Clausal Modifiers in Amis[1]

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This paper investigates Amis noun phrases that contain a modifying structure functionally equivalent to the so-called attributive adjectives and relative clauses within the framework of Role and Reference Grammar (RRG, Van Valin and LaPolla 1997). It is found that these two types of modifier are both coded by a clausal structure, termed as "clausal modifiers" in the discussion. The clausal status of these modifiers is indicated by their co-occurrence with an epistemic suffix *-ay* designating factuality, which is a type of clausal operator according to RRG. In spite of the structural similarities, clausal modifiers with an adjectival interpretation are subject to more word order restrictions than clausal modifiers rendered like canonical relative clauses (RCs) in English. Syntactic projections based on the RRG framework are laid out for the two types of clausal modifiers (i.e. adjective-like and RC-like clausal modifiers) in this paper.

Key words: Amis, relative clause, adjective

1. Introduction

This paper examines Amis noun phrases that contain modifiers functionally equivalent to the so-called attributive adjectives and relative clauses within the framework of Role and Reference Grammar (RRG hereafter). In particular, I show that these modifiers are coded by a clausal structure, termed as "clausal modifiers" in the discussion. The clausal status of these modifiers is indicated in their co-occurrence with an epistemic suffix that expresses factuality, which is treated a type of clausal operator according to RRG (Van Valin and LaPolla 1997, henceforth referred to as VVLP 1997). In other words, adjectives are constructed similarly as relative clauses in Amis. In spite of the structural similarities, clausal modifiers with an adjectival interpretation are subject to more word order restrictions than clausal

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modifiers rendered like canonical relative clauses (RCs) in English. These restrictions will be discussed in this paper, and the syntactic analysis for both types of modifiers (i.e. adjective-like and RC-like) will be worked out. Furthermore, it is found that these clausal modifiers can be extraposed out of the noun phrase, especially when they function as non-restrictive modifiers. Such extraposed clausal modifiers will also be discussed and analyzed in this paper.

This paper is organized as follows. Section 2 introduces the RRG approach of NP analysis. Section 3 presents different types of clausal modifiers (i.e. adjective-like, RC-like, and extraposed) in Amis, and how they are analyzed from the RRG perspective. Section 4 concludes this paper and further discusses the analysis of *-ay* and the implication of the analysis to the RRG framework, especially the possibility of projecting a syntactic unit functionally equivalent to an attributive adjective both at the constituent and the operator levels.

2. Theoretical Framework

The RRG approach of NP structures can be characterized by the following three features. First, RRG draws an analogy between the syntactic representation of NP structure and the syntactic representation of clause structure. The RRG conception of clause structure is built upon the LAYERED STRUCTURE OF CLAUSE (LSC) (Foley and Van Valin 1984, Van Valin 1993, Van Valin and LaPolla 1997), of which the components are NUCLEUS, which contains the predicate(s), the CORE, which contains the nucleus plus the arguments of the predicate(s), and the PERIPHERY, which contains adjunct temporal and locative modifiers of the core. The semantic basis of the LSC is summarized in Table 1 (Van Valin and LaPolla 1997:27):

Table 1. Semantic Units Underlying the Syntactic Units of the Layered
Structure of the Clause

Semantic Element(s)	Syntactic Unit
Predicate	Nucleus
Argument in semantic representation of predicate	Core argument
Non-arguments	Periphery
Predicate + Arguments	Core
Predicate + Arguments + Non-arguments	Clause (=Core + Periphery)

As claimed in Van Valin and LaPolla (1997), these aspects of the LSC are universal. There are non-universal aspects attested in some languages such as PRE-CORE SLOT (PrCS), or POST-CORE SLOT (PoCS), a position for WH-words. Some

languages have a LEFT-DETACHED POSITION (LDP), which is the position of the pre-clausal element in a left-dislocation construction, and/or a RIGHT-DETACHED POSITION (RDP), a position for the post-clausal element in a right-dislocation position. This layered-style representation of a clause and an NP are exemplified in Figure 1 and Figure 2.
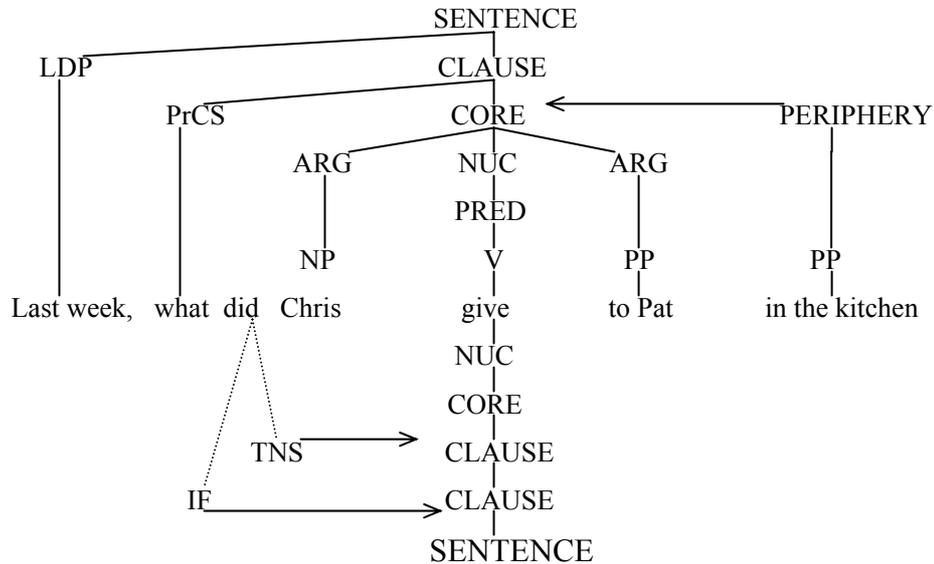

**Figure 1.** The Layered Structure of an English Sentence
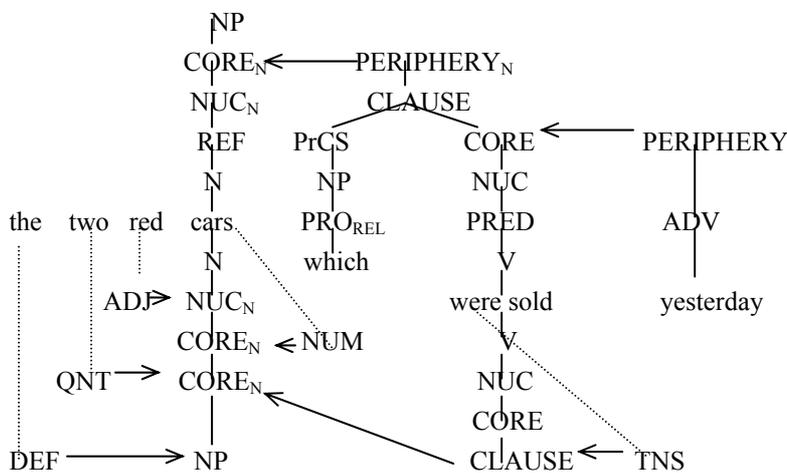
Figure 2. The Layered Structure of an English NP with Different Modifiers

Second, NP modifiers are conceived as operators that modify different layers in the Layered Structure of Noun Phrase (LSNP). The operators for Clauses and NPs

are shown in Table 2.[2] NP operators have scope over Core$_N$ operators, which in turn have scope over Nucleus$_N$ operators. Their modifying scopes are reflected in the linear order. For instance, for prenominal modifiers, NP operators appear before Core$_N$ operators, which occur before Nucleus$_N$ operators.

