

ADVERBIAL VERBS AND ARGUMENT ATTRACTION IN PUYUMA*

Chao-Lin Li
National Tsing Hua University

1. Introduction

It is known that adverbial modification is syntactically realized as adverbs in Indo-European languages, Mandarin Chinese (Ernst 2002, Tang 1990, 2001) and some Austronesian languages such as Tagalog (Kaufman 2004) and Malagasy (Rockowski 1998). Under non-specifier approaches, adverbs are treated as adjuncts, sharing some morphosyntactic properties: (a) typical adverbs are transportable and optional and (b) adverbs normally neither take complements nor assign any thematic roles on a par with verbs or adjectives (Jackendoff 1972, Travis 1988). On the other hand, under specifier approaches adverbs are viewed specifiers of functional categories, agreeing with their functional heads in semantic features (Alexiadou 1997, Cinque 1999).

However, adverbial expressions in Formosan languages exhibit quite a different pattern. It has been argued that most of these expressions serve as verbs/heads rather than adverbs/adjuncts in Amis (Liu 2003), Atayal (Hsiao 2004), Kavalan (Chang 2006), Paiwan (Wu 2005), Seediq (Holmer 2006), Thao (Li 2003), and Tsou (Tsai and Chang 2003, Chang 2004, 2005). The first goal of this paper is to show that most adverbial modifiers in Puyuma, on a par with those in other Formosan languages, behave as verbs rather than adverbs in terms of their morphosyntactic properties: First, they can host voice affixes, which obligatorily occur on verbs. Second, they can attract DP arguments (e.g. clitic pronouns). Third, they usually occupy the initial position of a sentence. Fourth, the voice morphology appearing on these modifiers, like the same morphology appearing on verbs, determines which DP in the clause is the grammatical subject. Due to these verbal properties, we call these Puyuma modifiers adverbial verbs.

The second goal of this paper is to show that adverbial verbs in Puyuma are grouped into two: (functional) restructuring verbs and non-restructuring verbs. We argue that adverbial restructuring verbs can be divided into at least two types: First, the Type I verbs (e.g. Manner verbs) obey three restrictions: (a) the lexical verbs following adverbial verbs must be marked

* This paper was presented at the Cambridge-Nanzan-Tsing Hua Workshop on “Word Order and Functional Categories” held at Nanzan University, Dec 2-3, 2006. I would like to thank the audiences, in particular, Tomohiro Fujii, Marc Richards, Ian Roberts, Mamoru Saito, Kensuke Takita, and Barry Chung-Yu Yang for their helpful suggestions. Thanks are also due to Chen-Hsiu Kwo for her reading the draft and making some helpful comments. I gratefully acknowledge helpful discussions with Tzong-Hong Lin and Barry Chung-Yu Yang on several points in this paper. Finally, I will thank my informants Yu-jiao Cheng and Cing-mei Lin for sharing their knowledge with me.

with actor voice (the AV RESTRICTION), (b) the DP arguments (i.e. clitic pronouns) which are c- and s-selected by lexical verbs must be attracted onto adverbial verbs (the ARGUMENT ATTRACTION RESTRICTION), and (c) the DP arguments can occur only once (the ARGUMENT OCCURRENCE RESTRICTION). Second, the Type II adverbial restructuring verbs (e.g. Frequency verbs) can violate the first two restrictions but must observe the last restriction. We will show that unlike restructuring verbs, non-restructuring verbs (Type III), e.g. Mood verbs, totally violate all the restrictions.

In this paper, we argue that the finiteness analysis can be applied to adverbial restructuring constructions in Puyuma. We argue that since the embedded nonfinite T cannot check any case feature, the embedded subject DPs have to be raised to check their nominative case. This explains why adverbial verb constructions must observe the ARGUMENT ATTRACTION RESTRICTION and the ARGUMENT OCCURRENCE RESTRICTION. We further argue that the NAV clauses form a strong phase and become impenetrable to further syntactic operation. In this way, the nominative case cannot get checked and the syntactic derivation crashed. Therefore, lexical verbs have to be inflected for Actor Voice (the AV RESTRICTION). Moreover, we argue that one subtype of Type II adverbial verbs and the Type III adverbial verbs do not take any reduced clausal complement. They differ from restructuring verbs in that (i) the subject argument of this pattern cannot undergo A'-movement, and (ii) the Type II verbs can even take a complex sentence. Thus, we argue that the embedded clause under consideration must be a CP complement and the nominative case of the subject can get checked without any further raising operation

The paper is organized as follows: Section 2 introduces a brief sketch of Puyuma grammar. In section 3, we examine adverbial modifiers in this language. We will show that (a) most adverbial modifiers serve as verbs, (b) aspectual markers and sentence final particles function as adverbs, and (c) temporal expressions are DPs. In section 4, we will examine different types of adverbial verbs and offer a restructuring explanation for the AV RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION. We will also compare our analysis with a similar analysis for Kavalan adverbial verbs (Chang 2007a, b). Section 5 is the conclusion.

2. Basic Sketch of Puyuma Grammar

2.1 Voice System

There are usually four voices in Puyuma: actor voice (AV), patient voice (PV), locative voice (LV), and instrument/beneficiary voice (IV/BV). The thematic role of the grammatical subject is usually inflected on the predicate in the form of voice morphology.¹ For example:

¹ Abbreviations used in this paper include: 1, 2, 3 first, second, third person; AV actor voice; BV beneficiary voice, CAUS causative; COMP complementizer; FREQ frequency marker; FUT future; GEN genitive; IV instrumental voice; LOC locative; LV locative voice, NEG negator; NEU neutral; NMLZ nominalizer; NOM nominative; OBL oblique; PL plural; PROJ projective; PST past; PV patient voice; RED

- (3) a. m-ekan dra kuraw i pilay.
 AV-eat OBL fish NOM Pilay
 ‘Pilay eats fish.’
- b. tu=ekan-aw kan pilay na kuraw.
 3SG.GEN=eat-PV GEN Pilay NOM fish
 ‘Pilay ate the fish.’
- c. tu=selap-ay kan pilay (na) nu=kiaedrengan.
 3SG.GEN=clean-LV GEN Pilay NOM 2SG.GEN=room
 ‘Pilay cleaned your room.’
- d. tu=selap-anay kan pilay i sigimulri.
 3SG.GEN=clean-BV GEN Pilay NOM Sigimulri
 ‘Pilay cleaned (the room) for Sigimulri.’

In (3a) the Actor argument *Pilay* agrees with the actor voice head *m-* ‘AV’, and serves as the grammatical subject, which is marked with the nominative case. As (3b) shows, the Patient argument *fish* agrees with the patient voice head *-aw* ‘PV’ and in turn functions as the subject. In (3c) the Location argument *room* agrees with the locative voice head *-ay* ‘LV’ and in turn functions as the grammatical subject. Finally, in (3d) the Beneficiary argument *Sigimulri* agrees with the beneficiary voice head *-anay* ‘BV’ and thus serves as the subject.

2.2 Word Order

Puyuma is basically a VOS language, as illustrated in (4a). As we can see in (4a), the verb *mekan* ‘eat’ occurs in the sentence-initial position. The object argument *irupan* ‘meal’ follows the verb and is in turn followed by the subject argument *Pilay*. Moreover, in a non-actor-voice construction like (4b), the genitive Actor argument *Pilay* usually precedes the grammatical subject *irupan* ‘meal’. Another possible word order is SVO, which is derived by topicalization of the subject to the pre-verbal position, as shown in (4c).

- (4) a. m-ekan lra dra irupan i pilay. [VOS]
 AV-eat already OBL meal NOM Pilay
 ‘Pilay had a meal.’
- b. tu=ekan-aw kan pilay na irupan.
 3SG.GEN=eat-PV GEN Pilay NOM meal
 ‘Pilay had the meal.’

reduplication; SG singular; STAT stative; TOP topic; - indicates a prefix or suffix; <> indicates an infix; = indicates a clitic.

- c. i pilay_i i, m-ekan lra dra irupan t_i. [SVO]
 NOM Pilay TOP AV-eat already OBL meal
 ‘Pilay, (she) had a meal.’

2.3 Two Sets of Pronouns

Puyuma has two sets of pronouns. The first set involves free pronouns, which occur in the same position in the clause as full DP’s, as shown in (5a-b). In (5a) the free nominative pronoun *taitaw* ‘he’ occurs in the sentence-final position. Similarly, the full DP *Sigimulri* in (5b) also occurs in the final position of a sentence. The second set is clitic pronouns, which are cliticized to the first verbal head in the clause, as illustrated in (5c). In (5c) the two clitic pronouns *tu=* and *ku=* can appear on the PV verb *pukupukaw* ‘hit’.

- (5) a. p<en>ukpuk kanku taitaw.
 hit<AV> 1SG.OBL 3SG.NOM
 ‘He hit me.’
- b. p<en>ukpuk kan pilay i Sigimulri.
 hit<AV> OBL Pilay NOM Sigimulri
 ‘Sigimulri hit Pilay.’
- c. tu=pukpuk-aw=ku.
 3SG.GEN-hit-PV=1SG.NOM
 ‘He hit me.’

3. Adverbial Modifiers in Puyuma

In this section, we distinguish adverbial modifiers into five types mainly based on Cinque’s (1999) framework: (a) Mood modifiers, (b) Modal modifiers, (c) Aspect modifiers, (d) Voice modifiers, and (e) Tense modifiers. We would examine the correspondents of each type and show their grammatical patterns.

3.1 Adverbial Verbs

We argue that most adverbial modifiers in Puyuma syntactically serve as verbs rather than adverbs based on four pieces of evidence. First, just as verbal heads, the adverbial modifiers in Puyuma are inflected for voice affixes. For example:

- (6) a. m-ekan dra kuraw i pilay.
 AV-eat OBL fish NOM Pilay
 ‘Pilay eats fish.’

- b. tu=salap-ay kan pilay (na) nu=kiaedrengan.
 3SG.GEN=clean-LV GEN Pilay NOM 2SG.GEN=room
 ‘Pilay cleaned your room.’

