Raising out of CP in Mod-Asp Adverbial Verb Constructions in Amis

Yi-Ting Chen

WENZAO URSULINE UNIVERSITY OF LANGUAGES

"Raising out of CP" constructions, in which an argument of a finite embedded clause occurs in the matrix clause, have been found in several Austronesian languages. This paper shows that, in Amis, modal verbs (for example, *can, should*) and aspectual adverbial verbs (for example, *often*, *almost)* can also introduce "raising out of CP" constructions. It also suggests that adverbial verb constructions led by a modal verb or aspectual adverbial (Mod-Asp AVC) display significant characteristics of prolepsis. A Mod-Asp AVC (i) takes a finite complement clause, (ii) loses idiomatic interpretation if idiomatic chunks are discontinuous, and (iii) is not always cognitively synonymous between "raised" and "non-raised" counterparts. These are the characteristics of prolepsis.

1. BACKGROUND INFORMATION. A structure like the Madurese example (1a), in which an argument of a finite embedded clause occurs in a nonthematic position in the matrix clause, has triggered numerous studies and proposals.[1] The possible use of a coindexed pronoun in the embedded clause (1b) makes the story far more complex.[2]

(1) MADURESE

a. Siti ngera Hasan bari' melle motor.
Siti AV.think Hasan yesterday buy car
'Yesterday, Siti thought Hasan to have bought a car.' (Davies 2005: 645)

1. For convenience, this study uses "raised" NP to refer to an argument that is associated with a finite embedded clause but occurs in the matrix clause, and "raising out of finite clause" to refer to such constructions. Though this study deals with "raising," it does not mean that there is an argument movement as in traditional raising constructions.

I would like to thank two anonymous reviewers for their constructive comments. I would also like to acknowledge the grant support from Taiwan National Science Council (NSC 101-2410-H-160-004) for funding this research and making the publication of this paper possible.

2. This study retains the original format of all examples quoted. Sentences collected by the researcher are glossed based on Wu (2006). Examples in this paper were cross-checked with three consultants: two from Kinanuka and the third from Kacilai. The dialect of these two villages is Hai-an Amis, which belongs to central Amis.

As is conventional, sentences and proper nouns do not begin with capital letters in Formosan languages. Nonobvious abbreviations include AT, actor trigger; AV, actor voice; CAU, causative; CN, common noun marker; DV, directional voice; FAC, factual marker; LNK, linker; LT, location trigger; MOOD, mood marker; NEUT, neutral voice; NMZ, nominalizer; OV, object voice; PPN, personal proper noun; RED, reduplication; T, trigger; UV, undergoer voice. KA, KU, PA, PI, and SA represent morphemes that cannot be easily glossed.

Oceanic Linguistics, Volume 55, no. 1 (June 2016)

b. Hasan$_i$ e-kera Siti bari' [(ja) aba'eng$_i$ melle motor].
Hasan$_i$ OV-think Siti yesterday (COMP) he$_i$ AV.buy car
'Hasan was thought by Siti yesterday to have bought a car.'
(Davies 2005:650)

There are three major competing analyses of such constructions: A′-movement (Nakamura 2000; Liu 2011), base-generated A-chain (Potsdam and Runner 2001), and prolepsis (Davies 2005; Law 2011).

Amis, the largest Formosan language, has a similar construction to that reported in Liu (2011), named "Raising to Trigger" (RtoT), and illustrated in (2):[3]

(2) ka-vanaʔ-an nura wawa kura kapah$_i$ [$_{CP}$ OP$_i$ Ø
LT-know-LT NOM.that child T.that young man LNK
[na-mi-rəpər _____$_i$ tu ʔayam].
PERF-AT-catch ACC chicken
'That child knows (that) that young man has caught a chicken.'
(Liu 2011:119)

In line with Nakamura (2000), Liu (2011) favors *tough*-construction for structure (2) in Amis. Her proposal is as follows: 'that young man' is base-generated in the matrix clause and the coindexation is formed via a null operator movement, a type of A′-movement.

This study seeks to demonstrate that sentences like (2) are not uncommon in Amis. Similar structures, other than RtoT, can also be found in Amis. Aside from these, more A′-movement analysis for those with similar surface structures can be found. In general, this study will narrow down the focus to sentences like (3), a construction introduced by an aspect-oriented adverbial verb, and show that (3) greatly resembles properties of prolepsis.[4]

(3) rarid-an n-i aki$_i$ (u) ma-ma-palu' (ningra$_i$) ci panay.[5]
often-APPL GEN-PPN Aki COMP IRR-UV-beat 3SG.GEN PPN-NOM Panay
'Panay will often be beaten by Aki.'

At first glance, it seems more appropriate to compare (2) with Raising to Object (RtoO) or Exceptional Case Marking (ECM) constructions; on the other hand, (3) seems to be more closely associated with Raising to Subject (RtoS, if it is a raising). However, despite some dissimilarities (2) and (3) share one common property: one argument in the matrix clause ("raised" NP) that is coreferential with a pronoun, either overt or covert, in a finite embedded clause.[6]

The structure of this paper is as follows. First, I will briefly illustrate the basic facts about sentences like (3). Then, I will scrutinize several competing analyses for (3). Finally, the last section will provide closing arguments.

3. The format here corresponds to Liu's (2011) original annotation. Liu (2011:34) treats *k-* as a trigger marker, *n-* as nominative, and *t-* as accusative for common noun.
4. This kind of structure is often found in adverbials such as 'often or usually', 'almost', 'again', 'first', and modal verbs such as deontics 'can' and 'should'.
5. Another consultant from a different village prefers a different version as follows:
(i) ma-rarid n-i aki (a) ma-ma-palu' (ningra) ci panay.
UV-often GEN-PPN Aki COMP IRR-UV-beat 3SG.GEN NOM-PPN Panay
'Panay will often be beaten by Aki.'
6. Although this paper uses "raised" NP for an argument of a matrix clause that is apparently coindexed with another argument in the embedded clause, it does not necessarily argue that such an argument is raised from the embedded clause.

2. ADVERBIAL VERB CONSTRUCTIONS IN AMIS

2.1 PREVIOUS STUDIES ON THE AMIS AVC. Sentence (3) should be deemed an adverbial verb construction (AVC), even though it does not extensively represent all structures led by any adverbial verb. Since the structure in (3) is often found with modal verbs and aspect- relevant adverbials, this study calls it Mod-Asp AVC for convenience throughout the discussion.

AVCs are not something new in the study of Austronesian languages. Many studies have pointed out that adverbials are often used as predicates or verbs in Formosan languages (for example, Starosta 1988 and Li 2003 for Thao, Liu 2003 for Amis, Hsiao 2004 for Atayal, Chang 2006 for Kavalan, Holmer 2006 for Seediq, Wu 2006 for Paiwan, Li 2007 for Puyuma, Su 2008 for Bunun, and Chang 2009 for Tsou). Furthermore, adverbial verbs are considered as main verbs, a phenomenon dubbed as "the guest playing host" in Chang (2006).

