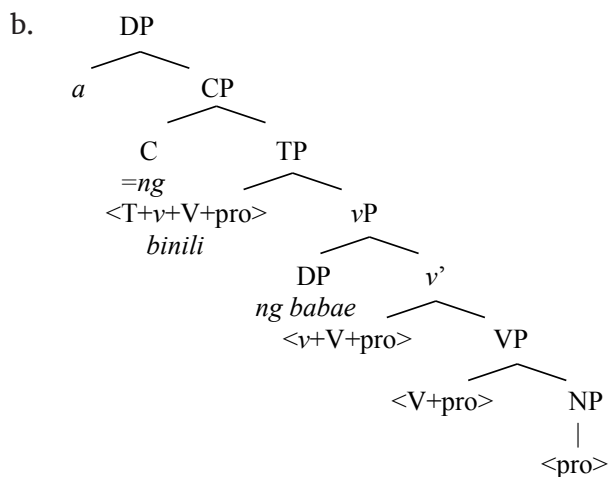
- (56) a. B <in>ili ng babae ang isda.  
 <TR.PFV>buy GEN woman NOM fish  
 ‘The woman bought the fish.’
- b. B <um>ili ang babae ng isda.  
 <INTR.PFV>buy NOM woman GEN fish  
 ‘The woman bought a/\*the fish.’

The availability of case in declarative clauses severely restricts the distribution of LkPs in Tagalog. The only context where an LkP is selected by a verb in a declarative clause is an existential construction, as discussed in section 3. Sabbagh (2009) makes it clear that this NP functions as a predicate and not as an argument of the existential verb. Since constructions like (57) have no arguments, then case need not – and in fact cannot – be assigned.

- (57) Mayroon-g libro.  
 exist-LK book  
 ‘There is a book.’

Before closing this section, I turn to my analysis of headless relative clauses. I have proposed above that relative clauses are headed by linkers, just as head nominals are. This accounts for the appearance of a linker between the external determiner and the head nominal in EHRCs, as well as preceding the head nominal in SIHRs and IIHRs. Tagalog also has headless relative clauses in which a CP containing a gap is directly selected by a determiner. In this case, the relative CP itself denotes a property which introduces a variable which can be bound by the external determiner. As for the null head position in the embedded clause, I assume that this is a null pronominal. However, due to the fact that referential DPs cannot in the position for the head NP in relative clauses, I assume that this pronominal category is not a DP but simply an NP. Headless relatives can then be viewed as a subtype of internally headed relative clause, the pronominal N incorporating to the embedded verb.<sup>10</sup>

- (58) a. a-ng b <in>ili ng babae (Headless)  
 NOM-LK <PFV>buy GEN woman  
 ‘what the woman bought.’



<sup>10</sup> My analysis also allows for the possibility that the pronominal NP raises to [Spec, CP] to form a complex predicate with the clause in this position, as pointed out by an anonymous reviewer. At present, I have no syntactic evidence to distinguish between these two analyses, so I leave the question for future research. My choice to analyze them as IIHRs is made primarily due to the fact that they pattern with this type of relative in their interpretive properties, as I mention at the end of this section.

This section has proposed my analysis of internally and externally headed relative clauses in Tagalog. EHRCs are derived by moving the head nominal to [Spec, CP] in the embedded clause. SIHRs remain in their base positions and undergo complex predicate formation with the verb in situ. In IIHRs, complex predicate formation is the result of head movement and incorporation of the head nominal to the embedded verb.

Regarding the question of why the language employs different types of relative clause, I propose first that between the two types of internally headed relative, incorporation is the default operation and takes place when it can. SIHRs result when incorporation is not possible, i.e. when the head NP is phrasal. Although I can only offer an informal observation at this time, this proposal accords well with what I have observed in texts. Unambiguous SIHRs, those in which the head nominal follows a full DP external argument, are extremely rare. In contrast, IIHRs seem to be the norm.

