

- b. masaLu ti kui *a/*t(u)a/tu/*∅[na-v-en-eLi ti kai tua kun].
 believe-AF Nom Kui Past-buy-AF Nom Kai Acc skirt
 ‘Kui believes that Kai bought a skirt.’
- (2) a. vaik ti kai a/*t(u)a/*tu/*∅ [v-en-eLi tua kun].
 go-AF Nom Kai buy-AF Acc skirt
 ‘Kai goes to buy a skirt.’
- b. makaya ti kai a/*t(u)a/*tu/*∅ [k-em-an tua ci’au].
 can-AF Nom Kai eat-AF Acc fish
 ‘Kai can eat fish.’
- (3) a. l-em-auy ti kai a/t(u)a/tu/*∅[k-em-an tua ci’au].
 agree-AF Nom Kai eat-AF Acc fish
 ‘Kai agrees to eat fish.’
- b. s-em-avuta ti kai tai kui a/t(u)a/tu/*∅[k-em-an tua ci’au].
 force-AF Nom Kai Acc Kui eat-AF Acc fish
 ‘Kai forces Kui to eat fish.’

With Paiwan examples like (1)-(3) and others, to be compared with their English counterparts, two major questions arise. That is, are *a*, *t(u)a* and *tu* case markers, complementizers (like *that*), infinitival markers (like *to*) or another kind of markers? And are there rules governing their occurrences? The main purpose of this paper is an attempt to answer these questions by comparing cases like (1)-(3) with other types of relevant constructions in Paiwan. We argue in section 2 that while there appear apparent counter-examples against a complementizer approach to Paiwan *tu* in sentences like (1), it is best analyzed as a finite complementizer rather than an Accusative marker. Section 3 is devoted to the discussion of different types of tenseless clausal complements. It is shown that Paiwan may use the non-finite clause and nominalization to express a tenseless complement, the choice of which varies with the types of co-occurring matrix verbs. Non-finite clauses are introduced by non-finite complementizer *a*, as in (2) and (3), whereas nominalized constituents are marked with *t(u)a* or *tu*, as in (3). In section 4 it is suggested that in addition to the derivation of the finite and non-finite complementizers from certain case markers, in Paiwan certain case markers seem to be also used to form other types of conjunctions.

Before going into the examination of sentences like (1)-(3), a sketch of Nominative and Accusative markers discussed in Tang *et al.* (1997) is given in (4) below (see also Tsao & Chang 1995, Huang *et al.* 1998, among others).

(4) Paiwan Nominative and Accusative markers (Based on Tang *et al.* 1997)

Cases	Nom	Acc
Nouns		

[- personal name]	a	tua
		ta
Partitive	nu	tu
=====		
[+ personal name]		
Singular	ti	tai
Plural	tia	taia

Three questions seem to arise from the comparison of (4) with (1)-(3) if in the latter *a*, *t(u)a* and *tu* should be regarded as case markers. First, will such case-marked complements appear in positions similar to Nominative, Accusative and Partitive noun phrases? Second, will the referential properties of such complements pattern with those of Nominative, Accusative and Partitive noun phrases? Third, is it the case that case markers assigned to personal names cannot co-occur with clausal complements? To answer these and other questions, in the following discussion we will examine in detail the syntactic and semantic behavior of *a*, *t(u)a* and *tu* in sentences like (1)-(3).

2. FINITE CLAUSAL COMPLEMENTS

2.1 As case marker

To begin with, consider again (1a), repeated below as (5).

(5) Paiwan

k-em-elang ti kui *a/*t(u)a/*tu/*∅ [na-v-en-eLi ti kai tua kun].
 know-AF Nom Kui Past-buy-AF Nom Kai Acc skirt
 ‘Kui knows that Kai bought a skirt.’

In (5) AF *k-em-elang* ‘know’ seems to take *ti kui* ‘Kui’ and *tu na-v-en-eLi ti kai tua kun* ‘Kai bought a skirt’ as its subject and object, respectively. In other words, (5) may be said to pattern with (6) except that the object in (5) is a clause whereas that in (6) is a noun phrase.

