Noun Phrase Conjunction in Three Puyuma Dialects[*]

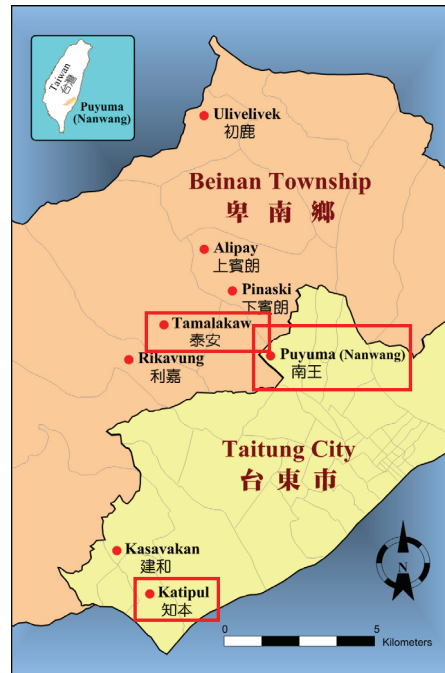Stacy Fang-ching Teng

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This paper examines noun phrase conjunction in three Puyuma dialects spoken in Nanwang, Katripul, and Tamalakaw villages. In each dialect, there is one strategy that only appears in noun phrase (NP) conjunction (e.g. *kay* in Nanwang, *za+i/na* in Katripul, inclusory pronouns in Tamalakaw) and one that is also used in clausal and sentential conjunction in addition to NP conjunction (e.g. *aw* in Nanwang and *zi* in Katripul and Tamalakaw). Based on their asymmetric properties when occurring in reciprocal vs. non-reciprocal constructions, the paper shows that *kay* in Nanwang and *za+i/na* in Katripul originally encoded a comitative meaning and are now in the process of being grammaticalized to mark coordination. On the other hand, *aw* and *zi* being used to mark NP conjunction tell a different story. By observing and comparing their occurrence in different types of texts, we suggest that *aw* and *zi* originally conjoined clauses and their usage in NP conjunction is a later development out of the need for literary clarity.

Key words: Formosan, Puyuma, noun phrase conjunction, comitative, grammaticalization, literacy

1. Introduction

This study deals with conjunctive strategies in three Puyuma dialects (Nanwang, Katripul and Tamalakaw). The geographical location of the Puyuma villages is given in Map 1.

Map 1: Geographical distribution of the Puyuma Villages (From Teng 2009:820)

In this paper, I shall only focus on those conjunctive constructions in which noun phrases are involved. Although the Puyuma dialects are said to be mutually intelligible according to previous studies (cf. Ting 1978, Li 1991 and Huteson 2005), I shall show that the markers or constructions used to indicate noun phrase (NP) conjunction are very diverse in the three dialects under study. In addition, I shall also show that some of the strategies used in NP conjunction nowadays may have been a later development. This is related to the fact that, in written form, means to indicate NP conjunction are needed, while they were originally signaled by intonation alone.

Five types of NP conjunction are examined in this study: personal nouns, common nouns, location nouns, possessive NPs,[1] and personal pronouns. The first four categories all require a noun phrase marker before the noun to indicate case/definiteness/number, while the case/number of the last category, personal pronouns, is shown by the form itself. I shall show that when different types of nouns are conjoined, the conjunction marker is chosen based on the type of NP the second NP is. The grammatical function of the NPs will be taken into consideration as well; we shall see whether being a subject/non-subject or being core/non-core will affect the choice of conjunction strategies.

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[1] In this study, possessive NPs refer to constructions that consist of a noun and a possessor.

The organization of the paper is as follows. In §2 through §4, I present and compare the strategies of NP conjunction used in Nanwang, Katripul, and Tamalakaw respectively. Section 5 examines how verbal semantics (i.e. reciprocal verbs vs. non-reciprocal verbs) affects the manifestation of NP conjunction. Section 6 discusses the analysis of the Nanwang *kay* marker and Katripul *za+i/na*. Section 7 shows how changes may have arisen because of the need for literary clarity.

2. Nanwang

There are two conjunction markers in Nanwang Puyuma: *aw* and *kay*. While *kay* only appears in NP conjunction, the marker *aw* is also used in clausal/sentential conjunction.

2.1 NP conjunction in types of NPs

The conjunction marker *aw* may be used to conjoin all types of NP; the distribution of *kay*, on the other hand, is restricted to personal nouns.

A. Personal nouns

Personal nouns, including personal proper names and elder kinship terms, may be conjoined by either *kay* or *aw*. When they are conjoined by *aw*, the two NPs are preceded by the same noun-phrase marker, as shown in (1) and (2).

(1) ***i***   *namali*   ***aw***   ***i***   *baeli*   *i,*   *asatr.*[2]
     Sg.Nom   my.father   and   Sg.Nom   my.elder.sibling   Top   tall
     'My father and my brother are tall.'

(2) *tu=ka-dreki-aw=ku*   ***kan***   *namali*   ***aw***   ***kan***
     3.Gen=Stat-scold-UV:P=1S.Nom   Df.Obl   my.father   and   Df.Obl
     baeli.
     my.elder.sibling
     'I was scolded by my father and my brother.'

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[2] Abbreviations: 1, first person; 2, second person; 3, third person; AV, actor voice; C, conveyance; Caus, causative; Coll, collective; Comm, common; COP, copular; Df, definite; Excl, exclusive; Gen, genitive; Id, indefinite; Incl, inclusive; IMPF, imperfective; L, location; Loc, locative; LK; linker; Neu, neutral; Nmzr, nominalizer; Nom, nominative; Obl, oblique; P, patient; Perf, perfective; Pers, personal; PJ, projective; Pl, plural; Prog, progressive; PSR, possessor; Recip, reciprocal; Red, reduplication; Sg, singular; Stat, stative; Top, topic; UV, undergoer voice.

In (1), the NPs appear in the topic position and they are also subject of the sentence. In (2), the NPs are non-subject actors, which agree with the genitive clitic pronoun *tu=*.

When NPs are conjoined by *kay*, the second NP is not preceded by any marker, and the first NP may be preceded by either a plural or a singular noun phrase marker, as shown below.[3] [4]

(3) *ulaya   isuwa   i/na   Sawagu   kay   Kelralaw*?
    exist   where   Sg.Nom/Pl.Nom   Sawagu   KAY   Kelralaw
    'Where are Sawagu and Kelralaw?'

(4) *i/na   Tayban   kay   Demalasaw   tu=ki-anger-aw*
    Sg.Nom/Pl.Nom   Tayban   KAY   Demalasaw   3.Gen=get-thought-UV:P
    idrini   na   lemak.
    this   Df.Nom   thing
    'Tayban and Demalasaw remembered this thing.'

In addition to conjoining NPs, *kay* also appears in inclusory pronominal constructions (IPC, following Lichtenberk 2000 and Reid 2009).[5] For example:

(5) *m-u-a-ruma'=mi   kay   nanali*,   *aw   i   baeli*.
    AV-go-Prog-house=1P.Excl   KAY   my.mother   and   Sg.Nom   my.elder.sibling
    'I went home with my mother and my elder sister.'

The syntactic role that the conjoined NPs play does not affect the choice of strategy.

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[3] In sentence (4), the conjoined NPs are topicalized. When they are not topicalized, as in the sentence below, they are marked oblique, manifesting the non-subject actors (but have a genitive bound pronoun *tu=* cross-referencing with them).
    tu=ki-anger-aw   idrini   na   lemak kan/kana   Tayban kay Demalasaw.
    3.Gen=get-thought-UV:P this   Df.Nom thing   Sg.Obl/Pl.Obl Tayban KAY Demalasaw
    'Tayban and Demalasaw remembered this thing.'

[4] Section 6 provides an explanation for the reason why both plural and singular markings are possible in these examples.

[5] An inclusory pronominal is defined by Lichtenberk (2000:3-4) as "a pronominal form that identifies a total set of participants (i.e. *=mi* in (5)), a subset of which is identified by a lexical NP (i.e. *nanali* in (5))." He also distinguishes four types of IPC according to two parameters: (i) whether the inclusory pronominal and the included NP together form a syntactic construction (phrasal vs. split); and (ii) whether there is an overt marker of the relation between the inclusory pronominal and the included NP (explicit vs. implicit). In the three dialects studied, Nanwang and Katripul IPCs are examples of split explicit; whereas in Tamalakaw, IPCs are split implicit.

