The Guest Playing Host: Adverbial Modifiers as Matrix Verbs in Kavalan*

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It is widely observed in familiar languages like English and also reported in some Austronesian languages like Tagalog and Malagasy that adverbial modifiers surface as adverbs / adjuncts and can move around but cannot take complements. However, it is demonstrated in this chapter that adverbial modifiers in Kavalan usually occur as matrix verbs, taking the lexical verbs as their complements. Displaying serial verb construction (SVC), adverbial expressions and their lexical verbs are juxtaposed with no intervening conjunctions in Kavalan. It is also shown that adverbial expressions can take as their subjects nonsubcategorized noun phrases, which I argue to be jointly licensed by complex predicates composed of adverbial expressions and their lexical verbs. These findings prompt reflections on Cinque's (1999) theory of adverbs, Tsai and Chang's (2003) Neo-Davidsonian syntax hypothesis, and Croft's (1991, 2001) prototype and markedness theory of syntactic categories.

1. Introduction

It is widely observed in familiar languages like English and also reported in some Austronesian languages like Tagalog (Kaufman 2004, this volume) and Malagasy (Rackowski 1998) that adverbial modifiers surface as adverbs / adjuncts and appear in peripheral positions in sentences. This observation, however, does not seem to hold true for the Austronesian languages of Taiwan (also known as Formosan languages), where adverbial modifiers typically occur as verbs, as first noted by Starosta (1988) and recently by Huang (1995), Tsai and Chang (2003), Liu (2003), Li (2003) and Wu (2004). In this chapter, I will go one step further and argue that adverbial modifiers usually surface as matrix verbs, taking the lexical verbs as their complements in Kavalan[1]. Here, the term adverbial modifiers is mainly referring to the notions that will be expressed by adverbs suffixed with *-ly* in English. Spatio-temporal adverbial expressions

are not included in this study, since they exhibit quite different grammatical patterns from the adverbial expressions under investigation and are worth another research paper.

While the category of adverbs is heterogeneous, typical adverbs seem to share some common properties. First, as noted by Jackendoff (1972), Travis (1988), and others, typical adverbs are transportable and optional[2]. Take (1) for example (Jackendoff 1972: 49):

(1) a. *(Cleverly) John dropped his cup of coffee.*
b. *John (cleverly) dropped his cup of coffee.*
c. *John dropped his cup of coffee (cleverly).*

Second, unlike other major parts of speech, adverbs normally do not take complements (Travis 1988: 287). Compare:

(2) a. *proud of their achievements*
b. * *proudly of their achievements*

Third, adverbs do not assign theta roles by themselves[3]. Accordingly, they cannot co-occur with arguments without the support of lexical verbs. The sentences in (1) will become ungrammatical if the lexical verbs are left out.

Note, however, that most of the above properties do not hold of adverbial expressions in Kavalan, as will be discussed in the subsequent sections. Throughout the chapter, the following research questions will be addressed:

(A) Do adverbial modifiers occur as adverbs or verbs in Kavalan?
(B) If adverbs, what is the syntactic relationship holding between adverbial expressions and their lexical verbs? Does it involve subordination, conjunction, or complementation?
(C) If verbs, how are the arguments and events associated with lexical verbs syntactically represented?
(D) What are the typological and theoretical implications of this study?

The chapter is organized as follows. Section 2 illustrates in detail how adverbial modifiers behave grammatically in Kavalan. Section 3 examines the syntactic relationship between adverbial expressions and the lexical verbs. It will be shown that adverbial modification typically involves serial verb construction and thus complementation in Kavalan. Section 4

discusses how the arguments and events associated with the lexical verbs are syntactically represented in adverbial modification. It will be shown that nonsubcategorized noun phrases, which occur as the subjects of adverbial expressions, are jointly licensed by the complex predicate composed of adverbial expressions and the lexical verbs. Section 5 concludes the chapter by addressing its typological and theoretical implications.

2. The grammatical behavior of adverbial expressions

Given that the expressions representing adverbial modifiers are a heterogeneous class, a rough classification of them is in order. Adverbial expressions are basically classified into the following four types with respect to their scope of modification (Jackendoff 1972, Parsons 1990, Cinque 1999, Givón 2001, et al.):

(I) Speech-act / speaker-oriented expressions
  (i) Evaluative: *fortunately*, *happily*
  (ii) Epistemic: *perhaps*, *possibly*, *certainly*
  (iii) Pragmatic: *frankly*, *honestly*
(II) Frequency expressions: *always*, *usually*, *often*, *seldom*
(III) Manner expressions: *carefully*, *slowly*, *intentionally*, *violently*, *suddenly*
(IV) Miscellaneous expressions: *truly*, *completely*, *really*, *again*, *first*

As far as the scope of modification is concerned, these four types form a spectrum. At one end stand the speech-act expressions, which take the widest scope, that is, sentential scope; at the other end there are manner and miscellaneous expressions, which take the narrowest scope, that is, verbal scope. In between sit the frequency expressions, which take VP scope. As will become clearer shortly, these adverbial expressions vary in their grammatical behavior.

2.1. Manner expressions

Manner expressions specify the manner whereby an action is carried out. In Kavalan, manner expressions usually occur in sentence-initial position. They can be inflected for focus and attract bound pronouns[4]. For example:

(3) a. *paqanas-iku* *t‹em›ayta* *tu* *sulal.*
slow[AF[5]]-1S.NOM see‹AF› OBL book
'I read a book slowly.'
b. *paqanas-an-ku* *t‹em›ayta* *ya* *sulal.*
slow-PF-1S.GEN see‹AF› NOM book
'I read the book slowly.'

As shown in (3a-b), manner expressions can be inflected for agent-focus (abbreviated as AF), that is, *paqanas*, or patient-focus (abbreviated as PF), that is, *paqanasan*. They can also attract bound pronouns, which are represented by *-iku* in (3a) and *-ku* in (3b). In both cases, the bound pronouns stand for the agents who perform the actions.
Furthermore, manner expressions can take imperative suffixes:

(4) a. *paqanas-ka* *s‹em›aqay!*
slow-IMP[AF] walk‹AF›
'Take it easy!'
(goodbye, host to guest)
b. *paqanas-i-ka* *m-uysis!*
slow-NAF[6]-IMP AF-move
'Move (it) slowly!'

In Kavalan, the imperative has two-way focus alternation, i.e., AF inflection and non-AF (NAF) inflection. AF imperative verbs take the suffix *-ka* and NAF imperative verbs the suffix *-ika*. As shown in (4a-b), the manner expression *paqanas* can be either suffixed with *-ka* or *-ika*. In addition, if the context is clear enough, manner expressions can stand alone, leaving out the lexical verbs:

(5) a. *paqanas-ka!*
slow-IMP[AF]
'Take it easy!'
(goodbye, host to guest)
b. *paqanas-i-ka!*
slow-NAF-IMP
'Be careful!'

It is noteworthy that (many) manner expressions can directly take noun phrases as their arguments, while few of them cannot. Compare:

(6) a. *paqasiR* *tu* *qRitun.*
fast[AF] OBL car
'He drives fast.'
b. *paqasiR-i-ka* *ya* *qRitun!*
fast-NAF-IMP NOM car
'Make the car (go) faster!'

c. *satawaR-ka* *tu* *razing!*
careful-IMP[AF] OBL sea
'Beware of the sea!'
d. *satawaR-i-ka* *ya* *sunis-su!*
careful-NAF-IMP NOM child-2S.GEN
'Take good care of your child!'

(7) a. *?? paqanas-ti-iku* *tu* *sulal.*
slow[AF]-ASP-1S.NOM OBL book
b. *?? paqanas-an-ku-ti* *ya* *sulal.*
slow-PF-1S.GEN-ASP NOM book

As illustrated in (6), manner expressions such as *paqasiR* 'fast' and *satawaR* 'careful' can take noun phrases as their arguments without the support of lexical verbs. In contrast, manner expressions such as *paqanas* 'slow' are not eligible for argument-taking, as shown in (7).

There are two grammatical restrictions imposed upon the lexical verbs following manner expressions. First, while manner expressions can be either inflected for AF or NAF, the lexical verbs following them can only be inflected for AF (hence the AF restriction). For example:

(8) a. *paqanas-iku* *t‹em›ayta* *tu* *sulal*
slow[AF]-1S.NOM see‹AF› OBL book
'I read a book slowly / carefully.'
a'. **paqanas-iku* *tayta-an* *ya* *sulal*
slow[AF]-1S.NOM see-PF NOM book
b. *paqanas-an-ku* *t‹em›ayta* *ya* *sulal*
slow-PF-1S.GEN see‹AF› NOM book
'I read the book slowly.'
b'. **paqanas-an-ku* *tayta-an* *ya* *sulal*
slow-PF-1S.GEN see-PF NOM book

Second, unlike manner expressions, the lexical verbs following them cannot attract aspectual / modal / pronominal markers (hereafter the 'no aspectual / modal / pronominal marking' restriction). Compare examples in (9) (next page). As shown in (9), the temporal marker *-pa* and the bound pronouns *-iku* / *-ku* must occur on the manner expressions *paqanas* / *paqanasan* rather than the lexical verbs following them.