Liu (2003) makes a similar argument expressing that, in Amis, manner adverbials are matrix verbs heading a control adjunct in which the lexical verb is the modified action, as in (4a). The permutated order of manner adverbial and lexical verb results in ungrammaticality, exemplified in (4b) below.

(4) a. hacikay Ø-ci aki (a) c<um>ikay.
fast.AV NOM-PPN Aki COMP run<AV>
'Aki runs very fast.'

b. *c<um>ikay Ø-ci aki (a) hackkay.
run<AV> NOM-PPN Aki COMP fast.AV (Liu 2003:65–66)

In addition, there is Actor-Voice restriction (AV restriction) on the lexical verb (Liu 2003). No matter in which voice the manner verb is inflected, the lexical verb (the modified verb) must take an actor voice. For example, (5b) and (5d), where the lexical verb takes an undergoer voice, are judged as ungrammatical in comparison with (5a) and (5c).

(5) a. mi-palifud tu Ø-ci aki (a) mi-palu' ci kacaw-an.
AV-violent ASP NOM-PPN Aki COMP AV-beat PPN Kacaw-DAT
'Aki was violent to hit Kacaw.'

b. *ma-palifud tu n-i aki (a) ma-palu' Ø-ci kacaw.
UV-violent ASP GEN-PPN Aki COMP UV-beat NOM-PPN Kacaw

c. ma-palifud tu n-i aki (a) mi-palu' Ø-ci kacaw.
UV-violent ASP GEN-PPN Aki COMP AV-beat NOM-PPN Kacaw
'Kacaw was hit by Aki, who was violent.'

d. *ma-palifud tu n-i aki (a) ma-palu' Ø-ci kacaw.
UV-violent ASP GEN-PPN Aki COMP UV-beat NOM-PPN Kacaw
(Liu 2003: 68, 70)

These observations about AVCs in Amis revolve around a particular kind of adverbial: manner. Chang (2009, 2010) has already shown that different kinds of adverbials often do not induce homogeneous AVCs in even one language. I believe this also happens in Amis. What Liu (2003) observes in manner adverbials is not necessarily observ-

able in adverbials such as aspect-relevant ones, which are the focus of this study. The next subsection provides a brief description of Mod-Asp AVCs.

2.2 FACTS ABOUT MOD-ASP AVC IN AMIS. The first fact about Mod-Asp AVC adverbials is they can be used as verbs/predicates, instead of adjuncts (Ernst 2001) or constituents in specifier positions (Alexiadou 1997; Cinque 1999; Rackowski and Travis 2000). In Amis, verbs can take a voice marker, TAM marker(s), applicative, imperative, and argument(s). All of the adverbials examined here can take an argument directly (6a–c), and can also take TMA markers (6d). In addition, all adverbials examined here can take a voice marker, as in (6a), for example. Interestingly, whether or not an adverbial verb can carry *distinctiv*e voice markers depends on whether or not it is polysemous with another word. For example, *ngata* from *ma-ngata* ('almost') is a polyseme of *ngata* ('close'); *ma-ngata* as 'almost' is only compatible with one form of voice marker (*ma-*), but can function in either actor or undergoer voice, assigning either a nominative or genitive case marker to actor: see (6a) and (6b). If *ngata* takes a voice marker other than *ma-*, the interpretation 'almost' is not retained and is changed to 'close'.[7] On the other hand, *rarid* ('often') is not polysemous with any other word and *rarid* can take other voice markers (for example, *pa-rarid*, *ma-rarid*), the imperative marker *-en*, the instrumental applicative *sa-*, or the locative applicative *-an*.

(6) a. ma-ngata kaku.
AV-close 1SG.NOM
'I am almost there.' or 'I am getting close.'

b. ma-ngata aku.
UV-close 1SG.GEN
'I am getting close.'

c. pa-rarid ci aki.
PA-often NOM-PPN Aki
'Aki often (does this).'

d. pa-rarid-ay ci aki (a) mi-palu' ci panay-an.
PA-often-FAC NOM-PPN Aki COMP AV-beat PPN Panay-DAT
'Aki often beat Panay (in the past).'

Mod-Asp AVC does resemble the manner AVC in some ways. First, just like manner adverbial verbs, aspect-oriented adverbial ones must occur prior to the lexical verb in a sentence if there is a lexical verb. A change in this ordering results in ungrammaticality. Contrastive examples are shown in (7).

(7) a. ma-ngata kaku (a) mi-laheci t-u-ra tatiliden.
AV-close 1SG.NOM COMP AV-finish DAT-CN-that study
'I have almost finished the study.'

b. *mi-laheci kaku (a) ma-ngata t-u-ra tatiliden.
AV-finish 1SG.NOM COMP AV-close DAT-CN-that study

7. As pointed out by a reviewer, another plausible explanation is the semantic nature of the words themselves. For instance, because 'often' is perfectly compatible with a volitional agent, it is compatible with *-en*, which requires a volitional agent (cited from Wu 2006). On the contrary, a volitional agent cannot *almost* be somewhere; as a result, 'almost' is not compatible with *-en*.

Following Chang (2010), this study suggests that the relationship between an aspectual adverbial verb and a lexical verb is complementation, rather than adjunction or coordination.

Based on Bierwisch's (2003) and Dowty's (2003) definitions (cited in Lin 2013:335), a complement Y and its head X should together have the following properties:

(8) a. A head X without its complement Y is not well formed, or X is different from [XY] in terms of category or meaning.
b. Without Y, the meaning of X is incomplete or incoherent unless it can be inferred from the linguistic or situational context.
c. Semantically, Y saturates an argument position of X. In other words, X discharges an argument position to Y.

Examples (6), (7), and (9) provide supporting evidence for the complementation analysis. First, the nonpermutable order in (7) rules out coordination. In addition, as shown by (6), without the support of a lexical verb, the meaning should be either inferred from other forms of context (6c), or slightly different from the intended one (6b), which meets criterion (8b). Furthermore, in (9), the lexical verb is marked with a nominal root *pi-* and the whole complement clause is used as a DP argument taking the nominative case marker *ku*. In other words, the adverbial verbs studied here are capable of taking the whole embedded clause as an argument, satisfying the requirement of (8c).

(9) a. ma-ngata n-i aki ku pi-laheci t-u-ra tatiliden.
UV-close GEN-PPN Aki KU PI-finish DAT-CN-that study
'Aki is almost done with that study.'
b. ma-ngata ku pi-laheci n-i aki t-u-ra tatiliden.
UV-close KU PI-finish GEN-PPN Aki DAT-CN-that study
'Aki is almost done with that study.'