For personal proper nouns, which can be conjoined by either *kay* or *aw*, both strategies are acceptable when they are: (i) subject, as in (6); (ii) non-subject agents (marked by an oblique noun phrase marker but have a clitic pronoun cross-referencing with them), as in (7); or (iii) oblique arguments, as in (8).

(6) a. *mi-rawa   i   Ukak   aw   i   Lrugi.*
      have-prey   Sg.Nom   Ukak   and   Sg.Nom   Lrugi
      'Ukak and Lrugi have prey.'

    b. *mi-rawa   i/na   Ukak   kay   Lrugi.*
      have-prey   Sg.Nom/Pl.Nom   Ukak   KAY   Lrugi

(7) a. *tu=ka-dreki-aw=ku   kan   namali   aw   kan*
      3.Gen=Stat-scold-UV:P=1S.Nom   Sg.Obl   my.father   and   Sg.Obl
      nanali.
      my.mother
      'I was scolded by my father and my mother.'

    b. *tu=ka-dreki-aw=ku   kan/kana   namali   kay*
      3.Gen=Stat-scold-UV:P=1S.Nom   Sg.Obl/Pl.Obl   my.father   KAY
      nanali.
      my.mother

(8) a. *kadru=ku   i   palrakuan   ma-dreki   kan   Ukak*
      there=1S.Nom   Loc   men's.meeting.house   AV-scold   Sg.Obl   Ukak
      aw   kan   Lrugi.
      and   Sg.Obl   Lrugi
      'I scolded Ukak and Lrugi in men's meeting house.'

    b. *kadru=ku   i   palrakuan   ma-dreki   kan/kana*
      there=1S.Nom   Loc   men's.meeting.house   AV-scold   Sg.Obl/Pl.Obl
      Ukak   kay   Lrugi.
      Ukaka   KAY   Lrugi

B. Common nouns

Common nouns can only be conjoined by *aw*, and the two NPs need to be marked by an identical noun phrase marker, which is obligatory.

(9) *daleu **na**   kidra   **aw/*kay**   **na**   belbel.*
    sweet   Df.Nom   custard.apple   and/*KAY   Df.Nom   banana
    'The custard apples and the bananas are sweet.'

(10) *sagar=ku*   **dra**   *kidra*   **aw/*kay**   **dra**   *belbel.*
     like=1S.Nom   Id.Obl   custard.apple   and/*KAY   Id.Obl   banana
     'I like custard apples and bananas.'

C. Location nouns

Like common nouns, location nouns can only be conjoined by *aw*, as shown below:

(11) *ulaya* *ku=wa-wadi-an*   *i*   *Katripul*   *aw/*kay*
     exist   1.PSR=Red-younger.sibling-Coll   Loc   Katripul   and/*KAY
     i   *Tamalakaw.*
     Loc   Tamalakaw
     'I have brothers and sisters in Katripul and Tamalakaw.'

D. Possessive NPs

In Puyuma, the possessor can either be encoded as a pronoun or as an NP. If it is encoded as an NP, it is manifested twice; as a pronoun preceding the noun denoting the possessum, and as an NP (marked oblique) following the possessum. Semantically speaking, possessive NP conjunction can be divided into two subtypes in terms of whether the possession attributes to a unified group of owners (collective possession, i.e. *John and Mary's*) or to separate owners (distributive possession, i.e. *John's and Mary's*). In distributive possession, the *aw* strategy is used, as in (12), and the *kay* strategy is used in collective possession, as in (13).

(12) *m-uka* *i*   *Taihok*   *tu=walak*   *kan*   *Pilay*   *aw*   *tu=walak*
     AV-go   Loc   Taipei   3.PSR=child   Sg.Obl   Pilay   and   3.PSR-child
     kan   *Senayan.*
     Sg.Obl   Senayan
     'Pilay's and Senayan's children went to Taipei.'

(13) *m-uka* *i*   *Taihok*   *tu=walak*   *kan*   *Ukak*   *kay*   *Senayan.*
     AV-go   Loc   Taipei   3.PSR=child   Sg.Obl   Ukak   KAY   Senayan
     'Ukak and Senayan's child went to Taipei.'

E. Personal pronouns

Personal pronoun conjunction only happens when the pronouns appear in a topic position, as in (14) or in a non-verbal clause, as in (15).

(14) *kuiku* ***aw*** *taytaw i,* *mare-kataguin.*
1S.Neu and 3.Neu Top Recip-spouse
'He and I are husband and wife.'

(15) *idru na paisu i,* *nanku* ***aw*** *nantaw.*
that Df.Nom money Top my.Nom and his.Nom
'That money is mine and his.'

Only the *aw* strategy is permitted when the pronoun appears after the conjoining element, as shown in (16) and (17).

(16) *taytaw* ***kay*** *Senayan i,* *mare-kataguin.*
3.Neu KAY Senayan Top Recip-spouse
'He and Senayan, they are husband and wife.'

(17) *i Senayan* ***aw/*kay*** *taytaw i,* *mare-kataguin.*
Sg.Nom Senayan and/*KAY 3.Neu Top Recip-spouse
'Senayan and he, they are husband and wife.'

2.2 Summary and additional comments

Table 1 gives a summary of the conjunctive strategies used by different categories of NPs, and Table 2 summarizes the distribution and characteristics of *aw* and *kay*.

Table 1: Conjunctive strategies in noun phrases

	aw strategy	*kay* strategy
Personal nouns	✓	✓
Common nouns	✓	✗
Location nouns	✓	✗
Possessive NPs	✓ (distributive)	✓ (collective)
Personal pronouns	✓	✗

Table 2: A comparison of *aw* and *kay*

	aw	*kay*
position of the marker	A co-B	A co-B
marking of case and definiteness of the NPs	the two conjoined NPs are preceded by the same noun phrase marker, indicating they have the same case/definiteness	the second NP is not preceded by any marker
marking of number of the conjoined personal nouns	the number of each NP is indicated by the noun phrase marker preceding it	the noun phrase marker before the first NP can be marked plural
types of the second NPs	all types of nouns	personal nouns and pronouns

While *aw* occurs in all kinds of NP conjunction, the distribution of *kay* is more restricted, as only personal nouns and possessive NPs with a collective meaning can be conjoined by *kay*. Regarding the position of the marker, they occupy the same position (between the conjoined NPs). In addition to the differences/similarities given above, Teng (1997) observes that while *aw* may conjoin more than two NPs, *kay* cannot.

(18) *m-uka=ku*   *kana*   *Pilay*   *aw*   *kana*   *Ukak*   *aw*   *kana*   *Atrun*.
     AV-go=1S.Nom   Pl.Obl   Pilay   and   Pl.Obl   Ukak   and   Pl.Obl   Atrun
     'I went to Pilay's and Ukak's and Atrun's.'

(19) **m-uka=ku*   *kana*   *Pilay*   *kay*   *Ukak*   *kay*   *Atrun*.
     AV-go=1S.Nom   Pl.Obl   Pilay   KAY   Ukak   KAY   Atrun

On the other hand, *kay* may appear between a verbal predicate and an NP, which is impossible for *aw*.

(20) *m-uka=**mi***   ***kay***   *nanali*.
     AV-go=1P.Excl.Nom   KAY   my.mother
     'I went with my mother.'

(21) **m-uka=**mi***   ***aw***   *i*   *nanali*.
     AV-go=1P.Excl.Nom   and   Sg.Nom   my.mother

2.3 Conjunction marker *aw* in texts

In Ogawa & Asai (1935), and the oral texts collected by the author, *aw* is mostly used as a clause connector. NP conjunction in those texts is mostly encoded by a list-like enumeration, as in (22), or by *kay* (for personal nouns only), as in (23).

(22) *idru*   *na*   *kawi*   *i*,   *ma-risan*   *katrebe*   ***tu=lrudus***   ***tu=rami***.
     that   Df.Nom   timber   Top   AV-same   thick   3.PSR=end   3.PSR=root
     'That timber, its root, and the other end are of the same thickness.'