(6) Paiwan

k-em-elang ti kui *a/t(u)a/*tu/*∅ azua a sengsengan.
 know-AF Nom Kui that matter
 ‘Kui knows that matter.’

In view of this similarity, it seems that *tu* in (5) may be analyzed as an Accusative marker. Note, however, that in (6), as opposed to (5), Partitive *tu* is disallowed in

that *azua a sengsengan* ‘that matter’ is not non-specific in reference. *tua*, by comparison, can appear with definite or indefinite noun phrases. With the assumption that finite clauses have referential or deictic tense while infinitives have anaphoric or no tense, it has been proposed in the literature that the definite-indefinite distinction may also be said about clauses. That is, tensed clauses may be treated as definite in reference and tenseless clauses are by comparison indefinite. If this should be the case, it remains unanswered why the tensed clausal complement in (5) is marked with Partitive Accusative *tu*, but not with nonPartitive Accusative *t(u)a*.²

Note also that (5) may be changed into (7a), in which *kai* is marked with Accusative *tai* but not Nominative *ti* and the subject of the embedded clause is missing.

(7) Paiwan

a. k-em-elang ti kui *ti/tai kai *a/*t(u)a/tu/*∅
 know-AF Nom Kui Nom/Acc Kai
 [na-v-en-eLi tua kun].
 Past-buy-AF Acc skirt
 ‘Kui knows that Kai bought a skirt.’

b. k-em-elang ti kui *a/tua vatu *a/*t(u)a/tu/*∅ [na-k-en-ac tua
 know-AF Nom Kui Nom/Acc dog Past-bite-AF Acc
 ngiau].
 cat
 ‘Kui knows that the dog bit a cat.’

Furthermore, Accusative *kai* need not result from movement out of the tensed complement due to the fact that in the embedded clause Nominative *ti madu* ‘(s)he’ may appear and must be co-referential with Accusative *kai*, as shown in (8).

² One reviewer, however, points out that in addition to *tu*, his/her informants can accept the co-occurrence of *tua* with the clausal complement in cases like (1). While this grammatical difference will not affect our analysis proposed in the paper, the reviewer did not state that *tua* can occur in sentences like (10).

(8) Paiwan

k-em-elang ti kui *ti/tai kaij *a/*t(u)a/tu/*∅ [na-v-en-eLi
 know-AF Nom Kui Nom/Acc Kai Past- buy-AF
 ti madu*_{i/j} tua kun].
 Nom she Acc skirt
 ‘Kui knows that Kai bought a skirt.’

In other words, with the assumption that Paiwan is a pro-drop language (see the discussions of (12)-(13)), Accusative *kai* may be obligatorily co-indexed with an empty pro and a lexical pronoun in the subject position of the embedded clause of (7a) and (8), respectively.

Consequently, the grammaticality of (7)-(8), together with the assumption that in (5) and (7)-(8) *tu* may act as a case marker, will predict that AF *k-em-elang* ‘know’ may function as a three-argument verb. This prediction is borne out in sentences like (9).

(9) Paiwan

- a. k-em-elang ti kui t(u)a azua a sengsengan.
 know-AF Nom Kui Acc that matter
 ‘Kui knows that matter.’
- b. k-em-elang ti kui tai kai.
 know-AF Nom Kui Acc Kai
 ‘Kui knows Kai.’
- c. k-em-elang ti kui tai kai t(u)a azua a sengsengan.
 know-AF Nom Kui Acc Kai Acc that matter
 ‘Kui knows that matter about Kai.’

Examine next cases like (10) and (11), which contain PF *k-in-elang* ‘know’.

(10) Paiwan

k-in-elang ni kui *a/*t(u)a/tu/*∅ [na-v-en-eLi ti kai tua kun].
 know-PF Gen Kui Past-buy-AF Nom Kai Acc skirt
 ‘Kui knows that Kai bought a skirt.’

(11) k-in-elang ni kui a azua a sengsengan.

know-PF Gen Kui Nom that matter
 ‘Kui knows that matter.’