Though a modal or aspectual adverbial verb is capable of taking an argument as in (6), and also of taking a nominalized CP as in (9), it cannot introduce two NP arguments without the help of a lexical verb as in (10). This phenomenon may suggest that at least one argument is merged with the lexical verb in the embedded clause.

(10) a. *pa-rarid ci aki ci panay-an.
PA-often NOM-PPN Aki PPN Panay-DAT
b. *ma-rarid n-i aki ci panay.
UV-often GEN-PPN Aki NOM-PPN Panay

What really differentiates Mod-Asp AVC from manner AVC is its violation of the AV restriction and atemporal condition.[8] A number of Formosan studies indicate that the lexical verb is subject to an AV restriction in an AVC construction. This is true in AVCs of manner adverbials in Amis. As shown in (11a,b), sentences become unacceptable if the AV restriction is not respected. AV restriction is often regarded as a sign of a defective verb. As a result, when a lexical verb is subject to AV restriction, the verb is ineligible for TAM marking, which is known as an atemporal condition, as in (11c,d).

8. In Chang (2006), lexical verbs in AVC in Kavalan are unmarked for TAM. The requirement is also observed in manner AVC in Amis (Liu 2003). Chang and Tsai (2001) indicate that actor-sensitivity is well attested in many Formosan languages. Under this property, neither a tense-aspect marker nor a nonactor voice is allowed on the embedded verb.

(11) a. mi-palifut ci aki (a) mi-palu' ci panay-an.
AV-violent NOM-PPN Aki COMP AV-beat PPN Panay-DAT
'Aki violently beats Panay.'

b. *mi-palifut ci aki ma-palu' ci panay-an.
AV-violent NOM-PPN Aki UV-beat PPN Panay-DAT

c. ma-mi-palifut ci aki (a) mi-palu' ci panay-an.
RED-AV-violent NOM-PPn Aki COMP AV-beat PPN Panay-DAT
'Aki is going to beat Panay violently.'

d. *mi-palifut ci aki ma-mi-palu' ci panay-an.
AV-violent NOM-PPN Aki RED-AV-beat PPN Panay-DAT

On the other hand, the AV restriction and the atemporal condition are not strictly applicable in Mod-Asp AVC. Two examples in (12) show that when there is no argument in between two verbs, the embedded lexical verb is free to take UV and TAM marker(s). Also shown in (12) is the fact that case assignment is determined by the lexical verb.

(12) a. pa-rarid (u) ma-palu'ay tu n-i aki ci panay.
PA-often COMP UV-beat-FAC ASP GEN-PPN Aki NOM-PPN Panay
'Aki often beat Panay.'

b. ma-edeng (u) ma-ma-laheci n-i aki k-u-na pitilid.
AV-can COMP RED-UV-finish GEN-PPN Aki NOM-CN-that study
'Aki can finish the study.'

If there is an argument in the matrix clause, the AV restriction and atemporal condition seem to work with conditions. (13a) and (13c) confirm that *ma-ngata* can designate either actor or undergoer voice.[9] On the other hand, as shown below, although the lexical verbs in (13b) and (13d) are UV-marked, (13b) is judged as ungrammatical, whereas (13d) is deemed acceptable.

(13) a. ma-ngata ci aki (a) mi-laheci t-u-ra tatiliden.
AV-close NOM-PPN Aki COMP AV-finish DAT-CN-that homework
'Aki almost finishes that homework.'

b. *ma-ngata ci aki ma-laheci t-u-ra tatiliden.
AV-close NOM-PPN Aki UV-finish DAT-COM-that homework

c. ma-ngata n-i aki (a) mi-laheci k-u-ra tatiliden.
UV-close GEN-PPN Aki COMP AV-finish NOM-CN-that homework
'Aki almost finishes that homework.'

d. ma-ngata n-i aki (u) ma-ma-laheci (ningra)
UV-close GEN-PPN Aki COMP RED-UV-finish 3SG.GEN
k-u-ra tatiliden.
NOM-CN-that homework
'Aki almost finishes that homework.'

9. Though (3) (or any similar example) is judged as grammatical by consultants, they all consider (13a) to be better. Consultants also think that *Ma-ngata ni aki ma-laheci kura tatiliden* is equally as good as (13a), which suggests AV restriction is not strongly respected in Mod-Asp AVC.

e. pa-rarid ci aki anu ikur ma-mi-palu' (cingra)
PA-often NOM-PPN Aki in the future RED-AV-beat 3SG.NOM
ci panay-an.
PPN Panay-DAT
'Aki will often beat Panay in the future.'

A possible explanation is that modal verbs and aspect-oriented adverbial verbs can take either a finite or a nonfinite embedded clause. When it is nonfinite, the lexical verb is morphologically defective, such that the lexical verb can only bear AV voice and cannot take any TAM marker. For example, we know (13a) and (13c) are nonfinite from the evidence of the AV marker and the infinitive complementizer *a* (Liu 2003). Therefore, in (13c), the argument *tatiliden* moves to the matrix clause for nominative case, and the defective status of the lexical verb provides a movable condition for it to move out.

A modal verb or aspectual adverbial verb can also take a finite complement clause such as (13d), in which it is introduced by the finite complementizer *u*. Its lexical verb is a fully fledged temporal adverb that can be placed prior to a TAM-marked lexical verb (13e). Recalling (10), a modal or aspectual adverbial verb is incapable of introducing two NP arguments without the help of a lexical verb. Thus, *tatiliden* in (13d) is merged with the lexical verb in the embedded clause. Since the embedded clause is finite, finite T can assign case to argument. Thus, *tatiliden* is assigned case by the finite T and stays in the complement clause. On the other hand, in (13b), where the embedded verb is UV-marked, by which it is assumed to be finite, the assignment of dative case to *tatiliden* results in ungrammaticality, since the theme argument should be assigned nominative case based on the undergoer voice on the lexical verb. This can be taken as evidence of the theme argument being in the embedded clause. If *tatiliden* were in the matrix clause, the conformation of case alignment should have made (13b) acceptable, which is contradictory in this case.

Further evidence for a nominative NP in an embedded clause comes from constructions with the instrumental applicative.[10] As shown in (14a), to merge an instrumental NP, the instrumental applicative marker *sa-pi-* or *ka-*Root is introduced (Wu 2006). When a Mod-Asp adverbial verb is introduced, the instrumental applicative is still affixed with the lexical verb (14b,c). Examples (14b,c) also show that case alignment is determined by the lexical verb. In (14b,c), the case of the optional pronoun can vary in response to different affixes on the lexical verb and does not correspond to the "raised" NP.[11]

(14) a. sa-pi-lu'ud ningra k-u-ra fakeloh ci panay-an.
APPL-PI-throw 3SG.GEN NOM-CN-that stone PPN Panay-DAT
'He hit Panay with that stone.'