(9) a. *paqanas-pa-iku pasaqay tu qRitun.*
slow-FUT-1S.NOM drive[AF] OBL car
'I will drive slowly.'
a'. **paqanas pasaqay-pa-iku tu qRitun.*
slow drive[AF]-FUT-1S.NOM OBL car
b. *paqanas-an-ku-pa pasaqay ya qRitun.*
slow-PF-1S.GEN-FUT drive[AF] NOM car
'I will drive my car slowly.'
b'. **paqanas-an pasaqay-ku-pa ya qRitun.*
slow-PF drive[AF]-1S.GEN-FUT NOM car

Manner expressions that exhibit the aforementioned paradigms include:

(10) Manner expressions in Kavalan
a. slow: *paqanas* (AF), *paqanas-an* (PF); *paqanas-ka* (IMP, AF), *paqanas-ika* (IMP, NAF)
b. slow / late: *me-ngasan* (AF), *ngasan-an* (PF); *ngasan-ka* (IMP, AF), *ngasan-ika* (IMP, NAF)[7]
c. quick: *qasiR* (AF) / *paqasiR* (AF), *qasiR-an* (PF) / *paqasiR-an* (PF); *qasiR-ka* (IMP, AF) / *paqasiR-ka* (IMP, AF), *qasiR-ika* (IMP, NAF) / *paqasiR-ika* (IMP, NAF)
d. sudden: *t-em-uRuz* (AF), *tuRuz-an* (PF)
e. violent: *palames* (AF), *palames-an* (PF); *palames-ka* (IMP, AF), *palames-ika* (IMP, NAF)
f. careful: *satawaR* (AF), *satawaR-an* (NAF); *satawaR-ka* (IMP, AF), *satawaR-ika* (IMP, NAF)
g. diligent: *maremes* (AF), *qaremes-an* (NAF); *qaremes-ka* (IMP, AF), *qaremes-ika* (IMP, NAF)
h. intentional: *sapazeng* (AF), *sapazeng-an* (NAF); *sapazeng-ka* (IMP, AF), *sapazeng-ika* (IMP, NAF)

2.2. Frequency expressions

Like manner expressions, frequency expressions usually occur sentence-initially and can be inflected for focus and attract bound pronouns. For instance:

(11) a. *pataz-iku* *s‹em›upas* *tu* *qRitun.*
often[AF]-1S.NOM buff‹AF› OBL car
'I buff cars often.'
b. *pataz-an-ku* *s‹em›upas* *ya* *qRitun.*
often-PF-1S.GEN buff‹AF› NOM car
'I buff my car often.'

As shown in (11a-b), the frequency expressions meaning 'often' can be inflected for AF as *pataz* or PF as *patazan* and attract the bound pronouns *-iku* and *-ku*. They can also be inflected for imperative:

(12) a. *pataz-ka* *s‹em›upas* *tu* *qRitun!*
Often-IMP[AF] buff‹AF› OBL car
'Buff cars often!'
b. *pataz-i-ka* *s‹em›upas* *ya* *qRitun!*
often-NAF-IMP buff‹AF› NOM car
'Buff the car often!'

However, frequency expressions differ from manner expressions in several respects. First, none of them can directly take noun phrases as their arguments. Sentences in (11-12) will become unacceptable if the lexical verbs are left out, as illustrated below:

(13) a. **pataz-iku* *tu* *qRitun.*
often[AF]-1S.NOM OBL car
b. **pataz-an-ku* *ya* *qRitun.*
often-PF-1S.GEN NOM car
(14) a. * *pataz-ka* *tu* *qRitun!*
often-IMP[AF] OBL car
b. **pataz-i-ka* *ya* *qRitun!*
often-NAF-IMP NOM car

Second, frequency expressions affixed with imperative morphemes cannot stand alone:

(15) a. ?? *pataz-ka!*
often-IMP[AF]
b. ?? *pataz-i-ka!*
often-NAF-IMP

Third, frequency expressions observe AF-NAF asymmetries with respect to the grammatical realizations of the following lexical verb. In particular, an AF frequency expression can be either followed by an AF or a NAF lexical verb, while their NAF counterparts can only be followed by an AF one. In other words, an AF frequency expression can evade the AF restriction on lexical verbs, but its NAF counterpart cannot. Compare:

(16) a. *pataz* *s‹em›upas-ti-iku* *tu* *qRitun.*
often[AF] buff‹AF›-ASP-1S.NOM OBL car
'I buffed a car often.'
b. *pataz* *supas-an-ku-ti* *ya* *qRitun.*
often[AF] buff-PF-1S.GEN-ASP NOM car
'I buffed my car often.'

(17) a. *pataz-an-ku-ti* *s‹em›upas* *ya* *qRitun.*
often-PF-1S.GEN-ASP buff‹AF› NOM car
'I buffed my car often.'
b. **pataz-an-ku-ti* *supas-an* *ya* *qRitun.*
often-PF-1S.GEN-ASP buff-PF NOM car

As shown in (16), the AF frequency expression *pataz* can be either followed by the AF verb *semupas* or the PF verb *supasan*. The AF restriction does not hold of *pataz*. By contrast, its NAF counterpart *patazan* can only be followed by the AF verb *semupas*, as illustrated in (17). The AF restriction holds of *patazan*.

Similar asymmetry can also be seen in the 'no aspectual / modal / pronominal marking' restriction. An AF manner expression can be followed by a lexical verb inflected for aspectual / modal / pronominal markers but its NAF counterpart cannot. As shown in (11) and (16-17), the bound pronouns *-ku* / *-iku* and the aspectual marker *-ti* are freer in distribution when frequency expressions are inflected for AF but are more restricted in distribution when frequency expressions are inflected for NAF. This amounts to saying that the 'no aspectual / modal / pronominal marking' restriction holds for NAF frequency expressions but not of their AF counterparts.

While the category of manner expressions has numerous members, the category of frequency expressions is very impoverished. So far, we have only found two of them – *pataz / patazan* 'often' and *mngisaw / ngisawan* 'always'.

2.3. Epistemic expressions

Unlike manner and frequency expressions, epistemic expressions are not inflected for focus. Compare:

(18) a. *pasi* *m-taRaw.*
possible AF-sick
'Possibly, he is sick.'

b. * *pasi-an* *m-taRaw.*
possible-PF AF-sick

Neither can they take imperative suffixes:

(19) a. **pasi-ka* *m-autu!*
possible-IMP[AF] AF-come

b. **pasi-i-ka* *m-etung* *tu* *babuy!*
possible-NAF-IMP AF-kill OBL pig

Bound pronouns must occur on lexical verbs rather than on epistemic expressions. For example:

(20) a. *pasi* *Ribari-ti-isu.*
possible catch.cold[AF]-ASP-2S.NOM
'Possibly, you have caught a cold.'

b. **pasi-ti-isu* *Ribari.*
possible-ASP-2S.NOM catch.cold[AF]

The AF restriction and the 'no aspectual / modal / pronominal marking' restriction are not attested. As shown in (21), the epistemic expression *pasi* can be either followed by an AF lexical verb or a PF lexical verb.

(21) a. *pasi* *m-etung* *tu* *babuy.*
possible AF-kill OBL pig
'Possibly, he killed a pig.'

b. *pasi* *etung-an-na-pa* *ya* *babuy.*
possible kill-PF-3S.GEN-FUT NOM pig
'Possibly, he will kill the pig.'

2.4. Miscellaneous adverbial expressions

Adverbial expressions of this sort are too various to be called by a single name. They include adverbial expressions like 'first', 'again', 'truly', 'too / also', etc. The majority of them behave like manner expressions in their grammatical behavior. First, they can be inflected for focus and attract bound pronouns. For example:

(22) a. *m-una-iku* *q‹em›an.*
AF-first-1S.NOM eat‹AF›
'I eat first.'
b. *kuna-an-ku* *q‹em›an* *ya* *'may .*
first-PF-1S.GEN eat‹AF› NOM rice
'I ate the rice first.'

As shown in (22a-b), the adverbial expression meaning 'first' can be inflected for focus (i.e. *muna* / *kunaan*) and attract bound pronouns. Moreover, it can take imperative suffixes and stand alone, leaving out the lexical verbs:

(23) a. *kuna-ka* *q‹em›an!*
first-IMP[AF] eat‹AF›
'Eat first! (Don't wait!)'
b. *kuna-i-ka* *q‹em›an* *ya* *'may!*
first-NAF-IMP eat‹AF› NOM rice
'Eat the rice first!'

(24) a. *kuna-ka!*
first-IMP[AF]
'Please go ahead!'

b. *kuna-i-ka!*
first-NAF-IMP
'Please lead the way!'

The AF restriction on lexical verbs is also attested. Thus, sentences in (22) will be ruled out if the lexical verbs are changed into NAF forms, as illustrated below:

(25) a. **m-una-iku* *qan-an* *ya* *'may.*
AF-first-1S.NOM eat-PF NOM rice
b. **kuna-an-ku* *qan-an* *ya* *'may.*
first-PF-1S.GEN eat-PF NOM rice

Moreover, like manner expressions, many adverbial expressions of this category can directly take noun phrases as their arguments. For example:

(26) *kuna-an-na-ti* *ya* *sunis.*
first-PF-3S.GEN-ASP NOM child
'He surpassed the child.'

Another adverbial expression that occurs in the contexts (22-26) is *muman / umanan* 'again'. Note, however, that unlike *muna*, *muman* can be transportable. Compare:

(27) a. *m-una-iku* *q‹m›an.*
AF-first-1S.NOM eat‹AF›
'I eat first.'

b. * *q‹m›an-iku* *m-una.*
eat‹AF›-1S.NOM AF-first

(28) a. *m-uman-ti-iku* *m-autu.*
AF-again-ASP-1S.NOM AF-come
'I came again.'

b. *m-autu-ti-iku* *m-uman.*
AF-come-ASP-1S.NOM AF-again
'I came again.'