Table 2. Operators for Clauses and NPs

Operators for Layered Structure of Clause		Operators for Layered Structure of NP		
		RRG Layers	FG Layers	Operators
Nuclear Operators	Aspect Negation	Nucleus$_N$ Operators	Quality	Adj/Nom modifiers Nominal aspect
Core Operators	Directionals Modality (root modals) Internal (narrow scope) negation	Core$_N$ (+Periphery$_N$) Operators	Quantity	Number Quantification Negation
Clausal Operators	Status (realis/irrealis, epistemic modals, external negation) Tense	NP Operators	Locality	Deictics Definiteness

As we can see in the RRG approach, different analyses are proposed for English attributive adjectives and relative clauses. An attributive adjective like *red* in *red car* is analyzed as an NUC$_N$ operator with no projection at the constituent level. A restrictive relative clause is analyzed as a structure displaying a Core$_N$ Subordination relation with the head noun; it is placed in the Periphery$_N$, and it has a projection in the operator level indicating its modifying function for CORE$_N$. Later I will show that the RRG analysis for English attributive adjectives cannot work for the Amis counterparts, which must be projected as a full-fledged clause. Nevertheless, these clausal structures do behave like English attributive adjectives but not like relative clauses, as they have to obey more word order restrictions and show a tighter relation with the head noun.

3. Amis Clausal Modifiers

This section presents the clausal modifiers in Amis. I will begin with a review of Wu's (2002) analysis of *-ay*, which explains why the modifiers are treated

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[2] The NP operator representation in RRG is based on Rijkhoff (1992), who proposes a layered NP-structure and a theory of NP operators from the perspective of Functional Grammar (FG, Dik 1978, 1991).

as clauses.[3] Then, I will compare the two types of clausal modifiers, adjective-like and RC-like, and propose different analyses for them. Finally, I will also discuss the clausal modifiers that are extraposed out of the NP.

3.1 The Analysis of -*ay*

In Amis, adjectival predicates are expressed by verbs,[4] which usually appear with a prefix *ma-* (e.g. (1a)) or in an unaffixed form (e.g. (1b)). Some examples are shown in (1).[5]

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[3] The morphemic analyses and glosses in the examples are based on Wu (2001), which in general follows Liu (1999). However, at least three revisions are made. First, while agreeing with Liu's analysis of the Amis case marking system in decomposing the case-marker (e.g. *ku*) into a case marker (e.g. *k-*) plus a noun class marker (e.g. *-u*) (cf. Huang (1995)), Wu (2001) proposes that the nominative case marker for the personal proper nouns is a zero form (e.g. (5b)) instead of the consonant *c-* claimed in Liu (1999). Second, instead of adopting the nominative-genitive-accusative (or locative) case system employed in Liu (1999) and other studies such as Huang (1995), Wu (2001)'s tri-case system consists of nominative, genitive, and dative cases. The reason for replacing the accusative/locative case with the dative case is because the latter seems to better capture the function of this case marker, especially in its marking of a recipient in a ditranstive sentence. Third, though also employing the term "voice" instead of "focus" in traditional Austronesian literature to refer to the well-known phenomenon "whereby an affix on a verb (the focus affix) establishes a special relationship between the verb and one of the noun phrases in the sentence" (French 1988:1), Wu (2001) abides by the definition of voice given by Shibatani (1988:3) as a "mechanism that selects a grammatically prominent syntactic constituent--subject-- from underlying semantic functions of a clause". Hence, for verbs where such a selection is not involved, the so-called voice affix (or focus affix) is simply left unglossed (e.g. *ma-* in (1a)). Functions of these preverbal affixes are still under investigation.

[4] One anonymous reviewer asks why the term "adjectives" is used here but not "statives", and if there is any way of distinguishing adjectives from statives. I agree that verbs with an adjectival interpretation can be treated as a type of stative in that these verbs are morphologically marked in the same way as other stative verbs. For example, both either appear with *ma-* or in a unaffixed form. However, at least the verbs with a "gradable" feature (i.e. a canonical feature of adjectives (Schachter 1985)) should be grouped as a class (or a subclass) as examples like (6) can only apply to verbs with a gradable feature. For verbs without a gradable feature, the attachment of *-ay* is obligatory, and the comparative interpretation will not be obtained. This seems to motivate a distinction between adjectives (or verbs with a gradable feature) from other statives. Although more investigation is required for such a distinction, I will tentatively keep the term "adjectival predicate" in the discussion. Another question raised by the same reviewer concerns whether there is any distinction between color terms and other statives (or verbs in general). In Amis, color terms are also a type of verb. Although they usually appear in an unaffixed manner, this is, however, not an exclusive morphological feature for color terms. Other adjectival predicates also occur in their root forms (e.g. *miming* 'small' and *lipahak* 'happy').

[5] The phonetic symbols used in the transcription generally follow the IPA system, with the following exceptions: /e/ stands for schwa [★], /d/ for voiceless lateral [☉], /'/ for glottal stop [☞], /q/ for pharyngealized glottal stop /✍/, and /ng/ for /ŋ/. The following abbreviations and symbols are used in the gloss:

1/2/3S: first/second/third person singular	ASP: Aspect	AV: Actor Voice	DAT: Dative
FAC: Factual Marker	GEN: Genitive	InV: Instrument Voice	LNK: Linker
LV: Locative Voice	NCM: Noun Class Marker	NOM: Nominative	PREP: Preposition
RED: Reduplication	UV: Undergoer Voice		

(1) a. <u>Ma-su'su'</u>   cingra.
    MA-fat   3S.NOM
    'He is fat.'

  b. <u>Kuhting</u>   k-u-ni   qayam.
    black   NOM-NCM-this   bird
    'This bird is black.'