10. One reviewer also suggested testing "quantifier floating" and "subject-oriented adverbs" for evidence of the nominative in matrix clause. However, these two diagnoses are not applicable in Amis, since subject-oriented adverbs and the quantifier 'all' are all verbalized. As for the causative construction, the argument is not sufficiently convincing, since one can still argue that the nominative NP of the example below moves to a right-Spec of the matrix clause.
(ii) ma-rarid n-i aki ma-pa-tangic-ay ci panay.
UV-often GEN-PPN Aki UV-CAU-cry-FAC NOM-PPN Panay
'Aki often made Panay cry.'

b. pa-rarid ci aki$_i$ sa-pi-lu'ud ningra$_i$ k-u-ra fakeloh
PA-often NOM-PPN Aki APPL-PI-throw 3SG.GEN NOM-CN-that stone
ci panay-an.
PPN Panay-DAT
'Aki often hits Panay with that stone.'

c. pa-rarid ci aki$_i$ sa-pi-lu'ud-an cingra$_i$ t-u-ra
PA-often NOM-PPN Aki APPL-PI-throw-MOOD.AV 3SG.NOM DAT-CN-that
fakeloh ci panay-an.
stone PPN Panay-DAT
'Aki often hits Panay with that stone.'

To summarize: aspectual adverbials are verbs/predicates, and they enter into complementation with lexical verbs. They can take either a finite or an infinitive complement clause and, due to this, the AV restriction and atemporal condition are not applicable when the complement is finite. Combining the placement of the temporal adverbial and the case assignment of applicative construction, this study assumes that the argument of the embedded verb is within the embedded clause. The following analysis focuses on modal and aspectual adverbials taking a finite complement.

3. COMPETING ANALYSES

3.1 PREVIOUS PROPOSALS ON AVCs IN FORMOSAN LANGUAGES. The Mod-Asp AVC targeted here involves two issues. First, it is a kind of AVC. Second, this is a construction in which an argument of an embedded clause appears in a matrix clause with an optional correspondent pronoun left in its original position. Previous AVC analyses in Formosan languages include explanations involving control adjunct (Liu 2003), serial verb construction (Chang 2006, Yeh and Huang 2009), and the raising analysis (Chang 2010). Scholars propose finite control (Potsdam and Polinsky 2007), base-generated A-chain (Potsdam and Runner 2001), A′- movement (Nakamura 2000, Liu 2011), and prolepsis (Davies 2005, Law 2011) for the structure involving an argument of a finite complement clause appearing in a nonthematic/thematic position in the matrix clause.

Huang (1997) argues that Formosan AVCs are SVCs because of their grammatical parallels in restrictions on voice taking (AV only), TAM taking (atemporal), imperative affixation, and pronominal clitics on the second verb, whether or not there exists an intervening marker between the first and the second verb. However, Aikhenvald (2006:1) defines an SVC as "a sequence of verbs which act together as a single predicate, without any overt marker of coordination, subordination, or syntactic dependency of any other sort." Thus, Chang (2006, 2010) argues that AVCs with an intervening marker are not

11. One consultant suggests that the undergoer voice marker *ma-* may carry a passive interpretation, so he doesn't accept (iii) but does accept (iv):
(iii) *ma-rarid n-i aki mi-palu'-ay tu (cingra) ci panay-an.
UV-often GEN-PPN Aki AV-beat-FAC ASP 3SG.NOM PPN Panay-DAT
(iv) rarid-an n-i aki mi-palu'-ay tu (cingra) ci panay-an.
often-APPL GEN-PPN Aki AV-beat-FAC ASP 3SG.NOM PPN Panay-DAT
'Aki often beat Panay (in the past).'

SVCs, but are raising constructions, for adverbial verbs are light verbs, semantically dependent on lexical verbs, similar to the nonthematic nature of raising verbs.

Liu (2003) argues that, in Amis, AVCs should be analyzed as control adjuncts, since they are similar to control constructions in terms of AV restriction, control PRO, and irreversible word order. However, adverbial verbs—manner ones in her study—can take NP alone, unlike control verbs. Additionally, Liu (2003) argues that a complementation analysis cannot fully account for word order variations in Amis AVCs with respect to binding effect. Thus, she specially argues that Amis AVCs are control adjuncts.

3.2 ANALYSIS OF PREVIOUS PROPOSALS ON AVCs IN FORMOSAN LANGUAGES. This study suggests that Mod-AspAVC is not a serial verb construction (SVC), because the embedded clause can be headed by the infinitive complementizer *a* or the finite complementizer *u*.

A traditional raising analysis, either RtoS or RtoO, is barely possible for two pieces of evidence: loss of idiomatic interpretation and violation of the Coordination Construction Constraint (Ross 1967). First, if Asp-AVC is a typical raising construction, "raising" an idiom chunk would still keep the idiomatic expression intact. However, this is not the case in Mod-Asp AVC. Idiom chunks do not receive their original idiomatic interpretation when separated from other parts, as exemplified in (15). If the noun phrase—*keral* in (15a)—is indeed a part of the idiomatic chunk in the embedded clause and is moved to the matrix clause, it is expected that the idiomatic interpretation is retained. However, this is not the case, as shown in (15c), which in my consultants' first intuition is judged to be without idiomatic meaning.

(15) a. ma-laliw n-u keral.
UV-leave GEN-CN tide
Lit., 'It's too late.'

b. ma-ngata ma-laliw n-u keral.
UV-close UV-leave GEN-CN tide
'It's almost too late.'

c. ma-ngata n-u keral ma-laliw.
UV-close GEN-CN tide UV-leave
'The ebb is almost over.'

However, in Amis Mod-Asp AVCs, it is possible that the matrix NP is coindexed with a conjunct pronoun in the embedded clause, exemplified in (16). According to the Coordinate Structure Constraint (Ross 1967), extraction of one element of a conjunct is not possible. If the matrix NP is moved as in finite control, it violates this well-known Coordinate Structure Constraint.

(16) ma-rarid n-i aki ma-samsam ningra atu n-i kacaw
UV-often GEN-PPN Aki UV-bully 3SG.GEN CONJ GEN-PPN Kacaw
ci panay.
NOM-PPN Panay
'Panay was often bullied by Aki and Kacaw.' or 'Aki and Kacaw often bullied Panay.'

While studying descriptive and manner adverbial verb constructions, Liu (2003) points out that adverbial verbs can stand alone (17a) without the help of another lexical verb. Moreover, a missing argument of the lexical verb, as in (17b), does not necessarily raise a red flag of semantic interpretation. Thus, Liu (2003) suggests that the control adjunct analysis outranks the control complementation analysis.