It is also worth noting that there is an adverbial expression *qaya* 'too / also', which departs from the rest of the adverbial expressions under investigation in its grammatical behavior. The adverbial expression is not inflected for focus / aspect / mood or imperative, and neither does it attract bound pronouns. It normally occurs sentence-medially or sentence-finally rather than sentence-initially. For example:

(29) a. *qaynep-pa-iku* *qaya.*
sleep-FUT-1S.NOM also
'I will sleep also.'

b. *qawka-iku* *qaya* *satezai.*
do.later-1S.NOM also sing[AF]
'I will sing too.'

c. **qaya qaynep-pa-iku.*
also sleep-FUT-1S.NOM

It seems that *qaya* occurs as a true adverb.

2.5. Summary

We have shown above that adverbial expressions in Kavalan are of different types and exhibit various grammatical patterns, which can be summarized as shown in table 1.

Table 1. The grammatical behavior of adverbial expressions in Kavalan

Category	Type A			Type B	Type C	Type D
Modifier Type	Manner	Frequency (NAF)	Miscell.	Frequency (AF)	Epistemic	Miscell.
Exemplars	*paqanas/ paqanasan* ('slow')	*patazan* ('often')	*muna/ kunaan muman/ umanan* ('again')	*pataz* ('often')	*pasi* ('possibly')	*qaya* ('also')
(a)	Yes	Yes	Yes	Yes	No	No
(b)	Yes	Yes	Yes	Yes	No	No
(c)	Yes	Yes	Yes	Yes	No	No
(d)	Yes	Yes	Yes (*muna*) No (*muman*)	Yes	Yes	No
(e)	Yes *(paqasiR)* No *(paqanas)*	No	Yes	No	No	No
(f)	Yes	Yes	Yes	No	No	No
(g)	Yes	Yes	Yes	No	No	No
	SVC-I			SVC-II		Adjunct

(a) Focus inflection
(b) Bound pronoun attraction
(c) Imperative inflection
(d) Restricted to preverbal position
(e) Directly taking NP
(f) The AF restriction on lexical verbs
(g) 'No aspectual / modal / pronominal marking' restriction on lexical verbs

On the basis of the listed properties, adverbial expressions in Kavalan can be classified into four types. Type A (manner expressions, NAF frequency expressions, iterative / time-related expressions like *muna* / *muman*) exhibits almost all the listed properties. Type B (AF frequency expressions) exhibits half of the listed properties (properties (a-d)). Type C (epistemic expressions) exhibits only one property (property (d)). And type D (adverbial expressions like *qaya*) does not exhibit any of the listed properties. Adverbial expressions in Kavalan seem to form a spectrum with respect to the listed properties. Type A, Type B, and Type C all involve serial verb constructions (SVC), whereas Type D occurs as adjunct. We will come to the distinction between SVC-I and SVC-II shortly in 3.1.

3. The syntax of adverbial modification

3.1. A grammatical sketch

Before going into detailed discussion of the syntax of adverbial modification, a brief introduction to Kavalan grammar, in particular, a brief introduction to the grammatical behavior of complex sentence constructions and bound pronouns in Kavalan is in order.

In Kavalan, subordination must involve overt subordinators (Chang 2000). Given that adverbial modification does not employ any subordinator, subordination is not our concern here. Coordination is represented by two kinds of constructions in Kavalan: one involves an overt coordinator and the other does not. Coordination that does not involve any overt coordinator is illustrated below:

(30) a. *m-satezai* *m-sarekiau* *qaniau.*
AF-sing AF-dance 3P.NOM
'They sing and dance.'
b. *m-sarekiau* *m-satezai* *qaniau.*
AF-dance AF-sing 3P.NOM
'They dance and sing.'

As in typical coordination constructions, the two conjuncts *msatezai* and *msarekiau* can be switched without affecting the propositional meaning of the sentence, as illustrated in (30). It seems that coordination is not relevant to our current inquiry, given that adverbial expressions and the

lexical verbs cannot undergo permutation, as demonstrated in the previous sections.

In Kavalan, complementation is either represented by complement clauses headed by the marker *tu* or serial verb constructions (SVC). Complementation involving *tu* is limited to verbs of cognition and thus irrelevant here. Our main concern is SVC.

While linguists may have different views toward the range of SVC, most of them agree on a definition like this: SVC involves a sequence of verbs / VPs in a single sentence which are juxtaposed without any intervening conjunctions (Foley and Olson 1985, Li 1991). I will follow this practice in this chapter[8]. SVC prevails in Kavalan. It applies not only to regular verbs like phasal verbs, motion verbs, desiderative verbs, emotion verbs, etc., but also to some notions that are generally not taken as verbs in familiar languages like English. SVCs can be divided into two categories with respect to the AF restriction and the 'no aspectual / modal / pronominal marking' restriction. The first category (SVC-I) is subject to the restrictions, but the second category (SVC-II) is not. Consider SVC-I first:

(31) a. *siangatu-pa-imi* *q‹em›al* *tu* *rasung.*
begin-FUT-1P.NOM dig‹AF› OBL well
'We will start to dig up a well.'
b. **siangatu-pa-imi* *qal-an* *ya* *rasung.*
begin-FUT-1P.NOM dig-PF NOM well
c. **siangatu* *q‹em›al-pa-imi* *tu* *rasung.*
begin dig‹AF›-FUT-1P.NOM OBL well

(32) a. *qatiw-pa-iku* *q‹em›an* *tu* *qawpiR.*
go-FUT-1s.NOM eat‹AF› OBL sweet.potato
'I will go eat sweet potatoes.'
b. **qatiw-pa-iku* *qan-an* *ya* *qawpiR.*
go-FUT-1s.NOM eat-PF NOM sweet.potato
c. **qatiw* *qan-pa-iku* *tu* *qawpiR.*
go eat-FUT-1s.NOM OBL sweet.potato

As shown in (31-32), the phasal / aspectual verb *siangatu* 'begin' and the motion verb *qatiw* 'go', which involve SVC-I, are very selective about their complement verbs: they can co-occur with AF complement verbs but not NAF ones; they can co-occur with complement verbs which are not

inflected for aspect / mood, as in (31a), (32a), but not those which are inflected, such as (31b), (31c), (32b) and (32c). Nonetheless, these restrictions are not attested in SVC-II. Compare:

(33) a. *maqezaq-isu m-uruma tu lalas.*
correct-2S.NOM AF-grow OBL betel nut
lit. 'It is correct for you to grow betel nuts.'
'You should grow betel nuts.'
b. *maqezaq-isu puruma-an ya lalas.*
correct-2S.NOM grow-PF NOM betel nut
'The betel nuts should be for you to grow.'
c. *maqezaq puruma-an-su ya lalas.*
correct grow-PF-2S.GEN NOM betel nut
'=b'

(34) a. *azu busuq-ti-isu, pisapa-ti-isu sikawma.*
seem drunk-ASP-2S.NOM incoherent-ASP-2S.NOM speak
'You are slurring your speech, so you must have got drunk.'
b. *azu-ti-isu busuq, pisapa-ti-isu sikawma.*
seem-ASP-2S.NOM drunk incoherent-ASP-2S.NOM speak
'You are slurring your speech, so you must have got drunk.'
c. *azu ara-an-su ya kerisiw-ku*
seem take- PF-2S.GEN NOM money-1S.GEN
'You should have taken my money.'

As shown in (33-34), notions that are usually represented by adjective constructions in familiar languages like English turn out to be represented by SVC in Kavalan. *maqezaq* 'correct' and *azu* 'seem' occur as the matrix verbs in SVC and host bound pronouns. Most importantly, they are not subject to the AF restriction and the 'no aspectual / modal / pronominal marking' restriction: they allow their embedded verbs to be inflected for PF and aspect.

I treat *maqezaq* and *azu* as verbs instead of adjectives for a couple of reasons. For limitation of space, only two of them are mentioned here. First, there seem to be no adjectives in Kavalan. All expressions that are taken as adjectives in familiar languages like English turn out to behave grammatically as verbs. Consider examples (35) (next page).

The expression indicating the stable property *Rubatang* 'pretty' can be inflected for focus and predicated of the subject without the help of a

linking verb, as shown in (35a); it must be followed by the relativizer *-ay* when it modifies the head, as shown in (35b); it can occur in imperative constructions (with the help of the inchoativizer *qa-*), as in (35c).

(35) a. *(m-)Rubatang ti abas.*
(AF-)pretty NOM Abas
'Abas is pretty.'
b. *Rubatang-ay tazungan*
pretty-REL woman
'pretty woman'
c. *qa-Rubatang-ka!*
INCH-pretty-IMP[AF]
'Dress up!'

In these respects, *Rubatang* cannot be differentiated from a verb[9]. Compare:

(36) a. *m-RaRiw-ti ti abas.*
AF-run-ASP NOM Abas
'Abas ran away.'
b. *m-RaRiw-ay tazungan*
AF-run-REL woman
'a woman who ran away'
c. *RaRiw-ka!*
run-IMP[AF]
'Run!'

Second, the fact that *maqezaq* and *azu* can host bound pronouns (as in (33a-b, 34b)) indicates that they take the clauses following them as their complements instead of as their sentential subjects. Otherwise, extraction of the bound pronouns would be impossible, given that sentential subjects are normally islands and prohibit extraction (Ross 1967). In other words, they occur as matrix verbs that take complements rather than as adjectives that take clauses as their subjects.