(23) *ta=temuwamuwan*   *i*   *Adulrumaw*   *kay*   *Adulrusaw*.
     1P.Incl.PSR=ancestor   Sg.Nom   Adulrumaw   KAY   Adulrusaw
     'Our ancestors Adulrumaw and Adulrusaw.'

Table 3: The occurrence of *aw* in texts

	total	clausal	NP
Ogawa & Asai (1935; 7 texts)	130	130	0 (out of 5)
Teng (2003, 8 texts)	165	164	1 (out of 10)
Cauquelin (2008; 31 texts)	34	34	—[6]
Textbook (Book 5-9)[7]	34	24	10 (out of 16)

As can be seen from Table 3, in Ogawa & Asai's (1935) 7 texts, the total occurrence of *aw* is 130, all of them were used in connecting clauses. Within these 7 texts, there are 5 instances of NP conjunction, and none of them use *aw* as a conjunctive marker. In the texts[8] collected by the author, the occurrence of *aw* is 165; only 1 is used in NP conjunction. There are only 34 instances of *aw* in Cauquelin's (2008) texts, none of which are used in NP conjunction. On the other hand, in the Textbooks published by the Ministry of Education, R.O.C., of the 16 examples of NP conjunction, 10 use *aw* as the conjunction marker.

3. Katripul

There are two conjunction markers in Katripul: *za* and *zi*. The form *za* is also used as a noun phrase marker indicating that the noun following it is indefinite and in oblique case. The form *zi* is also used to connect two clauses/sentences.

3.1 NP conjunction in types of NPs

A. Personal nouns

Personal nouns can only be conjoined by *za*, and the second NP is always preceded by *i*, as shown below, regardless of the case role of the big NP.

> (24) *s<em>angal*   *i*   *Senayan*   *za*   *i*   *tinataw.*
>   <AV>happy   Sg.Nom   Senayan   ZA   Pers[9]   her.mother
>   'Senayan and her mother were happy.'

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[6] Because Puyuma ritual texts make heavy use of systematic doubling, it is difficult to decide whether a juxtaposition of NPs is an instance of NP conjunction or synonyms.

[7] The Textbooks can be downloaded from the following website: http://www.alcd.nccu.edu.tw/classroom/downbook-m.html

[8] Six of them were collected for the Formosan Language Archive, and two of them appear in the appendix of Teng (2008).

[9] The noun phrase marker *i* or *na* after *za* seem to fail to indicate the case role of the noun following it. Hence I do not gloss them as Sg.Nom/Df.Nom, but as Pers/Comm: they seem only to indicate the noun is a personal noun or a common noun.

(25) *tu=vaaw=ku*   **ni**   *Senayan*   **za**   **i/*ni**   *Ukak.*
     3.Gen=save=1S.Nom   Gen   Senayan   ZA   Pers/*Gen   Ukak
     'Senayan and Ukak saved me.'

(26) **s\<em\>angal*   *i*   *Senayan*   **zi**   *i*   *Ukak.*
     \<AV\>happy   Sg.Nom   Senayan   and   Sg.Nom   Ukak

B. Common nouns

Conjunction of Katripul common nouns shows the greatest diversity among different subclasses of nouns. For some informants, only the *zi* strategy is acceptable, and for some others, both *zi* and *za* are acceptable.

In the *zi* strategy, the occurrence of a noun phrase marker before the second NP is optional, and when it does occur, it may either be an identical marker to the one preceding the first NP, or it may be an invariant *na* marker. For instance:

(27) *tavu'*   *na*   *kizay*   *zi*   *na*   *velvel.*
     sweet   Df.Nom   custard.apple   and   Df.Nom   banana
     'The custard apples and the bananas are sweet.'

(28) *sahar=ku*   *za*   *kizay*   *zi*   *na/za*   *velvel.*
     like=1S.Nom   Id.Obl   custard.apple   and   LK[10]/Id.Obl   banana
     'I like custard apples and bananas.'

(29) *sahar=ku*   *za*   *kizay*   *zi*   *velvel.*
     like=1S.Nom   Id.Obl   custard.apple   and   banana
     'I like custard apples and bananas.'

In a Bible translated by a bishop from Katripul, when *zi* is used to conjoin common nouns, there is always a copula *maw* following *zi*. For example:

(30) *natu*   *in-a-ekan*   *mu*,   *na*   *kakenin*   **zi**   **maw**
     3.PSR   Perf-Red-eat   Top   Df.Nom   locust   and   COP
     na   *ka-walu-an*.
     Df.Nom   Stat-sweet-Nmzr
     'His food was locusts and honey.'

In the same Bible, *za* can also be used to conjoin two common NPs. In those cases, the second NP is always preceded by *na*.

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[10] In this instance, *na* functions as a linker rather as a noun phrase marker. See Teng (2008:90-91) for more discussion on the functional extension of *na* as a linker in Puyuma.

(31) *natu   in-a-ekan   mu, na   kakenin **za   na**   ka-walu-an.*
3.PSR Perf.Red-eat Top Df.Nom locust   ZA Comm Stat-sweet-Nmzr
'His food was locusts and honey.'

C. Location nouns

Like common nouns, both *zi* and *za* strategies are acceptable for the conjunction of location nouns. When conjoined by *zi*, the locative noun phrase marker *i* is optional; when conjoined by *za*, the marker is obligatory.

(32) *m-ukua=ku   i   Valangaw zi   (i)   Kalingko.*
AV-go=1S.Nom Loc   Taitung   and Loc Hualien
'I went to Taitung and Hualien.'

(33) *m-ukua=ku   i   Valangaw za   i   Kalingko.*
AV-go=1S.Nom Loc   Taitung   ZA   Loc Hualien
'I went to Taitung and Hualien.'

D. Possessive NPs

Like in Nanwang, a distinction between distributive possession and collective possession is made in Katripul by using different conjunctive strategies: the *zi* strategy is used in distributive possession, while the *za* strategy is chosen in collective possession. When the *zi* strategy is used, the possessum needs to be repeated again, as indicated in (34). In the *za* strategy, only the possessor appears after *za*, and it is preceded by *i*, rather than by *ni*.

(34) *tu=uma'   ni   Ukak zi   tu=uma'   ni   Risem*
3.PSR=farm Gen Ukak and 3.PSR=farm Gen Risem
'Ukak's and Risem's farms'

(35) *tu=uma'   ni   Ukak za   i   Risem*
3.PSR=farm Gen Ukak ZA   Pers Risem
'Ukak and Risem's farm'

E. Personal pronouns

Katripul speakers do not use *zi* to connect personal pronouns in a verbal clause. IPCs are used when one or both of the NP is a first/second person participant.

(36) *m-ukuwa=**mi**   *za*   *i*   *Senayan*   *i*   *zenan*.
AV-go=1P.Excl.Nom   ZA   Sg.Nom   Senayan   Loc   mountain
'Senayan and I went to the mountains.'

The marker *za* cannot be followed by a pronoun, as shown in (38). Instead, *zi* is used, as in (37). When the order of the NPs is reversed, it is acceptable, as in (39). Or, when *nantu alak* is changed to *alaktaw*, *za* is acceptable, as in (40). In that case, *alak-taw* is treated like a kinship term and thus a personal noun.

(37) *m-ukua*   *i*   *zenan*   *i*   *Senayan*   ***zi***   ***nantu***   *alak*.
AV-go   Loc   mountain   Sg.Nom   Senayan   and   3.PSR   child
'Senayan and her child went to the mountains.'

(38) **m-ukua*   *i*   *zenan*   *i*   *Senayan*   ***za***   ***nantu***   *alak*.
AV-go   Loc   mountain   Sg.Nom   Senayan   ZA   3.PSR   child

(39) *m-ukua*   *i*   *zenan*   ***nantu***   *alak*   ***za***   ***i***   *Senayan*.
AV-go   Loc   mountain   3.PSR   child   ZA   Pers   Senayan
'Her child and Senayan went to the mountains.'

(40) *m-ukua*   *i*   *zenan*   *i*   *Senayan*   ***za***   ***i***   *alak-taw*.
AV-go   Loc   mountain   Sg.Nom   Senayan   ZA   Pers   child-her
'Senayan and her child went to the mountains.'