(17) a. mi-naqun ci aki.
AV-careful NOM-PPN Aki
'Aki is careful.' (Liu 2003:115)

b. ma-naqun n-i aki [(a) mi-pidpid] k-u lupas.
UV-careful GEN-PPN Aki COMP) AV-pick NOM-CN peach
'Peaches were picked up by Aki and he was careful.' (Liu 2003:116)

As discussed in the previous section, the relationship between an aspectual adverbial verb and a lexical verb is not adjunction. Though Asp-Mod verbs (unlike manner adverbial verbs) can also take NP alone (see [6]), if there is no embedded clause, the interpretation needs to be inferred from the linguistic or situational context, one of Bierwisch's (2003) and Dowty's (2003) criteria for complementation. This is one piece of evidence showing that the control adjunct analysis does not work.

Overall, Mod-Asp AVC in Amis rules out previous proposals for AVCs (SVC, raising, and control adjunct) in Formosan languages. Table 1 summarizes the comparison of these analyses.

TABLE 1. COMPARISON OF PREVIOUS PROPOSALS ON AVCs

	Serial Verb Construction	Control Adjunct	Raising	Mod-Asp AVC
Taking NP	Yes	Yes	Yes	Yes
AV restriction	Yes	Yes	Yes	No
Linker	No	Infinitive *a* only	Infinitive *a* only	Yes for *u* and *a*
Control	Yes	Yes	No	No
Complementation	Yes	No	Yes	Yes

3.3 PREVIOUS PROPOSALS INVOLVING RAISING OUT OF FINITE CP. Now there are four candidates left for consideration: finite control (Potsdam and Polinsky2007); prolepsis (Davies 2005, Law 2011); A′-movement (Nakamura 2000, Liu 2001); and base-generated A-chain (Potsdam and Runner 2001). These proposals are all target constructions in which a covert/overt constituent of a *finite* complement is coreferential with an NP in a higher clause. The first three are associated more with traditional RtoO or object control, while the fourth is associated with copy raising. This subsection briefly summarizes these proposals.

The control construction involves two arguments whose referential properties are asymmetrically dependent: the overt one, the controller, determines the referential property of the covert one, the controllee. A finite control construction is a construction with a finite complement clause. Landau (2004) proposes a nonmovement analysis.[12] In his con-

12. The movement version of Finite Control is ruled out by tests of separating idiom chunks and Coordination Construction Constraint (Ross, 1967).

trol calculus, tense and agreement features on C′ and T′ together determine finiteness and licensing of the [±R] feature, which is relevant to PRO licensing and control phenomena.

Nakamura (2000) treats raising in Tagalog as a sort of *tough* construction in English, as in (18a,b), and proposes the derivation as in (18c):

(18) a. It's difficult [PRO to please Peter].
b. Peter$_i$ is difficult [$_{CP}$ OP$_i$ [PRO to please _____$_i$]].
c. [appear the child [$_{CP}$ FF$_{[OP]}$-C [ate [$_{DP}$*t*$_{[OP]}$] mango]]]
(Nakamura 2000:393)

Liu (2011) also favors the *tough* construction analysis for the examples below (partially repeating [2] above). She argues that RtoT is similar to *wh*-movement, in which only the trigger is movable. Therefore, as with a *wh*-movement analysis, the "raised" argument is coindexed with the gap in the embedded clause via null operator movement.

(19) a. Raising-to-Trigger (RtoT)
ka-vanaʔ-an nura wawa kura kapah$_i$ [$_{CP}$ OP$_i$ Ø
LT-know-LT NOM.that child T.that young man LNK
[na-mi-rəpər _____$_i$ tu ʔayam]].
PERF-AT-catch ACC chicken
'That child knows (that) that young man has caught a chicken.'
b. ma-vanaʔ kura wawa tura kapah$_i$ [$_{CP}$ OP$_i$ Ø
AT.NPST-know T.that child ACC.that young man LNK
[mi-rəpər _____$_i$ tu ʔayam]].
AT.NPST-catch ACC chicken
'That child knows that a young man is catching a chicken.'
(Liu 2011:119)

In previous literature (for example, Kroeger 1993:28), in a raising out of finite CP, if an overt pronoun is resumed in the embedded clause, such a construction is tagged as Copy Raising (CR); see the Tagalog example (20).

(20) TAGALOG
a. Pinagiisipan (nila) si Corazon$_i$ [ng mabuti-ng
think.DV 3PL.GEN NOM Corazon LNK good-LNK
pangulo (ʔsiya$_i$)].
president 3SG.NOM
'Corazon is thought (by them) to be a good president.'
b. Nagiisip sila kay Corazon$_i$ [ng mabuti-ng pangulo (ʔsiya$_i$)].
think.AV 3PL.NOM OBL Corazon LNK good-LNK president 3SG.NOM
'They thought of Corazon as a good president.'
(Kroeger 1993:28, cited by Law 2011:146)

Copy Raising (CR), a term coined by Rogers (1971), is "a construction in which some constituent appears in a non-thematic position with its thematic position occupied by a pronominal copy" (Potsdam and Runner 2001:10). English examples are provided below.

(21) a. It seems like Richard is in trouble.
b. Richard seems like he is in trouble.
c. Richard seems to be in trouble.

In the case of English, CR predicates include traditional raising verbs (like *seem*, *appear*, and so on) and some sense verbs (*look*, *sound*, etc.), and the complement of a CR is a tensed one, headed by a particle, such as *like*, *as if*, *as though*, but not the traditional complementizer *that*.

Potsdam and Runner (2001: 10) propose that the athematic argument in the matrix is base-generated, forming an A-chain with the argument in the embedded clause "prior to assignment of a single theta role at LF." The derivation is shown in (22).

(22) $[_{TP}\text{Richard}_i$ T seems $[_{XP}$ [like $[_{TP}\text{he}_i$ T $[_{VP}$ is in trouble]]]]].
(Potsdam and Runner 2001:10)

Besides CR, prolepsis is another proposal commonly made to explain constructions of "raising" out of a finite clause (see, for example, Davies 2005; Law 2011). Davies (2005) claims that the "raised" argument is base-generated and non-theta-marked in the matrix clause. Though the "raised" NP of prolepsis and CR is all base-generated, coindexed with a (possibly null) pronoun in a tensed complement clause, Davies and Dubinsky (2004) and Davies (2005) claim that prolepsis and copy raising are different processes. Table 2 below summarizes major differences between proleptic NP, raising, English CR, and CR in other languages.

The implication of table 2 is that certain syntactic properties, mainly "idiomatic meaning retention," "embedded argument in adverbial clause," and "taking finite complement" are in complementary distribution in CR and proleptic NP; thus, these two constructions are distinguishable from each other. The other two features, thematic identity and immunity to island conditions, demand more detailed investigation in other languages (Davies 2005).