In (6a) the Actor argument *Pilay* triggers the Actor Voice *m-* on the predicate and therefore serves as the subject. As (6b) shows, the Location argument *kiaedrengan* ‘room’ triggers the Locative Voice *-ay* and in turn functions as the grammatical subject. The same is true of Manner modifiers. In (7a), the Manner modifier *patawar* ‘slowly’ can be analyzed as bearing the null actor voice suffix \emptyset . Again, the Manner modifier *patawaray* ‘slowly’ in (7b) is inflected for the locative voice suffix *-ay* ‘LV’.

Manner

- (7) a. patawar- \emptyset =ku m-aip dra trilin.
 slowly-AV=1SG.NOM AV-read OBL book
 ‘I read books slowly.’
- b. ku=patawar-ay m-aip na trilin.
 1SG.GEN=slowly-LV AV-read NOM book
 ‘I read the book slowly.’

The same observation applies to Aspect and Root Modal modifiers in this language. As we can see, the Aspect modifier meaning ‘often’ bears the actor voice prefix *m-* ‘AV’, as in (8a), and patient voice suffix *-aw* ‘PV’, as in (8b). Similarly, the Root Modal modifiers *palreteng* ‘intentionally’ and *palretengay* ‘intentionally’ are each inflected for voice: the null actor voice suffix \emptyset ‘AV’ and the locative voice suffix *-ay* ‘LV’, as in (9a-b).

Aspect

- (8) a. m-(k)arayas=ku selap kan nu=kiaedrengan.
 AV-often=1SG.NOM clean<AV> OBL 2SG.GEN=room
 ‘I often clean your room.’
- b. ku=karayas-aw selap nu=kiaedrengan.
 1SG.GEN=often-PV clean<AV> 2SG.GEN=room
 ‘I often clean your room.’

Modal

- (9) a. palreteng- \emptyset =ku m-uka selap-a kan nu=kiaedrengan.
 intentionally-AV=1SG.NOM AV-go clean<AV>-PROJ OBL 2SG.GEN=room
 ‘I intentionally go cleaning your room.’

- b. ku=palreteng-ay m-uka selap-a nu=kiaedrengan.
 1SG.GEN=intentionally-LV AV-go clean<AV>-PROJ 2SG.GEN=room
 ‘I intentionally go cleaning your room.’

The Mood and Negation modifiers also exhibit the same pattern. It is possible to analyze both the Evidential modifier *kilrengaw* ‘allegedly’ in (10a) and the Speech Act modifier *pana’an* ‘really’ in (10b) as involving affixation of the null actor voice affix. Similarly, the negation modifier *adri* ‘not’ in (11a) can be treated in the same way. This null affixation analysis is strongly supported by the fact that when the same modifier occurs with a patient argument as in (11b), it exhibits the patient voice morphology, *-aw* ‘PV’.

Mood

- (10) a. kilrengaw-Ø=ta dra ngay (i), papelilra-Ø i pilay.
 hear-AV=1PL.NOM OBL word TOP pregnant-AV NOM Pilay
 ‘Allegedly, Pilay became pregnant.’
- b. pana’an-Ø i, ku=trakaw-aw tu=paysu kan nana-li.
 really-AV TOP 1SG.GEN=steal-PV 3SG.GEN=money GEN mother-1SG.GEN
 ‘Really/Frankly speaking, I stole my mother’s money.’

Negation

- (11) a. adri-Ø=ku trekel dra eraw.
 NEG-AV=1SG.NOM drink<AV> OBL wine
 ‘I do not drink wine.’
- b. an kadru i, ku=adri-yaw trekel na eraw.
 if that<AV> TOP 1SG.GEN=NEG-PV drink<AV> NOM wine
 ‘In that case, I then will not drink wine.’

Second, just as common lexical verbs, the adverbial modifiers can take DP arguments, specifically clitic pronouns. As we can see in (12a), the lexical verb *kulritray* ‘peel’ can take the first singular genitive clitic pronoun *ku=* as its argument. Similarly, the Manner modifier *patawaray* ‘slowly’ in (12b) can also take the same clitic pronoun as its argument. It is clear that the Manner modifier behaves like a common lexical verb syntactically.

- (12) a. ku=kulritr-ay m-ekan na asiru.
 1SG.GEN=peel-LV AV-eat NOM tangerine
 ‘I peeled the tangerine to eat.’

- b. ku=patawar-ay m-ekan na asiru.
 1SG.GEN=slowly-LV AV-eat NOM tangerine
 ‘I ate the tangerine slowly.’

The same pattern can be also found in the Aspect and Modal modifiers. The nominative clitic pronoun =*ku* attaches to the Aspect modifier *masalr* ‘again’ in (13a), the Root Modal modifier *maruwa* ‘can’ in (14a), and the Root Modal modifier *saygu* ‘be able’ in (14b). Again, the genitive clitic pronoun *ku=* attaches to the Aspect modifier *asalray* ‘again’, as shown in (13b).

Aspect

- (13) a. m-asalr=ku selap kan nu=kiaedrengan.
 AF-again=1SG.NOM clean<AF> OBL 2SG.GEN=room
 ‘I cleaned your room again.’
- b. ku=asalr-ay selap nu-ki-a-edreng-an.
 1SG.GEN=again-LF clean<AF> 2SG.GEN=room
 ‘I cleaned your room again.’

Modal

- (14) Teng (1997: 29)
- a. ma-ruwa=ku m-ekan dra patraka.
 AV-can=1SG.NOM AV-eat OBL meat
 ‘I can eat meat.’ or ‘I am allowed to eat meat.’
- b. saygu=ku tarasu.
 be.capable.of=1SG.NOM swim<AV>
 ‘I am capable of swimming.’

The same observation even applies to the Mood and Negation modifiers in Puyuma. Consider (15-16) for example. As shown in (15a) the Mood modifier *kilrengaw dra ngay* ‘allegedly’ can take the first plural nominative clitic pronoun =*ta*. In (15b) the Mood modifier *pana’an* ‘really; frankly’ takes the first singular nominative clitic pronoun =*ku*. In the same way, the Negation modifier *adri* ‘not’ takes the first singular nominative clitic pronoun =*ku*, as shown in (16a). As shown in (16b) the Negation modifier *adriaw* ‘not’ takes the first singular genitive clitic pronoun *ki=* and the second singular nominative clitic pronoun =*yu*.

Mood

- (15) a. kilrengaw-Ø=ta dra ngay (i), tu=pi<a>natray=yu.
 hear-AV=1PL.NOM OBL word TOP 3SG.GEN=<want>kill.PV =2SG.NOM
 ‘Allegedly he wants to kill you.’

- b. pana'an-Ø=ku sagar-Ø=ku kanu.
 really-AV=1SG.GEN like-AV=1SG.NOM 2SG.OBL
 'I really like you!'

Negation

- (16) a. adri-Ø=ku m-ekan dra bunga.
 NEG-AV=1SG.NOM AV-eat OBL sweet.potato
 'I do not eat any sweet potato.'

- b. an kadru i, ki=adri-yaw=yu lra beray-Ø dra
 if that<AV> TOP 1SG.GEN=NEG-PV=2SG.NOM already give-AV OBL
 bunga.
 sweet.potato
 'In that case, I then will not give you any sweet potato.'

Third, adverbial modifiers in Puyuma usually occur in the sentence initial position and are not transportable. Consider the examples in (17). As we can see in (17a), when the Manner modifier *patawar* 'slowly' precedes the lexical verb *mekan* 'eat', the sentence is grammatical. If we switch the word order, the ungrammaticality arises, as illustrated in (17b).

- (17) a. patawar-Ø=ku m-ekan dra kuraw.
 slowly-AV=1SG.NOM AV-eat OBL fish
 'I eat fish slowly.'
- b. *m-ekan=ku patawarl-Ø dra kuraw.
 AV-eat=1SG.NOM slowly-AV OBL fish
 'I eat fish slowly.'

The rule in question holds in Aspect, Modal, and Mood modifiers in Puyuma. In (18a) the Aspect modifier *pa'eres* 'always' occurs before another verb *pakamulay* 'make well'. If we permute the word order, the sentence becomes ungrammatical, as shown in (18b). Similarly, the Root Modal modifier *wawai* 'be willing to' precedes the lexical verb *semelap* 'clean', as illustrated in (19a). In contrast, when the word order is switched, the ungrammaticality obtains, as shown in (19b).

Aspect

- (18) a. pa'eres-Ø=ku dar pa-ka-mulay pare<ape>apetr
 always-AV=1SG.NOM FREQ CAUS-STAT-beautiful clean<RED>
 kan nu=kiaedrengan.
 OBL 2SG.GEN=room
 'I always clean your room well.'

- b. *pa-ka-mulay-ay=ku pa'eres-Ø dar pare<ape>apetr
 CAUS-STAT-beautiful=1SG.NOM always-AV FREQ clean<RED>
 kan nu-kiaedrengan.
 OBL 2SG.GEN=room
 'I always clean your room well.'

Modal

- (19) a. wa-wai=ku selap kan nu=kiaedrengan.
 RED-be.willing.to=1SG.NOM clean<AV> OBL 2SG.GEN=room
 'I am willing to clean your room.'
- b. *selap=ku wa-wai kan nu=kiaedrengan.
 clean<AV>=1SG.NOM RED-be.willing.to OBL 2SG.GEN=room
 'I am willing to clean your room.'

Finally, the voice inflection on adverbial modifiers affects the selection of grammatical subject; namely, which DP qualifies as the grammatical subject of the clause. For example, the Manner modifier *paseketay* 'carefully' in (20a) is inflected by locative voice suffix *-ay* 'LV', and thus the partially affected Theme argument *kakasyuwan* 'baggage' serves as the grammatical subject. In contrast, as we can see in (20b), the Manner modifier *paseket* 'slowly' is marked with the null actor voice suffix *-Ø* 'AV', and thus the Actor argument *=ku* 'I' functions as the grammatical subject.