3.2 Summary and additional comments

Table 4 summarizes the conjunctive strategies used in different categories of noun phrases in Katripul. Table 5 compares the distribution and characteristics of the conjunction markers *zi* and *za*.

Table 4: Conjunctive strategies in Katripul

	zi	*za+i/na*
Personal nouns	✕	✓
Common nouns	✓	✓
Location nouns	✓	✓
Possessive NPs	✓ (distributive)	✓ (collective)
Personal pronouns	✓	✕

Table 5: A comparison of *zi* and *za*

	zi	*za*
position of the marker	A co-B	A co-B
noun phrase marker before the second NP	May be (i) omitted; (ii) nominative, or (iii) the same as the one before the first NP	Is always either *i* (for personal names and place names) or *na* (for common nouns)
types of the second NPs	All types of nouns except for personal nouns	All types of nouns except for personal pronouns

The form *za* is also used as a noun phrase marker indicating the noun following it is an oblique/indefinite common noun. When connecting NPs, the NP following it must be preceded by a nominative noun phrase marker, which is a puzzle.

(41) s<em>angal   i   Senayan za   i   Ukak.
     <AV>happy Sg.Nom Senayan ZA Sg.Nom Ukak
     'Senayan and Ukak are happy.'

(42) tu=vaaw=ku   ni Senayan za   i/*ni   Ukak.
     3.Gen=save=1S.Nom Gen Senayan ZA Sg.Nom/*Gen Ukak
     'Senayan and Ukak saved me.'

3.3 Conjunction marker *zi* in texts

In Ogawa & Asai (1935), Schröder & Quack (1979), and four texts collected by the author herself, *zi* solely functions to connect clauses. In Bible One, which is translated by a bishop from Katripul, the 11 tokens used in NP conjunction in the first three chapters of the Book of Mark all have the copular marker *maw* following *zi*. In Book Two, which is a work of collaboration from speakers of different villages, 23 out of 27 examples of NP conjunction use either *zi* or *zi maw* to conjoin NPs. In the textbooks published by the Ministry of Education, 15 out of 18 examples of NP conjunction use either *zi* or *zi maw*.

Table 6: The occurrence of *zi* in texts

	total	clausal	NP	
			zi	*zi maw*
Ogawa & Asai (1935; 1 text)	28	28	0/1	0/1
Schröder & Quack (1979; 22 texts)	12	12	---[11]	---
Teng (2008-2009; 4 texts)	47	47	0/1	0/1
Bible One	74	63	0/20	11/20
Bible Two	90	57	**19/27**	4/27
Textbook (Book 5-9)	35	20	**13/18**	2/18

4. Tamalakaw

There are two strategies used in marking NP conjunction in Tamalakaw Puyuma; the *zi* strategy and the IPC strategy.

4.1 NP conjunction in types of NPs

A. Personal nouns

Both the IPC strategy and the *zi* strategy are found in conjoining personal nouns. However, according to the older informants,[12] IPC is favored. Unlike the IPCs we have seen in Nanwang and Katripul, in which the pronoun is manifested as a clitic and is used only when there is a first person participant, in Tamalakaw, the pronoun appears twice; as a clitic on the predicate and as a free form after the first NP, as shown in (43) and (44). The second NP is always preceded by *i*, regardless of whether the first NP is marked as nominative or not.

(43)   *asatr   i   Senayan   **intaw**   i   Ukak.*
       tall   Sg.Nom   Senayan   3.Neu   Pers   Ukak
       'Senayan and Ukak are tall.'

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[11] Like what happens in the ritual texts collected by Cauquelin (2008), Katripul ritual texts collected by Schröder & Quack (1979) also make heavy use of systematic doubling, so it is difficult to decide whether a juxtaposition of NPs is an instance of NP conjunction or synonyms.

[12] Two older informants over 80 years of age whom I consulted favor IPC strategy.

(44) **tu**=*vaaw-aw*   *ni*   *Senayan*   **intaw**   *i/*ni*   *Ukak*.
      3.Gen=save-UV:P   Gen   Senayan   3.Neu   Pers/*Gen   Ukak
      'Senayan and Ukak saved her.'

At first glance, readers may wonder why not treat *intaw* as a conjunction marker. It will become clear later that the position occupied by *intaw* in the above sentences is not invariant; when there is a first person or a second person participant involved, the pronoun will be changed to a corresponding inclusory form, as shown below.

(45) *m-ukua*=**mi**   *i*   *zenan*   **iniyam**   *i*   *Senayan.*
      AV-go=1P.Excl.Nom   Loc   mountain   1P.Excl.Neu   Sg.Nom   Senayan
      'Senayan and I went to the mountains.'

(46) *m-ukua*=**mu**   *i*   *zenan*   **inmu**   *i*   *Senayan*.
      AV-go=2P.Nom   Loc   mountain   2P.Neu   Sg.Nom   Senayan
      'You and Senayan went to the mountains.'

When *zi* is used, the two NPs are either preceded by the same noun phrase marker or the noun phrase marker preceding the second NP is omitted. For instance:

(47) *tu=vaaw-aw*   **ni**   *Senayan*   **zi**   (**ni/*i**)   *Ukak*.
      3.Gen=save-UV:P   Gen   Senayan   and   Gen/*Sg.Nom   Ukak
      'Senayan and Ukak saved her.'

B. Common nouns

Common nouns denoting animate participants[13] can use either the IPC strategy or the *zi* strategy. For example, in (48), *zi* is used to conjoin 'this old man' and 'that child', and in (49), a pronoun *intaw* appears between the two NPs. Again, the second NP following the pronoun *intaw* must be preceded by *na*, as indicated in (50).

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[13] Animate/non-human common nouns can use IPC strategy, but inanimate common nouns cannot. Compare a and b.
    a. *mare-'alri'*   *na*   *'arem*   *intaw*   *na*   *lrutung.*
        Recip-friend   Df.Nom   pangolin   3.Neu   Df.Nom   monkey
        'The pangolin and the monkey are friends.'
    b. *tavu'*   *na*   *kiza'*   *zi/*intaw*   *na*   *velvel.*
        sweet   Df.Nom   custard.apple   and/*3.Neu   Df.Nom   banana
        'The custard apples and the bananas are sweet.'

(48) *maw ini na dawdawan **zi** izu na alak na*
COP this Df.Nom old.person and that Df.Nom child Df.Nom
v<en>aaw kani Senayan.
<AV>save Sg.Obl Senayan
'The ones who saved Senayan are this old man and that child.'

(49) *ini na dawdawan intaw na alak*
this Df.Nom old.person 3.Neu Comm child
'this old man and the child'

(50) *tu=vaaw-aw kana dawdawan intaw na/*kana alak.*
3.Gen=save-UV:P Df.Obl old.person 3.Neu Comm/*Df.Obl child
'The old man and the child saved her.'

C. Location nouns

Location nouns can only be conjoined by *zi*. For example:

(51) *m-ukua=ku i valangaw zi i kalingko.*
AV-go=1S.Nom Loc Taitung and Loc Hualien
'I went to Taitung and Hualien.'

D. Possessive NPs

Collective possession can be expressed by using the IPC strategy (as in (52)) or indicated by a plural noun phrase marker (as in (53)).

(52) *tr<em>akaw=ku zatu paysu ni Senayan intaw i Sunay.*
<AV>steal=1S.Nom 3.PSR money Gen Senayan 3.Neu Pers Sunay
'I stole Senayan and Sunay's money.'

(53) *tr<em>akaw=ku zatu paysu na Senayan.*
<AV>steal=1S.Nom 3.PSR money Pl.Gen Senayan
'I stole Senayan's (and her gangs') money.'

The *zi* strategy is used to denote distributive possession, as shown below.

(54) *m-ukua=mi kanantu ruma' ni Senayan **zi** kanantu*
AV-go=1P.Excl.Nom 3.PSR.Obl house Gen Senayan and 3.PSR.Obl
ruma' ni Kulrung.
house Gen Kulrung
'We went to Senayan's and Kulrung's house.'

E. Personal pronouns

Personal pronouns can be conjoined by *zi* when they are: (i) in topic position; or (ii) modified by a relative clause in a non-verbal clause.