Turning to the question of why Tagalog has both internally and externally headed relatives, my thoughts on this at present are very speculative, but I suggest that this is related to interpretation. As discussed in section 2 and mentioned again above in (56), nominative objects in transitive clauses are typically interpreted as definite, while genitive objects in antipassives are generally indefinite and nonspecific. For reasons that remain mysterious at the present time, EHRCs occur very naturally as genitive objects in antipassive constructions, as shown in (59a). But IIHRs and SIHRs do not, as shown in (59b) and (59c), respectively.

- (59) a. B <um> asa = ako                                          ng  
           <INTR.PFV> read = 1SG.NOM GEN  
           [**libro**-ng [i-s<in>ulat                                  ni Maria]].  
           book-LK APPL<TR.PFV> write GEN Maria  
           ‘I read a book that Maria wrote.’                        (EHRC)
- b. ??B <um> asa = ako                                          ng  
           <INTR.PFV> read = 1SG.NOM GEN  
           [i-s<in>ulat                                  na **libro** ni Maria].  
           APPL<TR.PFV> write LK book GEN Maria  
           ‘I read a book that Maria wrote.’                        (IIHR)
- c. ??B <um> asa = ako                                          ng  
           <INTR.PFV> read = 1SG.NOM GEN  
           [i-s<in>ulat                                  ni Maria-ng **libro**].  
           APPL<TR.PFV> write GEN Maria-LK book  
           ‘I read a book that Maria wrote.’                        (SIHR)

This suggests that internally headed relatives are unnatural when forced to be interpreted as nonspecific. This conclusion is supported by a survey of online news sources that I did in 2012, in which it was revealed that internally headed relatives frequently occur in the first sentence of the article and seem to have the function of introducing referents into the discourse.<sup>11</sup> The following example is the opening sentence of an article about the discovery of a missing person. This sentence introduces that person into the discourse. The head NP in this example surfaces between the embedded verb and an adjunct in the embedded clause. Since the head noun in an unambiguous IIHR precedes the external argument, this example is ambiguous between an IIHR and an SIHR. My observation is that both types of internally headed relative are used in this context, i.e. to introduce a discourse referent.

<sup>11</sup> See also Aldridge (2012) for discussion and analysis of another construction commonly used to introduce discourse referents, the ‘event existential’, in which an existential verb selects an internally headed relative clause.



- (60) Bangkay na nang ma-tagpu-an [a-ng  
corpse already when PASS-find-APPL NOM-LK  
[na-pa-ulat na na-wa-wala =ng lalaki  
PFV.PASS-CAUS-report LK PFV-RED-not.exist = LK man  
sa lalawigan ng Sorsogon]]. (Bombo Radio; October 2012)  
in province GEN Sorsogon  
'(He) was already a corpse when the man who was reported missing in Sorsogon  
Province was discovered.'

At present, I have no explanation for why internally and externally headed relatives have different interpretive properties and leave this question for future research.

## 5 Locality

One important point which has not yet been addressed is the locality constraint mentioned in section 2 whereby the head of a relative clause can only be the nominal which would have nominative case in a declarative clause. (61a) shows a declarative transitive clause in which nominative case appears on the direct object. This object is extracted to form a relative clause in (61b). The genitive external argument is not able to undergo this movement, as shown in (61c).

- (61) a. B<in>ili ng babae ang isda.  
<TR.PFV>buy GEN woman NOM fish  
'The woman bought the fish.'
- b. a-ng isda =ng b<in>ili ng babae  
NOM-LK fish = LK <TR.PFV>buy GEN woman  
'the fish that the woman bought'
- c. \*a-ng babae =ng b<in>ili ang isda  
NOM-LK woman =ng <TR.PFV>buy NOM fish  
'the woman who bought the fish'

Aldridge (2004; 2008) accounts for this locality constraint by proposing that dislocation in syntactically ergative languages like Tagalog is driven by category sensitive EPP features (specifically strong [D] features) on phase heads.

- (62) **Syntactic Ergativity Parameter** (Aldridge 2004b; 2008)  
EPP ([uD]) on phase heads C and transitive  $\nu$  (no EPP on T)

The EPP feature on transitive  $\nu$  draws the nominative object into the outer specifier of this phase, allowing it to be attracted by a probe on C, as shown in (63). Since the external argument is located in a lower specifier in the edge of  $\nu P$ , it cannot be attracted over the object.