Manner

- (20) a. ku=paseket-ay Ira p<en>adrang ku=kakasyuwan.
 1SG.GEN=carefully-LV already prepare<AV> 1SG.GEN=baggage
 'I prepared my baggage carefully.'
- b. paseket-Ø=ku Ira p<en>adrang kan ku=kakasyuwan.
 carefully=1SG.NOM already prepare<AV> OBL 1SG.GEN=baggage
 'I prepared my baggage carefully.'

Similarly, the voices of the Aspect and Root Modal modifiers also determine the choice of grammatical subject. For example, as shown in (21) the Aspect modifier meaning 'briefly' bears different voice morphology depending on which DP the modifier is predicated of: AV *-Ø* in (21a) is triggered by the Actor argument *=ku* while LV *-ay* in (21b) is by the Location argument *kiaedrengan* 'room'. The examples in (22) show the same point for Modal modifier meaning 'intentionally'.

Aspect

- (21) a. palamu-Ø=ku selap kan nu=kiaedrengan.
 briefly-AV=1SG.NOM clean<AV> OBL 2SG.GEN=room

‘I cleaned your room for a short while/briefly.’

- b. ku=palamu-ay selap nu=kiaedrengan.
 1SG.GEN=briefly-LV clean<AV> 2SG.GEN=room

‘I cleaned up your room in a short while.’

Modal

- (22) a. palreteng-Ø=ku m-uka selap-a kan nu=kiaedrengan.
 intentional-AV=1SG.NOM AV-go clean<AV>-PROJ OBL 2SG.GEN=room

‘I intentionally go cleaning your room.’

- b. ku=-palreteng-ay m-uka selap-a nu=kiaedrengan.
 1SG.GEN=intentional-LV AV-go clean<AV>-PROJ 2SG.GEN=room

‘I intentionally go cleaning your room.’

The same even holds true of the Negation modifier in Puyuma. As shown in (23a) the Negation modifier *adri* ‘not’ carries the null actor voice suffix -Ø and therefore the Actor argument =*ku* is selected as the grammatical subject. In (23b) the Negation modifier *adriyaw* ‘not’ bears the patient voice suffix -*aw* ‘PV’, and the Patient argument *eraw* ‘wine’ in turn serves as the grammatical subject.

Negation

- (23) a. adri-Ø=ku trekel dra eraw.
 NEG-AV=1SG.NOM drink<AV> OBL wine

‘I do not drink wine.’ (as repeated from example (11a))

- b. an kadru i, ku=adri-yaw trekel na eraw.
 if that<AV> TOP 1SG.GEN=NEG-PV drink<AV> NOM wine

‘In that case, I then will not drink wine.’ (as repeated from example (11b))

To summarize, the above syntactic patterns all point out that the adverbial modifiers in Puyuma behave like verbs rather than adverbs because they (a) are inflected for voice, (b) attract arguments (e.g. clitic pronouns), (c) usually occur in a fixed position, and (d) affect the selection of grammatical subject. Due to their verbal properties, we will call them adverbial verbs. Table 1 is a list of adverbial verbs in Puyuma.

- b. *pia-Ø lra=ku selap kan nu=kiaedrengan
 finish-AV already=1SG.NOM clean<AV> OBL 2SG.GEN=room
 ‘I do not clean your room yet.’

Similarly, although the Epistemic Modal modifiers *alra* ‘perhaps’ in (26a-b) occurs in the sentence initial position, it does not exhibit any voice morphology, as shown in (26c). Moreover, it cannot take any clitic pronoun, as illustrated in (26d).

Modal

- (26) a. alra sa-selap=ku kan nu=kiaedrengan (nay).
 perhaps RED-clean=1SG.NOM OBL 2SG.GEN=room Q
 ‘I perhaps will clean your room.’

- b. *sa-selap=ku alra kan nu=kiaedrengan.
 RED-clean=1SG.NOM perhaps OBL 2SG.GEN=room
 ‘I perhaps will clean your room.’

- c. *m-alra/*alra-ay sa-selap=ku kan nu=kiaedrengan.
 AV- perhaps/perhaps-LV RED-clean=1SG.NOM OBL 2SG.GEN=room
 ‘I perhaps will clean your room.’

- d. *alra=ku sa-selap kan nu=kiaedrengan.
 perhaps=1SG.NOM RED-clean OBL 2SG.GEN=room
 ‘I perhaps will clean your room.’

Finally, the aspectual and epistemic particles are listed in Table 2.

Class	Subtype	Puyuma	Gloss
Modal	Epistemic	<i>alra</i>	perhaps
Tense	Anterior	<i>lra</i>	already’
Aspect	Durative	<i>dria</i>	still

Table 2: Types of adverbs in Puyuma

3.3 Temporal Nouns

In Puyuma the Tense modifiers such as *yesterday* and *tomorrow* behave like nouns because they can serve as the argument of phase verbs, as shown in (27a-b). The temporal noun *adman* ‘yesterday’ in (27a) and *garem* ‘now’ in (17b) can occur immediately after the phase verb *kemerami* ‘start’ and *palu* ‘arrive’. Second, like temporal nouns in English, temporal nouns in Puyuma distribute freely. They can occur in the sentence initial or sentence final position, as shown in (28a-b).

Tense

(27) a. kerami a-daman palu-Ø garem, alupu=ku.
 start<AV> PST-day arrive-AV now sleep=1SG.NOM

‘From yesterday till now, I am sleeping.’

b. kerami a-garem-ay palu-Ø garem, ku=ekan-aw na irupan.
 start<AV> PST-now-AY arrive-AV now 1SG.GEN=eat-PV NOM meal

‘From just till now, I ate up the dish.’

Tense

(28) a. a-garem-ay i ku=selap-ay nu=kiaedrengan.
 PST-now-AY TOP 1SG.GEN=clean-LV 2SG.GEN=room

‘I cleaned your room just now.’

b. ku=selap-ay nu=kiaedrengan a-garem-ay.
 1SG.GEN=clean-LV 2SG.GEN=room PST-now-AY

‘I cleaned your room just now.’

It is worth noting that tense or aspect morphemes are found inside these temporal nouns, as illustrated in (29). In (29a) the temporal noun *asuwadria* ‘once upon a time’ contains the durative particle *dria* ‘still’; as shown in (29b) the temporal noun *andaman* ‘tomorrow’ is composed of a future morpheme *an-*.

Tense

(29) a. m-ekan=ku lra dra dawa a asuwa-dria.
 AV-eat=1SG.NOM already OBL wheat PST when-still

‘Once upon a time/Once I ate wheat.’

b. a-uka=ku selap-a (k)an-daman.
 RED-go=1SG.NOM clean<AV>-PROJ FUT-day

‘I will clean your room tomorrow.’

Tense/aspect/mood (TAM) as an inflectional category is traditionally employed to distinguish verbs from nouns. However, the existence of TAM for temporal nominals in Puyuma may challenge the view that nouns, unlike verbs, are inherently time-stable, and therefore not open to temporal modification (Givón 1979). TAM-inflected nominals also have interesting implications for semantic theories that consider nouns to be semantic predicates that have their own temporal interpretation (Enç 1986, Musan 1995). The following Table 3 is a list of temporal nouns in Puyuma.

Class	Subtype	Puyuma	Gloss
Tense	Past	<i>adaman</i>	yesterday
		<i>ansuwadria</i>	once
		<i>agaremay</i>	just now
	Present	<i>garem</i>	now
	Future	<i>andaman</i>	tomorrow

Table 3: Types of temporal nouns in Puyuma

4. Adverbial Verbs and Argument Attraction

4.1 Three Types of Adverbial Verbs

We argue that adverbial verbs in Puyuma can be divided into three types, according to three criteria: (a) the AV RESTRICTION, (b) the ARGUMENT ATTRACTION RESTRICTION, and (c) the ARGUMENT OCCURRENCE RESTRICTION. Let us begin with considering Type I adverbial verbs. The lexical verb following a Type I adverbial verbs must bear the AV morphology. In (30a-b) the lexical verb *penukpuk* ‘hit’ is obligatorily attached by AV; on the other hand, when the lexical verb following it is marked with PV, the ungrammaticality arises, as shown in (30c-d).

Type I

- (30) a. patawar-Ø=ku p<en>ukpuk kanu.
 slowly-AV=1SG.NOM hit<AV> 2SG.OBL
 ‘I hit you slowly.’
- b. ku=patawar-ay=yu p<en>ukpuk.
 1SG.GEN=slowly-PV=2SG.NOM hit<AV>
 ‘I hit you slowly.’
- c. *patawar-Ø=ku pukpuk-aw kanu.
 slowly-AV=1SG.NOM hit-PV 2SG.OBL
 ‘I hit you slowly.’
- d. *ku=patawar-ay=yu pukpuk-aw.
 1SG.GEN=slowly-PV=2SG.NOM hit-PV
 ‘I hit you slowly.’

Second, clitic pronouns must be attracted onto adverbial verbs (The ARGUMENT ATTRACTION RESTRICTION). The clitic pronouns =*ku* in (31a) and =*yu* in (31b) attach to the adverbial verbs. In contrast, when these clitic pronouns stay with the lexical verbs, the sentences are ungrammatical, as shown in (31c-d). Third, when the clitic pronouns are present,

they can occur only once (The ARGUMENT OCCURRENCE RESTRICTION). As illustrated in (32a-b), when a clitic pronoun occurs in a sentence, it can be pronounced only once. As shown in (32c-d), however, they are prohibited from occurring twice.