(55) *inu   zi   ingku   mu*, *ta=vaaw-aw*   *i*   *Ukak.*
    2S.Neu   and   1S.Neu Top   1P.Gen=save-UV:P   Sg.Nom   Ukak
    'You and I, we've saved Ukak.'

(56) *inu   zi   ingku   na*   *v<en>aaw*   *kani*   *Ukak.*
    2S.Neu   and   1S.Neu Df.Nom <AV>save   Sg.Obl   Ukak
    'You and I are the ones who saved Ukak.'

4.2 Summary and additional comments

Table 7 summarizes the conjunctive strategies used in different categories of noun phrases in Tamalakaw. Table 8 compares the distribution and characteristics of the conjunction strategies.

Table 7: Conjunctive strategies in Tamalakaw

	zi	IPC
Personal nouns	✓	✓
Common nouns	✓	✓
Location nouns	✓	✗
Possessive NPs	✓ (distributive)	✓ (collective)
Personal pronouns	✓	✓

Table 8: A comparison of *zi* and IPC strategies

	zi	Pronoun
position of the marker	A co-B	A Pronoun B
noun phrase marker before the second NP	May be omitted or be the same as the one before the first NP	Is always either *i* (for personal nouns) or *na* (for common nouns)
types of the second NPs	All types of nouns	The NP must be an animate entity

4.3 Conjunction marker *zi* in texts

As in Katripul, the marker *zi* in Tamalakaw also occurs in clausal conjunction. In fact, except for Nanwang, all the other villages use this marker in conjoining clauses. Table 9 compares the occurrence of *zi* in different types of texts in Tamalakaw. Recall that Bible Two is a work done by a group of people from different villages. As a result,

NP conjunction is marked either by juxtaposition or by *zi*. In the two texts collected by the author, only the IPC strategy is used in the instances of NP conjunction.

Table 9: The marker *zi* in Tamalakaw texts

	total	clausal	NP
Teng (2008-2009; 2 texts)	12	12	0/2
Bible Two (Book of Mark ch 1-3)	90	57	19/27
Textbook (Book 5-9)	45	27	18/21

5. Reciprocal vs. non-reciprocal[14]

In the previous sections, we have only seen examples of NP conjunction in non-reciprocal constructions. In this section, we shall see how verbal semantics, i.e. reciprocal vs. non-reciprocal, affects the manifestation of NP conjunction. I shall discuss the reciprocal vs. non-reciprocal asymmetries from the following three aspects: (i) the choice of a conjunctive strategy; (ii) permission of topicalization of one of the conjoined NPs; and (iii) intervention by a temporal/locational expression between the conjoined NPs.

5.1 Conjunctive strategies

In Nanwang, both *aw* and *kay* strategies are acceptable in reciprocal and non-reciprocal constructions, and according to the informants the two strategies are interchangeable, as indicated in (57).

(57) Nanwang
    a. *s<em>a-senay*   *i*   *Senayan* *aw* *i*   *Pilay*.
        <AV> Red-sing Sg.Nom Senayan and Sg.Nom Pilay
        'Senayan and Pilay are singing.'

    a′. *s<em>a-senay* *i*/*na*   *Senayan* *kay* *Pilay*.
         <AV> Red-sing Sg.Nom/Pl.Nom Senayan KAY Pilay
         'Senayan and Pilay are singing.'

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[14] There has been much discussion in the literature on how types of verbs (especially reciprocal vs. non-reciprocal) interacts with the reading of coordination vs. comitativity; for example Chuang (2007) and Zeitoun et al. (2011), among others.

    b. *ma.dra-dreki*[15]   *i*   *Senayan* *aw* *i*   *Pilay.*
        Recip-scold   Sg.Nom Senayan and Sg.Nom Pilay
        'Senayan and Pilay spoke ill of each other.'

    b′. *ma.dra-dreki* *i/na*   *Senayan* *kay* *Pilay.*
        Recip-scold   Sg.Nom/Pl.Nom Senayan KAY Pilay
        'Senayan and Pilay spoke ill of each other.'

In Katripul, both the *zi* strategy and the *za* strategy are acceptable in non-reciprocal constructions, as shown in (58a), but only the *za* strategy can be used in reciprocal constructions, as in (58b).

  (58) Katripul
    a. *s<em>a-senay* *i*   *Senayan* *zi/za* *i*   *Ukesang*.
        <AV> Red-sing Sg.Nom Senayan and/ZA Pers Ukesang
        'Senayan and Ukesang are singing.'

    b. *mare-ka-sa-selru'*   *i*   *Senayan* **zi/za* *i*   *Ukesang*.
        Recip-Stat-Red-scold Sg.Nom Senayan and/ZA Pers Ukesang
        'Senayan and Ukesang spoke ill to each other.'

In Tamalakaw, both the *zi* and the IPC strategies are acceptable in non-reciprocal construction, but only the IPC strategy is permitted in reciprocal constructions, as shown in (59).

  (59) Tamalakaw
    a. *s<em>a-senay* *i*   *Senayan* *zi/intaw* *i*   *Ukesang*.
        <AV> Red-sing Sg.Nom Senayan and/3.Neu Pers Ukesang
        'Senayan and Ukesang are singing.'

    b. *ma.va-varang*   *i*   *Senayan* **zi/intaw* *i*   *Ukesang*.
        Recip-scold   Sg.Nom Senayan and/3.Neu Pers Ukesang
        'Senayan and Ukesang spoke ill of each other.'

To summarize the above discussion, Table 10 is given below:

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[15] Because the affixes indicating reciprocal meaning consist of two elements (a prefix *ma-* plus *Ca-* reduplication), I use a dot instead of a hyphen to avoid possible confusion with other affix combination.

Table 10: Conjunctive strategies in reciprocal and non-reciprocal constructions

	Nanwang		Katripul		Tamalakaw	
	aw	*kay*	*zi*	*za*	*zi*	IPC
Non-reciprocal	✓	✓	✓	✓	✓	✓
Reciprocal	✓	✓	✗	✓	✗	✓

5.2 Topicalization of one of the conjoined NPs

In Nanwang non-reciprocal constructions, it is forbidden to topicalize only one of the conjoined NPs, regardless of which conjunction strategy is used, as shown in the examples below.

(60) Nanwang Puyuma (*kay* strategy)
    a. *m-uka i Balrangaw **i Senayan kay Pilay**.*
        AV-go Loc Taitung Sg.Nom Senayan KAY Pilay
        'Senayan and Pilay went to Taitung.'

    b. ***i Senayan kay Pilay i**, m-uka i Balrangaw.*
        Sg.Nom Senayan KAY Pilay Top AV-go Loc Taitung
        'Senayan and Pilay, they went to Taitung.'

    c. ****i Senayan i**, m-uka i Balrangaw **kay Pilay***.
        Sg.Nom Senayan Top AV-go Loc Taitung KAY Pilay

(61) Nanwang Puyuma (*aw* strategy)
    a. *m-uka i Balrangaw **i Senayan aw i Pilay**.*
        AV-go Loc Taitung Sg.Nom Senayan and Sg.Nom Pilay
        'Senayan and Pilay went to Taitung.'

    b. ***i Senayan aw i Pilay i**, m-uka i Balrangaw.*
        Sg.Nom Senayan and Sg.Nom Pilay Top AV-go Loc Taitung
        'Senayan and Pilay, they went to Taitung.'

    c. ****i Senayan i**, m-uka i Balrangaw **aw i Pilay***.
        Sg.Nom Senayan Top AV-go Loc Taitung and Sg.Nom Pilay

In Katripul, on the other hand, in the *za* strategy, it is permitted to topicalize either (i) only one of the conjoined NPs, or (ii) the whole conjoined NPs, as shown in (62b) and (62c).

(62) Katripul Puyuma (*za* strategy)

    a. *m-ukua i Valrangaw **i Ukesang za i Risem***.
       AV-go Loc Taitung   Sg.Nom Ukesang ZA Pers Risem
       'Ukesang and Risem went to Taitung.'

    b. ***i Ukesang za i Risem mu***, *m-ukua i Valrangaw*.
       Sg.Nom Ukesang ZA Pers Risem Top AV-go Loc Taitung
       'Ukesang and Risem, they went to Taitung.'

    c. ***i Ukesang mu***, *m-ukua i Valrangaw za i Risem*.
       Sg.Nom Ukesang Top AV-go Loc Taitung   ZA Pers Risem
       'Ukesang, she went went to Taitung with Risem.'