- (63) [<sub>CP</sub> isda =ng [<sub>TP</sub> b<in>ili [<sub>νP</sub> <isda> [<sub>νP</sub> ng babae ...  
fish LK <TR.PFV>buy GEN woman  
'fish that the woman bought'

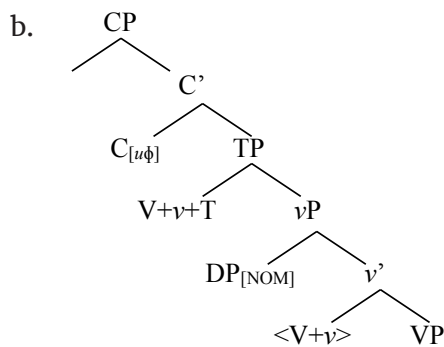
However, this analysis would be difficult to maintain in my approach to relative clauses, since the moving category is not a DP but an LkP. In more recent work, Aldridge (in press) proposes that the [ $u\phi$ ] probe entering the derivation on C responsible for valuing nominative case also serves as the probe triggering A'-movement. This effectively restricts DP

movement to those DPs with nominative case. However, the nominative case approach also does not carry over to my analysis of relativization, since an LkP is not able to value case, given that it is not a full DP.

The approach proposed by Rackowski (2002) and Rackowski and Richards (2005) fares no better. They propose that dislocation is mediated by agreement between the verb and the case feature of the moving DP. Direct objects can be extracted in transitive clauses, because transitive verbs agree with the accusative case feature assigned to the object.<sup>12</sup> But, again, given that the moving category inside a relative clause does not project a DP layer, it would be difficult to claim that it values case.

To summarize the challenge at hand, the key to solving the locality problem is identifying an account of the distribution of nominative case in declarative clauses which also forces LkPs to surface in the same positions in relative clauses. Adapting Aldridge’s (in press) analysis of nominative case valuation in declarative clauses provides us with such a solution. In a declarative clause, nominative case is valued on the highest DP which has not been assigned inherent case. In intransitive clauses, subjects have nominative case, as they do in accusative languages. In other words, inherent ergative (genitive in Tagalog) case is not assigned. Consequently, the probe will find the subject and value nominative case on this argument.

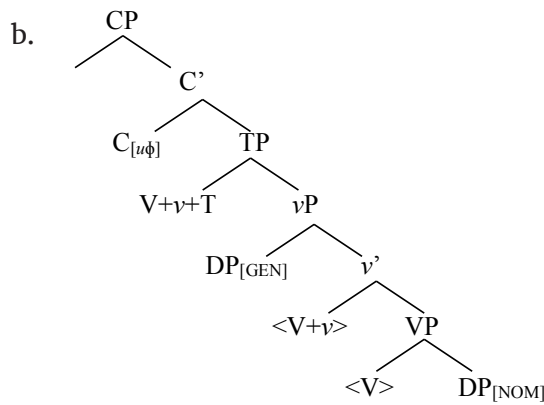
- (64) a. D <um>ating ang babae.  
 <INTR.PFV>arrive NOM woman  
 ‘The woman arrived.’



In a transitive clause, the external argument is assigned inherent case by *v*. Since this argument has already been case licensed, it is no longer an active goal for the probe on *C*. The probe can therefore ignore the external argument, and value nominative case on the internal argument. See also Aldridge (2004b; 2008) and Legate (2008) for such an approach to valuing case in transitive and intransitive clauses in ergative languages.