When functioning as a modifier for a noun, these verbs in (1) must be suffixed with -*ay* as shown in (2):

(2) a. ma-su'su'-**ay**   (a)   tamdaw[6]
    MA-fat-FAC   LNK   person
    'fat person'

  a'.*ma-su'su'   (a)   tamdaw
    MA-fat   LNK   person

  b. kuhting-**ay**   (a)   qayam
    black-FAC   LNK   bird
    'black bird'

  b'. *kuhting   (a)   qayam
    black   LNK   bird

This suffix also appears in the verbs in the relative clause as exemplified in (3):

(3) a. Ma-patay   tu   k-u-ya   <u>mi-kalat-**ay**   ci   aki-an</u>
    MA-die   ASP   NOM-NCM -that   AV-bite-FAC NCM
  Aki-DAT

  (a)   wacu.
  LNK   dog
  'That dog that bit Aki is dead.'

  b. Tati'ih   k-u-ya   <u>ma-kaen-**ay**   n-i   aki</u>   (a)   tali.
    bad   NOM-NCM-that   UV-eat-FAC GEN-NCM   Aki   LNK   taro
    'That taro that Aki ate was bad'

This suffix has been analyzed as a nominalizer in some previous studies (e.g. Lin

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[6] The linker *a* in (2) is usually optional, though the informants tend to keep it. However, there are at least two situations where the presence of the linker is required. First, when there is a series of prenominal modifiers that are connected by *a*, the last a (i.e. the one before the head) must be retained. See Liu (1999) for further explication on this point. Second, when there is an extraposition of prenominal modifiers (e.g. (10)), the presence of this linker before the head is required.   However, I have also found that in a few examples (e.g. (8)), the occurrence of this linker is not allowed.   Further investigation is required.

1995, Wu 1995, and Liu 1999) since verbs are often obligatorily suffixed with *-ay* after a case marker (i.e. a canonical nominal position), and verbs suffixed with *-ay* usually receive a nominal interpretation as seen in (4):

(4) a. Ma-ulah kaku   t-u   kuhting-**ay**.
        AV-like 1S.NOM   DAT-NCM   black-FAC
        'I like **black color**.'

  b.*Ma-ulah   kaku   t-u   kuhting.
        AV-like   1S.NOM   DAT-NCM   black

However, Wu (2002) argues that a more appropriate analysis for this suffix should be an epistemic modal that denotes factuality as this alternative analysis can better account for the following distributional facts and functions of the suffix. First, this suffix never occurs with a verb that is marked by the irrealis form (i.e. the Ca-reduplication form)[7] such as the examples in (5):

(5)a. Ma-fanaq   kaku   t-u   ta-tayra/*ta-tayra-ay (a)   matu'asay[8].
        AV-know   1S.NOM   DAT-NCM   RED-go   LNK   old. man
        'I know the old man who will go.'

  b. Mi-licay   ∅-ci   aki   t-u   fa-fafa-en/*fa-fafa-en-ay
        AV-ask   NOM-NCM   Aki   DAT-NCM   RED-carry.on.the.back-UV

   n-i   panay   (a)   matu'asay.
        GEN-NCM   Panay   LNK   old.man
        'Aki is asking the old man whom Panay will carry on the back.'

Second, *-ay* sometimes is not obligatory for a verb appearing after a case marker in examples like (6).[9] However, if the function of *-ay* is to nominalize the verb, we would expect its obligatory presence in (6).

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[7] See Wu (2002) for further discussion.

[8] The word *matu'asay* can be further decomposed as *ma-tu'as-ay* "MA-get.old-FAC." A word formation process like this is very common in Amis. Another example is shown in (4a) (i.e., *kuhting-ay* 'black color'). This is one of the reasons why the suffix *-ay* has been treated as a nominalizer. However, based on the alternative analysis adopted here, this structure is more like a headless relative clause.

[9] Besides the examples in (6), both Wu (1995) and Liu (1999) have also found that in so-called relative clauses, not every verb form will appear with *-ay*; only verbs affixed with AV markers and the UV marker *ma-*, other verbal forms such as the so-called instrumental voice and locative voice form, and the UV marker *mi....an* are not allowed to show up with *-ay*. I will further discuss this point at the end of the paper.

(6)a. Ci panay k-u   <u>ci-tangal/ci-tangal-**ay**</u>.
  NCM Panay NOM-NCM have-head/have-head-FAC
  'Panay is smarter.'

 b. Ci panay k-u   <u>ma-laluk/ma-laluk-**ay**</u>
  NCM Panay NOM-NCM MA-diligent/MA-diligent-FAC
  'Panay is more diligent.'

Third, treating this suffix as an epistemic marker for factuality also gives a natural account for why verbs suffixed with *-ay* can also function as a predicate and carry an emphatic sense for the happening of the event or state. For example:

(7)a. Mi-kilim   kaku   ci panay-an
  AV-look.for 1S.NOM NCM Panay-DAT
  'I am looking for Panay.'
  'I will look for Panay.'

 b. <u>Mi-kilim-**ay**</u>   kaku   ci panay-an
  AV-look.for-FAC 1S.NOM   NCM Panay-DAT
  'I **did** look for Panay.'

 c. <u>Kimulmul-**ay**</u> k-u   cidal.
  round-FAC NOM-NCM sun
  'The sun is round.'

 c'. *Kimulmul k-u   cidal.
  round   NOM-NCM sun

 d. Q: Pa-pina   k-u   wawa isu?
   RED-how.many/much NOM-NCM child 2S.GEN
   'How many children do you have?'

 A: (i) <u>La-lima-**ay**</u> aca.[10]
   RED-five-FAC only
   'Five only.' (The speaker can't have children any more)

  (ii) La-lima   aca.
   RED-five   only
   'Five only.' (It is possible that the speaker will have more children in the
    future.)

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[10] Note that the Ca-reduplication here designates "plurality", not irrealis status of the predicate. One of the functions of Ca-reduplication is to express the "plural and human" meaning for the numerals (i.e. la-lima "five (people)"). So, this example doesn't contradict the observation mentioned earlier that *-ay* doesn't co-occur with the irrealis form of the verb. Whether there is a correlation between plurality and irrealis status requires further investigation.

Compared with the verb without the suffix in (7a), the -*ay* form in (7b) adds an emphatic and a past interpretation for the event. Moreover, when describing a permanent state, the suffix is required as seen in the comparison of (7c) and (7c'). Another contrast between the predicate with or without -*ay* is found in (7d), where the numeral predicate suffixed with -*ay* indicates an unchangeable state, while the one without -*ay* has no such a denotation. In addition to the examples in (7a-d), this suffix also shows up in counter-factual sentences as seen in (7e-g):

(7)e. Anu   <u>ira-**ay**</u>   k-u   limaw aku,   paka-fanaq-en
    if   exist-FAC   NOM-NCM   time 1S.GEN   PAKA-know-UV

     aku   kisu.
     1S.GEN   2S.NOM
     'If I **had** time, I would explain the matter to you.'

  f. Anu   <u>ma-araw-**ay**</u> aku   ∅-ci   aki itiyaho, pa-suwal-en
     if   UV-see-FAC 1S.GEN   NOM-NCM Aki before   CAU-say-UV

     aku   kisu.
     1S.GEN 2S.NOM
     'If I **had seen** Aki before, I would have told you.'

  f'. ?? Anu <u>ma-araw</u>   aku   ∅-ci   aki   itiyaho,
        if   UV-see   1S.GEN   NOM-NCM Aki   before

       pa-suwal-en   aku   kisu.
       CAU-say-UU   1S.GEN   2S.NOM
       'If I **had seen** Aki before, I would have told you.'

  g. *Anu   <u>ma-araw-**ay**</u> aku   ∅-ci   aki   <u>anuhoni,</u>
     if   UV-see-FAC 1S.GEN   NOM-NCM Aki   a.moment.later

      pa-suwal-en   aku   kisu
      CAU-say-UV 1S.GEN   2S.NOM
      'If I **see** Aki later, I will tell you.'

