

Internally Headed Relative Clauses in Austronesian Languages

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It is well known that many Austronesian languages have head-initial and head-final relative clauses. This paper reports that the Atayalic language Seediq and the Philippine language Tagalog additionally have internally headed relative clauses. In this paper, I first identify the formal and structural differences among the three types of relative clause in these languages. In particular, I distinguish the head-final from the head-internal type by showing that the former exhibit evidence of remnant TP movement to [Spec, DP] from a [D CP] structure, as per Kayne's (1994) proposal for head-final relative clause derivation. The head-internal variety, on the other hand, do not show evidence of movement and therefore qualify as internally headed relative clauses. For their derivation, I propose an analysis similar to Basilico (1996), in which the head nominal moves to a clause-internal position where it can be bound by an operator in [Spec, CP]. Support for this quantificational analysis of Seediq and Tagalog internally headed relative clauses is provided by the fact that parallel structures are employed in these languages for other constructions involving binding from external operators, including *wh*-in situ and clauses containing weakly quantified arguments.

Key words: internally headed relative clauses, Austronesian, antisymmetry, remnant movement

1. Introduction

It is frequently reported in the descriptive and theoretical literature that Austronesian languages have head-initial relative clauses (Dixon 1988, Georgopolous 1991, Josephs 1975, Lee 1975, Sneddon 1996, Sohn 1975, Topping 1973, Finer 1998). Some Austronesian languages, particularly Philippine and Formosan, have also been cited as having head-final (typically in addition to head-initial) relative clauses (Ramos 1971, Schachter & Otnes 1972, Reid & Liao 2001, Chung 1998, H.-C. Chang 2000, Y.-L. Chang 2000a, b, M.-C. Huang 2000a, b, Wu 2000, Yeh 2000, Zeitoun 2000a, b, c, Li 2000). Donohue (1999) and Tang et al. (1998) discuss relative clauses in *Tukang Besi* and *Paiwan*, respectively, where the head can appear to the left or right of the clause. Both suggest that the former could be analyzed as head-internal relatives. However, reporting of unambiguously head-internal relative clauses in Austronesian languages is extremely

rare. Internally headed relative clauses have been reported to exist in Seediq (Chang 2000a), Puyuma (M.-C. Huang 2000b), and Riau Indonesian (Gil 2000). However, to my knowledge, no analysis has yet been proposed for their structure.

The purpose of this paper is to propose an analysis of relative clause, especially internally headed relative clause, structure in the Austronesian languages Tagalog (Philippines) and Seediq (Atayalic, Taiwan). These languages have head-initial (1, 2), head-final (3, 4), and head-internal (5, 6) relative clauses. Numbers (5) and (6) are unambiguously internally headed relative clauses, since the head nominal is positioned inside the clause, between the verb and the agent.

- (1) S: **sapah** s-n-malu na tama
house -Perf-build Erg father
'the house Father built'
- (2) T: **libro-ng** b-in-ili ni Maria
book-Lk -Perf-buy Erg Maria
'the book Maria bought'
- (3) S: s-n-malu na tama **sapah**
-Perf-build Erg father house
'the house Father built'
- (4) T: b-in-ili ni Maria-ng **libro**
-Perf-buy Erg Maria-Lk book
'the book Maria bought'
- (5) S: s-n-malu **sapah** na tama
-Perf-build house Erg father
'the house Father built'
- (6) T: b-in-ili-ng **libro** ni Maria
-Perf-buy-Lk book Erg Maria
'the book Maria bought'

Basic word order in Tagalog and Seediq, as is the case in most Philippine and Formosan languages, is verb-initial. In Seediq, the absolutive¹ nominal has a fixed position in the clause, always appearing clause-finally, yielding strict VOS word order. Number (7) is an antipassive; the agent absolutive appears in clause-final position, to

¹ By those who take these languages to be accusative, the grammatical role "absolutive" is generally referred to as "subject". Following my earlier work (Aldridge 1999, 2001, 2002), I treat Tagalog and Seediq as ergative languages. Earlier ergative analyses of Austronesian languages include De Guzman (1988), Gertds (1988), and Payne (1982).

the right of the theme. The absolutive in (8) is the theme, which also appears in clause-final position, following the agent.

- (7) S: Gaga m-ekan ido ka **Pawan**.
 Pres Intr-eat rice Top² Pawan
 ‘Pawan is eating rice.’
- (8) S: Wada burig-un na Ape ka **patis-ni**.
 Past buy-Tr Erg Ape Top book-this
 ‘Ape bought this book.’

Unmarked word order in Tagalog is VSO, following the thematic hierarchy: *Verb-Agent-Theme-Goal*. The absolutive nominal has no fixed position, appearing most naturally in its base position. Hence, the agent absolutive in (9) appears to the right of the theme, while the theme absolutive in (10) appears between the agent and the goal.

- (9) T: *B-um-ili* si **Maria** ng libro.
 -Intr.Perf-buy Abs Maria Obl book
 ‘Maria bought a book.’
- (10) T: *I-b-in-igay* ni Maria **ang libro** kay Pedro.
 App-Perf-give Erg Maria Abs book P Pedro
 ‘Maria gave the book to Pedro.’

The fact that verb-initial languages like Seediq and Tagalog should have internally headed relative clauses comes as a surprise in light of the assertions of Downing (1978), Keenan (1985), Cole (1987), and others that internally headed relative clauses are found only in verb-final languages. However, I shall show in this paper that internally headed relative clauses do in fact exist in Tagalog and Seediq and that they are licensed in accordance with other syntactic characteristics of these languages.

2. Differences between internally and externally-headed types

Before entering the structural analysis of these different types of relative clause, it is first necessary to establish that these types have distinct properties. The head-initial type shown in (1) and (2) should be uncontroversial, but there is need to clarify the

² *Ka* is glossed as a topic marker and not as an absolutive marker, since it can precede ergative topics as well as absolutives. In the analysis I propose in section 5, absolutive DPs obligatorily undergo movement to a topic position in the derivation of a declarative clause.

distinction between the head-internal and head-final types. Descriptively speaking, head-internal relative clauses appear with the head in immediate post-verbal position, as shown in (5) and (6). Those relative clauses where the head follows the verb, but is not immediately adjacent to it, I refer to as head-final relative clauses. This should be intuitively obvious in the case of (3) and (4). However, examples like the following, where clause-internal material follows the head, also pattern structurally with (3) and (4) and not with the internally headed type.

- (11) S: b-n-ari-na chiiga **bulebun** ka Ape
 -Perf-buy-3sErg yesterday banana Top Ape
 ‘the banana(s) that Ape bought yesterday’
- (12) T: i-b-in-igay ng babae-ng **kendi** sa bata
 App-Perf-give Erg woman-Lk candy P child
 ‘the candy the woman gave to the child’

First indication that head-final relatives differ structurally from the internally headed type is provided by the fact that the latter exhibit the definiteness effect cited by Williamson (1987), Culy (1990), and Basilico (1996). It is more natural for heads in final position to be definite, indicating that these heads are located in a position external to the clause.

