1. Introduction

This paper examines relative clause structure, especially internally headed relative clauses, in the Austronesian languages Tagalog (Philippines) and Seediq (Atayalic, Taiwan). Tagalog and Seediq are not directly related but rather are somewhat distant cousins. The genetic affiliation of Formosan languages is still a controversial issue, and there are numerous proposals concerning the relationship between Philippine and Formosan languages. The figure below shows that of Tsuchida (1976).

(1) Austronesian
   ┌── Hesperonesian ─── Eastern Austronesian ┘
   │         Formosan ─── Western Austronesian │
   └────────────────────────────────────────┘

Wolff (1995) places Formosan and Philippine languages in the same subgroup under the Hesperonesian heading.

(2)

Formosan           Philippine
   ┌───────────┐      ┌──────────┐
   │… Atayalic │   │… Tagalog  │
   │           │      │           │
   │ Seediq    │      │ Atayal    │

Basic word order in Tagalog and Seediq clauses is similar in that both languages are verb-initial. In Seediq, however, the absolutive has a fixed position in the clause, always appearing in clause-finally, yielding strict VOS word order.

(3)S: Gaga m-ekan ido ka Pawan.
     Pres AP-eat rice Top Pawan
     “Pawan is eating rice.”

(4)S: Wada-na biq-un huling ka buuts rodux.
     Perf-3sErg give-Tr dog Top bone chicken
     “She gave the chicken bones to the dog.”

(5)S: Wada s-bari hulama na Ape ka laqi.
     Perf App-buy treat Erg Ape Top child
     “Ape bought the child a treat.”

Tagalog word order is VSO, following the thematic hierarchy: V-Ag-Th. The absolutive nominal has no fixed position, appearing most naturally in its merged position.
As for relative clauses, head position in both Tagalog and Seediq can be initial, final, or internal.

**Initial**

(9)S: sapah s-n-malu na tama
house -Perf-build Erg father
“the house Father built”

(10)T: libro-ng b-in-ili ni Maria
book-Lk -Tr.Perf-buy Erg Maria
“the book Maria bought”

**Final**

(11)S: s-n-malu na tama sapah
house -Perf-build Erg father house
“the house Father built”

(12)T: b-in-ili ni Maria-ng libro
-Perf-buy Erg Maria-Lk book
“the book Maria bought”

**Internal**

(13)S: s-n-malu sapah na tama
-sapah
house -Perf-build Erg father
“the house Father built”

(14)T: b-in-ili-ng libro ni Maria
-Tr.Perf-buy-Lk book Erg Maria
“the book Maria bought”

The fact that verb-initial 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 will show in this paper that internally headed relative clauses do in fact exist in Tagalog and Seediq and that their existence is perfectly consistent with the word order and syntax of these languages.

2. **Antisymmetric Analysis for Head-initial and Head-final Types**

The analysis of relative clauses in this paper is based on the [D CP] proposal of Kayne (1994). This section argues specifically for an Antisymmetric analysis of head-initial and head-final relative clauses in Tagalog and Seediq.
The traditional analysis of externally headed relative clauses (Chomsky 1977, Safir 1986, among many others) would require two independent structures, with the head preceding or following the clause. Theoretically, then, the [D CP] analysis is to be preferred.

Empirical evidence for the Antisymmetric analysis comes from Seediq and Tagalog examples where topicalized or focused material in the relative clause follows the head. Seediq clauses can have a topicalized agent appearing in clause-initial position and resumed by a pronoun in the clause.

A topicalized agent will follow the relative head in a Seedia head-final relative clause.
The adjunct analysis would yield an incorrect word order, with the head appearing after the topic.

In a Tagalog clause, a focused PP moves to clause-initial position.

In a head-final relative clause, the focused PP will follow the head.

The above evidence argues for an Antisymmetric analysis of externally headed relative clauses in Tagalog and Seediq.
3. Internal Head Position

This section argues that internal relative heads remain in the clause and do not move to [Spec, C]. This section also gives evidence distinguishing syntactically head-internal and head-final relative clauses, indicating that the two types do indeed require separate analyses.

3.1. Position of the Internal Head

The internal head appears in immediate post-verbal position. But the verb can be preceded by other material. The following are examples showing a verb with a negator.

(28) T: hindi i-b-in-igay na kendi ng babae sa bata
Neg App-Perf-give Lk candy Erg womanDat child
“the candy which the woman did not give to the child”

(29) S: ini muku-muqi buluqun na Pawan
Neg want-eat persimmon Erg Pawan
“the persimmon which Pawan didn’t want to eat”

In complex clauses, the relative head is preceded by both the matrix and embedded verbs.