As shown in (7f'), the counter-factual conditional clause without the suffix -*ay* is judged odd by the informant. Furthermore, this suffix is not allowed to show up in the so-called irrealis conditional clause in (7g). It seems that the verbs marked by -*ay* in the above examples express events/states that are perceived to be actually occurring or having occurred.[11]

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[11] This is the reason why -*ay* is treated as an epistemic marker. Thought it expresses factuality, this

These examples show that the function of *-ay* in the modifiers in (2) and (3) is not to nominalize the verb; rather, it is the position after the case marker that gives the nominal interpretation for the verb.[12] This suffix is more like a kind of epistemic modal that expresses factuality.

Following the analysis of *-ay* as an epistemic modal, the modifiers in (2) and (3) should be analyzed as a clause since an epistemic modal is a clausal domain operator (i.e. called "status" in VVLP).[13] In other words, so-called adjectives and relative clauses are both coded by a clausal structure in Amis. Notice that in the clause, there is a missing argument, and this missing argument is coreferential with the head noun modified by the clause. This is a feature commonly found in so-called externally headed relative clauses. In spite of the structural similarity, clausal modifiers that are interpreted like an adjective such as (2a) and (2c) seem to be subject to more word order restrictions than clausal modifiers that are interpreted more like a relative clause such as (3). To facilitate the discussion, I will call them adjective-like clausal modifiers and RC-like clausal modifiers in the following sections.

3.2 A Comparison between Adjective-like and RC-like Clausal Modifiers

The major differences between adjective-like and RC-like clausal modifiers are exhibited in word order. First of all, if they co-occur with a numeral, adjective-like clausal modifiers tend to appear after the numeral, but RC-like clausal modifiers can appear before or after the numeral. The examples are given in (8) and (9):

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fact is not necessarily a fact in the real world; it can also be one in a possible world.

[12] One anonymous reviewer points out that the interpretation of a clause of an NP could be due both to the occurrence of *-ay* on the verb and the case marker before the clause. While this is a possible option, I would like to argue that at least it is not the major function of *-ay*. Treating *-ay* as a nominalizer will obscure its modal function, which as demonstrated in the examples, should be the major role that *-ay* plays in Amis grammar. I will further discuss the function of *-ay* at the end of this paper.

[13] As pointed out by one anonymous reviewer, epistemic modality is also possible encoded in words, such as *do-able* in English and *kan-de-dao* (看得到) 'visible' in Chinese, and hence, *-ay* is not necessarily a clausal domain operator. However, both examples given by the reviewer seem to involve "root modality" or "deontic modality", which includes ability, permission, and obligation. Such modals are treated as core domain operators in RRG. (Please see Table 2 in Section 2).

(8) a. Mi-cakay   cingra   t-u   <u>tusa</u>   <u>tata'ak-ay</u>   (*a)
    AV-buy   3S.NOM   DAT-NCM   two   big-FAC   LNK
                                      (Numeral) (Adj-like modifier)

      <u>kuhting-ay</u>   a   fafuy.
      black-FAC   LNK   pig
      (Adj-like modifier)
      'He is going to buy two big black pigs.'

    b.*Mi-cakay   cingra   t-u   <u>kuhting-ay</u>   <u>tusa</u>
     AV-buy   3S.NOM   DAT-NCM   black-FAC   two
                                        (Adj-like modifier) (Numeral)

      <u>tata'ak-ay</u>   a   fafuy.
      big-FAC   LNK   pig
      (Adj-like modifier)

    c.*Mi-cakay   cingra   t-u   <u>kuhting-ay</u>   <u>tata'ak-ay</u>
     AV-buy   3S.NOM   DAT-NCM   black-FAC   big-FAC
                                    (Adj-like modifier) (Adj-like modifier)

      <u>tusa</u>   a   fafuy.
      two   LNK   pig
      (Numeral)

(9)a. Ma-araw   aku   k-u-ya   <u>mirepelan</u>   <u>n-i</u>   <u>mayaw</u>
    UV-see   1S.GEN   NOM-NCM-that   catch-UV   GEN-NCM Mayaw
                                      (RC-like Modifier)

      a   <u>ta-tulu</u>   a   tawinaan   a   kulong.
     LNK   RED-three   LNK   mother.animal   LNK   water.buffalo
             (Numeral)
    'I saw the three female water buffaloes caught by Mayaw.'

    b. Ma-araw aku   k-u-ya   <u>ta-tulu</u>   a   tawinaan
     UV-see   1S.GEN   NOM-NCM-that   RED-three   LNK   mother.animal
                                     (Numeral)

      a   <u>mirepelan</u>   <u>n-i</u>   <u>mayaw</u>   a   kulong.
    LNK   catch-UV   GEN-NCM   Mayaw   LNK   water.buffalo
         (RC-like Modifier)
    'I saw the three female water buffaloes caught by Mayaw.'

The other difference is found in their position in a fronted NP. Amis is a predominantly verb-initial language. But, a heavy NP designating the actor participant for an actor-voice verb is often fronted to the sentence-initial position. While the adjective-like clausal modifier can only appear before the head noun in such a fronted NP, the RC-like clausal modifier can show up before or after a preposed head noun. This is illustrated in examples in (10) and (11).

(10) a. Ya   ta-tusa-ay   a   fa'inayan   a   <u>fangcal-ay</u>   *(a)
     that   RED-two-FAC   LNK   man   LNK   good-FAC   LNK
                                                             (Adj-like Modifier)

     <u>singsi</u>   pa-ka-araw   ci   sawmah-an.
     teacher   PA-KA-see   NCM   Sawmah-DAT
     (Head)
     'Those two good man teachers saw Sawmah.'

   a' *Ya   ta-tusa-ay   a   fa'inayan   a   <u>singsi</u> (*a)   <u>fangcal-ay</u>
     that   RED-two-FAC   LNK   man   LNK   teacher LNK   good-FAC
                                                      (Head)   *(Adj-like Modifier)*

     pa-ka-araw   ci   sawmah-an.
     PA-KA-see   NCM   Sawmah-DAT

   b. Ya   ta-tulu-ay   a   <u>ma-laluk-ay</u>   fa'inayan   a
     that   RED-three-FAC   LNK   MA-diligent-FAC   man   LNK
                                       (Adj-like Modifier)

     <u>kapah</u>   ma-ulah   ci   panay-an.
     young.man   AV-like   NCM   Panay-DAT
     (Head)
     'Those three diligent young men like Panay.'

   b'.*Ya   ta-tulu-ay   a   fa'inayan   a   <u>kapah</u>   (*a)

     that   RED-three-FAC   LNK   man   LNK   young.man   LNK
                                                 (Head)