TABLE 2. COMPARATIVE PROPERTIES OF THREE CONSTRUCTIONS

	Proleptic NP	Raising	English CR	Other CR
Cognitive synonymy/Thematic identity	No	Yes	Yes	?
Matrix NP must be complement subject	No	Yes	Yes	?
Idiomatic meaning retention	No	Yes	Yes	Yes
Embedded argument in adverbial clause	Yes	No	No	No
Taking finite complement	Yes	No	No	No
Immunity to island conditions	Yes	No	No	?

3.4 ANALYSIS OF PREVIOUS PROPOSALS INVOLVING RAISING OUT OF CP. In this section, I scrutinize these proposals and suggest that prolepsis is probably the best match for Mod-Asp AVC in Amis.

The first proposal to be analyzed is finite control. Based on Landau (2004), the degree of finiteness and various kinds of control are outcomes of different combinations of tense and agreement features on I′ and C′. Given (14d), we assume [+T] on I′, Ø on C′, and [+Agr] on I′. Based on Landau's (2004) calculation, a combination of [+T] and [+Agr] represents [+R], independent reference, thus, requiring no control. However, this explanation still doesn't sufficiently account for the coindexation between the matrix NP and the closest nominal constituent, even a conjunct in a coordinate construction, in the embedded clause.

Although *tough* analysis, A′-movement, works neatly with RtoT, it doesn't work with Mod-Asp AVC. The first evidence against null operator movement is no reconstruction

effect. In Amis, a nominative anaphor can be bound by a genitive antecedent, as in (23). If the matrix NP is coindexed through null operator movement from the embedded clause, reconstruction of anaphor should be possible, as in (24).

(23) a. ma-ri'ang n-i aki$_i$ k-u tireng nira$_i$.
UV-care GEN-PPN Aki NOM-CN body 3SG.GEN
'Aki cares about himself.'

b. ma-palu' n-u malamamaay$_i$ k-u wawa ningra$_i$.
UV-beat GEN-CN every.father NOM-C child 3SG.GEN
'Every father$_i$ beats his$_i$ child.'

(24) [often himself$_i$[$_{CP}$ OP$_i$ [care ni aki$_i$]]]

However, when an aspect-oriented adverbial verb is introduced and a nominative anaphor appears in between two verbs, the anaphor cannot be reconstructed to the embedded clause and is not bound. As shown in (25), an anaphoric interpretation does not appear in (25b), and the nominative NP in the matrix clause is not bound to a genitive coargument. Thus, the assumption of A′-movement is not tenable.

(25) a. pa-rarid k-u tireng nira$_j$ ma-ri'ang n-i aki$_i$.
PA-often NOM-CN body 3SG.GEN UV-care GEN-PPN Aki
'Aki$_i$ often cares about his$_j$ body.'

b. t-u-ni a niyaru, pa-rarid k-u wawa nira$_j$ ma-palu'
DAT-CN-this LNK tribe, PA-often NOM-CN child 3SG.GEN UV-beat
n-u malamamaay$_i$.
GEN-CN every.father
'In this tribe, every father$_i$ often beats his$_j$ child.'

Another piece of evidence comes from parasitic gap. Parasitic gap is a tool often used in A′-movement diagnosis (Maclachlan 1996, cited by Law 2011). Example (26a) shows that, in Amis, *wh*-movement can license a parasitic gap.

(26) a. cima$_i$ sa-ka-'ulah-an n-u misu _____$_i$ ca'ay-ay ku
who SA-KA-like-NMZ GEN-CN 2SG.NOM _____$_i$ NEG-FAC KU
ka-fana'-an (cingra-an$_i$)?
KA-know-NMZ 3SG.DAT)
'Who do you like without knowing (him)?'

b. ma-rarid n-i aki$_i$ ma-lisu' ci panay$_j$ (nika) ca'ay-ay
UV-often GEN-PPN Aki UV-visit NOM-PPN Panay but NEG-FAC
ku pa-li'ayaw-an ningra$_i$/cingra$_j$.
KU CAU-before-APPL 3SG.GEN/3SG.NOM
'Aki often visits Panay without informing (him).' (= 'Aki often visits Panay but he doesn't inform him.')

Unlike *wh*-movement, which can license a parasitic gap, in Mod-Asp AVC at least one pronoun, either *ningra* or *cingra*, must be spelled out as in (26b). In other words, at least a pronoun, whether coindexed with the "raised" NP or not, must appear, which suggests that this may not be a case of parasitic gap licensing, and, thus, not a case of A′-movement.[13]

13. One reviewer asks whether parasitic gap licensing is possible if the nominative NP in (24b) is in the matrix clause. However, even if two NPs are both in the matrix clause, parasitic gap licensing still cannot account for the phenomenon that either NP is possible.

The parasitic gap test also shows that the underlying structure of Mod-Asp AVC differs from that of RtoT in Liu (2011), who proposes a null operator movement for the coindexation. This study suggests that Liu's (2011) argument is on the right track. Shown in (27), parasitic gap is only possible for the "raised" NP and is not licensed by any other "nonraised" argument in the matrix clause.[14]

(27) ka-fana'-an n-u-ra wawa$_i$ k-u-ra kapah$_j$ na mi-repet
KA-know-APPL GEN-CN-that child NOM-CN-that young.man PST AV-chase
t-u 'ayam awa-ay ku mi-padang-ay (*cingra$_i$) (cingra-an$_j$).
DAT-CN chicken NEG-FAC KU AV-help-FAC 3SG.NOM 3SG.DAT
'That child knows that young man has caught a chicken without help.'

As mentioned in 3.3, certain syntactic properties are complementary between CR and prolepsis. As previously established in this paper, we have seen that discontinuous idiomatic chunks lose their idiomatic interpretation, the matrix NP is immune to island condition (coordinate structure island), and an embedded complement clause is finite. These properties pertain to the proleptic NP analysis.

As for thematic identity, the judgment is not always consistent across different adverbial verbs. In case of *rarid*, 'often', there is no obvious difference in interpretation whether or not there is a matrix NP in the matrix clause. Nevertheless, in case of *mangata* 'almost', whether there is a matrix NP or not does make the interpretation slightly different. In (28a), Aki is not working on his study but he will be able to finish it in the near future whereas, in (28b), Aki is working on his study and the completion of that study is near.

(28) a. ma-ngata (a) ma-mi-laheci ci aki t-u-na tatiliden.
NEUT-close COMP IRR-AV-finish NOM-PPN Aki DAT-CN-that study
'Aki is almost done with that study.'

b. ma-ngata ci aki (a)[15] ma-mi-laheci t-u-na tatiliden.
NEUT-close NOM-PPN Aki COMP IRR-AV-finish DAT-CN-that study
'Aki is almost done with that study.'

Another ambiguity is whether it is possible for an argument in adverbial clause to appear as a "raised" NP. As shown below, it is only possible when the applicative marker *-an* occurs. Without the applicative marker, the sentence is judged as "nonsense" or "incorrect."