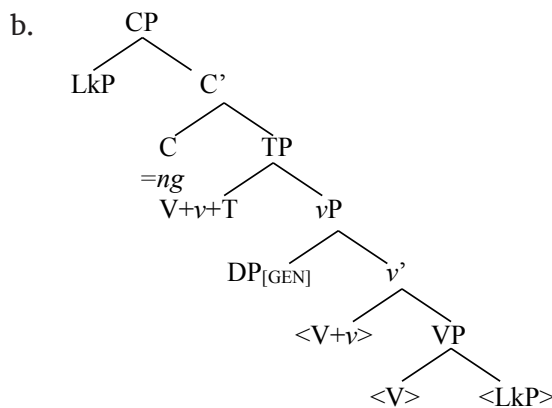
- (65) a. B <in>ili ng babae ang isda.  
 <TR.PFV>buy GEN woman NOM fish  
 ‘The woman bought the fish.’

<sup>12</sup> Note that this approach must assume that abstract case is completely decoupled from the nominative and genitive morphological markers appearing on the arguments, a stipulation which is given no empirical support.



Relative clauses can be given a parallel analysis. I proposed in section 4.1 that relativizing C does not have the ability to value case. The result is that the LkP denoting the head nominal will only be able to occupy the position in a relative clause where a nominative DP would appear in a declarative clause. This is because other nominal arguments in the clause, for instance the external argument in a transitive clause, will be assigned inherent case, and in order to receive this case, the argument must be a full DP. Since nominative case is not valued in a relative clause, the argument which would otherwise value nominative case can – and in fact must – be an LkP. Since the “nominative” argument is an LkP rather than a saturated DP, it can undergo complex predicate formation with the relative clause by moving to [Spec, CP].

- (66) a. a-ng libro = ng b <in> ili ng babae (EHRC)  
 NOM-LK book = LK <PFV> buy GEN woman  
 ‘the book which the woman bought’



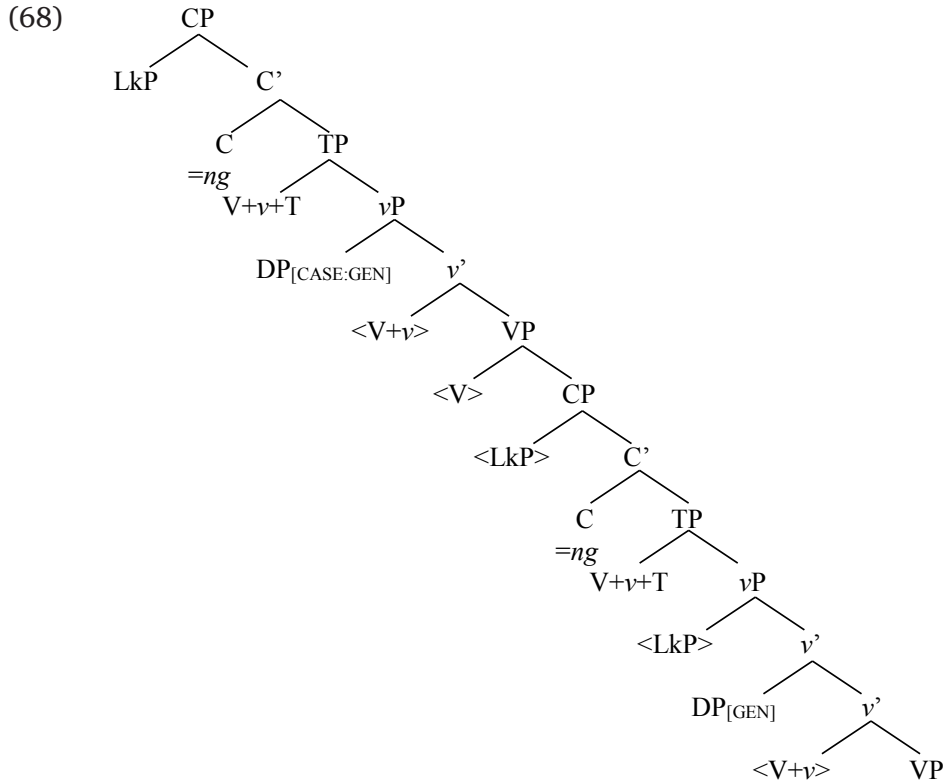
As discussed in section 4.2, this analysis of locality also carries over to internally headed relatives, since only an LkP will be able to undergo complex predicate formation with the embedded verb.