     <u>ma-laluk-ay</u>   ma-ulah   ci   panay-an.
     MA-diligent-FAC   AV-like   NCM   Panay-DAT
     (Adj-like Modifier)

As we can see in (10a') and (10b'), the postnominal position is not allowed for the adjective-like clausal modifier. Now, consider the sentences in (11):

(11)a. Ya   <u>mi-palu-ay</u>   ci   <u>mayaw-an</u>   a   ta-tusa-ay   a
     that   AV-beat-FAC   NCM   Mayaw-DAT   LNK   RED-two-FAC   LNK
         (RC-like modifier)
     fa'inayan   a   <u>singsi</u>   pa-ka-araw   ci   sawmah-an.
     man   LNK   teacher   PA-KA-see   NCM   Sawmah-DAT
                      (Head)
     'Those two man teachers who beat Mayaw saw Sawmah.'

   a'. Ya   ta-tusa-ay   a   fa'inayan   a   <u>singsi</u> (*a)   <u>mi-palu-ay</u>
     that   RED-two-FAC   LNK   man   LNK   teacher LNK   AV-beat-FAC
                                                 (Head)   *(RC-like Modifier)*
   <u>ci mayaw-an</u>   pa-ka-araw   ci   sawmah-an.
     NCM   Mayaw-DAT   PA-KA-see   NCM   Sawmah-DAT
     'Those two man teachers who beat Mayaw saw Sawmah.'

In (11), we can see that both the position before the head and the position immediately after the head are allowed for an RC-like clausal modifier. As a matter of fact, the RC-like clausal modifier is the only modifier that is allowed to appear postnominally in a fronted NP. As we can see in (12), other types of modifiers such as numeral and noun modifiers must appear prenominally:

(12)* Ya   singsi   mi-palu-ay ci   mayaw-an   a   ta-tusa-ay
      that   teacher   AV-beat-FAC NCM Mayaw-DAT LNK   RED-two-FAC
             (Head)   *(RC-like Modifier)*   *(Numeral Modifier)*
      a   fa'inayan pa-ka-araw ci   sawmah-an.
      LNK   man   PA-KA-see   NCM Sawmah-DAT
             (Noun Modifier)

3.3 The Analysis of Adjective-like and RC-like Clausal Modifiers

The above comparison suggests that adjective-like and RC-like clausal modifiers should be analyzed differently in spite of being coded by a similar clausal structure. As the numeral modifier is analyzed as a $Core_N$ operator in Amis (Wu 2001), the position after the numeral suggests that the adjective-like clausal modifier should modify a domain smaller than the $Core_N$ (i.e. $Nucleus_N$). On the contrary, the flexible position relative to the numeral shows that the RC-like clausal modifier does not have to be bound by the $Core_N$ operator. Furthermore, when the NP is fronted, the adjective-like modifier must be fronted as well, but the RC-like modifier is allowed to appear after the head. Such flexibility indicates that the adjective-like clausal modifier shares a closer bond with the head than the RC-like modifier.

Based on these observations, I propose that the adjective-like clausal modifier should be treated as a non-peripheral $Nucleus_N$ modifier that functions as an attribute to the quality of the head noun since it displays a rather tight relation with the head. However, different from the English attributive adjective, analyzed in VVLP (1997) as a $Nucleus_N$ operator with no constituent projection, the adjective-like clausal modifier in Amis should be projected as a full-fledged clause at the constituent level, as diagrammed in Figure 3:
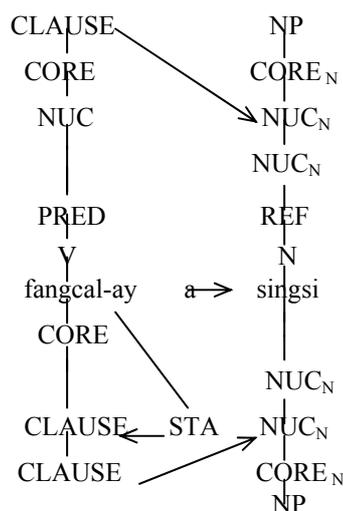
Figure 3. LSNP for *fangcalay a singsi* 'good teacher'

As for the RC-like clausal modifier, I analyze it as a Core$_N$ modifier in the periphery based on the following reasons. First of all, as seen in (11) and (12), while a noun is fronted, the RC-like clausal modifier is the only modifier that is allowed to appear in the posthead position. As remarked by the informant, she feels that *ta-tusa-ay a fa'ianayan a singsi* 'two male teachers' in (11a) are more like a unit, and thus one cannot separate them syntactically (e.g. <11c>). This remark suggests that the RC-like modifier has a looser bond with the head noun.[14] Second, as a fronted element usually designates more focal information in Amis,[15] the RC-like modifier is allowed to be left out of the focus. In other words, the information denoted by an RC-like modifier seems not as important for the fronted NP as the information denoted by other prenominal modifiers. Therefore, it is legitimate to project it in the periphery of the NP, as diagrammed in Figures 4-5: [16]

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[14] The remark from the informant is included here for reference only; it is not a direct piece of evidence to support my analysis.

[15] In Amis, WH-words, canonically indicating the pragmatically focal position, usually appear clause-initially.

[16] The word order flexibility of an RC-like clausal modifier is not something unusual in this language since it is also found in other examples in which a modifying element such as an adverbial can appear before or after the main clause as exemplified in (13).