There are two types of bound pronouns in Kavalan, namely, nominative bound pronouns and genitive bound pronouns (Chang 1997, 2000). Genitive bound pronouns, which represent agents, are very selective about their hosts. In particular, they only occur on verbs which are inflected for NAF. Compare:

(37) a. *maqezaq paruma-an-su.*
correct grow-PF-2S.GEN
'You should grow (it).'
b. **maqezaq-su paruma-an.*
correct-2S.GEN grow-PF

(38) a. *semin-ti tazuq-an-su ya sapuR.*
appropriate-ASP plant-PF-2S.GEN NOM rice.seedling
'It is time for you to plant the rice seedling.'
b. **semin-su tazuq-an ya sapuR.*
appropriate-2S.GEN plant-PF NOM rice.seedling

As shown in (37-38), the genitive bound pronoun *-su* must remain with the NAF embedded verbs *parumaan* and *tazuqan* instead of climbing up onto the matrix verbs *maqezaq* and *semin*, which are not inflected for NAF.

By contrast, nominative bound pronouns, which represent the subjects, are less selective about their hosts. They normally occur on the highest predicates of the sentence, which can be either typical verbs (as in 39a-b) or nominal predicates (as in 40a-b) (Chang 1997: 116). For example:

(39) a. *siangatu-iku q‹em›al tu rasung.*
begin-1S.NOM dig‹AF› OBL well
'I begin digging a well.' (cf. 31a)
b. *??siangatu q‹em›al-iku tu rasung.*
begin dig‹AF›-1S.NOM OBL well

(40) a. *temawaR-iku qatiw sa-bakung.*
tomorrow-1S.NOM go to-Bakung
'I will go to Bakung tomorrow.'
b. *tani-imu m-autu tazian?*
how.many-2P.NOM AF-come here
'How many of you have come here?'

For a few predicates (usually stative verbs or nominal predicates), the bound pronouns can remain with the embedded verbs, as already shown in (34). Sentences (40a-b) will be also acceptable if the nominative bound pronouns *-iku* and *-imu* are shifted to the lexical verbs. Compare:

(41) a. *temawaR* *qatiw-iku* *sa-bakung.*
tomorrow go-1S.NOM to-Bakung
'I will go to Bakung tomorrow.'
b. *tani* *m-autu-imu* *tazian?*
how.many AF-come-2P.NOM here
'How many of you come here?'

Following the diagnostics advocated by Zwicky and Pullum (1983), I identify genitive bound pronouns as affixes and nominative ones as clitics.

With this grammatical sketch in mind, let's return to the main questions at hand.

3.2. Type A involving SVC-I

As demonstrated in Table 1, adverbial expressions of Type A (manner expressions, iterative / time-related expressions, and NAF frequency expressions) exhibit almost all the major grammatical properties which are characteristic of verbs. Compare:

(42) a. *t‹em›ayta-ti-iku* *tu* *sulal.*
see‹AF›-ASP-1S.NOM OBL book
'I read a book.'
b. *tayta-an-ku* *ya* *sulal.*
see-PF-1S.GEN NOM book
'I read the book.'

(43) a. *qan-ka* *tu* *Raq!*
eat-IMP[AF] OBL wine
'Drink wine!'
b. *qan-i-ka* *ya* *Raq!*
eat-NAF-IMP NOM wine
'Drink the wine!'

As shown in (42), a typical verb starts the sentences and can be inflected for AF (as *temayta* in (42a)) or NAF (as *taytaan* in (42b)). Inflected verbs can attract the aspectual marker *-ti* (as in (42a)) and the bound pronouns *-iku* / *-ku* (as in (42a-b)). In addition, an ordinary verb can take the imperative suffixes *-ka* / *-i-ka*, as illustrated in (43a-b).

On the basis of the parallelisms, Type A adverbial expressions can be identified as verbs. Moreover, Type-A adverbial modification parallels SVC-I with respect to the properties (f-g) in Table 1: the embedded verbs can only be inflected for AF and cannot attract aspectual / modal / pronominal markers. I therefore assume that Type-A adverbial modification involves SVC, wherein adverbial expressions occur as matrix verbs, taking the modified structures as their complements[10].

Another piece of evidence for this position concerns the property (c) in Table 1. In SVC, the first verb instead of the embedded verb is inflected for imperative. Compare:

(44) a. *siangatu-ka-ti q‹em›an*
start-IMP[AF]-ASP eat‹AF›
'(It is time to) start eating!'
a'. **siangatu qan-ka-ti*
start eat-IMP[AF]-ASP
b. *siangatu-i-ka-ti m-tazuq ya zena*
start-NAF-IMP-ASP AF-plant NOM paddy
'(It is time to) start planting rice seedlings in the paddy!'
b'. **siangatu tazuq-i-ka-ti ya zena*
start plant-NAF-IMP-ASP NOM paddy

(45) a. *qatiw-ka q‹em›an!*
go-IMP[AF] eat‹AF›
'Go eat!'
a'. **qatiw qan-ka!*
go eat-IMP[AF]
b. *qatiw-i-ka m-ara ya sunis*
go-NAF-IMP AF-take NOM child
'Go bring your child back (e.g. the child is drunk).'
b'. **qatiw ara-i-ka ya sunis*
go take-NAF-IMP NOM child

Likewise, in Type A adverbial modification, it is adverbial expressions rather than the lexical verbs that are inflected for imperative. Compare examples in (46) (next page).

This indicates that SVC is pervasive in Kavalan and that Kavalan can be treated as a serializing language.

(46) a. *paqanas-ka t‹em›ayta*
slow-IMP[AF] see‹AF›
'Read slowly!'
a'. * *paqanas tayta-ka!*
slow[AF] see-IMP[AF]
b. *paqanas-i-ka t‹em›ayta*
slow-NAF-IMP see‹AF›
'Read (it) slowly!'
b'. * *paqanas tayta-i-ka*
slow[AF] see-NAF-IMP

3.3. Type B involving SVC-II

Adverbial expressions of Type B (AF frequency expressions) also exhibit the major grammatical properties which are characteristic of verbs (properties (a-d)). Not surprisingly, they also behave like verbs. In addition, Type B adverbial expressions take imperative suffixes; their lexical verbs do not. Compare:

(47) a. *pataz-ka s‹em›upas tu qRitun!*
often-IMP[AF] buff‹AF› OBL car
'Buff your car often!' (=12a)
b. * *pataz supas-ka tu qRitun!*
Often buff[AF] -IMP[AF] OBL car

This suggests that Type B adverbial expressions can also occur as matrix verbs, taking their lexical verbs as complements. However, unlike Type A adverbial expressions, Type B adverbial expressions are not subject to the AF restriction and the 'no aspectual / modal / pronominal marking' restriction (properties (e-g)): they allow their complement verbs to bear aspectual / pronominal markers, as in (48a); they can be followed by a PF verb, as in (48c) (cf. (11a), (16a-b)).

(48) a. *pataz s‹em›upas-ti-iku tu qRitun.*
often[AF] buff‹AF›-ASP-1S.NOM OBL car
'I buffed cars often.'
b. *pataz-ti-iku s‹em›upas tu qRitun.*
often[AF]-ASP-1S.NOM buff‹AF› OBL car
'I buffed cars often.'
c. *pataz supas-an-ku-ti ya qRitun.*
often[AF] buff-PF-1S.GEN-ASP NOM car
'I buffed my car often.'

It seems that Type B adverbial expressions behave like stative verbs *maqezaq* and *azu* and occur in SVC-II.

3.4. Type C: verb or adverb?

Type C adverbial expressions (epistemic expressions) are hard to categorize. They exhibit only the property (d) in Table 1, that is, they are restricted to sentence-initial position. In this regard, they behave like matrix verbs. However, they do not exhibit all other verbal properties. In particular, they do not host clitic-like bound pronouns, as already shown in (20). This even contrasts with less typical verbs like *maqezaq* 'correct', *semin* 'appropriate, enough', *nengi* 'good', and *azu* 'look like'. On the other hand, they do not behave like adverbs or adjuncts. Typical adverbs or adjuncts can move around, but Type C adverbial expressions cannot, as presented in section 2.3. This indeterminacy deters me from classifying them into any existing category. For the time being, I assume that they are becoming adverbs, while they retain the capacity of taking the modified structures as their complements.

3.5. Type D as adverb

Type D adverbial expressions are unique. They do not exhibit any of the listed properties. As shown in section 2.4, they can move around on a par with typical adverbs / adjuncts. Moreover, they do not occur sentence-initially. Accordingly, I analyze *qaya* as an adverb / adjunct.

(49) a. *qaynep-pa-iku* *qaya*.
sleep-FUT-1S.NOM also
'I will sleep also.' (=29a)

b. * *qaya qaynep-pa-iku.*
also sleep-FUT-1S.NOM

4. The grammatical realizations of arguments and events

I have shown that Type A/B adverbial expressions take as subjects the thematic arguments of the lexical verbs. The mismatch is of typological and theoretical interest and deserves some explanation. Note also that Type A and Type B/C/D adverbial modifiers are differentiated from one another

in that the complements of the former observe the AF restriction and the "no aspectual / modal / pronominal marking" restriction but those of the latter do not. This discrepancy needs to be accounted for as well.