Type I

- (31) a. patawar-Ø=ku p<en>ukpuk kanu.
 slowly-AV=1SG.NOM hit<AV> 2SG.OBL
 ‘I hit you slowly.’
- b. ku=patawar-ay=yu p<en>ukpuk.
 1SG.GEN=slowly-PV=2SG.NOM hit<AV>
 ‘I hit you slowly.’
- c. *patawar-Ø p<en>ukpuk=ku kanu.
 slowly-AV hit<AV>=1SG.NOM 2SG.OBL
 ‘I hit you slowly.’
- d. *patawar-ay p<en>ukpuk=ku kanu.
 slowly-PV hit<AV>=1SG.NOM 2SG.OBL
 ‘I hit you slowly.’
- (32) a. patawar-Ø=ku p<en>ukpuk kanu.
 slowly-AV=1SG.NOM hit<AV> 2SG.OBL
 ‘I hit you slowly.’
- b. ku=patawar-ay=yu p<en>ukpuk.
 1SG.GEN=slowly-PV=2SG.NOM hit<AV>
 ‘I hit you slowly.’
- c. *patawar-Ø=ku p<en>ukpuk=ku kanu.
 slowly-AV=1SG.NOM hit<AV>=1SG.NOM 2SG.OBL
 ‘I hit you slowly.’
- d. *ku=patawar-ay=yu p<en>ukpuk=ku.
 1SG.GEN=slowly-PV=2SG.NOM hit<AV>=1SG.NOM
 ‘I hit you slowly.’

So far, we show that the three restrictions (i.e. AV RESTRICTION, ARGUMENT ATTRACTION RESTRICTION, and ARGUMENT OCCURRENCE RESTRICTION) must be observed in Type I adverbial verb constructions. Contrary to Type I adverbial verbs, the Type II ones exhibit more complicated behaviors. Their behaviors split into two cases. On the one hand, when

adverbial verbs serve as PV verbs, the three restrictions are still respected. In (33a) the adverbial verb is inflected for PV and attracts clitic pronouns. In contrast, the following lexical verb cannot be a PV verb, as shown in (33b). Second, the following lexical verb is banned from serving as a PV verb, as shown in (33c). Third, a clitic pronoun cannot appear twice, as illustrated in (33d). We call this subtype of adverbial verbs Type II-A.

Type II-A

- (33) a. nu=karayas-aw=ku p<en>ukpuk.
 2SG.GEN=often-PV=1SG.NOM hit<AV>
 ‘You often hit me.’
- b. *nu=karayas-aw=ku pukpuk-aw
 2SG.GEN=often-PV=1SG.NOM hit-PV
 ‘You often hit me.’
- c. *nu=karayas-aw p<en>ukpuk=ku.
 2SG.GEN=often-PV hit<AV>=1SG.NOM
 ‘You often hit me.’
- d. *nu=karayas-aw=ku p<en>ukpuk.=yu
 2SG.GEN=often-PV=1SG.NOM hit<AV>=2SG.NOM
 ‘You often hit me.’

On the other hand, when AV attaches to these adverbial verbs, the embedded lexical verb can serve as a PV verb, as shown in (34a). The AV RESTRICTION can be violated in Type II adverbial verb constructions. Moreover, clitic pronouns must stay in-situ with the lexical verb, as shown in (34b). Again, the ARGUMENT ATTRACTION RESTRICTION needs not to be observed. However, the same clitic pronoun still cannot appear twice, as illustrated in (34c). Thus, the ARGUMENT OCCURRENCE RESTRICTION must be observed. Let us call this subtype Type II-B.

Type II-B

- (34) a. m-(k)arayas nu=pukpuk-aw=ku.
 AV-often 2SG.GEN=hit-PV=1SG.NOM
 ‘You often hit me.’
- b. *m-(k)arayas=ku nu=pukpuk-aw.
 AV-often=1SG.NOM 2SG.GEN=hit-PV
 ‘You often hit me.’

- c. * m-(k)arayas=ku nu=pukpuk-aw=ku.
 AV-often=1SG.NOM 2SG.GEN=hit-PV=1SG.NOM
 ‘You often hit me.’

Next, in Type III adverbial verb constructions, clitic pronouns can occur on the adverbial heads, on the following lexical verbs, or on both, as illustrated in (35a-b). That is, the ARGUMENT OCCURRENCE RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION need not be obeyed. Moreover, the AV RESTRICTION on V2 needs not be obeyed, as shown by the contrast between (35a) and (35c). It is clear that the above three restrictions can be violated in Type III adverbial constructions.

Type III

- (35) a. kilrengaw-Ø =ta dra ngay (i) papelilra-Ø i pilay
 allegedly-AV=1PL.NOM OBL word TOP be.pregnant-AV NOM Pilay
 ka.
 say<AV>

‘Allegedly, Pilay became pregnant.’

- b. pana’an-Ø i sagar-Ø =ku kanu.
 really-AV TOP like-AV-1SG.NOM 2SG.OBL

‘Really! I like you.’

- c. kilrengaw-Ø =ta dra ngay (i) tu=pi<a>natray=yu
 allegedly-AV=1PL.NOM OBL word TOP 3SG.GEN=kill<RED>=2SG.NOM
 kan pilay.
 GEN Pilay

‘Allegedly, Pilay wants to kill you.’

Finally, the syntactic distribution of these adverbial verbs can be summarized as in Table 4. Table 4 shows that in the Type I adverbial verb constructions all the restrictions must be observed. However, in Type II Patient Voice adverbial verb constructions the AV RESTRICTION and Argument Attraction can be violated, although the ARGUMENT OCCURRENCE RESTRICTION has to be respected). Finally, no restrictions need be observed in the Type III adverbial verb constructions.

		AV RESTRICTION	ARGUMENT ATTRACTION RESTRICTION	ARGUMENT OCCURRENCE RESTRICTION
Type I		Yes	Yes	Yes
Type II	A	No	No	Yes
	B	Yes	Yes	
Type III		No	No	No

Table 4: Restrictions in the Type I, II, and III adverbial verb constructions

4.2 Complex Predicates, Control, or Neither?

Now we will briefly examine two approaches, i.e. the Complex Predicate approach (cf. Chang 2006) and the Control approach, and we will argue that both approaches cannot adequately explain the syntactic constraints on adverbial verb constructions in Puyuma. First, let us consider a Complex Predicate analysis. Chang (2006: 68) proposes a Complex Predicate analysis for adverbial verb constructions in Kavalan. He argues that Manner and Frequency adverbial verbs and their lexical verbs preceded by them constitute single complex predicates, co-licensing an Agent argument and a Theme argument. Chang (2006: 69) takes the focus/aspectual/pronominal marker shifting as one piece of evidence, as in (36).²

(36) Kavalan (Chang 2006: 69)

a. pataz-ti-iku supas tu qRitun.
often[AF]-ASP-1S.NOM buff<AF> OBL car

‘I often buffed a car’

b. pataz supas-ti-iku tu qRitun.
often[AF] buff<AF>-ASP-1S.NOM OBL car

‘I often buffed a car’

c. pataz-an-ku-ti supas ya qRitun.
often-PF-1S.GEN-ASP buff<AF> NOM car

‘I often buffed my car’

d. pataz supas-an-ku-ti ya qRitun.
often[AF] buff-PF-1S.GEN-ASP NOM car

‘I often buffed my car’

However, the Complex Predicate analysis has some problems for adverbial verb constructions in Puyuma: First, it cannot explain why only NAV but not AV constructions can allow the

² It should be pointed out that the shifting alternation may not form a valid support for the Complex Predicate analysis. Chang (2006: 69) argues that “a complex predicate remains as a unified semantic unit, no matter where the grammatical markers (such as focus/aspectual/pronominal markers) are placed”. However, such an argument will wrongly predict that the aspectual marker *-le* can freely occur in between the first verb and second verb of a complex predicate in Mandarin Chinese, as in (i).

(i) a. Zhangsan ku-shi-le shoupa le.
Zhangsan cry-wet-ASP handkerchief ASP
‘Zhangsan cried till the handkerchief was wet.’ (Chang 2006: 76)

b. * Zhangsan ku-le-shi shoupa le.
Zhangsan cry-ASP-wet handkerchief ASP
‘Zhangsan cried till the handkerchief was wet.’

grammatical marker shifting. As shown in (37c-d), a pronominal marker seems to shift to the second verb without affecting any propositional meaning. In contrast, as we can see in (37a-b), the same pronominal marker cannot shift to the embedded verb. It is unclear what brings about this AV-NAV asymmetry.

- (37) a. m-(k)arayas=ku m-aip dra trilin.
 AF-often=1SG.NOM AF-read OBL book
 ‘I often read books.’
- b. *m-(k)arayas=ku m-aip dra trilin.
 AF-often=1SG.NOM AF-read OBL book
 ‘I often read books.’
- c. ku=karayas-aw m-aip na trilin.
 1SG.GEN-often-PF AF-read NOM book
 ‘I often read the book.’
- d. m-(k)arayas ku-aip-aw na trilin.
 AF-often 1SG.GEN-read-PF NOM book
 ‘I often read the book.’

Second, the Complex Predicate approach predicts that the first verb and the second verb will always be adjacent to each other. However, such an adjacency condition does not hold in the Manner adverbial verb constructions, as shown in (38). (38b) shows that the second verb of a cluster is separated and undergoes topicalization to [Spec, CP], bringing about a focus interpretation. Furthermore, the object of the second verb has been carried along as well.

- (38) a. patawar-Ø=ku m-aip dra trilin.
 slowly-AV=1SG.NOM AF-read OBL book
 ‘I read books slowly.’
- b. m-aip dra trilin i, patawar-Ø=ku.
 AF-read OBL book TOP slowly-AV=1SG.NOM
 ‘As for reading book, I do so slowly.’

Having argued against the Complex Predicate approach, we will examine the second potential approach, i.e. the Control analysis. We argue that the adverbial verb constructions under consideration differ from the (*persuade*-type) control constructions in Puyuma in that Frequency adverbial verbs are non-thematic whereas control verbs establish thematic relations with their arguments, as shown in (39-40). As shown in (39a-b), the control verb *pasi’si’ay* ‘persuade’ must select an animate Patient argument such as *Sigimulri* rather than a non-animate Theme argument such as *pira* ‘leaf’. In contrast, the adverbial verb *marayas*

‘often’ in (40) can select a weather verb like *maudal* ‘rain’ which has no semantic argument. It indicates that the adverbial verb in (40) is non-thematic.