(13) a. I   ayaw   n-u   ka-lahok   isu,   saoai-en   ho
       PREP   front   GEN-NCM   KA-lunch   2S.GEN read-UV   ASP
      (Adverbial Clause)   *(Main Clause)*
      k-u-ya   cudad!
       NOM-NCM-that   book
      'Before you eat lunch, read that book!'
    a'. Saosi-en ho   ku-ya   cudad, i   ayaw   n-u
       read-UV   ASP   NOM-NCM-that book   PREP   front   GEN-NCM
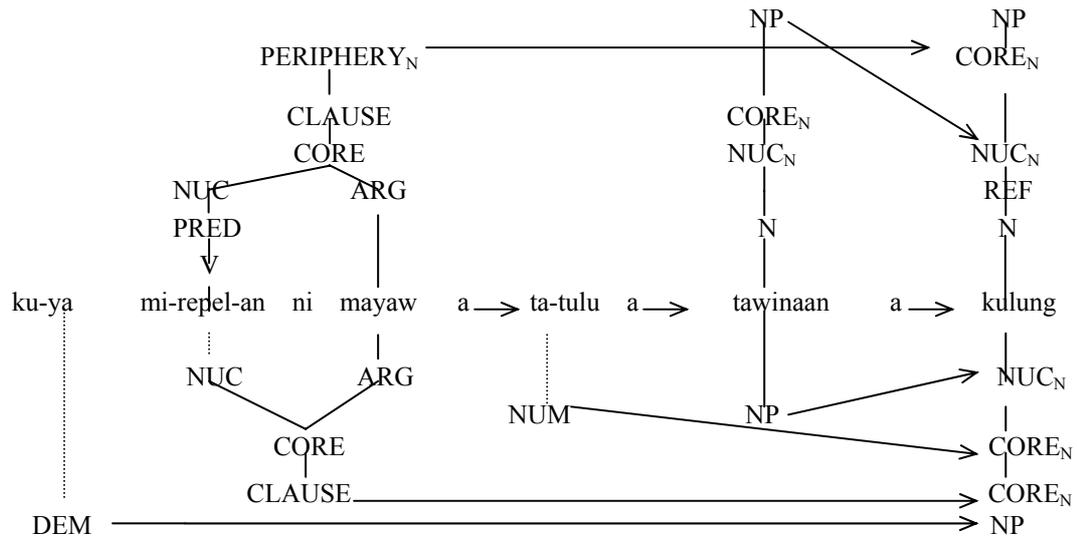
Figure 4. LSNP of *kuya mi-repel-an ni mayaw a tatulu a tawinaan a kulung*
'those three female water buffaloes that Mayaw caught'
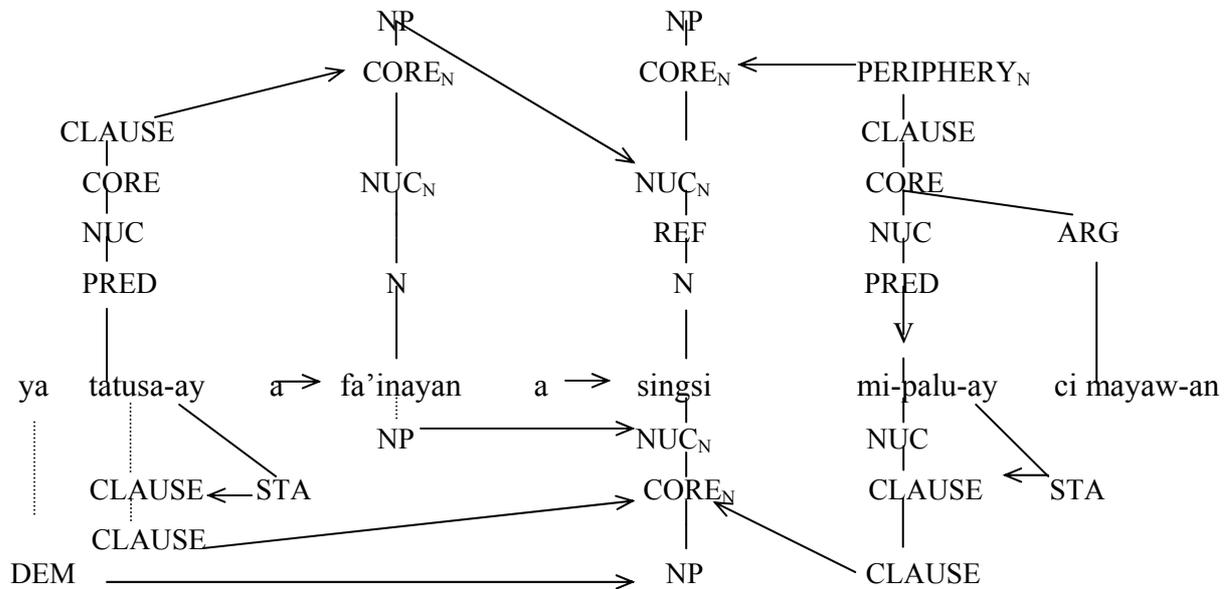
Figure 5. LSNP of *ya tatusaay a fa'inayan a singsi mi-palu-ay cimayawan*
'those two male teachers who beat Mayaw'

3.4 The Analysis of Extraposed Clausal Modifiers

Earlier I discussed the structures of adjective-like and RC-like clausal modifiers and proposed different RRG analyses for them based on their differences in word order. As we can see from the above examples, the unmarked position of these

(Main Clause)   *(Adverbial Clause)*
ka-lahok   isu
KA-lunch   2S.GEN
'Read that book before you eat lunch!'

clausal modifiers is prenominal. However, when the head noun is specific (e.g. a personal name), the clausal modifier must show up in a postposed manner as illustrated in (14):

(14) a. Ma-ulah   ∅-ci   aki   ci   panay-an,   t-u-ra
    AV-like   NOM-NCM   Aki   NCM   Panay-DAT   DAT-NCM-that

    maroq-ay   i   fiyaw   nira.
    live-FAC   PREP   neighborhood   3S.GEN
    'Aki likes Panay, who lives in his neighborhood.'

   b.??Ma-ulah   ∅-ci   aki   t-u-ra   maroq-ay   i
     AV-like   NOM-NCM   Aki   DAT-NCM-that   live-FAC
      PREP

    fiyaw   nira   (a)   panay
    neighborhood   3S.GEN   LNK   Panay
    'Aki likes Panay, who lives in his neighborhood.'

As shown in (14), when functioning non-restrictively, the clausal modifier must appear extraposed after the NP. Extraposed clausal modifiers are not only limited to head nouns that denote specific names; they also appear when a common noun serves as the head. Consider:

(15)a. Ma-araw   aku   k-u-ya   mipaluan n-i   aki
    UV-see   1S.GEN   NOM-NCM-that   beat-UV   GEN-NCM Aki

   a   **wawa**.
   LNK   child
   'I saw that child whom Aki beat.'

   a'. Ma-araw aku   k-u-ya   **wawa**, ya   mipaluan
     UV-see 1S.GEN   NOM-NCM-that   child   that   beat-UV

n-i   aki**.**
  GEN-NCM   Aki
  'I saw that child, whom Aki beat.'

   b. Ma-nengneng aku   k-u-ya   kuhting-ay   a   **fafuy**
    UV-see   1S.GEN   NOM-NCM-that   black-FAC   LNK   pig

   n-i   panay.
   GEN-NCM   Panay
   'I saw that black pig of Panay.'

b'. Ma-nengneng aku k-u-ya **fafuy** n-i panay,
    UV-see   1S.GEN   NOM-NCM-that   pig   GEN-NCM   Panay

u-ya   kuhting-ay.
NCM-that   black-FAC
    'I saw that pig of Panay, that black one.'

As we can see, the restrictive clausal modifiers clausal modifiers in (15a) and (15b) can also be extraposed. Notice that an adjective-like clausal modifier in (15b) can also be extraposed.

    The extraposed clausal modifier is structurally identical with the head-less clausal modifiers illustrated in (16):

(16)a. Ma-ulah   kaku   t-u-ya   <u>miming-ay</u>
    AV-like   1S.NOM   DAT-NCM-that   small-FAC
    'I like that little one.'

    b. Ma-patay   tu   k-u-ya   <u>mi-kalat-ay   ci   aki-an</u>.
    MA-die   ASP   NOM-NCM-that   AV-bite-FAC NCM   Aki-DAT
    'That one that bit Aki is dead.'

As we can see in (16), the headless clausal modifiers serve as an argument in these clauses; they can denote an NP by themselves. In other words, the extraposed clausal modifiers in (14) and (15) also designate an NP by themselves, and this NP must be coreferential with the head noun.