4.1. Resolving the syntax-semantic mismatches

For the sake of exposition, I repeat some of the examples which exhibit the syntax-semantics mismatches (cf. (3)):

(50) a. *paqanas-iku t‹em›ayta tu sulal.*
slow[AF]-1S.NOM see‹AF› OBL book
'I read a book slowly.'

a'. **paqanas t‹em›ayta-iku tu sulal.*
slow[AF] see‹AF›-1S.NOM OBL book
'I read a book slowly.'

b. *paqanas-an-ku t‹em›ayta ya sulal.*
slow-PF-1S.GEN see‹AF› NOM book
'I read the book slowly.'

b'. **paqanas-an t‹em›ayta-ku ya sulal.*
slow-PF see‹AF›-1S.GEN NOM book

As shown in (50a-a'), the nominative bound pronoun *-iku*, which represents the agent engaged in the reading activity, must surface as the matrix subject and occur on the manner verb *paqanas* instead of the embedded verb *temayta*, though it is semantically selected by the latter rather than the former. Likewise, the genitive bound pronoun *-ku*, which also designates the agent of the reading activity, must attach to the manner verb *paqanasan*, as illustrated in (50b-b'). How are these mismatches accounted for?

There may be two approaches to this question. One can attribute the mismatches to the peculiar lexical properties of adverbial modifiers and claim that the nonsubcategorized noun phrases are actually semantically selected by the matrix adverbial expressions. In this lexical approach, the mismatches are simply an illusion. On the other hand, one can assume a syntactic approach according to which the nonsubcategorized noun phrases are either extracted from the embedded clauses or collectively licensed by the composite of matrix adverbial expressions and the lexical verbs. In the syntactic approach, the mismatches are either derived from raising (hence

the raising analysis) or complex predication (hence the complex-predicate analysis).

Let us consider the lexical approach first. In the lexical approach, Type A/B adverbial expressions will be treated on a par with control verbs (known as equi-NP verbs in the early literature), occurring either as two-argument verbs (analogous to subject-control verbs such as *try*) or three-argument verbs (analogous to object-control verbs such as *persuade*). In this analysis, sentences (50a-b) will roughly have the following structures (with irrelevant points omitted):

(51) a. [$_S$ *paqanas-iku*$_i$ [$_S$ *temayta tu sulal pro*$_i$]]
b. [$_S$ *paqanasan-ku*$_i$ [$_S$ *temayta pro*$_j$ *pro*$_i$] *ya sulal*$_j$]

In (51), the AF manner verb *paqanas* semantically selects two arguments, i.e., an agent and a proposition (or an event). The agent is represented by the clitic pronoun *-iku*, which controls the reference of the missing subject *pro*$_i$ in the embedded clause. The proposition realizes as the complement of *paqanas*. Sentence (50a) will be interpreted as something like 'I did something slowly such that I read a book.' In (51), the NAF manner verb *paqanasan* takes three arguments, namely, an agent, a theme, and a proposition. In this case, the agent is represented by the genitive pronoun *-ku*, which serves as the antecedent of the missing subject *pro*$_i$ in the embedded clause. The theme is represented by the subject noun phrase *sulal*, which is co-referential with the embedded missing object *pro*$_j$. Sentence (50b) will be literally interpreted as 'I did something to the book slowly such that I read it.'

While conceptually unpromising, the lexical approach has some merits. First, it accounts for the mismatches in a straightforward manner. The non-subcategorized noun phrases are discharged by the matrix verbs and remain in the matrix clauses. Their semantic relations with the embedded arguments are established through control / co-reference. Second, it accounts for why many Type A adverbial expressions can directly take noun phrases as their arguments, a phenomenon otherwise mysterious.

However, under closer inspection, the lexical approach will run into several serious problems. Note that the mismatches are also observed with frequency adverbial expressions, as shown in the previous sections, which are reproduced below:

(52) a. *pataz-iku* *s‹m›upas tu* *qRitun*
often[AF]-1S.NOM buff‹AF› OBL car
'I often buff a car.' (=11a)
b. *pataz-an-ku-ti* *s‹em›upas* *ya* *qRitun*
often-PF-1S.GEN-ASP buff‹AF› NOM car
'I often buffed my car.' (=17a)

As shown in (52), the thematic arguments of lexical verbs end up as the matrix subjects of the frequency expressions. In this regard, frequency expressions parallel manner expressions. Nonetheless, as discussed in section 2.2, unlike manner expressions, frequency expressions cannot directly take noun phrases as their arguments. This implies that the mismatches are not due to the lexical properties of adverbial expressions.

In addition, adverbial expressions do not behave like control verbs in their grammatical operations. As pointed out in Chang and Tsai (2001:3), object-control verbs are subject to a peculiar restriction – their complement verbs are required to undergo causativization. For example:

(53) a. *pawRat a tina-na tu sunis pa-qaynep.*
force NOM mother-3S.GEN OBL child CAU-sleep
'His mother forces her child to sleep.'
b. *?? pawRat a tina-na tu sunis m-aynep.*
force NOM mother-3S.GEN OBL child AF-sleep

(54) a. *pawRat-an-na$_i$ ni abas$_i$ aiku pa-etung tu taquq.*
force-PF-3S.GEN GEN Abas 1S.NOM CAU-kill OBL chicken
'Abas forced me to kill the chicken.'
b. *?? pawRat-an-na$_i$ ni abas$_i$ aiku m-etung tu taquq.*
force-PF-3S.GEN GEN Abas 1S.NOM AF-kill OBL chicken

As shown in (53)-(54), the verbs following the object-control verbs *pawRat / pawRatan* are required to take the causative prefix *pa-*. This restriction, however, does not hold of adverbial expressions, as illustrated in (50b) and (52b). The discrepancy is left unexplained in the lexical approach.

The fact most challenging to the lexical approach is that the nonsubcategorized noun phrases are not allowed when the lexical verbs following adverbial expressions are intransitive verbs. For example:

(55) **paqanas-an-ku-pa* *s‹em›aqay* *ya* *zepu.*
slow-PF-1S.NOM-FUT walk‹AF› NOM shoes
intended for 'I will walk slowly in the shoes.'

In the lexical approach, a NAF adverbial expression is expected to be able to select up to three arguments (i.e. an agent, a patient, and an event). However, as shown in (55), the NAF manner verb *paqanasan* cannot take the instrumental argument *zepu* as its subject when the lexical verb is an intransitive verb, even though *zepu* is pragmatically compatible with the activity depicted by the verb. Facts like this are beyond the reach of the lexical approach.

Let us turn to the syntactic approach. In the syntactic approach, a raising analysis does not work for adverbial modification. First, raising operations are typically undoable, that is, a raised entity can be placed back under appropriate conditions, as illustrated below:

(56) a. [$_S$ *John$_i$ seems* [$_S$ t_i *to be happy*]]
b. [$_S$ *It seems* [$_S$ *that John is happy*]]

As in (56), the raised noun phrase *John* can return to the place where it originates when the embedded clause is finite. However, alternations like this do not hold of Type A adverbial expressions in Kavalan, as already illustrated in (50). Moreover, the raising analysis of adverbial modification will inevitably lead to case shift, which is at odds with the well-established generalization – noun phrase movement does not give rise to case shift. Consider:

(57) [$_S$ *paqanasan-ku$_i$* [$_S$ *temayta* t_j t_i] *ya sulal$_j$*]
GEN OBL NOM NOM

In the raising analysis, the genitive pronoun *-ku* and the nominative noun phrase *sulal* will be raised from the embedded clause: *-ku* from the embedded subject position and *sulal* from the embedded object position. In other words, the matrix genitive pronoun will move from a position marked with nominative case and the matrix nominative noun phrase from a position marked with an oblique case, given that the embedded verb *temayta* is inflected for AF. This leads to case shifts / conflicts. It is evident that the raising analysis is not on the right track.

A more plausible solution is to treat the nonsubcategorized noun phrases in the mismatches as being jointly assigned by a composite of adverbial expressions and their lexical verbs. Under this complex predicate analysis, sentences (50a-b) and (52a-b) will involve the following argument structures:

(58) Argument structures of complex predicates

a. *paqanas / pataz+temayta*	(*-iku,*	*sulal*)
a'. manner / frequency verb+actionverb	(Agent	Theme)
b. *paqanasan / patazan+temayta*	(*-ku,*	*sulal*)
b'. manner / frequency verb+action verb	(Agent	Theme)

Manner / frequency verbs and their lexical verbs form complex predicates, compositionally selecting an agent and a theme as their arguments. The grammatical realizations of the arguments are normally contingent upon the focus marking of the matrix verb: an agent will surface as the matrix subject if the matrix verb is inflected for AF but as genitive phrase if the matrix verb is inflected for NAF; a theme will surface as an oblique phrase if the matrix verb is inflected for AF but as the matrix subject if the matrix verb is inflected for NAF. Accordingly, in (50a) and (52a), where the matrix verb is inflected for AF, the agent surfaces as the subject (hence the nominative clitic pronoun *-iku*) and the theme as the embedded oblique. In contrast, in (50b) and (52b), where the matrix verb is inflected for NAF, the agent realizes as the genitive phrase (hence the genitive pronoun *-ku*) and the theme as the matrix subject (case-marked by the nominative case marker *ya*).

Grammatical patterns like this are also found in typical serial verb constructions. Consider for example (59) (next page). In (59a), where the matrix verb is inflected for AF, the agent surfaces as the matrix subject (represented by *-iku*) and the theme as the embedded oblique (case-marked by the oblique case marker *tu*). In (59b), where the matrix verb is inflected for PF, the agent realizes as the genitive argument (represented by *-ku*) and the theme as the matrix subject (led by the nominative case marker *ya*).

Specifically, example (48c) exhibits a similar syntax-semantics mismatch – the theme is not semantically selected by the matrix verb but occurs as its subject. This prevents another parallelism between adverbial modification and verb serialization in favor of the serial verb analysis discussed above.