(39) a. ku-pasi’si’-ay i sigimulri kawang.
 1SG.GEN-persuade-LV NOM Sigimulri walk<AF>

‘I persuaded Sigimulri to walk.’

b. * ku-pasi’si’-ay na pira mu-adelr.
 1SG.GEN-persuade-LV NOM leaf AF-fall

‘???I persuaded the leaves to fall.’

(40) a-kinadamanan m-(k)arayas ma-udal.
 PST-recently AF-often AF-rain

‘Recently it often rains’

In this section we have shown that the Complex Predicate analysis and the Control analysis both cannot adequately account for the syntactic patterns of Puyuma adverbial verbs. In the next section we will propose a restructuring analysis and offer an explanation for the patterns of the AV RESTRICTION and ARGUMENT ATTRACTION RESTRICTION. Moreover, we will compare our analysis with Chang’s (2007a, b) ones.

4.3 Restructuring Analysis

4.3.1 Nonfinite TP

We will first show that the Type I adverbial verbs (e.g. Manner verbs) and the Type II-A adverbial verbs (e.g. Aspectual verbs and Modal verbs) take a defective TP as their complements (cf. Rizzi 1982, Wurmbrand 2003, cf. Rosen 1989, 1990). First, as we have shown, clitic pronouns must be attracted onto Manner or Aspectual adverbial verbs even if these adverbial verbs do not c-select any DP arguments, as shown in (41a-d). The long-distance clitic placement is cross-linguistically viewed as evidence of restructuring.

(41) a. patawar-Ø=ku m-ekan dra kuraw.
 slow-AV=1SG.NOM AV-eat OBL fish

‘I eat fish slowly.’

b. * patawar-Ø m-ekan=ku dra kuraw.
 slow-AV AV-eat=1SG.NOM OBL fish

‘I eat fish slowly.’

- c. m-(k)arayas=ku m-aip kandrina trilin.
 AV-often=1SG.NOM AV-read OBL.this book
 ‘I often read this book.’
- d. *m-(k)arayas m-aip=ku kandrina trilin.
 AV-often AV-read=1SG.NOM OBL.this book
 ‘I eat fish slowly.’

Second, in Puyuma subject *wh*-words in mono-clausal sentences obligatorily move leftward to the sentence initial position, as shown in (42a). In contrast, subject *wh*-words in bi-clausal sentences must also undergo A'-movement but stay within the embedded clause, as shown in (42b). As we can see in (42c-d), subject *wh*-words in the Aspectual adverbial verb construction must undergo A'-movement to occupy in the sentence initial position. If adverbial verbs of the relevant kind take CPs as their complements, it is expected that the subject *wh*-word will stay in the Spec position of the embedded CP. However, in fact, it is not the case. Thus, we argue that these adverbial verbs do not take CP as their complements.

- (42) a. [_{CP} imanay_i na p<en>kpuk kan pilay t_i?
 who COMP hit<AV> OBL Pilay (NOM)
 ‘Who hit Pilay?’
- b. [_{CP} pakupana'an=yu dra imanay na ka-keser t_i?
 believe=2SG.NOM COMP who COMP RED-win NOM
 ‘Who do you believe will win?’
- c. [_{CP} imanay_j na m-(k)arayas p<en>ukpuk kan pilay t_i?
 who COMP AV-often hit<AV> OBL Pilay (NOM)
 ‘Who often hits Pilay?’
- d. [_{CP} imanay_j na tu=karayas-an=mu p<en>ukpuk kan
 who COMP 3SG.GEN=often-NMLZ=2PL.NOM hit<AV> GEN
 pilay t_i?
 Pilay (NOM)
 ‘Which one of you was beaten by Pilay?’

Third, as shown in (43a), the nominative DP argument in mono-clausal sentences can be topicalized to occupy the sentence initial position. In contrast, the nominative DP in embedded clauses cannot be topicalized to occupy the sentence initial position, as shown in (43b). As (43c) illustrates, the nominative DP argument in the adverbial verb constructions as well as the one occurring in mono-clausal sentences can undergo A'-extraction to the Topic

position. Based on these patterns, we argue that the Type I and Type II-A adverbial verbs do not take full clauses (i.e. CPs) as their complements.

- (43) a. na kuraw_i i, tu=ekan-aw kan pilay t_i.
 NOM fish TOP 3SG.GEN=eat-PV GEN Pilay (NOM)
 ‘The fish, Pilay ate it.’
- b. *i ukak_i i, ma-lradram i sigimulri [_{CP} dra p<en>ukpuk
 NOM Ukak TOP AV-know NOM Sigimulri COMP hit<AV>
 kan pilay t_i].
 obl Pilay (NOM)
 ‘Sigimulri knew that Ukak beat Pilay.’
- c. na trilin_i i, ku=karayas-aw m-aip t_i.
 NOM book TOP 1SG.GEN=often-PV AV-read (NOM)
 ‘The book, I often read it.’

We propose that the Type I and Type II adverbial verb constructions are similar to the obligatory control constructions in Puyuma. That is, both constructions take a defective TP (i.e. nonfinite TP) as their complement. In both constructions the downstairs predicates with the TP have to be marked with Actor Voice rather than Non-Actor Voice, as illustrated in (44). In (44a) and (44c), the verbs in the embedded clause carry the AV morphology. When PV is attached to the embedded predicate, the ungrammaticality arises, as (44b) and (44d) illustrate. What is more, in both constructions, the temporal interpretation of the embedded clauses is parasitic on the interpretation of the matrix T and therefore just one temporal modifier can be allowed, as shown in (45). As shown in (45b) and (45d), when the two temporal modifiers such as *adaman* ‘yesterday’ and *andaman* ‘tomorrow’ co-occur to introduce two tenses, a tense clash arises .

- (44) a. tu=paisil-ay kan pilay i ukak trekel dra eraw.
 3SG.GEN=persuade-LV GEN Pilay NOM Ukak drink<AV> OBL wine
 ‘Pilay persuaded Ukak to drink wine.’
- b. * tu=paisil-ay kan pilay i ukak trekel-aw dra eraw.
 3SG.GEN=persuade-LV GEN Pilay NOM Ukak drink-PV OBL wine
 ‘Pilay persuaded Ukak to drink wine.’
- c. tu=karayas-aw m-aip kan pilay na trilin.
 3SG.GEN=often-PV AV-read GEN Pilay NOM book
 ‘Pilay often reads the book.’

- d. * tu=karayas-aw aip-aw kan pilay na trilin.
 3SG.GEN=often-PV read-PV GEN Pilay NOM book
 ‘Pilay often reads the book.’

- (45) a. a-daman (i) tu=paisil-ay kan pilay i ukak trekel
 PST-day TOP 3SG.GEN=persuade-LV GEN Pilay NOM Ukak drink<AV>
 dra eraw
 OBL wine
 ‘Yesterday Pilay persuaded Ukak to drink wine.’

- b. * a-daman (i) tu=paisil-ay kan pilay i ukak
 PST-day TOP 3SG.GEN=persuade-LV GEN Pilay NOM Ukak
 trekel dra eraw an-daman.
 drink<AV> obl fish FUT-day
 ‘*Yesterday Pilay persuaded Ukak to drink wine tomorrow.’

- c. a-daman (i) tu=patawar-ay m-aip kan pilay na trilin.
 PST-day TOP 3SG.GEN=slow-LV AV--read GEN Pilay NOM book
 ‘Yesterday Pilay read the book slowly’

- d. * a-daman (i) tu=patawar-ay m-aip kan pilay na trilin
 PST-day TOP 3SG.GEN=slow-LV AV-read GEN Pilay NOM book
 an-dman.
 FUT-day
 ‘*Yesterday Pilay read the book slowly tomorrow.’

4.3.2 Two Types of VoiceP

We now proceed to argue that the VoicePs are divided into two types with respect to transitivity: the AV verbs are intransitive verbs while the NAV verbs are transitive verbs. We argue that the nominative DP argument and the genitive DP argument in the NAV constructions are both core arguments. That is, both of them are syntactically active. In Puyuma the Actor argument of the NAV construction which appears in the genitive case is not demoted in a way that the Actor argument in English-like passive construction is. The genitive Actor argument, like the nominative DP argument, (a) displays syntactic agreement, (b) serves as the controller of the obligatory control constructions, (c) undergoes A'-extraction in the topicalization constructions. First, both the genitive argument and the nominative argument appear as a clitic in Non-Actor Voice clauses and agree with the free pronoun in the TopicP position in person and number, as illustrated in (46).

(46) a. yuyu_j i, ku_i=pukpuk-aw=yu_j.
 2SG.NEU TOP 1SG.GEN=hit=2SG.NOM
 ‘I hit you!’

b. kuiku_i i, ku_i=pukpuk-aw=yu_j.
 1SG.NEU TOP 1SG.GEN=hit=2SG.NOM
 ‘I hit you.’

Second, the genitive Actor argument, like the nominative DP argument, can control³ a PRO in a nonfinite complement clause, as (47) illustrates. Unlike the demoted *by*-phrase in passives in English, the Actor argument in the NAV construction is still syntactically active in the sense that it has the ability to control. When the nominative DP argument in the matrix clause serves as the controller of PRO, the embedded verb bears Actor Voice morphology, as shown in (47a). On the other hand, when the controller is marked with genitive case, the embedded verb bears the causative prefix *pa-* so that the Actor/Causer argument can stand in the null nominative position, as shown in (47b).

(47) a. ku_i=paisil-ay i ukak_i [PRO_i trekel dra eraw].
 1SG.GEN=persuade-LV NOM Ukak drink<AV> OBL wine
 ‘I persuaded Ukak to drink wine.’

b. ku_i=paisil-ay i ukak_j [PRO_i pa-trekel dra eraw].
 1SG.GEN=persuade-LV NOM Sigimulri CAUS-drink OBL wine
 ‘I persuaded Sigimulri to drink wine.’