    As noticed in (14) and (15), the extraposed clausal modifiers are often preceded by a demonstrative. These demonstratives can be case-marked (e.g. (14a)) or case-free (e.g. (15a') and (15b')). The case-marked demonstrative must have the same case as the head noun in the main clause. More examples are given in (17):

(17) a. Ma-ulah   k-u   safa   n-i   aki   ci

    AV-like   NOM-NCM   younger.sibling   GEN-NCM   Aki   NCM

    panay-an,   **k-u-ya**   <u>ma-palu-ay   aku</u>
    Panay-DAT   NOM-NCM-that   UV-beat-FAC 1S.GEN
    'Aki's brother, who was beaten by me, likes Panay.'

b. Ma-ulah   k-u   safa   n-i   aki   ci
   AV-like   NOM-NCM   younger.sibling   GEN-NCM   Aki   NCM

panay-an,   **ya**   ma-palu-ay   aku.
Panay-DAT   that   UV-beat-FAC 1S.GEN
 'Aki's brother, who was beaten by me, likes Panay.'

A case-free demonstrative only appears clause-initially in Amis. Hence, we know that the case-marked clausal modifier in (14a) is still in the same clause as the head noun, but the case-free extraposed clausal modifier in (15a') and (15b') are at the beginning of a different clause. Based on these observations, the case-marked extraposed clausal modifier is analyzed as an NP under the clause node, while the case-free extraposed modifier is placed in the Right-Detached Position (RDP) under the Sentence node. The LSNPs of these extraposed clausal modifiers are shown in Figures 6-7:[17]
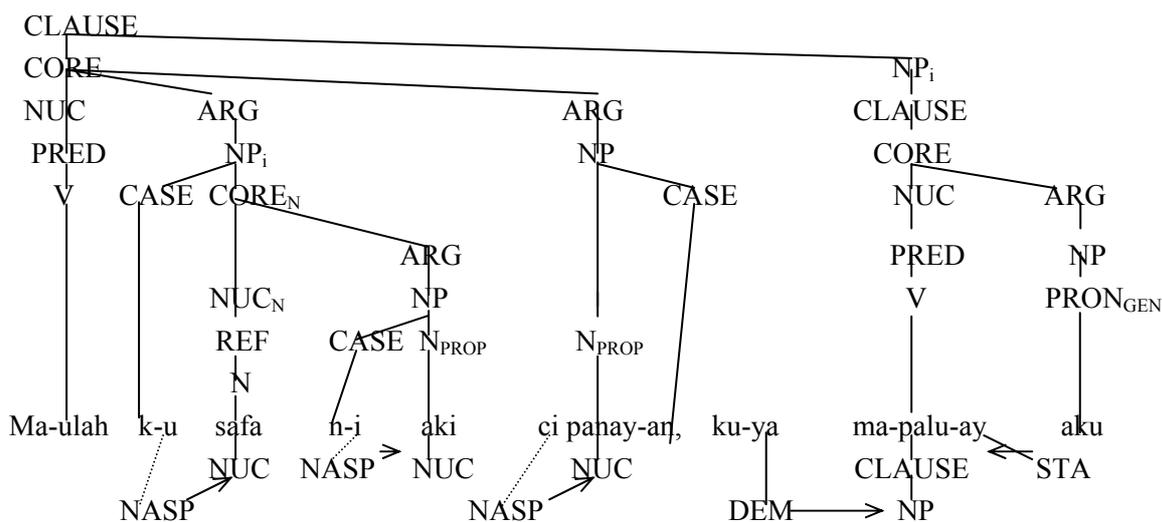
Figure 6. LSC of *Ma-ulah ku safa ni aki ci-panay-an, kuya ma-plau-ay aku*.
'Aki's brother, who was beaten by me, likes Panay.'

SENTENCE

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[17] One reviewer mentions that placing the nonrestrictive relative clause (NRRC) at the sentence/clause level rather than with the head noun in the tree diagrams is undesirable since the NRRCs are used to be the predicate of the head nouns and should thus be structurally linked to them. However, if we link the NRRCs in Figure 6-7, we can't explain the appearance of a nominative case marker in Figure 6 and a case-free demonstrative in Figure 7 before the NRRC. The NRRCs in Amis are actually headless RCs that manifest coreferential noun phrases with the head noun, and such coreferentiality is indicated in the tree diagrams via subscript. The projection of NRRCs at the sentence/clausal is based on their syntactic features; their functions are not marred.
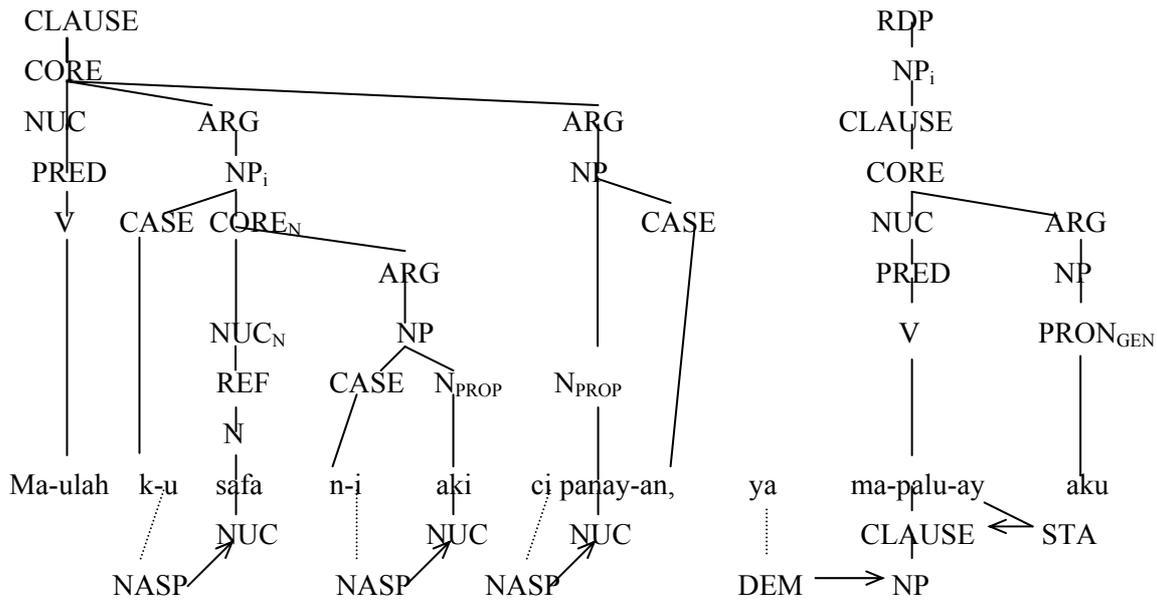
Figure 7. LSC of *Ma-ulah ku safa ni aki ci-panay-an, ya ma-plau-ay aku.*
'Aki's brother, who was beaten by me, likes Panay.'