- (13) S: k-n-ta-an-na Awe-ni **seediq kiya**
 -Perf-see-App-3sErg Awe-Def person that
 ‘that person whom Awe saw’
- (14) S: *k-n-ta-an **seediq kiya** na Awe-ni
 -Perf-see-App person that Erg Awe-Def
 ‘that person whom Awe saw’

Further evidence for the external position of the head in head-final relatives is offered by the position of quantifiers. Quantifiers in head-initial and head-internal relatives precede the entire construction.

- (15) T: **tatlo-ng** *mangga-ng* b-in-ili ni Maria
 three-Lk mango-Lk -Perf-buy Erg Maria
 ‘three mangoes that Maria bought’
- (16) T: **tatlo-ng** b-in-ili-ng *mangga* ni Maria
 three-Lk -Perf-buy-Lk mango Erg Maria
 ‘three mangoes that Maria bought’

It is awkward for the quantifier to appear in this position in head-final relatives. It is much more natural for it to immediately precede the head.

- (17) T: ?* **tatlo**-ng b-in-ili ni Maria-ng *mangga*
 three-Lk -Perf-buy Erg Maria-Lk mango
 ‘three mangoes that Maria bought’
- (18) T: b-in-ili ni Maria-ng **tatlo**-ng *mangga*
 -Perf-buy Erg Maria-Lk three-Lk mango
 ‘three mangoes that Maria bought’

In contrast to this, it is impossible for the quantifier to appear with the internal head, inside the clause.

- (19) T: *b-in-ili-ng **tatlo**-ng *mangga* ni Maria
 -Perf-buy-Lk three-Lk mango Erg Maria
 ‘three mangoes that Maria bought’

Head-final relatives involving stranding exhibit the same pattern. The quantifier can appear adjacent to the head, but not preceding the clause.

- (20) T: i-b-in-igay ng babae-ng **tatlo**-ng *mangga* sa bata
 App-Perf-give Erg woman-Lk three-Lk mango P child
 ‘three mangoes which the woman gave to the child’
- (21) T: ?* **tatlo**-ng i-b-in-igay ng babae-ng *mangga* sa bata
 three-Lk App-Perf-give Erg woman-Lk mango P child
 ‘three mangoes which the woman gave to the child’

In addition, there are strict constraints on what can follow the head in a head-final relative. As seen above, a PP can be stranded, but not an oblique theme.

- (22) T: i-b-in-igay ng babae-ng **kendi** sa bata
 App-Perf-give Erg woman-Lk candy P child
 ‘the candy the woman gave to the child’
- (23) T: ?* b-in-igy-an ng babae-ng **bata** ng kendi
 -Perf-give-App Erg woman-Lk child Obl candy
 ‘the child to whom the woman gave candy’

On the other hand, there is no such restriction in the case of head-internal relatives.

The head in these cases can be followed by a PP, an ergative DP, an oblique DP, or any combination of these.

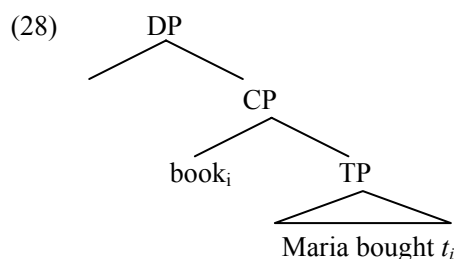
- (24) T: i-b-in-igay na **kendi** ng babae sa bata
 App-Perf-give Lk candy Erg woman P child
 ‘the candy the woman gave to the child’
- (25) T: nag-bigay na **tao** ng kendi sa bata
 Perf.Intr-give Lk person Obl candy P child
 ‘the person who gave candy to the child’
- (26) T: b-in-igy-an na **bata** ng babae ng kendi
 -Perf-give-App Lk child Erg woman Obl candy
 ‘the child to whom the woman gave candy’

This section has shown that head-final relatives have different properties from the internally headed variety. The next two sections will develop analyses for their derivations. I shall show first that a movement analysis is most appropriate for externally headed relatives. Following that, in section 4, I shall demonstrate that such an analysis is impossible for the internally headed type and show that these require an analysis in which the head nominal does not move to a clause-external position. I present this analysis in section 5.

3. Movement analysis for externally-headed types

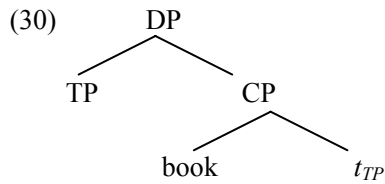
This section presents an analysis of externally headed relative clauses based on movement of the head nominal to a position outside the clause. The derivation I assume for externally headed relative clauses is that of Kayne (1994). To derive head-initial relative clauses, the head nominal simply moves from its base position within the clause into [Spec, CP].

- (27) T: **libro-ng** b-in-ili ni Maria
 book-Lk -Perf-buy Erg Maria
 ‘the book Maria bought’



For head-final relative clauses, after the head moves to [Spec, CP], the remnant clause further fronts to [Spec, DP].

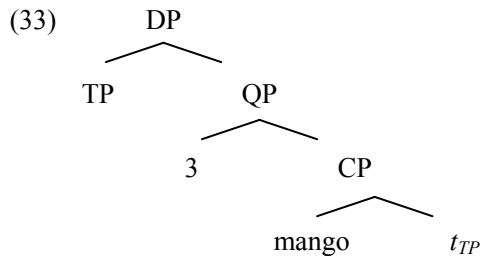
- (29) T: b-in-ili ni Maria-ng **libro**
 -Perf-buy Erg Maria-Lk book
 ‘the book Maria bought’



The facts introduced in the previous section can be captured straightforwardly in this analysis. Recall that that a quantifier must appear immediately before the relative head and not to the left of the entire clause.

- (31) T: b-in-ili ni Maria-ng **tatlo-ng** mangga
 -Perf-buy Erg Maria-Lk three-Lk mango
 ‘three mangoes that Maria bought’
- (32) T: ?* **tatlo-ng** b-in-ili ni Maria-ng mangga
 three-Lk -Perf-buy Erg Maria-Lk mango
 ‘three mangoes that Maria bought’

This is not surprising under the movement analysis. The quantified relative clause in (31) would be derived as follows. The head nominal moves to [Spec, CP] of the clause, below the position of the quantifier. The remnant TP of the clause fronts to [Spec, DP]. This derives the word order in which the clause precedes both the quantifier and relative head.



Turning to head-final relatives involving stranding of clause-internal material,

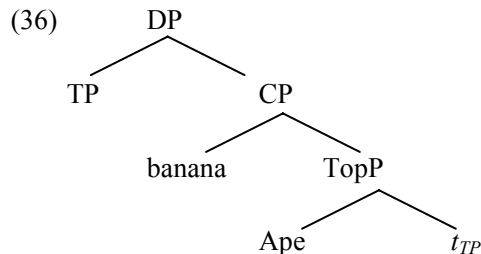
these examples argue most strongly for separate analyses of the head-internal and head-external types of relative clause. Specifically, Seediq relative clauses allow a topicalized agent to follow the relative head.