Third, the genitive Actor argument in the NAV construction, like the nominative DP argument, can also undergo A'-movement to the Topic position, as shown in (48).⁴

³ Although either the nominative DP argument or the genitive DP argument can serve as the controller in obligatory control constructions, the ‘nominative-DP-as-controller’ construction and the ‘genitive-DP-as-controller’ one differ in meaning. The Causee argument in the former construction receives a ‘volitional agent’ interpretation more strongly than the one in the latter construction does. Also, the genitive construction conveys the meaning in which the Causee is manipulated by the causer of the causing event to a higher degree than the nominative construction.

⁴ The nominative DP argument but not the genitive DP argument in Puyuma serves as the grammatical subject because only the former can be A'-extracted in relativization and *wh*-extraction constructions while the latter cannot be. The phenomena often are dubbed ‘subject sensitivity’ (Keenan 1976, Keenan and Comrie 1977, Guilfoyle, Hung and Travis 1992 and among others). For example,

(i) a. ma-trina na kuraw_j tu_i=<in>ekan-an kan walak t_j.
 AV-big NOM fish 3SG.GEN=<PV>-eat-NMLZ GEN child
 ‘The fish that the child ate is big.’

- (48) a. na kuraw_j i, tu_i=ekan-aw kan pilay t_j.
 NOM fish TOP 3SG.GEN=eat-PV GEN Pilay
 ‘Pilay ate the fish.’
- b. i pilay_i i, tu_i=ekan-aw na kuraw_j.
 NOM Pilay TOP 3SG.GEN=eat-PV NOM fish
 ‘Pilay ate the fish.’

-
- b. *ma-trina na walak tu=<in>ekan-an kana kuraw.
 AV-big NOM child 3SG.GEN=<PV>eat-NMLZ GEN fish
 ‘The child that was eaten by the fish grew up.’
- c. ma-trina na walak_i m-ekan dra kuraw t_i.
 AV-big NOM child AV-eat OBL fish
 ‘The child that eats fish grew up.’
- d. *ma-trina na kuraw_{ji} m-ekan na walak_i t_j.
 AV-big NOM fish AV-eat NOM child
 ‘The child that eats fish grew up.’

As examples (ia-b) shows, the Patient argument can be relativized only when the embedded verb is marked with Patient Voice and then the Patient argument serves as the grammatical subject. On the other hand, the Actor argument can be relativized only when the embedded verb is marked with Actor Voice and thus the Actor argument functions as the grammatical subject, as shown in (ic-d).

Second, only the grammatical subject is qualified as a target of the *wh*-extraction in Puyuma. *Wh*-words can be extracted to Spec-CP only when they trigger the voice morphology on the verb: When the Actor argument undergoes extraction, the Actor Voice morphology is required on the verb, as in (iia-b). Likewise, when the Patient argument undergoes the same process, the Patient Voice morphology is required, as in (iic-d).

- (ii) a. [_{CP} imanay_i na p<en>ukpuk kan pilay t_i]?
 who COMP hit<AV> OBL Pilay (NOM)
 ‘Who hit Pilay?’
- b. * [_{CP} imanay_i na tu=pukpuk-aw t_i i pilay]?
 who COMP 3SG.GEN=hit-PV(GEN) NOM Pilay
 ‘Who hit Pilay?’
- c. [_{CP} imanay_i na tu=pukpuk-aw kan pilay t_i]?
 who COMP 3SG.GEN=hit-PVGEN Pilay (NOM)
 ‘Who did Pilay hit?’
- d. * [_{CP} imanay_i na p<en>ukpuk i pilay t_i]?
 who COMP hit<AV> NOM Pilay (OBL)
 ‘Who did Pilay hit?’

Moreover, unlike the demoted Actor argument in English passives, the Actor argument in the NAV construction (49a) as well as in the AV construction (49b) can be an imperative addressee.

- (49) a. ekan-Ø dra bitrenun *pro*!
eat-AV OBL egg (NOM)
'Eat eggs!'
- b. kan-u na bitrenun *pro*!
eat-PV NOM egg (GEN)
'Eat the egg(s)!'

Now that we have demonstrated the core argument status of the nominative DP and the genitive DP that we have been looking at, we may proceed to argue that in Puyuma the Patient argument of the AV construction is demoted and syntactically inactive. First, as we have shown above, both the genitive and nominative arguments appear in clitic form in NAV clauses and agree with the free pronominal form in the TopicP position; however, only the nominative clitic can appear in AV clauses. Moreover, the nominative Actor argument can agree with the free pronominal form in the TopicP position while the oblique Patient argument cannot, as shown in (50).

- (50) a. kuiku_i i, p<en>ukpuk=ku_i kanu_j.
1SG.NEU TOP hit<AV>=1SG.NOM 2SG.OBL
'I hit you.'
- b. ???yuyu_j i, p<en>ukpuk=ku_i kanu_j.
2SG.NEU TOP hit<AV>=1SG.NOM 2SG.OBL
'I hit you.'

Second, the nominative Patient argument in the NAV construction can control the PRO subject of a nonfinite complement clause, as (51) illustrates. Unlike the *by*-phrase in English passives, the Actor argument in the NAV construction is still syntactically active as can be seen from the fact that it controls PRO, as illustrated in (51a). In contrast, the Oblique Patient argument in the AV construction cannot be syntactically inert, not being able to control PRO easily, as illustrated in (51b).

- (51) a. ku_i=paisil-ay i ukak_j [PRO_j trekel dra eraw].
1SG.GEN=persuade-LV NOM Ukak_j drink<AV> OBL wine
'I persuaded Ukak to drink wine.'

- b. ??paisil-Ø=ku_i kan ukak_j [PRO_j trekel dra eraw].
 persuade-AV=1SG.NOM OBL Sigimulri drink<AV> OBL wine
 ‘I persuaded Ukak to drink wine.’

Third, the genitive Actor argument in the NAV construction, like a canonical grammatical subject, can also undergo A'-movement to the Topic position, as shown in (52a). However, the oblique Patient argument in the AV construction cannot be topicalized, as shown in (52b).

- (52) a. i pilay i, tu=ekan-aw na kuraw.
 NOM Pilay TOP 3SG.GEN=eat-PV NOM fish
 ‘Pilay ate the fish.’
- b. *na kuraw i, m-ekan lra i pilay.
 NOM fish TOP AV-eat already NOM Pilay
 ‘Pilay already ate fish.’

So far, we have provided important arguments against the analysis in which the Actor argument of the NAV constructions, like the underlying subject in the passives in English, is demoted and syntactically inactive. We argue that the Actor argument of the NAV constructions is still syntactically active whereas the Patient argument of the AV constructions is demoted and thus syntactically inert. These patterns lead us to the conclusion that the AV verb constructions are intransitive constructions while the NAV verb constructions are true transitive constructions in Puyuma. The same properties are also observed in Kavalan (Liao 2002), Seediq (Aldridge 2004), and Tsou (Chang 2004). In Puyuma NAV clauses constitute a complete thematic (argument structure) complex, including an external argument. Following Chang (2004), we assume that NAV clauses are strong phases. In contrast, AV clauses do not constitute a complete thematic complex since the Patient argument is demoted. Thus, we assume that Puyuma AV clauses are weak phases.

4.4 AV Restriction, Argument Attraction Restriction, and Phase Domain

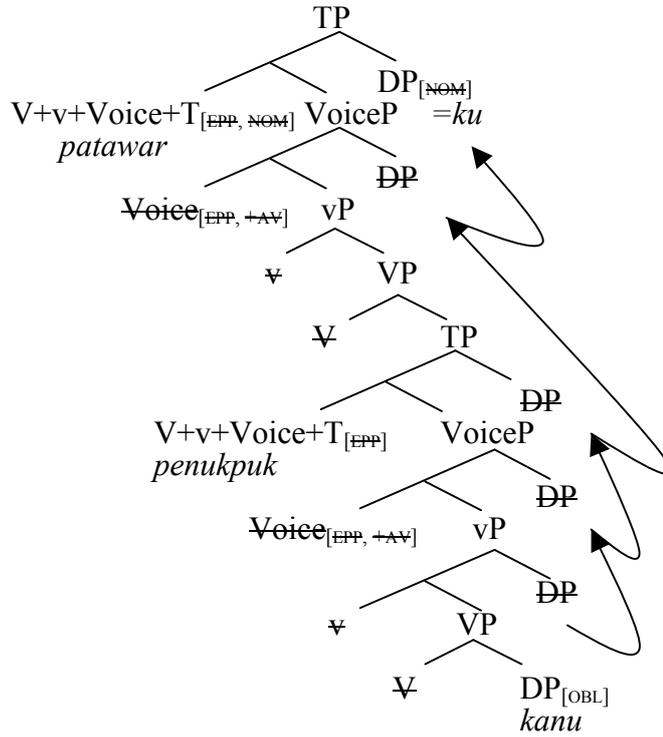
Now we are ready to offer an explanation for the syntactic patterns of the AV RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION. Recall that the Type I adverbial verb construction is a restructuring construction. Given the analysis of adverbial verbs as restructuring predicates, clitic pronouns are cliticized onto the adverbial verb to check the [EPP] feature and value the uninterpretable case feature of the head. The Type I adverbial verb sentences (53a) and (53b) have the syntactic structures as shown in (54) and (55) respectively:

Type I (Manner)

- (53) a. patawar-Ø=ku p<en>ukpuk kanu.
 slowly-AV=1SG.NOM hit<AV> 1SG.OBL
 ‘I hit you slowly.’