Two things need to be noticed here. First, as (11) exemplifies, PF *k-in-elang* takes the theme phrase as its subject. Second, in (10) *kui* is marked with Genitive and *na-v-en-eLi ti kai tua kun* Accusative. If *na-v-en-eLi ti kui tua kun* does not function as a sentential subject of PF *k-in-elang*, where is the subject of the whole

sentence? Paiwan, as pointed out in Tang *et al.* (1997), is a pro-drop predicate-initial language with both VSO and VOS word orders. Cases like (12) and (13) are of this kind.

(12) Paiwan (Tang *et al.* 1997)

a. na-v-en-eLi (ti kai) tua kun.
 Past-buy-AF Nom Kai Acc skirt
 ‘Kai bought the skirt.’

b. na-d-em-ukuL ti kai (tai kui).
 Past-beat-AF Nom Kai Acc Kui
 ‘Kai beat Kui.’

(13) a. v-in-eLi ni kai (a kun).
 buy-PF Gen Kai Nom skirt
 ‘Kai bought a skirt.’

b. d-in-ukuL (ni kai) ti kui.
 beat-PF Gen Kai Nom Kui
 ‘Kai beat Kui.’

Therefore, we propose that in sentences like (10) above verbs like PF *k-in-elang* ‘know’ may take a null element as their subject. This postulation is further evidenced by the fact that while Nominative *a* cannot appear with the clausal complement in (10), Nominative *ti kai* has been found in matrix subject position of (14a) below, which must be co-indexed with the pronominal subject of the complement clause.

(14) Paiwan

a. k-in-elang ni kui_i ti kai_j *a/*t(u)a/tu/*∅ [na-v-en-eLi ti
 know-PF Gen Kui Nom Kai Past-buy-AF Nom
 madu/pro*_{i/j} tua kun].
 she Acc skirt
 ‘Kui knew that Kai bought a skirt.’

b. k-in-elang ni kui_i a vatu_j *a/*t(u)a/tu/*∅ [na-k-en-ac pro*_{i/j}
 know-PF Gen Kui Nom dog Past-bite-AF
 tua ngiau].
 Acc cat
 ‘Kui knew that the dog bit a cat.’

It also follows from this case approach that Accusative *tu* in question cannot be deleted, because, as (15) and (16) illustrate, case markers must be present in Paiwan.

(15) Paiwan

- a. na-v-en-eLi *(ti) kai tua kun.
 Past-buy-AF Nom Kai Acc skirt
 ‘Kai bought a skirt.’
- b. na-v-en-eLi ti kai *(tua) kun.
 Past-buy-AF Nom Kai Acc skirt
 ‘Kai bought a skirt.’

(16) a. v-in-eLi ni kai *(a) kun.
 buy-PF Gen Kai Nom skirt
 ‘Kai bought the skirt.’

- b. v-in-eLi *(ni) kai a kun.
 buy-PF Gen Kai Nom skirt
 ‘Kai bought the skirt.’

It should also be noted here that *tu* in cases like (5) and (10) is not to be analyzed as case-marking a complex noun phrase with a null head noun (cf. Chang 1997). For one thing, it has been illustrated in (6) that *tu* cannot co-occur with an object noun phrase definite in reference. For another, as exemplified in (10), *tu* cannot be replaced by Nominative *a*. A third reason is that two other overt arguments may appear before the *tu*-marked clause, as (7)-(8) and (14) show.

Before turning to the next section, three things are worthy of mentioning. First, in the discussion of Mayrinax complex sentences Huang (1995) suggests that *cu'* in examples like (17a-c) cannot be regarded as an Accusative marker that may be assigned to non-referential common nouns. Instead, it should be treated as a linker. Her argument is that if there should appear a case marker, in NAF constructions like (17a-c) the theme clause should be marked with Nominative but not Accusative.

(17) Mayrinax (Huang 1995)³

- a. baq-un=mi' cu' {m-a'uwah=si kisa}
 know-PF=1S.BG Lin AF-come=2S.BN today
 ‘I know that you are coming today’

³ In this paper all the examples given by other authors are cited as what they are in their works.