- (34) S: b-n-ari-na chiiga *bulebun* ka **Ape**
 -Perf-buy-3sErg yesterday banana Top Ape
 ‘the banana(s) that Ape bought yesterday’

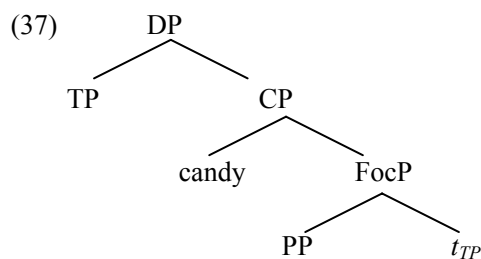
Tagalog relative clauses allow a scrambled PP to follow the head.

- (35) T: i-b-in-igay ng babae-ng *kendi* **sa** **bata**
 App-Perf-give Erg woman-Lk candy P child
 ‘the candy the woman gave to the child’

The stranded word orders in (34) and (35) can be accounted for straightforwardly under Kayne’s (1994) [D CP] analysis. For Seediq, topicalization takes place first, moving the agent into clause-initial topic position. The relative head then moves into [Spec, CP]. Finally, the remnant TP fronts to [Spec, DP].



Tagalog PP stranding is handled in the same way. The PP in Tagalog first scrambles to clause-initial position. Then the relative head moves up to [Spec, CP]. Finally, the remnant TP fronts to [Spec, DP].



This analysis predicts that stranding in relative clauses should be possible when dislocation of the stranded XP is allowed and impossible otherwise. This prediction is indeed borne out. A'-movement in Tagalog is highly constrained, as it is in a great number of Austronesian languages (Nakamura 1994, Pensalfini 1995, Chung 1998, among many others). Only absolutes are eligible to undergo relativization, topicalization, clefting, and *wh*-question formation. Hence, a relative clause formed on the theme of a transitive clause in (38) is grammatical, but (39), formed on the agent of the same transitive clause is not.

- (38) T: **libro-ng** b-in-ili ni Maria
 book-Lk -Perf-buy Erg Maria
 'the book Maria bought'
- (39) T: ***tao-ng** b-in-ili ang libro
 person-Lk -Perf-buy Abs book
 'the person who bought the book'

Aside from this restriction, PPs are allowed to move to preverbal position in Tagalog, where they typically receive a focus interpretation.

- (40) T: I-b-in-igay ng babae ang kendi **sa** **bata**.
 App-Perf-give Erg woman Abs candy P child
 'The woman gave candy to the child.'
- (41) T: **Sa bata** i-b-in-igay ng babae ang kendi.
 P child App-Perf-give Erg woman Abs candy
 'The woman gave the candy *to the child*.'

Other non-absolutive arguments, in contrast, are not able to undergo scrambling. In the ditransitive in (42), the goal is licensed as absolutive of the clause by the applicative affix on the verb. The theme is demoted to oblique status. This non-absolutive theme cannot be scrambled, as shown in (43).

- (42) T: B-in-igy-an ng babae **ng kendi** ang bata.
 -Perf-give-App Erg woman Obl candy Abs child
 'The woman gave the child candy.'
- (43) T: ***Ng kendi** b-in-igy-an ng babae ang bata.
 Obl candy -Perf-give-App Erg woman Abs child

The same pattern can be observed in stranding in relative clauses. As seen above,

only the absolutive can be the head NP. But a PP can also be stranded to the right of the head. This is not possible for an oblique object. The ungrammaticality can be explained by the inability of the oblique object to scramble before remnant TP fronting. This straightforwardly accounts for the contrast between (44) and (45) first observed in section 2.

- (44) T: i-b-in-igay ng babae-ng *kendi* **sa** **bata**
 App-Perf-give Erg woman-Lk candy P child
 ‘the candy the woman gave to the child’
- (45) T: ?*b-in-igy-an ng babae-ng *bata* **ng** **kendi**
 -Perf-give-App Erg woman-Lk child Obl candy
 ‘the child to whom the woman gave candy’

Interestingly, head-initial relative clauses formed on goal absolutives with oblique objects in situ are perfectly grammatical. The head initial version of (45) is shown in (46), where the oblique object appears in situ inside the clause. This is completely consistent with the analysis proposed in (28). The relative head moves to [Spec, CP], but no other dislocation need take place. Therefore, the oblique nominal can remain in its base position.

- (46) T: *bata*-ng [b-in-igy-an ng babae **ng** **kendi**]
 child-Lk -Perf-give-App Erg woman Obl candy
 ‘the child to whom the woman gave candy’

The Seediq case is parallel to Tagalog. Seediq also exhibits the absolutive restriction on A' extraction.

- (47) S: **sapah** s-n-malu na tama
 house -Perf-build Erg father
 ‘the house Father built’
- (48) S: ***seediq** s-n-malu ka sapah
 person -Perf-build Top house
 ‘the person who built the house’

In addition to this, Seediq declarative clauses can have a topicalized agent appearing in clause-initial position and resumed by a pronoun in the clause. Number (49) shows the ergative agent in situ. Number (50) is the topicalized version.

- (49) S: Wada bube-un **na** **Pawan** ka dangi-na.
 Past hit-Tr Erg Pawan Top friend-3sPoss
 ‘Pawan hit his friend.’
- (50) S: **Pawan-ni** wada-**na** bube-un ka dangi-na.
 Pawan-Def Past-3sErg hit-Tr Top friend-3sPoss
 ‘Pawan hit his friend.’

As in Tagalog, oblique objects cannot be dislocated in this way.

- (51) S: M-n-atis **patis** ka seediq kiya.
 -Perf-write book Top person that
 ‘That person wrote a book.’
- (52) S: ***Patis** m-n-atis ka seediq kiya.
 book -Perf-write Top person that

This pattern is again observed in relative clauses. Agents can be stranded, as shown above in (34) and repeated below as (53).

- (53) S: b-n-ari-na chiiga *bulebun* **ka** **Ape**
 -Perf-buy-3sErg yesterday banana Top Ape
 ‘the banana(s) that Ape bought yesterday’

But this is not possible for oblique objects. Again, this can be accounted for by the inability of the object to move left of the verb.

- (54) S: *m-n-ari chiiga *seediq* **bulebun**
 -Perf-buy yesterday person banana
 ‘the person that bought bananas yesterday’

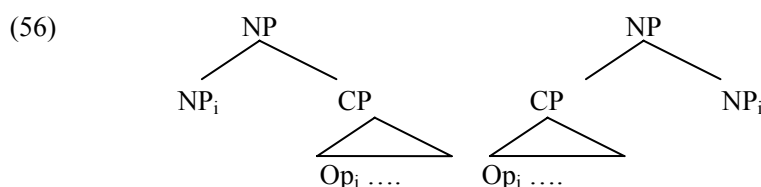
The head-initial version of (54) is grammatical, which is expected, since the object need not move in this case.