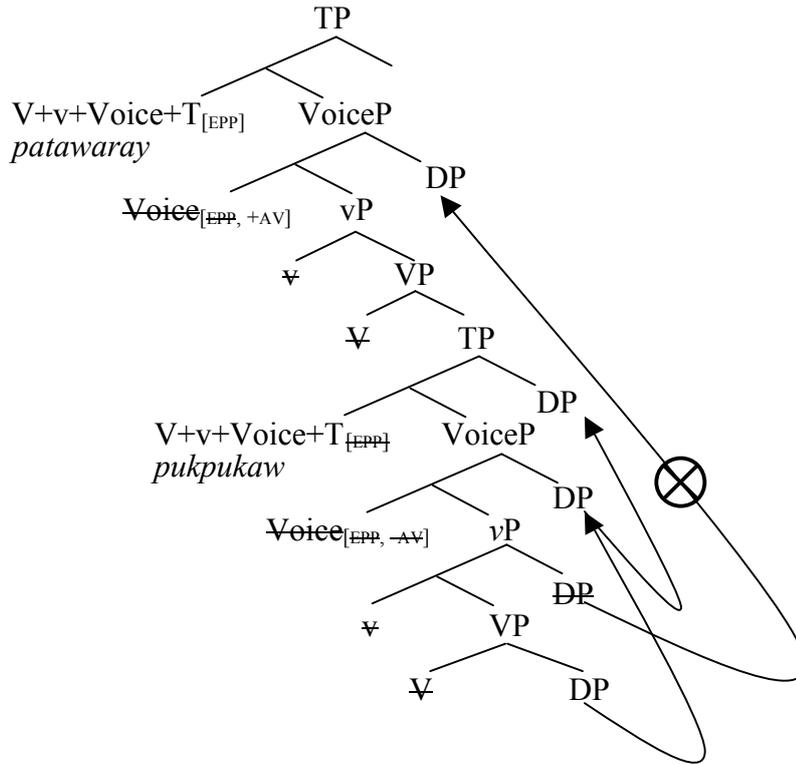
- b. ku-patawar-ay =yu p<en>ukpuk.
 1SG.GEN=slowly-LV=2SG.NOM hit<AV>
 ‘I hit you slowly.’

(54)



As shown in (54) the Actor argument of the verb *penukpuk* ‘hit’, which triggers the AV morphology on the embedded predicate, is raised to [Spec, VoiceP], and checks the [EPP] and [+AV] features of the lower Voice. The Actor argument =ku ‘I’ is further attracted to Spec-TP to check the [EPP] feature. Recall that the embedded TP is a nonfinite complement clause. The defective T cannot value the interpretable [NOM] case feature of the raised argument. The [NOM] case feature of the Actor argument is then valued by the matrix T. In the higher clause, the Actor argument is first attracted to Spec-VoiceP to check the [EPP] and [+AV] features of Voice and in turn moves to the Spec-TP so as to check the [EPP] feature and value uninterpretable [NOM] features of T.

b.

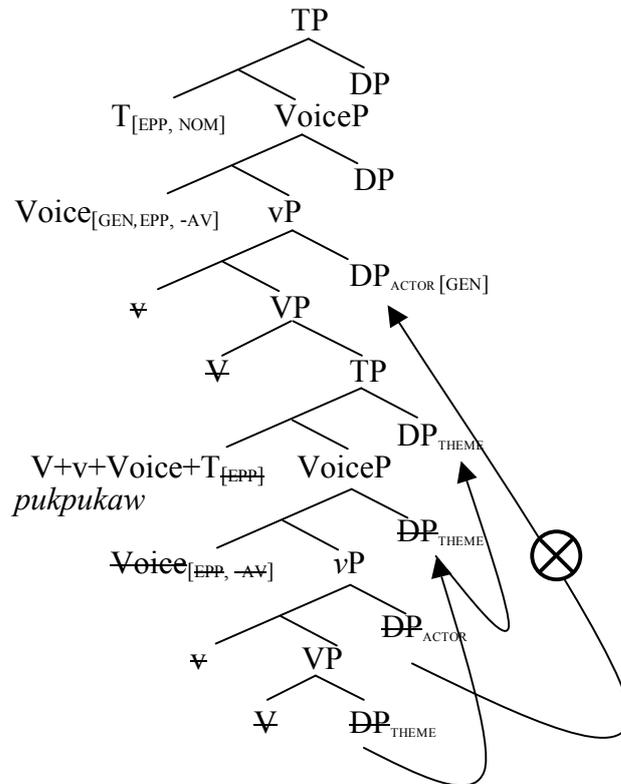


In (56b) the Patient argument agrees with the embedded Patient Voice head for voice and is raised to Spec-VoiceP so as to check the [EPP] and [-AV] features. The attracted Patient argument is further raised to Spec-TP to check the [EPP] feature. Motivated by the [EPP] feature and the uninterpretable [+AV] feature on the matrix Actor Voice head, the Actor argument is attracted to Spec-VoiceP. However, the Actor argument is not accessible to operations outside the transitive PV phase and therefore the computation crashes.

Similarly, in (57b) the Patient argument agrees with the lower Patient Voice head and thus it is raised to Spec-VoiceP so as to check the [EPP] and [-AV] features and then moves to the Spec position of the defective TP to check the [EPP] feature. Next, the argument DP needs to be raised to value the uninterpretable [GEN] case feature on it and the Patient Voice head. However, the [GEN] case feature on the DP has been valued by the embedded PV head. In this way, the case feature on the higher PV head cannot be valued and the derivation fails to succeed.

- (57) a. * ku-patawar-ay=yu pukpuk-aw.
 1SG.GEN=slowly=2SG.NOM hit-PV
 ‘I hit you slowly.’

b.



The point made so far applies in principle to the Type II-A adverbial verb construction as well. In this type, the lexical verb must observe the AV RESTRICTION, as illustrated in (58), and the ARGUMENT ATTRACTION RESTRICTION, as illustrated in (59). As shown in (58b) and (58b), the lexical verb disallows the Patient Voice inflection. Moreover, in (59c) and (59c) clitic pronouns are prohibited from occurring together with the lexical verbs. As we have pointed out, these adverbial verbs and their following verbs form a restructuring structure and in turn the DP argument of these lexical verbs moves to check the [EPP] feature of those adverbial verbs and to have its case feature valued.

Type II-A (Aspect)

(58) a. m-(k)arayas=ku m-aip dra trilin.
 AV-often=1SG.NOM AV-read OBL book
 ‘I often read books.’

b. *m-(k)arayas=ku aip-aw dra trilin.
 AV-often=1SG.NOM read-PV OBL book
 ‘I often read books.’

c. *m-(k)arayas m-aip=ku dra trilin.
 AV-often AV-read=1SG.NOM OBL book
 ‘I often read books.’

- (59) a. ku=karayas-aw m-aip na trilin.
 1SG.GEN=often-PV AV-read NOM book
 ‘I often read the book.’
- b. *ku=karayas-aw aip-aw na trilin.
 1SG.GEN=often-PV read-PV NOM book
 ‘I often read the book.’
- c. *karayas-aw ku=aip-aw na trilin.
 often-PV 1SG.GEN=read-PV NOM book
 ‘I often read the book.’

However, what has said about the AV RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION seems to have one exception. In the Type II-B adverbial verb construction, the AV RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION do not seem to be always active. The embedded lexical verb in (60a) displays the Actor voice $-\emptyset$ whereas the embedded lexical verb in (60b) is inflected by Patient voice *-aw*. The restrictions seem to be observed optionally.

- (60) a. m-(k)arayas=ku pa-ka-ramu- \emptyset kan pilay.
 AV-often=1SG.NOM CAUS-STAT- angry-AF OBL Pilay
 ‘I often provoke Pilay.’
- b. m-(k)arayas ku=pa-ka-ramu=*aw* i pilay.
 AV-often 1SG.GEN=CAUS-STAT-angry=PV NOM Pilay
 ‘I often provoke Pilay.’

There are reasons to think that the pattern in (60b) is not an instance of restructuring: First, in this pattern the subject argument cannot undergo A'-movement while the subject of restructuring constructions can, as illustrated in (61). In (61a) the subject argument *trilin* ‘book’ cannot appear in the topic position. In contrast, the subject argument *trilin* ‘book’ in a restructuring construction like (61b) can move leftward and end up being in the topic position. Second, the subject argument in restructuring constructions may undergo relativization, as shown in (62a). In contrast, the subject argument in the Type II-B adverbial verb construction cannot be extracted in relativization, as illustrated in (62b).

- (61) a. *na trilin i, m-(k)arayas ku=aip-aw.
 NOM book TOP AV-often 1SG.GEN=read-PV
 ‘The book, I often read it.’

- b. na trilin i, ku-karayas-aw m-aip.
 NOM book TOP 1SG.GEN=often-PV AV-read

‘The book, I often read it.’

- (62) a. m-inatray lra na suwan tu=k<in>arayas-an
 AV-die already NOM dog 3SG.GEN=often<PFV.PV>-NMLZ
 p<en>ukpuk kana walak.
 hit<AV> GEN child

‘The dog which the child hit was dead.’

- b. *m-inatray lra na suwan m-(k)arayas
 AV-die already NOM dog AV-often
 tu=p<in>ukpuk-an kana walak.
 3SG.GEN=hit<PFV.PV>-NMLZ GEN child

‘The dog which the child hit was dead.’

Third, the adverbial verb in (60b) can even take a CP complement, as illustrated in (63). In this example the AV adverbial verb *marayas* ‘often’ takes a complex sentence as its complement.

- (63) m-(k)araya=ku dar [_{CP} an m-u-ruma lra i
 AV-often=1SG.NOM FREQ FUT.when AV-go-house already NOM
 nama-li i, m-aip=ku dar dra trilin].
 father-1SG.GEN TOP AV-read=1SG.NOM FREQ OBL book

‘It is an often case that after Father comes home, I (then) read books.’

These results show us that the pattern in (60b) is a different construction than a standard restructuring construction. Consequently, it is expected not to obey the AV RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION. In fact, in terms of complementation, this pattern is analogous to the Type III adverbial verb construction, for both of them can allow for CP complementation, as shown in (64). In (64a-b) the Mood verbs *pana’an* ‘really; frankly’ and *adri ki’ange’anger* ‘unexpectedly’ are immediately followed by a complementiser *dra*. Since they can take a full sentence as their complement, they do not form a restructuring structure with the verbs preceded by them. Thus, they neither need to obey the AV RESTRICTION nor observe the ARGUMENT ATTRACTION RESTRICTION.