However, in the *zi* strategy, only topicalization of the whole conjoined NPs is allowed.

(63) Katripul Puyuma (*zi* strategy)

    a. *ma-lemes **na hung zi na verek***.
       AV-disappear Df.Nom ox   and Df.Nom pig
       'The ox and the pig disappeared.'

    b. ***na hung zi na verek mu***, *ma-lemes*.
       Df.Nom ox   and Df.Nom pig   Top AV-disappear
       'The ox and the pig, they disappeared.'

    c. *****na hung mu***, *ma-lemes zi na verek*.
       Df.Nom ox   Top AV-disappear and Df.Nom pig

In Tamalakaw, as in the case of Nanwang, only topicalization of the whole conjoined NPs is allowed in both strategies, as shown below.

(64) Tamalakaw Puyuma (IPC strategy)

    a. *marelang m-ukua i zenan **na/i Senayan intaw***
       together AV-go Loc mountain Pl.Nom/Sg.Nom Senayan 3.Neu
      i Pilay.
       Pers Pilay
       'Senayan and Pilay went to the mountains together.'

b. ***na*/*i***   ***Senayan***   ***intaw***   ***i***   ***Pilay***   ***mu*,**   *marelang*
    Pl.Nom/Sg.Nom   Senayan   3.Neu   Pers   Pilay   Top   together
    m-ukua   *i*   *zenan.*
    AV-go   Loc   mountain
    'Senayan and Pilay, they went to the mountains together.'

c. ****i***   ***Senayan***   ***mu***,   *marelang*   *m-ukua*   *i*   *zenan*   ***intaw***
    Sg.Nom   Senayan   Top   together   AV-go   Loc   mountain   3.Neu
    i   ***Pilay***.
    Pers   Pilay

(65)   Tamalakaw Puyuma (*zi* strategy)

    a.   *marelang*   *m-ukua*   *i*   *zenan*   ***i***   ***Senayan***   ***zi***
      together   AV-go   Loc   mountain   Sg.Nom   Senayan   and
      i   ***Pilay***.
      Sg.Nom   Pilay
      'Senayan and Pilay went to the mountains together.'

    b.   ***i***   ***Senayan***   ***zi***   ***i***   ***Pilay***   ***mu***,   *marelang*   *m-ukua*
      Sg.Nom   Senayan   and   Sg.Nom   Pilay   Top   together   AV-go
      i   *zenan.*
      Loc   mountain
      'Senayan and Pilay, they went to the mountains together.'

    c.   ****i***   ***Senayan***   ***mu***,   *marelang*   *m-ukua*   *i*   *zenan*   ***zi***
      Sg.Nom   Senayan   Top   together   AV-go   Loc   mountain   and
      i   ***Pilay***.
      Sg.Nom   Pilay

In reciprocal constructions, one of the conjoined NPs in a *kay* construction is permitted to move to the topic position in Nanwang Puyuma, as shown in (66b). Topicalization of one of the conjoined NPs in *aw* construction is not permitted, as in (67b).

(66)   Nanwang Puyuma (*kay* strategy)

    a.   *mare-kataguin*   ***i***   ***Senayan***   ***kay***   ***Ukak***.
      Recip-spouse   Sg.Nom   Senayan   KAY   Ukak
      'Senayan and Ukak are husband and wife.'

    b.   ***i***   ***Senayan***   ***i***,   *mare-kataguin*   ***kay***   ***Ukak***.
      Sg.Nom   Senayan   Top   Recip-spouse   KAY   Ukak
      'Senayan, she and Ukak are husband and wife.'

(67) Nanwang Puyuma (*aw* strategy)

    a. *ma.dra-drikul **i**   **Senayan aw** **i**   **Ukak**.*
       Recip-brawl Sg.Nom Senayan and Sg.Nom Ukak
       'Senayan and Ukak brawled.'

    b. ***i**   **Senayan i**, *ma.dra-drikul* **aw i**   **Ukak**.*
       Sg.Nom Senayan Top Recip-brawl   and Sg.Nom Ukak

Similarly, moving one of the conjoined NPs in a *za* construction (Katripul) or in an IPC (Tamalakaw) to the topic position is permitted.[16]

(68) Katripul Puyuma (*za* strategy)

    a. *mare-ka-sa-selru'*   **i**   **Senayan za i**   **Ukesang**.
       Recip-Stat-Red-scold Sg.Nom Senayan ZA Pers Ukesang
       'Senayan and Ukesang spoke ill of each other.'

    b. ***i**   **Senayan mu**, *mare-ka-sa-selru'*   **za i**   **Ukesang**.*
       Sg.Nom Senayan Top Recip-Stat-Red-scold ZA Pers Ukesang
       'Senayan, she and Ukesang spoke ill of each other.'

(69) Tamalakaw Puyuma (IPC strategy)

    a. *ma.va-varang **i**   **Senayan intaw i**   **nani**.*
       Recip-scold   Sg.Nom Senayan 3.Neu Pers my.mother
       'Senayan and my mother spoke ill of each other.'

    b. ***i**   **Senayan mu**, *ma.va-varang* **intaw i**   **nani**.*
       Sg.Nom Senayan Top Recip-scold   3.Neu Pers my.mother
       'Senayan, she and my mother spoke ill of each other.'

From the above examples, we find that the *kay* construction in Nanwang and the IPC in Tamalakaw have asymmetrical properties in reciprocal and non-reciprocal constructions, with regard to the possibility of topicalizing one of the conjoined NPs. In non-reciprocal constructions, their behaviors are similar to the standard coordination constructions (*aw* construction in Nanwang and *zi* in Tamalakaw), whereas in reciprocal constructions, *kay* and IPC display distinctive characteristics to *aw* and IPC. The situation in Katripul, however, is different. It is possible to topicalize one of the conjoined NPs in a *za* construction, regardless of whether it indicates a reciprocal or a non-reciprocal meaning.

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[16] Recall that the *zi* strategy is not permitted in a reciprocal construction in both Katripul and Tamalakaw.

5.3 Intervention of a temporal/locative expression between conjoined NPs

In a non-reciprocal construction in Nanwang, whether applying the *aw* or the *kay* strategy, a temporal or a locative expression cannot appear between the conjoined NP. In a reciprocal construction, a locative or a temporal expression still cannot intervene between the two conjoined NPs in the *aw* strategy, but such a restriction does not exist in the *kay* strategy.

(70) Nanwang Puyuma (non-reciprocal; *aw* strategy)

    a. *mi-rawa   i   Isaw **aw** i   Ukak **i**   **drenan**.*
        have-prey Sg.Nom Isaw and Sg.Nom Ukak Loc mountain
        'Isaw and Ukak got their prey in the mountains.'

    a′. *mi-rawa   i   Isaw **i**   **drenan**   **aw**   i   Ukak.*
        have-prey Sg.Nom Isaw Loc mountain and Sg.Nom Ukak

    b. *mi-rawa   i   Isaw **aw** i   Ukak **adaman**.*
        have-prey Sg.Nom Isaw and Sg.Nom Ukak yesterday
        'Isaw and Ukak got their prey yesterday.'

    b′. *mi-rawa   i   Isaw **adaman** **aw** i   Ukak.*
        have-prey Sg.Nom Isaw yesterday and Sg.Nom Ukak
        'Isaw got his prey yesterday, and Ukak too.'