- b. *baq-un=misu'* *cu'* {*m-a'uwah 'i' kisa*}
 know-PF=1S.BG:2S.BN Lin AF-come Part today
 'I know that you are coming today'
- c. *baq-un=misu'* *cu'* {*m-a'uwah=si' kisa*}
 know-PF=1S.BG:2S.BN Lin AF-come=2S.BN today
 'I know that you are coming today'

A closer examination of (17a-c), nevertheless, indicates that only in (17a) is the Nominative subject of PF *baq-un* 'know' covert. This then explains why in (17b-c) the clausal complement is not marked with Nominative. In fact, Mayrinax (17a-c), with PF *baq-un* 'know', and Paiwan (5), (7)-(8), with AF *k-em-elang* 'know', behave very much alike concerning the presence of a covert argument before the clausal complement. The same contrast also holds in Paiwan (10) and (14a), repeated as (18a-c), where PF *k-in-elang* 'know' is observed.

(18) Paiwan

- a. *k-in-elang ni kui *a/*t(u)a/tu/*∅* [*na-v-en-eLi ti kai tua kun*].
 know-PF Gen Kui Past-buy-AF Nom Kai Acc skirt
 'Kui knew that Kai bought a skirt.'
- b. *k-in-elang ni kui ti/*tai kai *a/*t(u)a/tu/*∅* [*na-v-en-eLi tua kun*].
 know-PF Gen Kui Nom/Acc Kai Past-buy-AF Acc
 skirt
 'Kui knew that Kai bought a skirt.'
- c. *k-in-elang ni kui; ti/*tai kai; *a/*t(u)a/tu/*∅* [*na-v-en-eLi ti madu*_{i/j} tua kun*].
 know-PF Gen Kui Nom/Acc Kai Past-buy-AF
 ti madu*_{i/j} tua kun].
 Nom she Acc skirt
 'Kui knew that Kai bought a skirt.'

Therefore, it seems that the facts about (17a-c) alone cannot support the claim that *cu'* with the clausal complement cannot denote Accusative marking.

The syntactic and semantic roles of the so-called linker are, by comparison, rather unclear. Huang (1995), for instance, states that *ka'* in cases like (19) below is also to be analyzed as a linker.

(19) Mayrinax (Huang 1995)

- si-p-kital ni' sinsi 'i' watan ku' ruwas ka' hani*
 NAF-Caus-see Gen teacher Acc Watan Nom.Rf book Lin this
 'The teacher made Watan read this book'

However, note that, unlike *cu'* in sentences like (17), *ka'* does not act as a case marker in Mayrinax and that, unlike *m-a'uwah=si kisa* 'you are coming today' in (17), *hani* 'this' does not function as a complement of *ruwas* 'book'.

Second, it has been pointed out that in Formosan languages NAF verbs may take one more argument than AF verbs. Chang (1997), for instance, states that in Seediq and Kavalan PF, not AF, *know*-type verbs can take three arguments, hence the well-formedness contrast between (20a) and (20b-c) as well as that between (21a) and (21b-c).

(20) Seediq (Chang 1997)

- a. *mu-kela-ku-su [m-un-ekan ido]
 AV-know-1S.Nom-2S.Gen AV-Perf-eat rice
 'You know that I ate rice.'
- b. kula-un-ku-su [m-un-ekan ido]
 know-PV-1S.Nom-2S.Gen AV-Perf-eat rice
 'You know that I ate rice.'
- c. kula-un-ku_i-su [m-un-ekan ido ka yaku_i]
 know-PV-1S.Nom-2S.Gen AV-Perf-eat rice Nom 1S.Nom
 'You know that I ate rice.'

(21) Kavalan (Chang 1997)

- a. *spaR=ti=iku=isu tu [babar-an-na]⁴
 know(AV)=Asp=1S.Nom=2S.NomAcc beat-PV-3S.Gen
 'I knew that he beat you.'
- b. spaR-an-ku=ti=isu tu [babar-an-na]
 know-PV-1S.Gen=Asp=2S.Nom Acc beat-PV-3S.Gen
 'I knew that he beat you.'