- (55) S: *seediq* m-n-ari chiiga **bulebun**
 person -Perf-buy yesterday banana
 ‘the person that bought bananas yesterday’

This section has proposed a movement analysis for head-initial and head-final relative clauses. For the head-initial type, the head nominal moves to [Spec, CP]. For

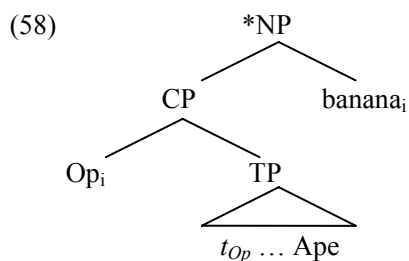
the head-final type, the remnant TP further fronts to [Spec, DP]. Evidence for this analysis comes from stranding in head-final relative clauses in Tagalog and Seediq. In contrast to this, the following section will show that the head nominal does not move out of the clause in internally headed relative clauses.

Before continuing to the discussion of internally headed relative clauses, I shall mention briefly that the traditional adjunct analysis (Chomsky 1977, Safir 1986, among many others) of relative clause formation would not be able to account for the cases of stranding observed above. Under the adjunct analysis, the clause is adjoined to the right of the head NP in head-initial relative clauses and to the left of the NP in head-final relative clauses. The head NP does not move from within the clause but is coindexed with an operator that is base-generated in the gap and then moves to [Spec, CP] of the clause.

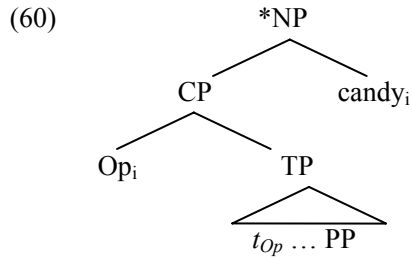


Theoretically, the adjunct analysis is less attractive than the movement analysis, since it requires positing two separate base structures, one with the clause adjoined on the right and one with the clause adjoined on the left. On the empirical side, the adjunct analysis would also incorrectly derive head-final relatives with stranding: the head nominal would be predicted to appear in final position. Number (58) illustrates this for agent stranding in Seediq. Number (60) shows PP stranding in Tagalog.

- (57) S: b-n-ari-na chiiga *bulebun* ka **Ape**
 -Perf-buy-3sErg yesterday banana Top Ape
 ‘the banana(s) that Ape bought yesterday’



- (59) T: i-b-in-igay ng babae-ng *kendi* **sa** **bata**
 App-Perf-give Erg woman-Lk candy P child
 ‘the candy the woman gave to the child’



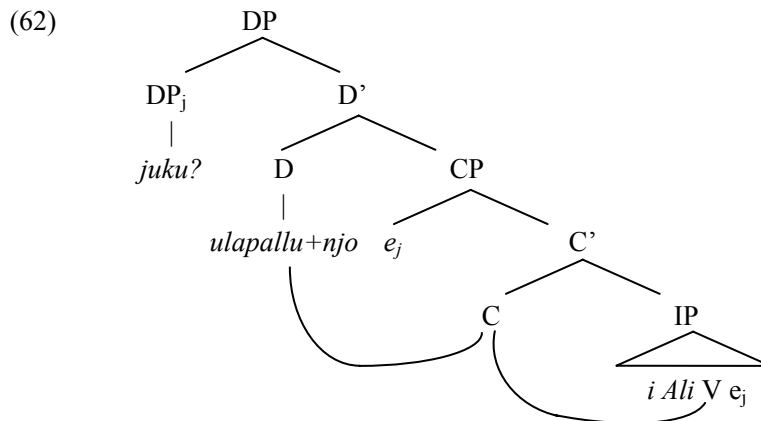
4. Internal head position

This section argues that internal relative heads remain in the clause and do not move to [Spec, CP], in contrast to head-final relative clauses, which are derived through movement.

There are two possible movement analyses that I shall consider and subsequently reject for internally headed relative clauses in Seediq and Tagalog. One is based on the verb-movement analysis for Sulawesi relative clauses proposed by Finer (1998).

Finer (1998:296) points out that definite determiners appear on the verbs inside relative clauses. To account for this, he proposes that verbs in these constructions must move from inside the relative CP to D. Relative heads in these languages appear in initial position. Finer places them in [Spec, DP], immediately preceding the verb.

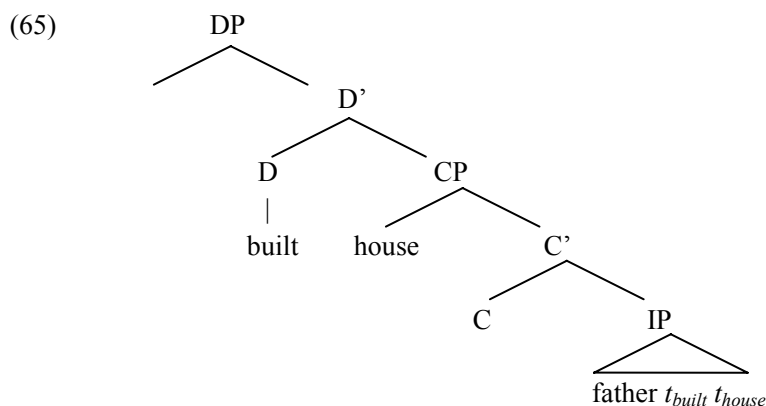
- (61) juku? nu-la-pallu-**njo** i Ali
 fish Rel-3E-cook-Def Cl Ali
 ‘the fish Ali cooked’



This proposal suggests a potentially useful analysis for Seediq and Tagalog internally headed relative clauses. The relative head in these constructions appears in immediate post-verbal position.

- (63) S: s-n-malu **sapah** na tama
 -Perf-build house Erg father
 ‘the house Father built’
- (64) T: b-in-ili-ng **libro** ni Maria
 -Perf-buy-Lk book Erg Maria
 ‘the book Maria bought’

This might be analyzed in the following way. The relative head could move to [Spec, CP]. Then the verb could move to D, deriving the word orders shown in (63) and (64).



After closer examination of internally headed relative clauses in Seediq and Tagalog, however, it becomes clear that this analysis cannot be adopted. The head nominal in Tagalog and Seediq internally headed relative clauses consistently appears in immediate post-verbal position; but the verb can be preceded by other material, by a negator for example.

- (66) T: **hindi** **i-b-in-igay** na *kendi* ng babae sa bata
 Neg App-Perf-give Lk candy Erg woman Dat child
 ‘the candy which the woman did not give to the child’
- (67) S: **ini** **muku-muqi** *buluqun* na Pawan
 Neg want-eat persimmon Erg Pawan
 ‘the persimmon which Pawan didn’t want to eat’

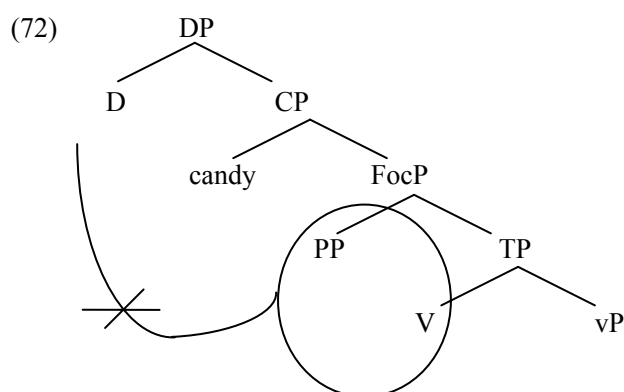
When the argument of an embedded verb is relativized, the head is preceded by both the matrix and embedded verbs.