(71) Nanwang Puyuma (non-reciprocal; *kay* strategy)

    a. *mi-rawa   na   Isaw **kay** Ukak **i**   **drenan**.*
        have-prey Pl.Nom Isaw KAY Ukak Loc mountain
        'Isaw and Ukak got their prey in the mountains.'

    a′. *mi-rawa   na   Isaw **i**   **drenan**   **kay** Ukak.*
        have-prey Pl.Nom Isaw Loc mountain KAY Ukak

    b. *mi-rawa   na   Isaw **kay** Ukak **adaman**.*
        have-prey Pl.Nom Isaw KAY Ukak yesterday
        'Isaw and Ukak got their prey yesterday.'

    b′. *mi-rawa   na   Isaw **adaman** **kay** Ukak.*
        have-prey Pl.Nom Isaw yesterday KAY Ukak

(72) Nanwang Puyuma (reciprocal; *aw* strategy)

    a. *mare-kataguin i   Ukak aw i   Pilay **i**   **balrangaw**.*
        Recip-spouse Sg.Nom Ukak and Sg.Nom Pilay Loc Taitung
        'Ukak and Pilay got married in Taitung.'

a′. *mare-kataguin i   *Ukak*   ***i***   ***balrangaw** aw i*   *Pilay.*
Recip-spouse   Sg.Nom   Ukak   Loc   Taitung   and   Sg.Nom   Pilay

b.   *mare-kataguin i*   *Ukak aw i*   *Pilay **adaman**.*
Recip-spouse   Sg.Nom   Ukak   and   Sg.Nom   Pilay   yesterday.
'Ukak and Pilay got married yesterday.'

b′. *mare-kataguin i   *Ukak **adaman**   aw   i*   *Pilay.*
Recip-spouse   Sg.Nom   Ukak   yesterday   and   Sg.Nom   Pilay

(73)   Nanwang Puyuma (reciprocal; *kay* strategy)

a.   *mare-kataguin i*   *Ukak kay Pilay*   ***i***   ***balrangaw**.*
Recip-spouse   Sg.Nom   Ukak   KAY   Pilay   Loc   Taitung
'Ukak and Pilay got married in Taitung.'

a′.   *mare-kataguin i*   *Ukak*   ***i***   ***balrangaw** kay   Pilay.*
Recip-spouse   Sg.Nom   Ukak   Loc   Taitung   KAY   Pilay
'Ukak and Pilay got married in Taitung.'

b.   *mare-kataguin i*   *Ukak kay Pilay*   ***adaman**.*
Recip-spouse   Sg.Nom   Ukak   KAY   Pilay   yesterday
'Ukak and Pilay got married yesterday.'

b′.   *mare-kataguin i*   *Ukak **adaman** kay   Pilay.*
Recip-spouse   Sg.Nom   Ukak   yesterday   KAY   Pilay

In Katripul, a locative or temporal expression cannot intervene the conjoined NPs when the *zi* strategy is applied, but it is permitted to appear between the conjoined NPs when the *za* strategy is used (regardless of whether it is a reciprocal or a non-reciprocal construction).

(74)   Katripul Puyuma (non-reciprocal; *zi* strategy)

a.   *m-ukua*   ***i***   ***Valrangaw** izu   na*   *dawdawan   zi   izu*
AV-go   Loc   Taitung   that   Df.Nom   old.person   and   that
na   *alak.*
Df.Nom   child
'The old man and the child went to Taitung.'

a′. *m-ukua izu   na   *dawdawan*   ***i***   ***Valrangaw** zi   izu*
AV-go   that   Df.Nom   old.person   Loc   Taitung   and   that
na   *alak.*
Df.Nom   child

b. *s<em>angal izu   na   dawdawan zi   izu   na   alak*
    <AV>happy that Df.Nom old.person and that Df.Nom child
    adaman.
    yesterday
    'The old man and the child were happy yesterday.'

b′. **s<em>angal izu   na   dawdawan **adaman** zi   izu*
     <AV>happy that Df.Nom old.person yesterday and that
     na   alak.
     Df.Nom child

(75) Katripul Puyuma (non-reciprocal; *za* strategy)

a. *m-ukua **i**   **Valrangaw** i   Ukesang   za   i   Risem.*
    AV-go Loc Taitung   Sg.Nom Ukesang ZA Pers Risem
    'Ukesang and Risem went to Taitung.'

a′. *m-ukua i   Ukesang **i**   **Valrangaw** za   i   Risem.*
     AV-go Sg.Nom Ukesang Loc Taitung   ZA Pers Risem
     'Ukesang and Risem went to Taitung.'

b. *m-ukua i Valrangaw i   Ukesang za i   Risem **adaman**.*
    AV-go Loc Taitung   Sg.Nom Ukesang ZA Pers Risem yesterday
    'Ukesang and Risem went to Taitung yesterday.'

b′. *m-ukua i   Valrangaw i   Ukesang **adaman** za i   Risem.*
     AV-go Loc Taitung   Sg.Nom Ukesang yesterday ZA Pers Risem
     'Ukesang and Risem went to Taitung yesterday.'

(76) Katripul Puyuma (reciprocal; *za* strategy)

a. *mare-ka-sa-selru'   i   Senayan za   i   Ukesang **i***
    Recip-Stat-Red-scold Sg.Nom Senayan ZA Pers Ukesang Loc
    kungkwan.
    school
    'Senayan and Ukesang spoke ill of each other at school.'

a′. *mare-ka-sa-selru'   i   Senayan **i**   **kungkwan** za*
     Recip-Stat-Red-scold Sg.Nom Senayan Loc school   ZA
     i   Ukesang.
     Pers Ukesang
     'Senayan and Ukesang spoke ill of each other at school.'

b. *mare-ka-sa-selru'*   *i*   *Senayan za i*   *Ukesang*
Recip-Stat-Red-scold   Sg.Nom   Senayan ZA Pers Ukesang
adaman.
yesterday
'Senayan and Ukesang spoke ill of each other yesterday.'

b′. *mare-ka-sa-selru'*   *i*   *Senayan **adaman** za i*   *Ukesang.*
Recip-Stat-Red-scold Sg.Nom Senayan yesterday ZA Pers Ukesang
'Senayan and Ukesang spoke ill of each other yesterday.'

To summarize the above discussion, Table 11 is given below:

Table 11: NP conjunction in reciprocal and non-reciprocal constructions

	Nanwang				Katripul				Tamalakaw			
	Reciprocal		Non-reciprocal		Reciprocal		Non-reciprocal		Reciprocal		Non-reciprocal	
	kay	*aw*	*kay*	*aw*	*za*	*zi*	*za*	*zi*	**IPC**	*zi*	**IPC**	*zi*
topicalization of one of the conjoined NPs	✓	✗	✗	✗	✓	---[17]	✓	✗	✓	---	✗	✗
intervention of a temporal/locative expression between the conjoined NPs	✓	✗	✗	✗	✓	---	✓	✗	✓	---	✗	✗

From Table 11 we see that the *kay* strategy in Nanwang and the IPC strategy in Tamalakaw display asymmetrical properties when used in reciprocal and non-reciprocal constructions. In a non-reciprocal construction, their behavior is similar to that of *aw* (or *zi*), a standard coordinator, whereas in a reciprocal construction, their behavior is distinct from that of the standard coordinators.

6. The analysis of Nanwang *kay* and Katripul *za+i*/*na*

At least diachronically, *kay* can be analyzed as consisting of two elements; *ka* and *i*. The form **ka-* is reconstructed in PAn by Ross (2006:528) as a preposition based on data from Saisiyat, Puyuma, and PMP. Teng (2008) has a brief discussion of the status of *kay*,[18] as to whether it should be analyzed as a connector, conjoining two nouns, or

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[17] The *zi* strategy is not permitted in reciprocal constructions in Katripul as well as in Tamalakaw.

[18] An example from Teng (2008) also suggests that *kay* may be a verb. In that example, it

as a comitative marker. If it is a connector, then the noun phrase marker preceding the big NP should be a plural marker, but sometimes it is not. If it is a comitative marker, then, the noun phrase marker preceding the first NP should only indicate the number of the first NP. There are counterexamples to either analysis. Its different behaviors in reciprocal vs. non-reciprocal constructions discussed in §5 suggest that it is still undergoing a grammaticalization process: from a comitative marker to a connector and this can explain its dual properties. Thus, in a reciprocal construction, the NPs conjoined by it can be separated by a locative or a temporal expression, and one of the NPs can be topicalized. On the other hand, in a non-reciprocal construction, *kay* functions more like a connector and so the NPs conjoined are always standing together.