Long distance extraction is also accounted for straightforwardly. An interesting restriction found in the case of long distance movement is that no nominative DP can appear along the path of movement, even in higher clauses. (67b) is ungrammatical, because the matrix clause contains a nominative DP. This is predicted on my analysis, because relativizing CPs lack nominative case.

- (67) a. a-ng libro = ng [<sub>CP</sub> s <in> abi = niya = ng  
 NOM-LK book = LK <TR.PFV> say = 3SG.GEN = LK  
 [<sub>CP</sub> b <in> ili = mo sa Maynila]]  
 <TR.PFV> buy = 2SG.GEN in Manila  
 ‘the book that he/she said you bought in Manila’

- b. \*a-*ng* libro = *ng* [<sub>CP</sub> *nag-sabi* = *siya* = *ng*  
 NOM-LK book = LK INTR.PFV-say = 3SG.NOM = LK  
 [<sub>CP</sub> *b* <*in*> *ili* = *mo* sa *Maynila*]]  
 <TR.PFV> buy = 2SG.GEN in Manila  
 ‘the book that he/she said you bought in Manila’

In the derivation of (67a), the LkP moves to the embedded [Spec, CP] and then further to [Spec, CP] in the matrix clause. No nominative DPs will surface within the relative clause, because nominative case is unavailable.



As Law (2016: 749–751) points out, long distance SIHRs and IIHRs are also possible, albeit quite marginal in acceptability. In cases of long distance dependencies, the head nominal can surface only in the originating clause but not in any intermediate position outside this clause. Law suggests that these clauses are very awkward because of the separation between the left edge of the relative clause and the head NP. This accounts for the change in the linker from *ng* to *na*. In order to identify the head NP deeply embedded within the relative clause, a pause has to be inserted. This is shown for a SIHR in (69a) and a IIHR in (69b).

- (69) a. ??*Gusto* = *ko* ang *s* <*in*> *abi* ni *Fred* *na* *b* <*in*> *ili*  
 like = 1SG.GEN NOM <TR.PFV> say GEN Fred LK <TR.PFV> buy  
 ni *Maria* **na libro**.  
 GEN Maria LK book  
 ‘I like the book that Fred said that Maria bought.’
- b. ??*Gusto* = *ko* ang *s* <*in*> *abi* ni *Fred* *na* *b* <*in*> *ili*  
 like = 1SG.GEN NOM <TR.PFV> say GEN Fred LK <TR.PFV> buy  
**na libro** ni *Maria*.  
 LK book GEN Maria  
 ‘I like the book that Fred said that Maria bought.’

It should be pointed out, however, that Law's analysis of the surface position depends on the stipulation that only heads or tails of chains can be pronounced. My reading of his paper does not reveal any obvious way to rule out pronunciation of an intermediate copy.

The surface positions of the head nominals in the embedded clause are unsurprising on my analysis. The head NP in the SIHR in (69a) remains in its base position in the embedded clause. The head nominal in the IIHR in (69b) incorporates to the embedded verb. Since this verb moves no further than T in the same clause, the nominal will also surface in the embedded clause. The LkP in both cases will be interpreted as part of the complex predicate in the embedded clause. The embedded CP will subsequently form a complex predicate with the matrix verb, as proposed in section 3.

One final question to be considered in this section is whether the connection my analysis assumes between locality and (the lack of) nominative case extends to all types of nominal extraction. This prediction is borne out, since nominative case is always absent in a clause containing a nominal gap. For example, Tagalog *wh*-questions when the *wh*-phrase is a DP exhibit the same locality restriction as relative clauses, and this is easily accounted for on my analysis, because these questions are actually formed on relative clauses. Specifically, they take the form of clefts. The *wh*-phrase functions as the matrix predicate, while the pre-supposition is a headless relative clause in matrix subject position. Consequently, there is no direct movement of DP interrogative words in the language. The gap in the relative clause is the null pronominal incorporated to the embedded verb, as I proposed in section 4.2.