- (68) T: **gusto-ng** **bilh-in** na *libro* ni Maria
 want-Lk buy-Tr Lk book Erg Maria
 ‘the book which Maria wants to buy’
- (69) S: **s-sa-un-mu** **m-ita** *eiga* Hori kusun
 Fut-go-Tr-1sErg Intr-see film Puli tomorrow
 ‘the film which I will go see tomorrow in Puli’

The verb can also be preceded by phrasal material, for instance an adverb or focused PP.

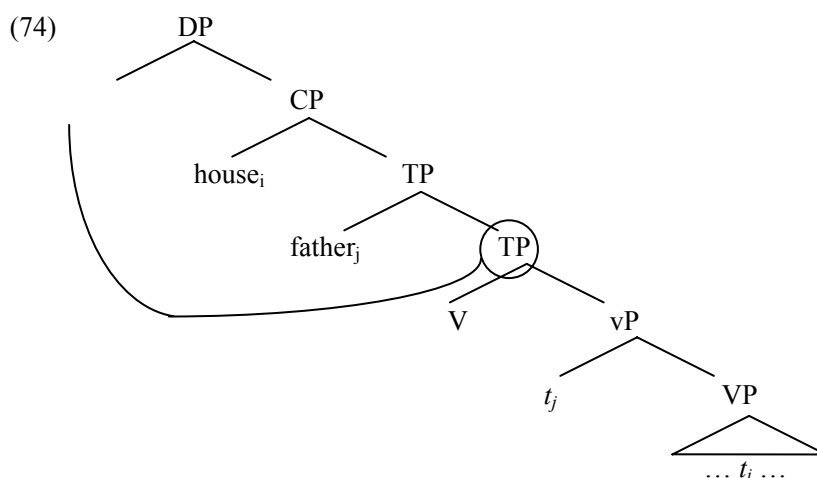
- (70) T: **kahapon** **i-b-in-igay** na *kendi* ng babae sa bata
 yesterday App-Perf-give Lk candy Erg woman Dat child
 ‘the candy which the woman gave to the child yesterday’
- (71) T: **sa** **bata** **i-b-in-igay** na *kendi* ng babae
 Dat child App-Perf-give Lk candy Erg woman
 ‘the candy which the woman gave to the child’

The analysis in (68) cannot account for (66) through (71), since the relative head in these examples is preceded by more than a single X^0 . Head movement, therefore, could not be responsible for the position of the verb. In (71), for example, the relative head is preceded by the verb and a fronted PP, which do not even form a constituent, let alone be able to undergo head movement.



The other possible movement analysis I shall consider for Tagalog and Seediq internally headed relative clauses is remnant TP fronting. Under this analysis, the ergative nominal would have to scramble before the head nominal moves to [Spec, CP] and the remnant TP fronts to [Spec, DP].

- (73) S: s-n-malu **sapah** na tama
 -Perf-build house Erg father
 ‘the house Father built’



However, ergative nominals are not normally allowed to scramble in either Seediq or Tagalog. Numbers (75) and (76) show ergative nominals in situ.

- (75) T: B-in-ili **ni** **Maria** ang libro.
 -Perf-buy Erg Maria Abs book
 ‘Maria bought the book.’
- (76) S: Wada burig-un **na** **Pawan** ka patis.
 Past buy-Tr Erg Pawan Top book
 ‘Pawan bought the book.’

If they are moved to the left of the verb, ungrammaticality results.

- (77) T: ***Ni** **Maria** b-in-ili ang libro.
 Erg maria -Perf-buy Abs book
 ‘Maria bought the book.’
- (78) S: ***Na** **Pawan** wada burig-un ka patis.
 Erg Pawan Past buy-Tr Top book
 ‘Pawan bought the book.’

As shown in (50) in section 3, a Seediq clause may have an agent topic in preverbal position, with a resumptive pronoun in the clause and with no ergative case marking on the fronted topic.

- (79) S: Wada s-bari hulama **na** **Ape** ka laqi.
 Past App-buy treat Erg Ape Top child
 ‘Ape bought the child a treat.’
- (80) S: **(*na)** **Ape-ni** wada-**na** s-bari hulama ka laqi.
 Erg Ape-def Past-3sErg App-buy treat Top child
 ‘Ape bought the child a treat.’

In head-internal relative clauses, however, the agent appears to be in situ, as there is ergative case marking and no resumptive pronoun.

- (81) S: s-n-malu **sapah** na tama
 -Perf-build house Erg father
 ‘the house Father built’
- (82) S: *s-n-malu-**na** **sapah** na tama
 -Perf-build-3sErg house Erg father
 ‘the house Father built’

Further evidence for the non-movement analysis of internally headed relative clauses comes from their failure to exhibit the stranding asymmetries exhibited by head-final relatives, as discussed in section 3. In internally headed relative clauses, ergative DPs, oblique DPs, and PPs can all follow the head nominal.

- (83) T: i-b-in-igay na **kendi** ng babae sa bata
 App-Perf-give Lk candy Erg woman P child
 ‘the candy the woman gave to the child’
- (84) T: nag-bigay na **tao** ng kendi sa bata
 Perf.Intr-give Lk person Obl candy P child
 ‘the person who gave candy to the child’
- (85) T: b-in-igy-an na **bata** ng babae ng kendi
 -Perf-give-App Lk child Erg woman Obl candy
 ‘the child to whom the woman gave candy’

I showed in section 3 that stranding involves scrambling. When scrambling is possible, then stranding can also take place. But when scrambling would result in an

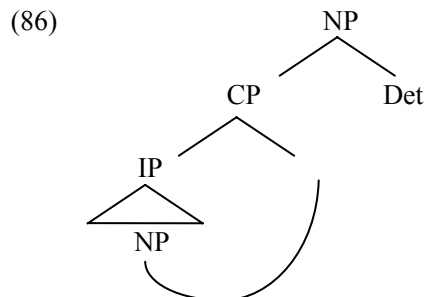
ungrammatical construction, then stranding is also blocked. Scrambling of the ergative and oblique nominals in (83) through (85) should result in ungrammaticality. Since these are all grammatical, I conclude that internally headed relative clauses are not derived through scrambling and remnant TP fronting. Therefore, the derivation of internally headed relative clauses is different from head-final relative clauses. The next section proposes an analysis of internally headed relative clauses in Seediq and Tagalog.

5. IHRC derivation

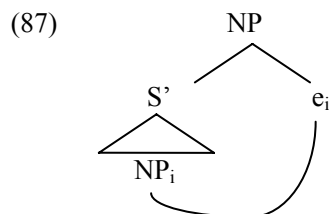
This section proposes an analysis of internally headed relative clauses in Seediq and Tagalog in which the relative head undergoes short movement inside the clause and is bound by an operator in [Spec, CP].