(59) a. *m-atiw-ti-iku* *m-ara* *tu* *sunis.*
AF-go-ASP-1S.NOM AF-take OBL child
'I went to bring a child back.'
b. *qatiw-an-ku* *m-ara* *ya* *sunis.*
go-PF-1S.GEN AF-take NOM child
'I went to bring my child back.' (cf. 56b)

Another piece of evidence in favor of the complex-predicate analysis comes from the fact that for frequency verbs, the matrix focus / aspectual / pronominal markers can 'shift' to the embedded verb without affecting the propositional meaning of the sentence. For example:

(60) a. *pataz-ti-iku* *s‹em›upas* *tu* *qRitun.*
often[AF]-ASP-1S.NOM buff‹AF› OBL car
'I often buffed a car.'
a'. *pataz* *s‹em›upas-ti-iku* *tu* *qRitun.*
often[AF] buff‹AF›-ASP-1S.NOM OBL car
'I often buffed a car.'
b. *pataz-an-ku-ti* *s‹em›upas* *ya* *qRitun.*
often-PF-1S.GEN-ASP buff‹AF› NOM car
'I often buffed my car.'
b'. *pataz* *supas-an-ku-ti* *ya* *qRitun.*
often[AF] buff-PF-1S.GEN-ASP NOM car
'I often buffed my car.'

The shifting alternations, while unexpected in the lexical approach (in particular (60a',b')), come as no surprise to the complex-predicate analysis – a complex predicate remains as a unified semantic unit, no matter where the grammatical markers (such as focus / aspectual / pronominal markers) are placed.

Certainly, the complex-predicate analysis has to explain why the shifting alternations do not hold for manner verbs. As extensively discussed above, manner verbs do not allow their complement verbs to be inflected for PF and aspectual / modal / pronominal markers (hence the AF restriction and the "no aspectual / modal / pronominal marking" restriction). Compare:

(61) a. *paqanas-ti-iku* *s‹em›upas* *tu* *qRitun.*
slow[AF]-ASP-1S.NOM buff‹AF› OBL car
'I buffed a car slowly.'
a'. **paqanas* *s‹em›upas-ti-iku* *tu* *qRitun.*
slow[AF] buff‹AF›-ASP-1S.NOM OBL car
b. *paqanas-an-ku-ti* *s‹em›upas* *ya* *qRitun.*
slow-PF-1S.GEN-ASP buff‹AF› NOM car
'I buffed my car often.'
b'. **paqanas* *supas-an-ku-ti* *ya* *qRitun.*
slow[AF] buff-PF-1S.GEN-ASP NOM car

This question is not very easy to answer. In the next section, I will provide a tentative solution.

It should also be noted that unlike Type A and B adverbial expressions, Type C and D adverbial expressions do not involve complex predication in that they are losing verbal properties and are thus disqualified as elements of complex predicates. (By definition, a complex predicate is composed of two lexical verbs / predicates.) It follows that they do not exhibit "complex-predicate properties" such as the syntax-semantics mismatches, as presented above.

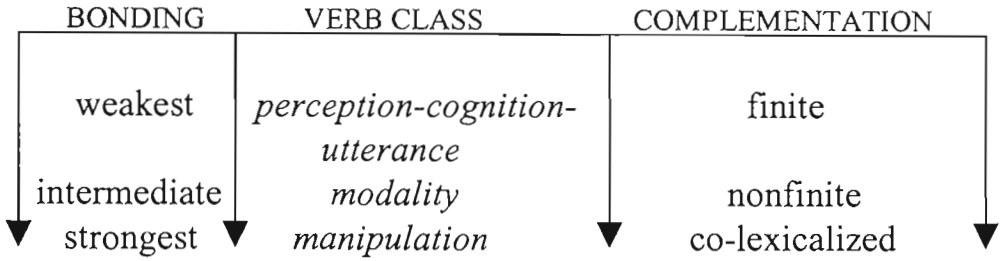
4.2. Complement types

As mentioned above, different types of adverbial expressions take different complements. Type A adverbial expressions can only be followed by lexical verbs that are inflected for AF but uninflected for aspect / mood / pronoun, while the remaining adverbial expressions are not subject to such restrictions. One question immediately arises: Why is this so?

Givón (1980, 2001) has argued convincingly that the grammatical realization of a verbal complement is dictated to a large extent by the semantic properties of the matrix verb. Complement-taking verbs can be classified into different types along a scale in terms of their binding strength. The degree of binding strength is measured by the influence (including control, coercive power, and volitionality) exerted over the agent of a complement by the agent of the matrix verb. There is a universal binding scale, with verbs bearing the strongest binding strength such as verbs of manipulation occupying the very top and verbs bearing the least

binding strength like verbs of perception / cognition / utterance occupying the bottom, as indicated below:

(62) *The binding scale on event integration* (based on Givón (1980))



The binding strength of a verb roughly correlates to the degree to which its complement appears syntactically like an independent clause:

(63) *The coding generalization on the correlation between matrix binding strength and embedded independence* (Givón 1980: 337): The higher a verb is on the binding scale, the less would its complement tend to be syntactically coded as an independent clause.

English provides clear examples. Verbs of manipulation such as *let* and *make*, which occupy the top of the binding scale, take nonfinite complements and bear strong structural affinity with them, while verbs of perception / cognition / utterance such as *know* and *say*, which occupy the bottom, tend to take finite complements and display weak structural affinity with them. The binding scale can thus translate as the following finiteness / independence scale:

(64) Finiteness / Independence scale (Givón 2001: 69)

a.	*She let go of his hand.*	(bare stem / co-lexicalized)
b.	*She made him leave.*	(bare stem)
c.	*She told him to leave.*	(infinite)
d.	*She wished that he would leave.*	(modal-subjunctive)
e.	*She hoped that he could have left.*	(modal-subjunctive+aspect)
f.	*She knew that he was leaving.*	(tense with restrictions)
g.	*She said: "He is leaving"*	(fully finite)

In (64a), the manipulation verb *let* displays the strongest binding strength and fuses with its complement verb *go* into a verb complex. In (64b-c), the two manipulation verbs *make* and *tell* are differentiated in terms of

implicativity: *make* is an implicative manipulation verb but *tell* a nonimplicative one. It goes without saying that implicative verbs are more coercive over their complements and thus occupy higher position than their nonimplicative counterparts in the binding scale. By the coding generalization stated in (63), the complements taken by implicative manipulation verbs will be less finite / independent than those selected by nonimplicative manipulation verbs. This expectation is borne out, as shown in (64b-c), where *make* takes a bare-stem complement but *tell* an infinitive complement. In (64d-g), the perception / cognition / utterance verbs *wish*, *hope*, *know*, and *say* have decreasing influence over their complements and thus take independent or finite clauses as their complements.

Similar paradigms seem also to be found in adverbial modification. Among all the adverbial expressions, manner expressions have the strongest impact on the lexical verbs. To be more specific, manner expressions usually involve agency and thus do not apply to stative verbs, whereas epistemic modifiers are not subject to the restriction (Jackendoff 1972, Katz 2003). Compare (65a, b) from Katz (2003: 456):

(65) a. *John probably kissed / loved Mary.*
b. *John kissed / *loved Mary quickly.*

While manner and epistemic expressions occupy the two ends, frequency expressions seem to sit in between. Unlike manner expressions, frequency expressions can co-occur with both activity verbs and stative verbs. For example:

(66) a. *He is always late.*
b. *He always wakes up early in the morning.*

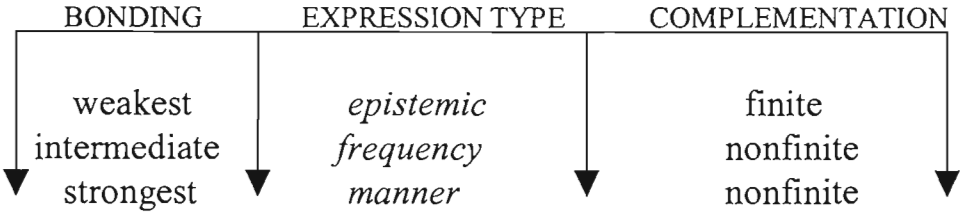
On the other hand, frequency expressions contrast with epistemic expressions and behave like manner expressions in that they have factive entailments (Parsons 1990: 66). Compare:

(67) a. *He walked to school slowly.* → He walked to school.
b. *He walked to school often.* → He walked to school.
c. *He probably walked to school.* ↛ He walked to school.

This indicates that frequency expressions cannot be classified into either the category of manner expressions or that of epistemic expressions; they

constitute a distinct category. Conceptually speaking, they are not as close to their lexical verbs as manner expressions; on the other hand, they are not as distant from their lexical verbs as epistemic expressions. They seem to be somewhere in between. If we translate the conceptual distance / influence strength as binding strength, we will derive a scale for adverbial expressions in much the same way as Givón does for complement-taking verbs, namely, a binding scale on modification integration:

(68) *The binding scale on modification integration*



In the scale, manner expressions occupy the right extreme, since they exhibit the highest degree of integration with their lexical verbs, whereas epistemic expressions occupy the left extreme, since they display the lowest degree of integration with their lexical verbs. In between stand frequency expressions.