- (64) a. pana’an-Ø dra bulay-Ø i pilay.
 really-AV COMP beautiful-AV NOM Pilay

‘Frankly, Pilay is beautiful.’

- b. adri-Ø=ku ki'ange'anger dra
 NEG-AV=1SG.NOM think<AV> COMP
 tu=pi<a>natry=ku kan sigimulri.
 3SG.GEN=kill<IRR>=2SG.NOM GEN Sigimulri

‘To my surprise, Sigimulri would like to kill me.’

Before closing this section, we will compare our restructuring analysis with Chang’s (2007a, b) analyses. In his later stage of analysis of adverbial verb constructions in Kavalan, Chang (2007a, b) change his position from the Complex Predicate approach to the XP-complementation approach (cf. Chang 2006). He argues that AV [AF in Chang’s term] adverbial verb constructions in Kavalan have a raising structure whereas the NAV [NAF in Chang’s term] adverbial verb constructions have a long-distance pseudo-passive structure, as shown in (65).

(65) Chang (2007a: 49 & 51)

- a. pataz supas=iku_i tu qRitun
 often buff<AF>=1S.NOM OBL car
 ‘I buff a car often.’
- b. pataz=iku_i [_{VP} supas t_i tu qRitun].
 often=1S.NOM buff<AF> OBL car
 ‘I buff a car often.’
- c. paqanas-an-ku [_{VP} tayta tu sulal] IE. (in isut)
 slow-PF-1S.GEN see<AF> OBL book
 ‘I read the slowly.’
- d. paqanas-an-ku [_{VP} tayta t_i] ya sulal_i (raised)
 slow-PF-1S.GEN see<AF> NOM book
 ‘I read the book slowly.’

Chang (2007) argues that the AV adverbial verb construction in Kavalan may allow the embedded Actor argument to raise, as in English raising constructions, and may allow it to stay in-situ, as illustrated in (65b) and (65a), respectively. On the other hand, like English long-distance passive structure, the NAV adverbial verb construction allows the embedded Patient argument to be cast away. Moreover, the latter construction also allows the Nominative-Oblique case alternation. However, unlike the demoted Actor in English passives, the embedded Actor in this type adverbial verb construction is not demoted. Hence, the NAF construction is analyzed as a long-distance pseudo-passive, as illustrated in (66c-d).

Our analysis is similar to Chang’s in some respects: First, both of us take the argument raising approach. Second, we recognize the transitivity of NAF clauses. On the other hand,

our analysis differs from Chang's (2007a, b) analyses in the following ways: (a) AV adverbial verb constructions in Puyuma do not allow Actor-in-situ. The Actor argument must be attracted out of the embedded complement; (b) in NAV adverbial verb constructions the case alternation is disallowed; and (c) in our analysis the AV-NAV asymmetry found with the embedded lexical verb can receive a natural explanation under the phase domain approach.

5. Conclusion

In this paper we investigate adverbial expressions in Puyuma and show that in many cases, such expressions behave like verbs in that they (a) are inflected for voices, (b) attract clitic pronouns, (c) usually occupy in the fixed position, and (d) affect the determination of grammatical subject. Moreover, there exist some aspectual and evaluative particles in Puyuma. Furthermore, temporal expressions in Puyuma serve as nouns, which distribute freely. Interestingly, they exhibit a tense/aspect inflectional morphology.

We argue that adverbial verbs in Puyuma can be divided into three types: The first type has to obey the AV RESTRICTION, the ARGUMENT ATTRACTION RESTRICTION, and the ARGUMENT OCCURRENCE RESTRICTION. The second type (i.e. Type II-B) can violate the first two restrictions but must obey the final restriction. The third type can violate all the restrictions. We argue that the Type I and the Type II-A adverbial verb constructions are restructuring constructions. Thus, in these constructions the ARGUMENT ATTRACTION RESTRICTION has to be observed to satisfy the [EPP] requirement and the case checking requirement. On the other hand, we assume with Chomsky (1999) that DP arguments cannot be attracted from the domain of a phase. Consequently, the Patient Voice verbal complement, being the domain of a phase, prevents any DP from being moved out of it. This proposal naturally explains why the AV RESTRICTION has to be obeyed. Finally, we argue that the Type II-B adverbial verb constructions indeed do not undergo restructuring and thus do not obey the AV RESTRICTION and the ARGUMENT ATTRACTION RESTRICTION.

References

- Aldridge, Edith. (2004) *Ergativity and Word Order in Austronesian Languages*, Ph.D. Dissertation, Cornell University.
- Chang, Henry Yungli. (2004) "The Syntax of Adverbial Modifications in Kavalan and Tsou," Paper presented at IsCLL-9, National Taiwan University, Taipei, November 19-21.
- Chang, Henry Yungli. (2005) "Restructuring in Tsou," Paper presented at AFLA-12, UCLA, April 30-May 2.
- Chang, Henry Yungli. (2006) "The Guest Playing Host: Modifiers as Matrix Verbs in Kavalan," In Hans-Martin Gaertner et al. eds., *Clause Structure and Adjuncts in Austronesian Languages*, Mouton de Gruyter, Berlin, 43-82.
- Chang, Henry Yungli. (2007a) "On the Structure of Formosan Adverbial Verb Constructions," Paper presented at AFLA-14, Montreal, May 4-6.

- Chang, Henry Yungli. (2007b) "On the Syntax of Formosan Adverbial Verb Constructions," Paper presented at Academia Sinica, Taipei, June 4.
- Chang, Melody Yayin. (2004) *Subjecthood in Tsou Grammar*, Ph.D. dissertation, National Tsing Hua University.
- Cinque, Guglielmo. (1999) *Adverbs and Functional Heads: A Cross-linguistic Perspective*, Oxford University Press, New York.
- Chomsky, Noam. (1999) "Derivation by Phase," In M. Kenstowicz ed., *Ken Hale: a Life in Language*, The MIT Press, Cambridge, Mass., 1-52.
- Enç, Mürvet. (1986) "Towards a Referential Analysis of Temporal Expressions," *Linguistics and Philosophy* 9, 405-26.
- Ernst, Thomas. (2002). *The syntax of Adjuncts*, Cambridge University Press, New York.
- Givón, Talmy. (1979) *On Understanding Grammar*, Academic Press, New York.
- 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, 375-424.
- Holmer Arthur. (2006) "Seediq—Adverbial Heads in a Formosan Language," In Hans-Martin Gaertner at al. eds., *Clause Structure and Adjuncts in Austronesian Languages*, Mouton de Gruyter, Berlin, 83-124.
- Hsiao, Stella I-Ling (2004) *Adverbials in Squiliq Atayal*, M.A. thesis, National Tsing Hua University.
- Jackendoff, Ray. (1972) *Semantic Interpretation in Generative Grammar*, The MIT Press, Cambridge, Massachusetts.
- Kaufman, Daniel. (2004) "Adverbs at the Interface," Paper presented at AFLA-11, Berlin, April 25.
- Keenan, Edward. (1976) "Toward a Universal Definition of 'Subject'," In Charles N. Li ed., *Subject and Topic*, Academic Press, New York, 305-33.
- Keenan, Edward, and Bernard Comrie. (1977) "Noun Phrase Accessibility and Universal Grammar," *Linguistic Inquiry* 8, 63-99.
- Li, Paul Jen-Kuei. (2003). "Verbs or Adverbs in Thao?" Paper presented at the Second Workshop on Formosan languages, Academia Sinica, November 1-2.
- Liao, Hisu-chuan. (2002) "The Interpretation of *tu* and Kavalan Ergativity," *Oceanic Linguistics* 41, 140-58.
- Liu, Emma En-hsing. (2003) *Conjunction and Modification in Amis*, M.A. thesis, National Tsing Hua University.
- Musan, Renate. (1995) *On the Temporal Interpretation of Noun Phrases*, Ph. Dissertation, MIT, Boston, MA.
- Rizzi, Luigi. (1982) *Issues in Italian Syntax*, Foris, Dordrecht.
- Rockowski, Andrea. (1998) "Malagasy Adverbs," In Ileana Paul ed., *The Structure of Malagasy*, Vol. II, UCLA Occasional Papers in Linguistics 20, 11-33.
- Rosen, Sara Thomas. (1989) *Argument Structure and Complex Predicates*, Ph.D. Dissertation, Brandeis University.
- Rosen, Sara Thomas. (1990) "Restructuring Verbs Are Light Verbs," In Aaron Halpern ed., *Proceedings of the 9th West Coast Conference on Formal Linguistics*, CSLI Publications, Stanford, CA, 477-91.
- Tang, Chih-Chen Jane. (1990) *Chinese Phrase Structure and the Extended X-bar Theory*, Ph. D. dissertation, Cornell University, Ithaca.

- Tang, Chih-Chen Jane. (2001) "Functional Projections and Adverbial Expressions in Chinese," *Language and Linguistics* 2, 203-241.
- Teng, Stacy Fang-ching. (1997) *Complex Sentences in Puyuma*, M.A. thesis, National Taiwan Normal University.
- Tsai, Wei-Tien Dylan, and Melody Yayin Chang. (2003) "Two Types of Wh-adverbials: A Typological Study of *How* and *Why* in Tsou," In Pierre Pica and Johan Rooyck ed., *The Linguistic Variations Yearbook III*, John Benjamins, Amsterdam, 213-236.
- Travis, Lisa. (1988) "The Syntax of Adverbs," *McGill Working Papers in Linguistics* 280-310.
- Wu, Chunming. (2006) "Adverbials in Paiwan." Paper presented at the 10th International Conference on Austronesian Linguistics. 17-20 January 2006. Palawan, Philippines.
- Wurmbrand, Susanne. (2003) *Infinitives: Restructuring and Clause Structure*, Mouton de Gruyter, New York.