5.1 Previous approaches

A central problem involved in the structural analysis of internally headed relative clauses is the identification of a clause-internal nominal as the head of the complex NP. There are several different proposals in the generative literature for the structure and interpretation of internally headed relative clauses. Williamson (1987) and Barss et al. (1990) propose that the internal head moves to [Spec, CP] at LF.



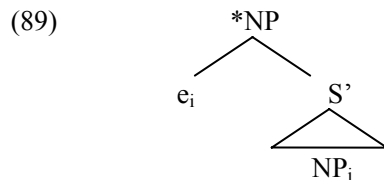
Broadwell (1985), Cole (1987), and Lefebvre & Muysken (1988) also propose LF movement analyses, but they claim that the landing site is a position external to the CP relative clause.



Cole argues that prior to LF, this position is occupied by a null anaphor, anteceded by the head NP. The anaphor is replaced by the head NP at LF. Cole claims that internally headed relative clauses are found only in verb-final languages that allow null pronouns. He bases this claim on the following constraint.

- (88) An anaphor cannot both precede and command its antecedent.

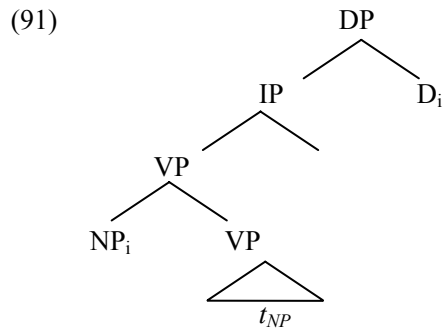
Cole claims that languages with head-initial NP word order do not allow internally headed relative clauses, because the anaphor in these constructions would precede and command its antecedent.



Cole's claim that internally headed relative clauses appear only in OV languages has been falsified by the facts from the verb-initial Austronesian languages presented in this paper. This indicates that a different type of proposal for the structure and interpretation of internally headed relative clauses is necessary. Basilico (1996) offers such a proposal for languages where the internal relative head moves to a position internal to the clause. The head *xat* ('dog') in the Yuman example below has been moved from its base position adjacent to the verb to a position outside VP but to the right of the subject.

- (90) [John **xat_i** su:r t_i pa:cu:s-p-t^y] u:n^yiL^ycis
 John dog rock hit-Dem-Subj black.Emph
 'The dog John hit with the rock was black.'

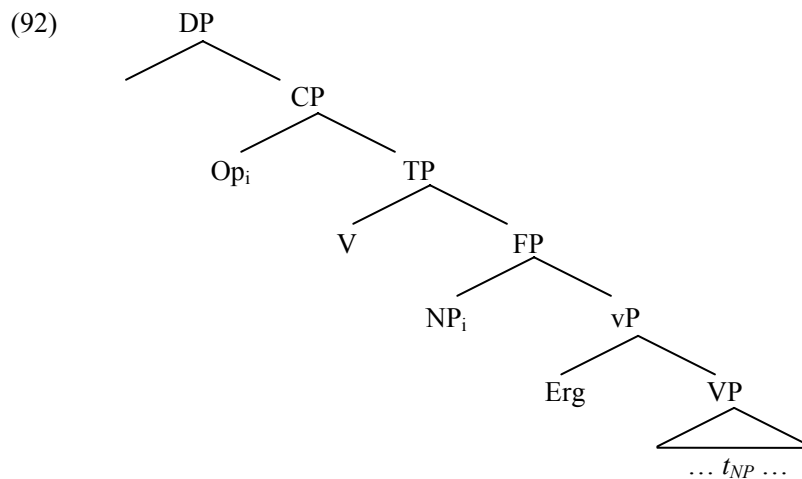
Basilico proposes that these heads move to a position internal to the clause, adjoining either to IP or to VP. This NP is indefinite and functions as a variable. It is bound by the determiner, which functions as an operator.



Basilico claims that internally headed relative clauses are quantificational. The head nominal is indefinite, which Basilico proposes provides a variable that must be bound by an operator, following Heim (1982). Basilico also cites Diesing's (1992) Mapping Hypothesis in claiming that the head nominal must move out of VP in order to escape existential closure and be coindexed with the operator.

5.2 Seediq and Tagalog analysis

This paper adopts an analysis similar to Basilico (1996) in which the relative head moves internally to the clause and is bound by an operator outside of TP. I propose specifically that the head NP moves to a position called [Spec, FP], below T and above the base position of the agent. The head NP can then be coindexed with (following Heim 1982) and bound by an operator in [Spec, CP].



The first evidence I shall cite shows that this clause-internal movement takes place. Internal heads in Seediq and Tagalog must appear in a position immediately following the verb.

- (93) S: s-n-malu **sapah** na tama
 -Perf-build house Erg father
 ‘the house Father built’
- (94) T: b-in-ili-ng **libro** ni Maria
 -Perf-buy-Lk book Erg Maria
 ‘the book Maria bought’

Argument position in declarative clauses for these two theme absolutes is as discussed in section 1. Absolutes appear in clause-final position in Seediq. Theme absolutes in Tagalog appear following the agent in Tagalog. This also happens to be clause-final position in the monotransitive shown in (96).

- (95) S: S-n-malu na tama ka **sapah**.
 -Perf-build Erg father Top house
 ‘Father built the house.’
- (96) T: B-in-ili ni Maria ang **libro**.
 -Perf-buy Erg Maria Abs book
 ‘Maria bought the book.’

Absolute arguments do not typically appear in the position for head nominals in internally headed relative clauses. This indicates that the head nominal must move to this position in the formation of an internally headed relative clause.

- (97) S: *S-n-malu (ka) **sapah** na tama.
 -Perf-build Top house Erg father
 ‘Father built the house.’
- (98) T: *B-in-ili ang **libro** ni Maria.
 -Perf-buy Abs book Erg Maria
 ‘Maria bought the book.’

Next, since the head functions as a variable, it must be indefinite. The external head in (99) can take definite marking, but not the internal head in (100). Definiteness effects in internally headed relative clauses in other languages have been widely reported (Williamson 1987, Culy 1990, and Basilico 1996).

- (99) S: k-n-ta-an na Awe-ni **seediq** **kiya**
 -Perf-see-App Erg Awe-Def person that
 ‘that person whom Awe saw’
- (100) S: *k-n-ta-an **seediq** **kiya** na Awe-ni
 -Perf-see-App person that Erg Awe-Def
 ‘that person whom Awe saw’

The analysis shown in (92) that a nominal in [Spec, FP] acts as a variable bound by the operator in [Spec, CP] is also given independent support by other quantificational constructions in these languages that exhibit these same structural properties. In Tagalog and Seediq, absolutive *wh*-words appear in clause-initial position, as cleft predicates (Aldridge 2002).