⁴ Several points need to be mentioned concerning Chang's (1997) analysis of cases like (21a-c). First, *tu* is treated as an Accusative marker rather than a complementizer because of the grammaticality of sentences like (i).

(i) Kavalan (Chang 1997)
 supaR-iku tu naNan-su
 know-1S.Nom Acc name-1S.Gen
 'I know your name.'

Second, he argues for a non-movement account of (21b-c). Third, for cases like (ii), he assumes that *tu* case-marks a complex noun phrase with a null head noun.

(ii) Kavalan (Chang 1997)
 supaR-an-na tu [babar-an-ku=t_i=isu]
 know-PV-3S.Gen Acc beat-PV-1S.Gen=Asp=2S.Nom
 'He knows the fact that I beat you.'

- c. spaR-an-ku=ti=isu_i tu [babar-an-na=isu_i]
 know-PV-1S.Gen=Asp=2S.Nom Acc beat-PV-3S.Gen=2S.Nom
 ‘I knew that he beat you.’

In Chang’s analysis this well-formedness distinction is attributed to the proposal that NAF affixes are lexical categories that may take an extra argument. By contrast, AF affixes are claimed to be functional categories that in general do not take an extra argument. Notice, however, that, according to Chang (1997), examples like Kavalan (22b), not those like Seediq (22a), are acceptable.

- (22) a. Seediq (Chang 1997)
 *l-um-iNis temi ka pawan
 cry-AV Temi Nom Pawan
 ‘Pawan will cry for Temi.’
- b. Kavalan (Chang 1997)
 ’m-uRin tu sunis ya tazuNan
 AV-cry Acc child Nom woman
 ‘The woman is crying for a child.’

As opposed to ungrammatical Seediq (20a) and Kavalan (21a), Paiwan sentences like (5) and (7)-(8) are all grammatical. It thus seems that in Paiwan, not Seediq and Kavalan, AF *know*-type verbs may be treated as three-argument verbs.

With respect to the clausal complements under discussion, another difference exists between Kavalan and Paiwan. That is, as demonstrated in Lee’s (1997) examples like (23), Accusative *tu* in Kavalan may be optionally deleted, to be compared with the impossible deletion of Accusative *tu* in Paiwan (1).

- (23) Kavalan(Lee 1997)
- a. spaR-an-ku (tu) [mai=isu qautu].⁵
 know-NAF-1s/gen (tu) not=2s/nom come
 ‘I know that you will not come.’
- b. sazmaken=iku (tu) [yau kerisiw ni utay].
 believe=1s/nom (tu) have money genp Utay
 ‘I believe that Utay has money.’

Note, nevertheless, that, as Lee (1997) and Chang (1997) state, in Kavalan *tu* assigned to proper nouns can also be deleted.

⁵ Based on different reasons, Lee (1997) claims that Kavalan *tu* in question seems to exhibit both the properties of being a complementizer and those of being a case marker.

(24) Kavalan (Lee 1997; Chang 1997)

- a. q-em-an *(tu) tamun ya sunis
 eat-AV Acc dishes Nom child
 ‘The child is eating food.’
- b. p-um-ukun ya razat (tu) ti-tuyaw
 hit-AV Nom person Acc Nom-Tuyaw
 ‘The man is hitting Tuyaw.’

But the same deletion is not permitted in Paiwan, as the previous discussions have illustrated. A case analysis of *tu* with finite clausal complements in Paiwan and Kavalan then seems to capture the fact that *tu* can be deleted in Kavalan only.⁶ As for Seediq, examples from Chang (1997) indicate that neither the Accusative-marked noun phrases in (25a-b) nor the Accusative-marked clauses in (20b-c) receive overt case-marking.

(25) Seediq (Chang 1997)

- a. q-um-erac qucurux ka laqi
 catch-AV fish Nom child
 ‘The child is catching fishes.’
- b. subet-an na laqi ricah ka neepah
 hit-LV Gen child plum Nom field
 ‘The child hit the plums in the field.’

In Mayrinax, according to Huang (1995), *cu*’ in question cannot be deleted, a fact that has also been found in Paiwan.