(30) T: gusto-ng bilh-in na libro ni Maria
want-Lk buy-Tr Lk book Erg Maria
“The book which Maria wants to buy”

(31) S: s-sa-un-mu m-ita eiga Hori kusun
Fut-go-Tr-1sErg AP-see film Puli tomorrow
“The film which I will go see tomorrow in Puli”

The above surface word orders cannot be derived through head movement to D (as proposed in Finer (1998), since the relative head is preceded by more than a single Xo).

(32) S: ini muku-muqi buluqun na Pawan
Neg want-eat persimmon Erg Pawan
“the persimmon which Pawan didn’t want to eat”

(33)

If head-internal relative clauses were derived through moving the remnant TP, then the ergative nominal would have to scramble and be stranded.

(34) 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.

(36)T: B-in-ili ni Maria ang libro.
-Perf-buy Erg Maria Abs book
“Maria bought the book.”

(37)S: Wada burig-un na Pawan ka patis.
Perf buy-Tr Erg Pawan Top book
“Pawan bought the book.”

(38)T: *Ni Maria b-in-ili ang libro.
Erg maria -Perf-buy Abs book
“Maria bought the book.”

(39)S: *Na Pawan wada burig-un ka patis.
Erg Pawan Perf buy-Tr Top book
“Pawan bought the book.”

As noted above, a Seediq clause may have a topic in preverbal position, with a resumptive pronoun in the clause and with no ergative case marking on the fronted topic.

(40)S: Wada s-bari hulama na Ape ka laqi.
Perf App-buy treat Erg Ape Top child
“Ape bought the child a treat.”

(41)S: (*na) Ape-ni wada-na s-bari hulama ka laqi.
Erg Ape-def Perf-3sErg App-buy treat Top child
“Ape bought the child a treat.”

In the following, it is clear that the agent is in situ, as there is no resumptive pronoun and there is ergative case marking.

(42)S: s-n-malu sapah na tama
-Perf-build house Erg father
“the house Father built”

(43)S: *s-n-malu-na sapah na tama
-Perf-build-3sErg house Erg father
“the house Father built”

Note also that internal relative heads can be preceded by preverbal XPs, including time adverbs and focused PPs.
For remnant movement to take place, both the agent and PP would have to scramble above the adverb in (4). And the agent would have to move above the PP in (5). Thus the above evidence indicates strongly that the head does not move outside the clause in the internally headed type of relative clause.

3.2. Differences between Internally and Finally-headed Relative Clauses

Semantic and structural differences demand distinct analyses for internally and finally headed relative clauses in Tagalog and Seediq. First, internally headed relative clauses 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 move to a position external to the clause rather than function as a variable bound by an operator.

Secondly, the position of quantifiers is different in internally and finally-headed relative clauses. In all types of relative clause, quantifiers are most natural when occurring to the left of both the clause and head.

It is awkward for the quantifier to appear with the internal head, inside the clause.

Placing the quantifier with a head in final position, however, is much more acceptable.
Finally, head-final relative clauses provide evidence for remnant movement. Internal heads can have any thematic role, i.e., can originate in any structural position.

(54) 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”

(55) T: ?n-ag-bigay na **tao** ng kendi sa bata
    Perf-AP-give Lk person Obl candy P child
    “the person who gave candy to the child”

(56) T: ?b-in-igy-an na **bata** ng babae ng kendi
    -Perf-give-Tr Lk child Erg woman Obl candy
    “the child to whom the woman gave candy”

However, this is not the case for head-final relative clauses. The relative clause formed on a theme in (57) is grammatical, while that formed on a goal in (58) is severely degraded.

(57) 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”

(58) T: ?*b-in-igy-an ng babae-ng **bata** ng kendi
    -Perf-give-Tr Erg woman-Lk child Obl candy
    “the child to whom the woman gave candy”

The derivation of (57) requires the PP to move above TP so it can be stranded after fronting the TP to [Spec, D].

(59)

In contrast, (58) requires that the oblique object be the one to scramble before remnant TP movement.
In general, Tagalog PPs, but not indefinite NPs are permitted to move to clause-initial position.

(61) 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.”

(62) T:* (ng) kendi b-in-igy-an ng babae ang bata.
Obl candy -Perf-give-Tr Erg woman Abs child
“The woman gave the child candy.”

Therefore, it is not surprising that a head-final relative clause requiring an oblique object to scramble should be ungrammatical, while an internally headed relative clause which does not require this movement should be grammatical.

4. IHRC Derivation

This section proposes an analysis of internally headed relative clauses in Seediq and Tagalog.