- (101) T: **Ano** ang b-in-ili ni Maria?
 what Abs -Perf-buy Erg Maria
 ‘What did Maria buy?’
- (102) S: **Maanu** ka b-n-ari na Ape?
 what Top -Perf-buy Erg Ape
 ‘What did Ape buy?’

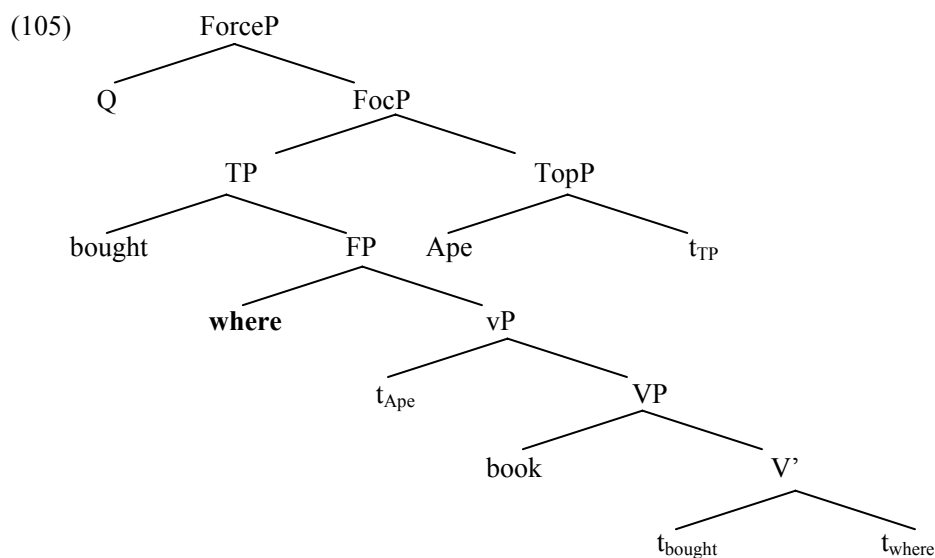
Non-absolutive *wh*-words, however, have a different distribution. In Tagalog, these move to clause-initial position, while in Seediq, they move to a position immediately following the verb.

- (103) T: **Saan** b-in-ili ni Maria ang libro?
 where Perf-buy Erg Maria Abs book
 ‘Where did Maria buy the book?’
- (104) S: M-n-ari **inu** patis Ape?
 -Perf-buy where book Ape
 ‘Where did Ape buy books?’

Aldridge (2002) proposes that VOS word order in Seediq is derived by moving the absolutive nominal to a topic position and then fronting the remnant clause to a focus position above that.³ Adjunct *wh*-words are not able to move to the left of the verb, into

³ I assume, following Rizzi (1997), that the C domain is expanded to include two topic positions, a focus position (located between the two topic projections), and ForceP. The topic position shown in (105) is the lower of the two topic projections.

[Spec, Force], without violating the CED.⁴ *Wh*-words move as far to the left as possible within the fronted predicate and are bound by a Q operator in Force. Note that the landing site for *wh*-movement is identical to that for internal relative heads.

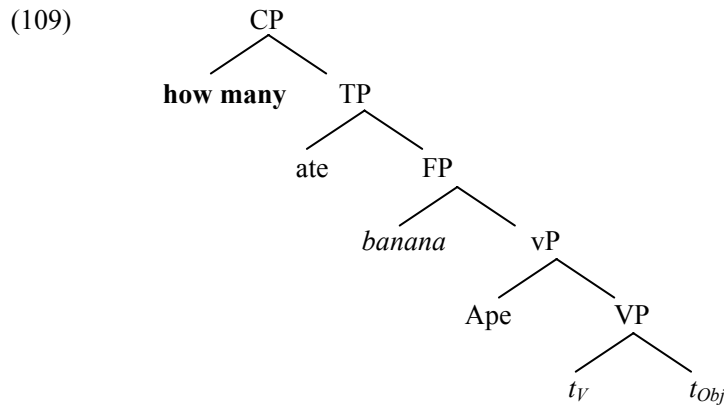


There is another quantificational construction, common to both Tagalog and Seediq, which also closely resembles internally headed relative clauses. Weak quantifiers appear in clause-initial position and the NPs they quantify over appear move to immediate post-verbal position.

- (106) S: **Piya** wada puq-un *bulebun* na Ape?
 how.many Pasteat-Tr banana Erg Ape
 'How many bananas did Ape eat?'
- (107) S: **Daha** bale b-n-ari *aring* na bubu-mu.
 two only -Perf-buy peach Erg mother-1sPoss
 'My mother only bought two peaches.'
- (108) T: **Marami-ng** g-in-awa-ng *laruan* ni Maria.
 many-Lk -Perf-make-Lk toy Erg Maria
 'Maria made a lot of toys.'

⁴ Tagalog word order is VSO. Aldridge (1999, 2001, and 2002) argue that this word order is derived through verb movement. Adjuncts are free to move left of the verb because they are not contained inside a fronted predicate island.

Under the analysis developed in this paper, the quantified NP moves to [Spec, FP] and is bound by the quantifier in [Spec, CP].

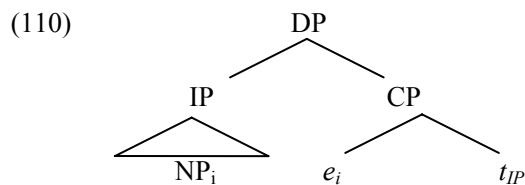


The analysis in (92) is thus supported by other similar processes involving quantification in Seediq and Tagalog. It is therefore not surprising that these verb-initial languages have internally headed relative clauses, and it is not necessary to posit a null anaphor in the external head position, as in Cole (1987).

5.3 Against copy and deletion

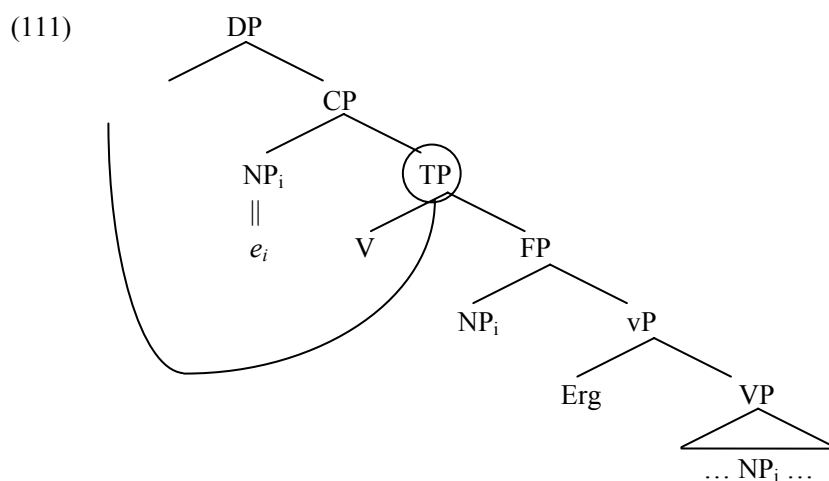
Though this paper supports the [D CP] structure proposed by Kayne (1994) for relative clauses, I do not advocate the specific analysis Kayne proposes for internally headed relative clauses.