The case in Katripul is slightly different. Unlike in Nanwang, the conjunctive strategy *za+i/na* consists of two elements not only diachronically; synchronically they are still treated as two elements morphologically as well as phonologically. While *kay* diachronically came from **ka* 'preposition' and *i* 'noun phrase marker', the strategy *za +i/na* consists of two noun phrase markers: *za* 'oblique noun phrase marker' and *i/na* 'nominative noun phrase marker'. This fact leads us to think that the forms in the current noun phrase marker paradigm are historically from different sources.[19]

Syntactically, *kay* and *za+i/na* also display similar properties, with one exception. While *kay* is like a comitative marker in reciprocal construction, but like a linker in non-reciprocal construction, *za+i/na* behaves like a comitative marker in both constructions; the NPs can be separated by a temporal/locative expression, and one of the conjoined NPs can be put in the topic position alone.

Incidentally, Nanwang and Katripul also show how different dialects of a language can grammaticize different markers for the same purpose, and because the dialects remain in contact, their histories are similar even though the forms are different.

It is worth pointing out that although the Tamalakaw IPC is different, Austronesian inclusory constructions function more like comitatives than like conjoined NPs (see Bril 2011).

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appears in clause-initial position, attracting a pronominal clitic and an aspectual clitic. It only co-occurs with first person pronouns (*=ku* '1S.Nom', *=ta* '1P.Incl', and *=mi* '1P.Excl'). Whether it is the same '*kay*' as discussed in this paper or just a homophone is indecisive in the present study.

> *andaman   i,   kay=ta=driya*[18]   *pa-ka-ladram-a.*
> days.later   Top   go=1P.Incl.Nom=IMPF   Caus-ka-know-PJ
> 'A few days later, we all went together to let people know.'

[19] It is possible that the status of *za* is like a preposition, and *i* and *na* are noun class markers.

7. The rise of conjunction markers

Mithun (1988:331-333) points out that coordination may be indicated in two ways; first, by intonation, and second, by formal markers. When signaled intonationally, the coordinate constituents may be combined with no intonation break or they may be separated by a pause and a special non-final pitch. Teng (2008:271) shows that in the case of Puyuma, when there is no formal marker, a pause appears between coordinated constituents, and all the non-final constituents in a coordinate sequence have a rising contour, as shown in (77).

(77)　Nanwang Puyuma

ta=puka-ay　　*dra*　　*palrubelrub*　*i*　　*sabak*　*dra*　　*kalang*,
1P.Gen=put-UV:L　Id.Obl　filling　　　Loc　inside　Id.Obl　crab

dra　　*patraka*,　*dra*　　*in-iyam-an*,　*dra*　　*ni-rames*.
Id.Obl　meat　　　Id.Obl　Perf-salt-Nmzr　Id.Obl　Perf-pickled
'We put filling inside, including crab meat, meat, and pickled vegetables.'

We have seen in the previous sections that NP conjunction with no overt marker is default in oral texts in Puyuma. In addition to juxtaposition, each dialect has two distinct ways in marking NP conjunction, as summarized below.

Table 12: Diachronic sources of the conjunction markers

	Marker/construction	**Source**
Nanwang	*aw*	Clausal connective element
	kay	Comitative marker (diachronically from a preposition plus a noun phrase marker)
Katripul	*zi*	Clausal connective element
	za+i/na	Obl NP marker plus a noun phrase marker
Tamalakaw	*zi*	Clausal connective element
	intaw/inmu/iniyam	Pronoun

Mithun (1988) points out that NP coordinators derive from various sources by way of a process of grammaticalization. Possible sources are: comitative marker, sentence adverbials with the original meaning 'also, too, as well' or 'furthermore, then'. This is the case of *kay*, *za+i/na*, *aw* and *zi* in Puyuma dialects. Stassen (2003) adds several other diachronic possibilities, such as numerals or quantifiers like 'two', 'both' or 'all', and pronouns (dual or plural personal pronouns). This last is the case of *intaw/inmu/iniyam* in Tamalakaw.

From the texts collected by Ogawa & Asai and by this author, Nanwang *aw* and Katripul-Tamalakaw *zi* are mainly used as a clausal connective element, meaning "and then". They are rarely used as an NP connector in oral texts, and NP conjunction is mostly indicated by zero-marked enumeration. Both Mithun (1988) and Stassen (2000) note that this kind of coordination tends to be marginalized into specific functions or **becomes replaced by an overt strategy**. Mithun further suggests that this is due to increased literacy. The case in Puyuma is a typical example.

Teng (2008) suggests that in Puyuma the need for an overt marking in written language is important also because of the difficulty of differentiating a modifying construction from a coordinate NP construction without an overt coordinator. In Nanwang Puyuma, a modifying construction consists of two constituents, the modifier and the modifyee being marked by an identical noun phrase marker. Thus a modifying construction, as in (78a), looks similar to an NP conjunction, as in (78b), except that the intonation patterns of the two are different, and there is always a pause between two NPs in NP conjunction. In (79), there are four constituents marked by *na*, the relation of the first three is conjunction, but the relation between the last two is modification.

(78) Nanwang Puyuma

　　a. ***a　　　kawi　a　　　matrina*** *idrunu*.
　　　　Id.Nom　tree　Id.Nom　big　　　that.Nom
　　　　'That is a big tree.'

　　b. *ulaya　a　　　kawi*, *a　　　'aputr*.
　　　　exist　Id.Nom　tree　Id.Nom　flower
　　　　'There are trees and flowers.'

(79) Nanwang Puyuma
　　maumau　na　　Pasara'adr, *na　　Raera*, *na　　　miasama*
　　only　　　Df.Nom　Pasara'adr　Df.Nom　Raera　Df.Nom　some
　　na　　temaramaw.
　　Df.Nom　witch
　　'Only the Pasara'adr family, the Raera family, and some witches.'

Another piece of evidence supporting our hypothesis that *aw*/*zi* was originally used as a clausal connector comes from the fact that, in the case of Nanwang Puyuma, when there is a temporal expression standing between the conjoined NPs, a distributive meaning is obtained. For instance:

(80) Nanwang Puyuma

*mi-rawa   i   Isaw   **adaman**   **aw**   i   Ukak*.
have-prey   Sg.Nom   Isaw   yesterday   and   Sg.Nom   Ukak
'Isaw got his prey in the mountains, and Ukak too.'

In §3, we have seen that in Katripul, *zi* is usually followed by *maw* when conjoining NPs in natural texts. This implies that the part following *zi* is a clause not an NP.

(81) *natu   in-a-ekan   mu*,   *na   kakenin   **zi**   **maw***
3.PSR   Perf-Red-eat   Top   Df.Nom   locust   and   COP
na   ka-walu-an.
Df.Nom   Stat-sweet-Nmzr
'His food was locusts and honey.'

In this paper I have seen the strategies used in the Puyuma dialects spoken in Nanwang, Katripul, and Tamalakaw villages, and I have successfully shown that although the differences among the dialects are said to be trivial, the strategies and markers used in NP conjunction are rather diverse. I have also shown that in each dialect there is a marker which displays the properties of being a coordinator, and this marker (*aw* in Nanwang and *zi* in Tamalakaw and Katripul), in the oral texts collected by Ogawa & Asai and this author, almost always functions to connect clauses. Their functioning as an NP connector is mostly found in (i) textbooks, (ii) elicitation, and (iii) translated works, such as the Bible. Thus I conclude that their functioning as an NP connector is a later development out of the need for literary clarity.

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卑南語三個方言的名詞組連接

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　　本文探討卑南語南王、知本、泰安三村的名詞組連接結構。這三個方言都各有一個策略是僅用於名詞組連接（如南王方言的 *kay*，知本方言的 *za+i/na*，以及泰安方言的包含式代名詞），而有另一策略是不限於用在名詞組連接，亦可用於子句或句子的連接。根據在相互及非相互結構中這兩個策略所表現出來不相稱的特質，我們認為南王方言的 *kay* 及知本方言的 *za+i/na* 原本是用來標記伴同結構，而今經歷了語法化的過程，也可用來標記並列結構。另一方面，南王方言的 *aw* 及知本、泰安方言的 *zi* 之被用於名詞組連接則有不同的起因。藉由比較不同種類的篇章語料與它們出現的比例，我們認為，*aw* 跟 *zi* 原是用來連接子句，它們被用於名詞組連接，是為因應近期文字化之需要而有的後起發展。

關鍵詞：名詞組連接，卑南語，伴同，語法化，文字化