This scale to a large degree accounts for the grammatical realizations of the modified lexical verbs in Kavalan. Standing on the right extreme, manner expressions take almost bare-stem verbs as their complements (i.e. AF verbs), which are analogous to nonfinite forms in familiar tensed languages like English[11]. In contrast, standing at the left extreme, epistemic expressions take fully inflected verbs as their complements, which are akin to finite forms in English. Frequency expressions are divided into two subtypes: AF frequency expressions behave like epistemic expressions and can take "finite" complements, whereas their NAF counterparts behave like manner expressions and must take "nonfinite" complements. The split is actually well-motivated. As noted in the literature, AF verbs are semantically and grammatically less transitive than their NAF counterparts (Starosta 1997, Chang 2003). It is thus not totally unexpected that NAF frequency expressions will side with manner expressions and occupy a higher position in the spectrum but their AF counterparts side with epistemic expressions and occur in a lower position. Along this line of thought, the AF restriction and the "no aspectual / modal / pronominal marking" restriction can be likened to the nonfinite restrictions imposed

upon the complements taken by manipulation verbs like *make*, which occupy the top of the binding scale.

Note that this account is to a large extent in line with the universal hierarchy of adverbs advocated by Cinque (1999) and the concentric generalizations observed by Ernst (2002). Compare:

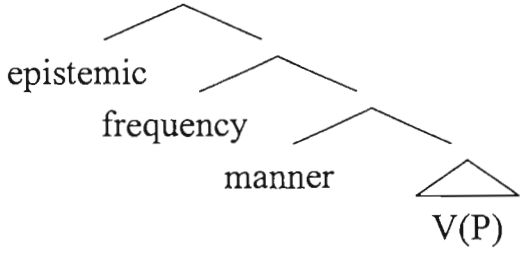


Diagram 1. The universal hierarchy of adverbs (based on Cinque 1999)

It is evident that the syntax and semantics of adverbial modifiers parallel to a certain extent so that an isomorphism between them is observed, a conclusion in accordance with Givón's Proximity Principle (Givón 1994).

(69) *The Proximity Principle* (Givón 1994: 51)
Entities that are closer together functionally, conceptually, or cognitively will be placed closer together at the code level, i.e., temporally and causally.

4.3. Cross-linguistic evidence

As mentioned in the very beginning of this chapter, it is quite common that adverbial modifiers surface as verbs in Formosan languages. As noted by Huang (1997) and Chang (2004), the syntax of adverbial modification is diverse in Formosan languages. Adverbial expressions and their lexical verbs are intervened by linkers in Atayal and Paiwan, while they are adjacent to each other in other Formosan languages like Kavalan, Seediq, Puyuma, Tsou, etc. In Tsou, adverbial expressions and their lexical verbs can even merge into a verb complex. It is noteworthy that the degree of merger forms a continuum. For manner expressions, which are conceptually close to their lexical verbs, the merger can be seamless: no alternations are attested. Example (70) (next page) is from Chang (2004).

For in-between frequency expressions, they can merge with their lexical verbs (71a) or keep separate from them (71b) (next page) (Chang 2004).

(70) a. *mi-ta o-popoha'-o ta naveu.*
AF-3S eat-slow-AF OBL rice
'He eats rice slowly.'
b. **mi-ta aupopoha'-o bon-~~u~~ ta naveu.*
AF-3S slow-AF eat-AF OBL rice

(71) a. *la o-sng~~u~~c-~~u~~ ta f'ue nenuana'o.*
HAB eat-often-AF OBL s.p. long time ago
'We used to eat sweet potatoes long time ago.'
b. *la asng~~u~~c-~~u~~ bon-~~u~~ ta f'ue nenuana'o.*
HAB often-AF eat-AF OBL s.p. long time ago
'We used to eat sweet potatoes long time ago.'

For epistemic expressions, which are conceptually distant from lexical verbs, the merger is not observed. See (72) (Chang 2004):

(72) a. *nenusino mi-ta bon-~~u~~ ta f'ue.*
perhaps AF-3S eat- AF OBL s.p.
'Perhaps he ate sweet potatoes.'
b. **mi-ta o-nenusino ta f'ue.*
AF-3S eat-perhaps OBL s.p.

This not only conforms to the Binding Hierarchy but also supports the complex predicate analysis discussed above.

The observation that higher verbs and lower verbs in SVCs can be re-analyzed as verb complexes and jointly accommodate nonsubcategorized noun phrases is not new. Huang (1992) has argued convincingly that an action verb and its resultative complement can form a complex predicate and license a nonsubcategorized object in Mandarin Chinese. For example:

(73) a. *Zhangsan ku-de shoupa dou shi le.*
Zhangsan cry-DE handkerchief all wet ASP
'Zhangsan cried till the handkerchief was wet.'
b. *Zhangsan ba shoupa dou ku-shi le.*
Zhangsan BA handkerchief all cry-wet ASP
'Zhangsan cried till the handkerchief was wet.'

The noun phrase *shoupa* in (73a) should occur as an object in that it can be preceded by the object marker BA, as in (73b). Note, however, that both

the matrix verb *ku* and the complement verb *shi* occur as intransitive verbs and should not have taken an object. One way out is to treat *shoupa* as the object of the combination of *ku* and *shi*. This complex predicate analysis receives support from the fact that *ku* and *shi* can be fused as a verb compound and take *shoupa* as its object, giving rise a sentence synonymous to (73a):

(73) c. *Zhangsan ku-shi-le shoupa le.*
Zhangsan cry-wet-ASP handkerchief ASP
'Zhangsan cried till the handkerchief was wet.'

The complex predicate analysis can also carry over to non-subcategorized noun phrase phenomena widely observed in the English literature. Compare examples in (74) (Jackendoff 1990: 227, Rappaport Hovav and Levin 2001: 788).

(74) a. *Fred cooked the stove black.*
b. *They drank the pub dry.*
c. *She winked us past.*
d. *The dog barked him awake.*

Besides, the merger of verbs in a series into a verb complex is widely observed in verb serializing languages. It is observed in Mandarin Chinese, as discussed above. It is also reported in African languages, as Baker (1991) remarks that "notions which are expressed by SVCs in the Kwa languages of West Africa correspond to a large degree to those which are expressed by derivational morphology in the Bantu languages of East Africa".

5. Concluding remarks

The syntax of adverbial expressions in Kavalan looks exotic from a typological viewpoint. What are usually taken as adverbs / adjuncts turn out to be matrix verbs, while what are usually taken as main verbs turn out to be complements. The syntactic relationships between adverbial expressions and the modified structures largely "flip over", yielding the appearance of "the guest playing host". In other words, notions that are expressed via adjunction in familiar languages like English turn out to be expressed through complementation / verb serialization in Kavalan. Several language-particular phenomena arise concomitantly, including

adverbial expressions surprisingly taking noun phrases as their arguments and the lexical verbs being subject to peculiar formal restrictions.

In the meantime, the syntax of adverbial expressions is theoretically challenging. Cinque (1999) claims that adverbial modifiers surface either as the specifiers of functional heads or as functional heads by themselves. However, as part of a complex predicate in SVCs, adverbial expressions are more likely to be lexical heads in Kavalan. Recall that many manner verbs can even independently take noun phrases as their arguments. In this regard, Cinque's theory of adverbs cannot carry over to Kavalan without substantial revision. In addition, the Neo-Davidsonian analysis of adverbials advocated by Tsai and Chang (2003) and Liu (2003) for Tsou and Amis does not work for Kavalan. As extensively discussed above, adverbial modification involves complementation rather than coordination, i.e., adverbial expressions occur in a higher position than their lexical verbs instead of being on structurally equal footing with them. Moreover, the generally held view (Travis 1988) that lexical verbs select adverbs / adjuncts also fails to predict the grammatical behaviors of adverbial expressions in Kavalan. In light of the formal restrictions on lexical verbs, the situation seems to be reversed in Kavalan – adverbial expressions select their lexical verbs, not the other way around. This study also has a positive impact on Croft's (1991, 2001) prototype and markedness theory. As in other Formosan languages (Starosta 1988, Yeh 2003, Wu 2003), the categories of adverbs and adjectives are either missing or impoverished in Kavalan. Notions like properties are expressed through syntactic predication rather than directly through modification. For Kavalan and perhaps other Formosan languages as well, modification is not a primitive function – it is derived from predication instead.

While typologically unique, adverbial expressions in Kavalan behave like usual adverbs in two important respects. First, they are of various types and different types of them display different grammatical patterns. Among them, manner expressions exhibit the greatest amount of verbal properties, while speech act expressions the least. Second, adverbial expressions and the following lexical verbs basically integrate in the same way as regular event integration – both cases observe Givón's Binding Hierarchy. All in all, adverbial modification in Kavalan displays linguistic diversity on the one hand and universal tendency on the other.

Notes

* Earlier versions of this chapter were presented at various occasions, including the Linguistics Institute (of Academia Sinica) Inaugural Workshop, Taipei, AFLA-11, Berlin, the Second International TEAL Workshop, National Tsing Hua University, Hsinchu, and the colloquium at National Taiwan University, Taipei. I wish to thank the audiences there for their inspiring comments, in particular, Sandra Chung, James Huang, Shuanfan Huang, Thomas Lee, I-wen Su, Jackson Sun, and Lisa Travis. I am also grateful to Jonathan Evans, Hans-Martin Gärtner, Paul Law, Malcolm Ross, and Joachim Sabel for their useful suggestions. Special thanks go to the two anonymous reviewers, whose comments and criticisms prompt me to reformulate my arguments and analyses. Thanks are also due to my major informant Raciang Pan. Of course, all remaining errors are my own responsibility.