Kayne (1994) proposes that the internal head moves overtly to [Spec, CP], just as in the case of external heads. After the clause is fronted to [Spec, DP], the moved copy deletes, leaving the original copy in base position.



It would be difficult to adapt this analysis for Tagalog and Seediq. The head nominal must appear in immediate post-verbal position. Movement to this position can be motivated by the need to be bound by an operator outside the clause, as proposed in

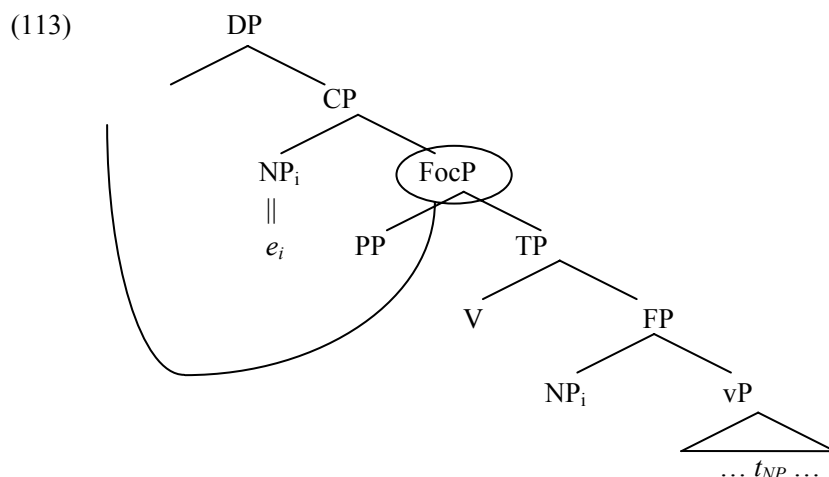
the preceding subsection. But further movement to [Spec, CP], which would be required under Kayne's analysis, seems to be without motivation.



In addition to the problem of motivation, there is empirical evidence against this movement. I have shown in section 4 that an internally headed relative clause can have a focused PP in preverbal position.

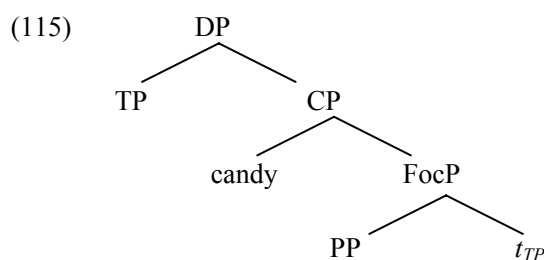
- (112) T: **sa** **bata** i-b-in-igay na *kendi* ng babae
 Dat child App-Perf-give Lk candy Erg woman
 'the candy which the woman gave to the child'

In order to maintain this word order under Kayne's analysis, the PP would have to move together with the clause.



However, I have demonstrated in section 3 that when remnant fronting takes place in relative clause formation (specifically, in head-final relative clause formation), it is TP that moves and not a larger constituent.⁵ PPs which have been scrambled to clause-initial position are stranded after the relative head. Therefore, material in preverbal position is not fronted together with the remnant TP.

- (114) T: i-b-in-igay ng babae-ng *kendi* **sa** **bata**
 App-Perf-give Erg woman-Lk candy P child
 ‘the candy the woman gave to the child’

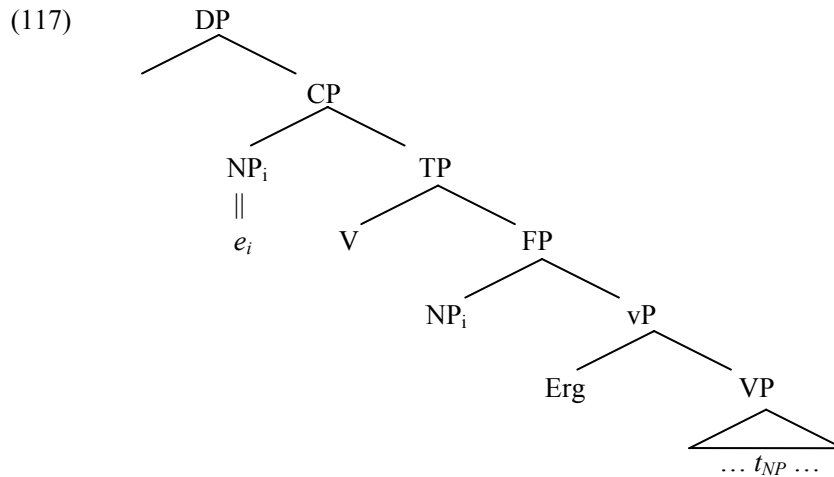


Indeed, the head-final version of (112), with a clause-initial PP, is ungrammatical, indicating that FocP cannot be fronted around the relative head.

- (116) T: **sa** **bata** i-b-in-igay ng babae-ng *kendi*
 P child App-Perf-give Erg woman-Lk candy
 ‘the candy the woman gave to the child’

⁵ Kayne (pp.94-5) also claims that the fronted clause is TP (IP for him) and not a larger XP.

It might be theoretically possible to propose that the remnant TP does not front in the case of internally headed relative clauses.



However, Kayne himself rejects this possibility (p.96), as it would allow internally headed relative clauses in any language that has head-initial relative clauses. I therefore do not adopt Kayne's (1994) analysis of internally headed relative clauses but rather maintain the proposal shown in (92), where the relative head moves to [Spec, FP] and is bound by an operator in [Spec, CP].

6. Conclusion

This paper has proposed an analysis of internally headed relative clauses in Tagalog and Seediq involving movement of the relative head to a position internal to the clause where it can be bound as a variable. This analysis has been shown to be related to other operations involving quantification in these languages. Therefore, the existence of internally headed relative clauses need not be related to basic word order, as claimed by more traditional approaches to internally headed relative clauses.

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南島語中「內含主要語的關係子句」

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許多南島語有「主要語在首」(head-initial) 與「主要語在尾」(head-final) 的關係子句，本文指出泰雅語群的賽德克語 (Seediq) 和菲律賓的塔加洛語 (Tagalog) 另有「內含主要語的關係子句」(head-internal relative clauses)，並探討這些語言中，「內含主要語的關係子句」在形式與結構上與其他兩種關係子句的不同點。有證據顯示，在主要語在尾的關係子句中，[D CP] 結構裡的殘餘的 TP 移位到 [Spec, DP]，而在「內含主要語的關係子句」的殘餘的 TP 則沒有移位。至於「內含主要語的關係子句」的衍生過程，我們提出與 Basilico (1996) 相似的主張：關係子句裡的名詞主要語移到子句內的焦點詞組指示語 ([Spec, FP]) 位置，被位於大句子指示語 ([Spec, CP]) 的運符約束。這些語言中的 *wh-in-situ* 與其他牽涉到外在運符約束的句式也有平行的結構，因而支持我們的分析。

關鍵詞：內含主要語的關係子句，南島語，反對稱，殘餘成份移位