(29) a. pa-rarid tu ma-ngaic ci aki nawhani ca'ay ka sa-suwal
PA-often ASP NEUT-cry NOM-PPN Aki because NEG KA SA-say
k-u wawa ningra.
NOM-CN child 3SG.GEN
'Aki is often sad that his children don't talk (to each other).'

14. Liu's (2011) data are from the northern dialect, whereas the data here are from the border between Malan and Haian Amis. However, in (27), most lexical items are identical between the two dialects. Thus, my consultants do not feel that there is a dialectal difference between the original sentence provided by Liu (2011) and the elicited sentence (27).

15. According to Chen (2010), there are two positions for *a* in C domain. Liu (2003) suggests *a* is an infinitive complementizer, while Chen (2010) points out that *a* can also head an irrealis embedded clause. The complementizer *a* in (28a) is of the latter type.

b. rarid-an k-u wawa ningra (a) ma-lalum ci aki
often-APPL NOM-CN child 3SG.GEN COMP NEUT-sad NOM-PPN Aki
nawhani ca'ay ka sa-suwal cangra.
because NEG KA SA-say 3PL.NOM
'Aki is often sad about his children because they don't talk (to each other).'

c. */?pa-rarid k-u wawa ningra (a) ma-lalum ci aki
PA-often NOM-CN child 3SG.GEN COMP NEUT-sad NOM-PPN Aki
nawhani ca'ay ka sa-suwal cangra.
because NEG KA SA-say 3PL.NOM

One interesting note concerns the criterion "matrix NP being complement subject." To corroborate Chomsky's (1995) Minimal Link Condition or Rizzi's (1990) Relativized Minimality, Potsdam and Runner (2001) further argue that the thematic pronoun must be the *subject* in CR. For prolepsis, Davies (2005) argues that the "raised" NP need not be the subject of a complement clause. In Amis, candidates for the "raised" NP are not as restricted as being subject only, but are not as free as in Davies (2005). As shown in (30), the coindexation can be created with a nominative NP (30b), or an actor (30a).

(30) a. rarid-an n-i aki ma-ma-palu' ci panay.
often-APPL GEN-PPN Aki IRR-UV-beat NOM-PPN Panay
'Panay will be beaten by Aki often.'

b. rarid-an ci panay ma-ma-palu' n-i aki.
often-APPL NOM-PPN Panay IRR-UV-beat GEN-PPN Aki
'Panay will be beaten by Aki often.'

c. rarid-an n-i aki ma-mi-palu' ci panay-an.
often-APPL GEN-PPN Aki IRR-AV-beat PPN Panay-DAT
'Panay will be beaten by Aki often.'

d. *pa-rarid ci panay-an ma-mi-palu' ci aki.
PA-often PPN Panay-DAT IRR-AV-beat NOM-PPN Aki

In addition, even if the case marking between the "raised" NP and the coindexed covert argument is not consistent (30c), a "raised" NP is possible as long as it is either actor or nominative NP in the original embedded clause. Therefore, (30d) is ungrammatical because the "raised" NP is neither actor nor nominative NP in the embedded clause.

It is well known that the grammatical status of subject in many Austronesian languages is indecisive, collectively shared by the nominative NP and actor (for example, Schachter 1976; Keenan 197; Guilfoyle, Huang, and Travis 1992). However, it is not completely correct to argue that the "raised NPs" must be those sharing split subjecthood.[16] This requirement is also true when the "raised" NP is a conjunct of a coordinated NP (see [16]). Nevertheless, the "raised" NP cannot be any kind of syntactic constituent, such as a possessor.

16. One reviewer felt that the split subject requirement does not exclude CR completely. One possible reason to explain "raised" NP being split subjecthood is the nature of Mod-Asp adverbial verbs themselves. Without a lexical verb, they are compatible with one NP only, and interpretation relies on discourse. Occurrence of a dative-marked NP implies the introduction of another NP for nominative case. Thus, dative NP as "raised" NP violates the characteristic that Mod-Asp adverbial verbs are not able to introduce two arguments without a lexical verb. The allowance of an actor (even in genitive case) probably has to do with what Chang (2010) argues for—that adverbial verbs in Formosan languages are light verbs, whose Spec typically merges with Agent.

After examining all contrastive criteria proposed by Davies (2005), I conclude that Mod-Asp AVC in Amis has more properties of proleptic NP. As shown in table 3, in Amis Mod-Asp AVC, cognitive synonyms vary case by case, idiomatic meaning disperses in discontinuous idiomatic chunks, and the complement clause is finite.

TABLE 3. COMPARATIVE PROPERTIES OF AMIS MOD-ASP AVC AND THREE OTHER CONSTRUCTIONS

	Proleptic NP	Mod-Asp AVC	Other CR	English CR
Cognitive synonymy	No	Varying	?	Yes
Matrix NP must be complement subject	No	Actor and nominative NP	?	Yes
Idiomatic meaning retention	No	No	Yes	Yes
Embedded argument in adverbial clause	Yes	Yes with condition	No	No
Taking finite complement	Yes	Yes	No	No

4. CONCLUSION. This paper presents a kind of AVC introduced by a modal verb and aspect-oriented adverbial verbs. It differs from manner AVC in terms of violating AV restriction and atemporal conditions, two conditions usually found in Formosan AVCs. It allows an argument of a finite embedded clause to appear in the matrix clause with an optional coindexed pronoun in its assumed position.

This paper shows that Mod-Asp AVC displays more properties of prolepsis from evidence of nonparasitic gap licensing and nonreconstructing effect. The possible implication is that prolepsis is not limited to "nonthematic object" in the matrix clause (Higgins 1981, cited by Davies 2005:646). Although, in previous studies, prolepsis is often seen as or compared with raising to "object" construction, it is not exclusively so, as Law (2011) also endorses a prolepsis analysis for raising in Tagalog in which typical raising verbs are also included. Typical raising verbs are nonthematic, and adverbial verbs in Formosan languages are considered to be light verbs (Chang 2010), semantically dependent on lexical verbs (Butt and Geuder 2001, cited by Chang 2010). Mod-Asp AVC is also possible with modal verbs. Modal verbs are light verbs, without thematic features (Wurmbrand 2009). In other words, adverbial verbs possible with raising out of CP are athematic in nature. Thus, the matrix NP in Mod-Asp AVC should be viewed as athematic.

This study also shows that, despite similar surface structure, not all "raising out of finite clause" constructions share one identical underlying structure even in one language. While RtoT in Liu (2011) is better analyzed via null operator movement, Mod-Asp AVC should be considered as prolepsis.

REFERENCES

Aikhenvald, Alexandra. 2006. Serial verb constructions in typological perspective. In *Serial verb constructions: A cross-linguistic typology*, ed.by Alexandra Aikhenvald and R. M. W. Dixon, 1–68. Oxford: Oxford University Press.