4. Concluding Remarks

In this paper, I examine the modifying structures that are functionally equivalent to the so-called attributive adjectives and relative clauses in English, especially the modifiers formed by a verb and suffix *-ay,* in the framework of RRG. These modifiers are analyzed as a clause as *-ay* functions as a clausal layer operator (i.e. an epistemic modal). Ross (1995), based on data collected from other Amis dialects, also postulates an analysis for the suffix *-ay* as a projective form[18] for location voice (locative voice in this paper) verbs in Amis as well as the reconstructed Proto-Austronesian (PAN) verbal morphology system. Although the suffix *-ay* is not found for the locative verbs in the Amis dialect investigated here, Ross's (1995) analysis might shed some light on a historical origin for the modal function of this suffix. The form *-ay* (or *=ay*) is also found in other Formosan languages such as Atayal (Huang 2002) and Kavalan (Chang and Lee 2002), but receives different analyses in those languages. For example, in Atayal, similar to the analysis proposed in Ross (1995) for Amis and PAN, *-ay* designates "projective/immediate" for agent focus and locative focus verbs (Huang 2002). In Kavalan, the enclitic *=ay* is

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[18] The term "projective" refers to the "finite verb form used to express intention, possibility, and exhortation" (Ross 1995:742). Ross's (1995) analysis of *-ay* is based on Ferrell (1972). As mentioned by Ross, Ferrell's (1972) data are significantly differently from Fey's (1986). The data used in this paper is dialectically closer to those used in Fey (1986).

analyzed as a complimentizer that turns a predicate into a relative clause (Chang and Lee 2002). Functionally speaking, Amis *-ay* is similar to Kavalan *=ay* in this aspect. However, what *-ay* is doing in Amis seems to be more than complimentizing; as shown in the preceding discussion, it also has important modal functions, and its presence does not always involve turning a predicate into a modifier.

Another point that is worth mentioning about *-ay* is its absence in instrument voice (InV) and locative voice (LV) verbs, and the UV form *mi...an* in the clausal modifiers, as noticed by Wu (1995) and Liu (1999). The examples are given in (18):

(18)a. Ma-pitek   aku   k-u   sa-pi-cikcik   n-i   aki
      UV-break   1S.GEN   NOM-NCM   InV-PI-cut   GEN-NCM   Aki

      t-u   dateng   (a)   pu'ut.
      DAT-NCM   vegetable   LNK   knife
      'I broke the knife with which Aki cuts the vegetable.'

  b. Tayra   ∅-ci   panay   mi-ladum   i   pi-ladum-an
      go   NOM-NCM   Panay   AV-fetch.water   PREP   PI-fetch.water-LV

      n-i   aki   (a)   tefun.
      GEN-NCM   Aki   LNK   well
      'Panay went to fetch water at the well where Aki fetched water.'

  c. Tati'ih   k-u-ya   mi-kaen-an   n-i   aki.
      bad   NOM-NCM-that   UV-eat-UV   GEN-NCM   Aki
      'That one that Aki ate was bad.'

As shown in (18), the InV and LV forms are not suffixed with *-ay* in the clausal modifiers. This suffix is also absent in the UV form in (18c). Notice that this UV form is also marked by *-an*. Although the account for the absence of *-ay* in these verbal forms, and how the analysis of *-ay* as an epistemic marker can contribute to such an account require further research, at least we can learn from these examples that there seems to be an asymmetry in the four voice forms (i.e. AV/UV vs. InV/LV)[19]. Such an asymmetry suggests a non-unfirmative analysis for these so-called voice forms.

The structures and the RRG analyses of the clausal modifiers in Amis are summarized in Table 3:

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[19] More specifically, it should be the AV/UV and InV/LV/-*an* UV. A possible direction to pursue is that if *-ay* is a modal (a TAM marker), then it turns out that the InV/LV/-an UV are not less typical verbal categories as TAM is a canonical feature for verbs.

Table 3. Summary of the Structures and Syntactic Projections of the Clausal Modifiers

Types of Modifiers	Position	Structure	Word Order Restriction	Syntactic Projection
Adjective-like Clausal Modifier	Prenominal	Clause with a gapped argument	Tend to appear after numeral	Non-peripheral NUC_N modifier
RC-like Modifier	Prenominal	Clause with a gapped argument	Can appear before or after the numeral modifier	$CORE_N$ modifier in the Periphery $_N$
	Postnominal	Clause with a gapped argument	Only found (so far) for a fronted head NP	$CORE_N$ modifier in the Periphery $_N$
Non-restrictive Clausal Modifier	Postnominal	Case-marked Demonstrative + Clause with a gapped argument		An extraposed NP under the CLAUSE node and coindexed with the head NP in the matrix clause
		Case-free Demonstrative + Clause with a gapped argument		An NP in RDP and coindexed with the head NP in the matrix clause
Headless Clausal Modifier	--	Case + Clause with a gapped argument		Core argument in the matrix clause

The projections laid out above reflect the degree of tightness between the head noun and the clausal modifiers. Adjective-like clausal modifiers show a tighter relation with the head noun while the bond between the head noun and the RC-like clausal modifiers is relatively loose. As for the extraposed clausal modifiers, they exhibit the loosest relation with the modified noun. In fact, as mentioned in Wu (1995), a pause

usually appears before the extraposed clausal modifiers. The projection of the adjective-like clausal modifier also shows some interesting implications to the RRG theory. Recall that in RRG, attributive adjectives have no projection at the constituent level; they are only projected as NUC_N operator. However, such a projection cannot work for the adjective-like modifiers in Amis, which must have a constituent projection as a clause modified by an epistemic marker besides the projection in the operator level. In spite of a clausal projection, these adjective-like clausal modifiers do not behave like canonical relative clauses; they share a closer relation with the head and are constrained more like English attributive adjectives. The analysis of Amis adjective-like clausal modifiers thus suggests the possibility of projecting a syntactic unit functionally equivalent to an attributive adjective both at the constituent and the operator levels. Furthermore, according to RRG, a relative clause shows a linkage type of NP subordination. The adjective-like clausal modifier should indicate a tighter nominal juncture-nexus type than NP subordination (e.g. $Core_N$ cosubordination).

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阿美語的子句修飾語

本文從 Role and Reference Grammar（簡稱 RRG，參見 Van Valin and LaPolla 1997）的角度，分析阿美語中包含功能上類似所謂屬性形容詞或形容詞子句的名詞片語。本文指出這兩種修飾語均為子句的結構（文中稱為子句修飾語），亦即屬性形容詞也是一種形容詞子句。這樣的分析乃是基於這兩種修飾語均可被准情態後綴 *-ay* 所附著，而准情態詞一般所修飾的範圍為整個子句。雖然在結構上有類似之處，意思上接近屬性形容詞的子句修飾語比意思上接近形容詞子句的子句修飾語受到更多的詞序限制。本文因此為這兩種子句修飾語提出不同的句法分析與投設。

關鍵詞：阿美語、形容詞子句、形容詞