4.1. Previous Approaches

There are several different proposals in the generative literature for the structure and interpretation of internally headed relative clauses. Broadwell (1985), Cole (1987), and Lefebvre & Muysken (1988) propose that the internal head moves to a position external to the relative clause at LF.

(63) S’
    NP
    NP

According to Williamson (1987) and Barss et al. (1990) the internal head moves instead to [Spec, C] at LF.
Kayne (1994) proposes that the internal head moves overtly to [Spec, C], just as in the case of external heads. After the clause is fronted to [Spec, D], the moved copy deletes, leaving the copy in base position.

The above three proposals have merits for internally headed relative clauses where the head appears in argument position, as in Quechua, Japanese, Navajo, Lakhota, and Choctaw. Basilico (1996), on the other hand, cites 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.

*Basilico proposes that these heads move to a position internal to the clause, adjoining either to IP or to VP. This NP is interpreted as the head via binding by the determiner.*

4.2. 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 in [Spec, C]. Evidence for this comes first from word order. Internal heads in Seediq and Tagalog appear in immediate post-verbal position, a position not available to arguments in a declarative clause.
"the house Father built"

"the book Maria bought"

"Father built the house."

"Maria bought the book."

"Father built the house."

"Maria bought the book."

I propose that the head NP moves to a position [Spec, FP] below T and above the base position of the agent. The head NP is bound by an operator in [Spec, C].

As noted in the beginning of this paper, Cole (1987) and others claim that only verb-final languages have internally headed relative clauses. There is, however, independent evidence for the existence of quantificational movement in Tagalog and Seediq like that shown in (74). First, Seediq utilizes FP for wh-movement.

"Where did Ape buy books?"
Weakly quantified NPs in Seediq also occupy this position. The quantifier is located in the clause-initial operator position.

(77) S: **Piya** wada puq-un bulebun na Ape?

“How many bananas did Ape eat?”

(78) S: **Daha** bale b-n-ari aring na bubu-mu.

“My mother only bought two peaches.”

Similar to the quantified constructions in Seediq is the Tagalog existential Construction.

(80) T: May **bahay** si Maria.

“Maria has a house.”

(81) T: May na-kita-ng **bahay** si Maria.

“Maria found a house.”
The analysis in (74) is thus supported by other similar processes in Seediq and Tagalog. It is therefore not surprising that these verb-initial languages have internally headed relative clauses.

4.3. Against Antisymmetry

Though this paper has adopted an Antisymmetric analysis for externally headed relative clauses, the proposal in Kayne (1994) for internally headed clauses cannot be adapted for Tagalog and Seediq. Under Kayne’s analysis, the relative head would have to move from FP to [Spec, C] and then be deleted.

Aside from the problem of motivating such an analysis, there is empirical evidence against it. I have shown above that an internally headed relative clause can have a focused PP in preverbal position.

I have also shown that in head final relative clauses, these PPs are stranded after the relative head, indicating that material in preverbal position is not fronted with the remnant TP.

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(82) 
```
TP
  exist
  FP
  house AbsP
    Maria vP
      I_{Ag}
      VP
```

The analysis in (74) is thus supported by other similar processes in Seediq and Tagalog. It is therefore not surprising that these verb-initial languages have internally headed relative clauses.

4.3. Against Antisymmetry

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I have also shown that in head final relative clauses, these PPs are stranded after the relative head, indicating that material in preverbal position is not fronted with the remnant TP.

---

(83) 
```
DP
  CP
    NP
      ||
      e_i
    V
      FP
        vP
          Erg
            VP
```

(84)T: sa bata i-b-in-igay na kendi ng babae  
Datum child App-Perf-give Erg candy Erg woman  
“the candy which the woman gave to the child”

I have also shown that in head final relative clauses, these PPs are stranded after the relative head, indicating that material in preverbal position is not fronted with the remnant TP.

(85)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 analysis in (83) would force movement of the larger projection in order to ensure that the PP precedes the clause in surface order, contra the above evidence.

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.

5. 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 similar syntactic operations in these languages and not related to overall structural head position in the languages, as claimed by more traditional approaches to internally headed relative clauses.

To date, there is little documentation of internally headed relative clauses in Austronesian languages. The existence of the head-final type in Formosan languages is cited in Tang et al. (1998) and others. Internally headed relative clauses are noted in Finer (1998:fn 6) for Selayarese, Donohue (1999:385-7) for Tukang Besi, and David Gill (p.c.) for Riau Indonesian. It is hoped that future research may conclude more
decisively whether internally headed relative clauses are or are not a common occurrence in Austronesian languages.

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