Alexiadou, Artemis. 1997. *Adverb placement*. Amsterdam: John Benjamins.

Bierwisch, Manfred. 2003. Heads, complements, adjuncts: Projection and saturation. In *Modifying adjuncts*, ed. by Ewald Lang, Claudia Maienborn, and Catherine Fabricius-Hansen, 113–59. Berlin: Mouton de Gruyter.

Butt, Miriam, and Wilhelm Geuder. 2001. On the (semi) lexical status of light verbs. In *On semi-lexical categories: The function of content words and the content of function words*, ed. by N. Cover and H. C. van Riemsdjik, 32–370. Berlin: Mouton de Gruyter.

Chang, Henry Yung-li. 2006. The guest playing host: Adverbial modifiers as matrix verbs in Kavalan. In *Clause structure and adjuncts in Austronesian languages*, ed. by Hans-Martin Gärtner, Paul Law, and Joachim Sabel, 4–82. Berlin: Mouton de Gruyter.

———. 2009. Adverbial verbs and adverbial compounds in Tsou: A syntactic analysis. *Oceanic Linguistics* 48:439–76.

———. 2010. On the syntax of Formosan adverbial verb constructions. In *Austronesian and theoretical linguistics*, ed. by Raphael Mercado, Eric Potsdam, and Lisa deMena Travis, 183–212. Amsterdam: John Benjamins.

Chen, Yi-Ting. 2010. The Amis left periphery. *Oceanic Linguistics* 49:339–58.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. New York: Oxford University Press.

Crowley, Terry. 2002. *Serial verbs in Oceanic: A descriptive typology*. Oxford: Oxford University Press.

Davies, William. 2005. Madurese prolepsis and its implications for a typology of raising. *Language* 81:645–65.

Davies, William, and Stanley Dubinsky. 2004. *The grammar of raising and control*. Oxford: Blackwell Publishing.

Dowty, David. 2003. The dual analysis of adjuncts/complements in categorial grammar. In *Modifying adjuncts*, edited by Ewald Lang, Claudia Maienborn, and Cathrine Fabricius-Hansen, 33–66. Berlin: Mouton de Gruyter.

Ernst, Thomas. 2000. *The syntax of adjuncts*. Cambridge: Cambridge University Press.

Guilfoyle, Eithne, Henrietta Hung, and Lisa Travis. 1992. Spec of IP and Spec of VP: Two subjects in Austronesian languages. *Natural Language and Linguistic Theory* 10:375-414.

Higgins, Roger. 1981. Proleptic objects and verbs of perception in Zacapoaxtla Nahuat. *Texas Linguistic Forum* 18:69–88.

Holmer, Arthur. 2006. Seediq: Adverbial heads in a Formosan language. In *Clause structure and adjuncts in Austronesian languages*, ed. by Hans-Martin Gärtner, Paul Law, and Joachim Sabel, 83–123. Berlin: Mouton de Gruyter.

Hsiao, I-Ling. 2004. Adverbials in Squliq Atayal. MA thesis, National Tsing-Hua University.

Keenan, Edward. 1976. Remarkable subjects in Malagasy. In *Subject and topic*, ed. by Charles Li, 247–301. New York: Academic Press.

Kroeger, Paul. 1993. *Phrase structure and grammatical relations in Tagalog*. Stanford, CA: CSLI Publications.

Landau, Idan. 2004. The scale of finiteness and calculus of control. *Natural Language and Linguistic Theory* 22:811–77.

Law, Paul. 2011. Raising in Tagalog. In *Proceedings of the 28th West Coast Conference on Formal Linguistics*, ed. by Mary Byram Washburn, Katherine McKinney-Bock,

Erika Varis, Ann Sawyer, and Barbara Tomaszewicz, 142–51. Somerville, MA: Cascadilla Proceedings Project.
Li, Chao-Lin. 2007. Adverbial verbs and argument attraction in Puyuma. *Nanzan Linguistics* Special issue 3:165–201.
Li, Paul Jen-Kuei. 2003. Verbs or adverbs in Thao? Paper presented at the Second Workshop on Formosan languages, Academia Sinica, November 1–2.
Lin, Dong-yi. 2013. Interrogative constructions in Kavalan and Amis. PhD diss., University of Florida.
Liu, En-Hsin. 2003. Conjunction and modification in Amis. MA thesis, National Tsing-Hua University.
Liu, Tsai-Hsiu. 2011. Complementation in three Formosan languages: Amis, Mayrinax Atayal, and Tsou. PhD diss., University of Hawai'i.
Maclachlan, Anna. 1996. Aspects of ergativity in Tagalog. PhD diss., McGill University.
Nakamura, Masanori. 2000. On raising in Tagalog. *Lingua* 110:391–408.
Potsdam, Eric, and Maria Polinsky. 2007. Missing complement clause subjects in Malagasy. *Oceanic Linguistics* 46:277–303.
Potsdam, Eric, and Jeffrey Runner. 2001. Richard returns: Copy raising and its implications. *Chicago Linguistic Society* 37: 453–68.
Rackowski, Andrea, and Lisa Travis. 2000. V-initial languages: X or XP movement and adverbial placement. In *The syntax of verb-initial languages*, ed. by Andrew Carnie and Eithne Guilfoyle, 117–41. Oxford: Oxford University Press.
Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, MA: MIT Press.
Rogers, Andy. 1971. Three kinds of physical perception verbs. *Chicago Linguistic Society* 7:206–22.
Ross, John Robert. 1967. Constraints on variables in syntax. PhD diss., MIT.
Schachter, Paul. 1976. The subject in Philippine languages: Topic, actor, actor-topic, or none of the above. In *Subject and topic*, ed. by Charles Li, 491–518. New York: Academic Press.
Starosta, Stanley. 1988. A grammatical typology of Formosan languages. *Bulletin of the Institute of History and Philosophy* 59:541–76. Taipei: Academia Sinica.
Su, Yi-Fan. 2008. Adverbials in Takituduh Bunun. MA thesis, National Tsing-Hua University.
Wu, Chun-Ming. 2006. Adverbials in Paiwan. Paper presented at the 10th International Conference on Austronesian Linguistics, Palawan, Philippines, January 17–20.
Wu, Jing-Lan Joy. 2006, Verb classification, case marking, and grammatical relations in Amis. PhD. diss., State University of New York, Buffalo.
Wurmbrand, Susi. 2009. Modal verbs must be raising verbs. In *Proceedings of the 18th West Coast Conference on Formal Linguistics (WCCFL 18)*, edited by Sonya Bird, Andrew Carnie, Jason D. Haugen, and Peter Norquest, 599–612. Somerville, MA: Cascadilla Press.
Yeh, Maya Yuting, and Shuanfan Huang. 2009. A study of triple verb serialization in four Formosan languages. *Oceanic Linguistics* 48:78–110.

97067@mail.wzu.edu.tw