1. Kavalan is a moribund Formosan language spoken on the east coast of Taiwan, with fewer than 100 fluent speakers.
2. The variable positioning of adverbs can give rise to different scope interpretations. But this is not the main concern here.
3. This is in a syntactic rather than semantic sense. Accordingly, it does not rule out the possibility that adverbs can have a selection restriction and bear thematic relation with arguments, as noted by Wyner (1998) and Ernst (2002). For example:
   (i) a. *John fell off the chair.*
   b. *John deliberately fell off the chair.*
   The subject *John* bears the thematic role Experiencer or Theme with the predicate in (ia), but Agent in (ib). The thematic difference is clearly due to the subject-oriented adverb *deliberately*. However, this cannot be taken as evidence that adverbs can assign thematic roles on their own. Otherwise, adverbs would behave like lexical verbs and be eligible to occur independently with arguments.
4. In the Austronesian literature, there are mainly two competing terms for the phenomenon in question, namely, voice and focus (see Chang 1997, Blust 2002, Himmelmann 2002, Ross 2002 for the history and comparison of the two terms). I prefer the term *focus* over *voice* for the following reasons of usefulness:
   (i) The term *focus* is typologically useful – it highlights the typological characteristics of Austronesian languages and helps differentiate them from familiar languages like English.
   (ii) It is cognitively useful – it indicates by the name its profiling function.
   (iii) It is conventionally useful – it entertains a relatively wider acceptance among Austronesian linguists.
5. Abbreviations used in this chapter are as follows:

AF = agent focus, ASP = aspect, CAU = causative, DAT = dative, FUT = future tense, GEN = genitive, HAB = habitual, IMP = imperative, INCH = inchoative, LF = locative focus, LOC = locative, LNK = linker, NAF = non-actor focus, NOM = nominative, OBL = oblique, PAST = past tense, PERF = perfective, PF = patient focus, P = plural, RED = reduplication, REL = relativizer, S = singular, TNS = tense, 1 = first person pronoun, 2 = second person pronoun, 3 = third person pronoun

6. NAF covers all the foci other than AF, including patient-focus (PF), locative-focus (LF), and beneficiary / instrumental-focus (B/IF).
7. While *paqanas* and *mengasan* both convey the sense of being slow, they are different in reference: the former is referring to the speed whereby an action is carried out but the latter is more time-referring. Thus, only the latter can co-occur with an achievement verb, which has no complex event structure. Compare:

   (i) *mana* {*me-ngasan* / **paqanas*} *t‹em›anan?*
   why AF-slow return‹AF›
   'Why do you return so late?'
8. In this regard, my position departs from Huang (1997), where constructions involving linkers / ligatures are included in SVC.
9. As you can see, property-denoting expressions must be prefixed with *qa-* when they occur in imperative constructions, whereas activity-denoting expressions are not subject to such a restriction. I take the difference as a distinction between stative verbs and dynamic verbs rather than an adjective-verb distinction.
10. A similar observation is also made by Tang (2001) for Paiwan, where time-related adverbial expressions such as 'first' and manner expressions like 'fast' are identified as matrix predicates, taking nonfinite clauses as their complements. Unlike us, she does not specify the categorial status of the adverbial expressions.
11. Another piece of evidence in favor of the analysis of AF verbs as nonfinite forms is that AF verbs are usually used as citation forms. For example, a Kavalan informant will give you the AF form *qeman* if he / she is requested to convey a notion equivalent to the citation form 'to eat' in English.

References

Baker, Mark

1991 On the relation of serialization to verb extension. In Claire Lefebvre (ed.), 79–102.

Blust, Robert
2002 Notes on the history of 'focus' in Austronesian language. In Fay Wouk, and Malcolm Ross (eds.), 63–80.
Chang, Henry Yungli
1997 Voice, case, and agreement in Seediq and Kavalan. Ph. D. diss., National Tsing Hua University, Hsinchu.
2000 *A Kavalan Reference Grammar*. Taipei: Yuan-Liou Publishing Co. [in Chinese]
2003 AF verbs: transitive, intransitive, or both? Paper presented at the Second Workshop on Formosan Languages, Academia Sinica, Nov. 1–2, 2003. To appear in *Language and Linguistics Monograph*, Dah-An Ho (ed.). Taipei: Institute of Linguistics, Academia Sinica.
2004 The syntax of adverbial modification in Kavalan and Tsou. Paper presented at the Ninth International Symposium on Chinese Languages and Linguistics (IsCLL-9), National Taiwan University, Taipei, November 19–21.
Chang, Henry Yungli, and Wei-tien Dylan Tsai
2001 Actor-sensitivity and obligatory control in Kavalan and some other Formosan languages. *Language and Linguistics* 2 (1): 1–20.
Cinque, Guglielmo
1999 *Adverbs and Functional Heads: A Cross-linguistic Perspective*. New York: Oxford University Press.
Croft, William
1991 *Syntactic Categories and Grammatical Relations: The Cognitive Organization of Information*. Chicago: University of Chicago Press.
2001 *Radical Construction Grammar*. Oxford: OUP.
Ernst, Thomas
2002 *The Syntax of Adjuncts*. Cambridge: CUP.
Foley, William A., and Mike Olson
1985 Clausehood and verb serialization. In *Grammar Inside and Outside the Clause: Some Approaches to Theory from the Field*, Johanna Nichols, and Anthony Woodbury (eds.), 17–60. New York: Cambridge University Press.
Givón, Talmy
1980 The binding hierarchy and the typology of complements. *Studies in Language* 4 (3): 333–377.
1994 Isomorphism in the grammatical code: Cognitive and biological considerations. In *Iconicity in Language*, Raffaele Simone (ed.), 47–76. Amsterdams: John Benjamins.
2001 *Syntax* I-II. Amsterdam: John Benjamins.

Himmelmann, Nikolaus P.
2002 Voice in western Austronesian: An update. In Fay Wouk, and Malcolm Ross, (eds.), 7–16.
Huang, C.-T. James
1992 Complex predicate in control. In *Control and grammar*, Richard K. Larson, Sabine Iatridou, Utpal Lahiri, and James Higginbotham (eds.), 109–147. Dordrecht: Kluwer.
Huang, Lillian M.
1995 *A Study of Mayrinax Syntax.* Taipei: The Crane.
1997 Serial verb constructions in some Formosan languages: A typological view. Paper presented at the 8th International Conference on Austronesian Linguistics, Academia Sinica, Taipei, Dec. 28–30.
Jackendoff, Ray
1972 *Semantic Interpretation in Generative Grammar.* Cambridge, Massachusetts: The MIT Press.
1990 *Semantic Structures*. Cambridge, Massachusetts: The MIT Press.
Katz, Graham
2003 Event arguments, adverb selection, and the stative adverb gap. In *Modifying Adjuncts*, Ewald Lang, Claudia Maienborn, and Cathrine Fabricius-Hansen (eds.), 455–474. Berlin: Mouton de Gruyter.
Kaufman, Daniel
2004 Adverbs at the interface. Paper presented at AFLA-11, Berlin, April 25.
Lefebvre, Claire (ed.)
1991 *Serial Verbs: Grammatical, Comparative and Cognitive Approaches.* Amsterdam: John Benjamins.
Li, Paul Jen-kuei
2003 Verbs or adverbs in Thao? Paper presented at the second Workshop on Formosan Languages, Academia Sinica, Nov. 1–2.
Li, Yafei
1991 On deriving serial verb constructions. In Claire Lefebvre (ed.), 103–135.
Liu, Emma En-hsing
2003 Conjunction and modification in Amis. M.A. thesis, National Tsing Hua University, Hsinchu.
Parsons, Terence
1990 *Events in the Semantics of English: A Study in Subatomic Semantics.* Cambridge, MA: The MIT Press.
Rackowski, Andrea
1998 Malagasy adverbs. In *The Structure of Malagasy. ULCA Occasional Papers in Linguistics* 20, Ileana Paul (ed.), 11–33.

Rappaport Hovav, Malka, and Beth Levin
2001 An event structure account of English resultatives. *Language* 77 (4): 766–797.
Ross, John R.
1967 Constraints on variables in Syntax. Ph. D. diss., MIT.
Ross, Malcolm
2002 The history and transitivity of western Austronesian voice and voice marking. In Fay Wouk, and Malcolm Ross (eds.), 17–62.
Starosta, Stanley
1988 A grammatical typology of Formosan languages. *Bulletin of the Institute of History and Philology* 59: 541–576. Academia Sinica.
1997 Formosan clause structure: transitivity, ergativity, and case marking. In *Chinese Languages and Linguistics IV: Typological Studies of Languages in China*, Chiu-yu Tseng (ed.), 125–154. Taipei: Academia Sinica.
2001 Functional categories and adverbial expressions: A case study of Paiwan and Tsou. NSC project report.
Travis, Lisa
1988 The syntax of adverbs. In *McGill Working Papers in Linguistics. Special Issue on Comparative Germanic Syntax*, 280–310. Department of Linguistics, McGill 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 *The Linguistic Variations Yearbook* III, Pierre Pica, and Johan Rooryck (eds.), 213–236. Amsterdam: John Benjamins.
Wouk, Fay, and Malcolm Ross (eds.)
2002 *The History and Typology of Western Austronesian Voice Systems*. Canberra: Pacific Linguistics.
Wu, Chun-ming
2004 A study of lexical categories in Paiwan. M.A. thesis, National Chung Cheng University, Chiayi.
Wyner, Adam Zachary
1998 Subject-oriented adverbs are thematically dependent. *Events and Grammar*, Susan Rothstein (ed.), 333–370. Dordrecht: Kluwer.
Yeh, Marie Meili
2003 Adjectives as verbs in Saisiyat. Paper presented at the second Workshop on Formosan Languages. Academia Sinica, Nov. 1–2.
Zwicky, Arnold, and Geoffrey K. Pullum
1983 Cliticization vs. inflection: English 'n't'. *Language* 59.3: 502–513.