- (70) a. Sino a [<sub>CP</sub> -ng [<sub>TP</sub> b <um> ili-*pro* ng libro]]?  
 who NOM -LK <INTR.PFV> buy GEN book  
 'Who bought books?'  
 b. Ano a [<sub>CP</sub> -ng [<sub>TP</sub> b <in> ili-*pro* = **mo**]]?  
 what NOM -LK <TR.PFV> buy = 2SG.GEN  
 'What did you buy?'

In contrast to this, non-nominal interrogative words are not cleft predicates. Note the lack of a nominative case marker following the interrogative word. Second position clitics also attach to the interrogative word. Clitics in Tagalog attach to the first prosodic word in CP, so they cannot leave the relative clause in the cleft construction seen above in (70b). Finally, it is clear that PP and adjunct extraction do not interact with the availability of nominative case, since a nominative DP appears in the clause.<sup>13</sup> It also does not matter if the nominative DP is an internal argument, as in (71a), or the external argument, as in (71b).

- (71) a. [<sub>CP</sub> **Saan** = mo [<sub>TP</sub> b <in> ili ang libro]]?  
 where = 2SG.GEN <TR.PFV> buy NOM book  
 'Where did you buy the book?'  
 b. [<sub>CP</sub> **Saan** = ka [<sub>TP</sub> b <um> ili ng libro]]?  
 where = 2SG.NOM <INTR.PFV> buy GEN book  
 'Where did you buy the book?'

In short, nominal extraction in Tagalog is always launched from the position which would be assigned nominative case in a declarative clause. This fact is accounted for by positing that nominative case is not available in nominal extraction contexts, with the

<sup>13</sup> It is true, however, that long distance non-nominal movement requires that higher clauses not contain a nominative DP. See Aldridge (in press) for an analysis of this on the basis of locality.

result that the head position in a relative clause cannot be occupied by a full DP, which would need to value case. Therefore, the head position in a relative clause is always occupied by an LkP, which does not value case. This proposal is given further support by the preceding asymmetry observed between nominal and non-nominal movement. Non-nominal movement is not affected by the availability of nominative case and also does not observe the same locality constraint which restricts nominal movement to the nominative argument.

## 6 Conclusion

In this paper, I have proposed analyses of four different types of relative clause in Tagalog. Following Aldridge (2003) and Law (2016), externally headed relatives are derived by means of head raising to [Spec, CP]. In contrast, the head NP in internally headed relative clauses remains internal to the embedded clause and undergoes complex predicate formation with the embedded verb, either in situ or through incorporation.

This analysis of internally headed relative clauses is in large part related to the role of linkers in Tagalog nominal projections. I have proposed that all unsaturated categories within a Tagalog DP are selected by linkers. Consequently, both relative clauses and head NPs within relative clauses are headed by linkers. As unsaturated categories, they can combine to create a more complex unsaturated category. This allows the head nominal to surface in any of the three positions observed in this paper. In [Spec, CP], the head NP combines with the TP. If the head nominal incorporates to the embedded verb, it becomes part of the embedded predicate overtly. If incorporation does not take place in an internally headed relative clause, then complex predicate formation takes place in the VP when LkP is selected by the embedded verb. When the determiner is merged in the outer layer of the DP, the variable introduced by the complex predicate is bound to produce a referential argument.

Analyzing the head nominal in the relative clause as a linker phrase also accounts for locality in relativization. In relative clauses, linker phrases can only surface in positions where nominative case would be available in a declarative clause, which accounts for the well-known fact that only nominative nominals are able to undergo extraction in Tagalog.

## Abbreviations

1 = first person, 2 = second person, 3 = third person, ABS = absolutive, ACC = accusative, APPL = applicative, CAUS = causative, CN = common noun, CONJ = conjunction, DAT = dative, DEM = demonstrative, EVID = evidential, GEN = genitive, INTR = intransitive, LK = linker, NMLZ = nominalizer, NOM = nominative, OBJ = object, PASS = passive, PFV = perfective, PL = plural, PN = personal name, RED = reduplication, SG = singular, SUBJ = subject, TR = transitive

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## Competing Interests

The author has no competing interests to declare.

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