(26) Mayrinax (Huang 1995)

- a. pa-’agaal cu’/*∅ pila’ ku’ ’ulaqi’
 Fut.AF-take Acc.Nrf money Nom.Rf child
 ‘The child wants money’
- b. baq-un=misu’ cu’/*∅ {m-a’uwah=si’ kisa}
 know-PF=1S.BG:2S.BN Lin AF-come=2S.BN today
 ‘I know that you are coming today’

Lastly, so far we have shown that Paiwan *tu*, Kavalan *tu* and Mayrinax *cu*’ may be said to mark a tensed clausal complement as Accusative. As mentioned before, in cases with object noun phrases, Paiwan *tu* is assigned to the [-personal name] noun phrase non-specific in reference. Kavalan *tu*, by contrast, may be

⁶ Nevertheless, it remains a question why in Kavalan the deletion of the case assigned to finite complements patterns with that of proper nouns but not non-proper nouns.

used to case-mark any kind of noun phrases, as (24) demonstrates. And, according to Huang (1995), Mayrinax *cu* can only appear with non-referential common nouns. These co-occurrence restrictions on reference, however, do not seem to be observed in cases with finite clausal complements given the assumption that the tense of the finite clause is referential or deictic.

2.2 As complementizer

So far we have shown that *tu* in sentences like (1a-b) may be analyzed as an Accusative marker. One may wonder, nevertheless, whether it could be treated as a complementizer which, like *that* in the English counterparts of (1a-b), works as a particular type of subordinating conjunction. If the answer should be yes, notice first that *tu* should not be treated as a case assigner. Complementizers have been classified into two types—one that does not assign case and the other that assigns Accusative case to the subject of the embedded clause. English (27a-b) and Arabic (28), for example, illustrate this distinction.

(27) English (Radford 1997)

- a. I know that [he/*him will come tomorrow].
- b. I am anxious for [*he/him to receive the best treatment possible].

(28) Arabic (Ouhalla 1991)

- qaal-uu 'inna Zayd-an wasal-a muta'axxir-an.
said-3p that Zayd-ACC arrived-3ms late-ACC
'They said that Zayd arrived late.'

By contrast, Paiwan (29a) is well-formed but (29b) is not.

(29) Paiwan

- a. k-em-elang ti kui tu [ti kai a na-v-en-eLi tua kun].
know-AF Nom Kui Kai Past-buy-AF Acc skirt
'Kui knows that the person that bought a skirt is Kai.'
- b. *k-em-elang ti kui tu [tai kai a na-v-en-eLi tua kun].
know-AF Nom Kui Acc Kai Past-buy-AF Acc skirt
'Kui knows that the person that bought a skirt is Kai.'

Note also that under the complementizer approach to cases like (5) and (7)-(8), with AF *k-em-elang* 'know', one may propose that the *tu*-clause and its preceding covert or overt argument may be regarded as one or two constituents.⁷ If so, in

⁷ However, given the fact that *k-em-elang* is a three-argument verb, they should not be analyzed as one argument.

the former case, the *tu*-marked clause is not to be viewed as a relative clause modifying the preceding covert or overt head noun. Instead, one might treat it as some kind of noun complement clause or adposition, as the function of the *that*-clause in (30) below.

(30) English

Mary knows the matter [that John bought a skirt].

One reason is that, as pointed out in Tang *et al.* (1997), relative clauses in Paiwan exhibit two syntactic differences from (5) and (7)-(8). First, the subordinating conjunction in question is *a* but not *tu*.

(31) Paiwan (Tang *et al.* 1997)

a. na-pacun ti kui tua (azua a) ti-kai a/*tu [pu-'ulu].
 Past-see-AF Nom Kui Acc that P-Kai smart
 'Kui saw that Kai who is smart.'

b. na-pacun ti kui tai kai a/*tu [pu-'ulu].
 Past-see-AF Nom Kui Acc Kai smart
 'Kui saw Kai, who is smart.'

Second, unlike (8), cases like (32) are ungrammatical, in which the relative clause contains a lexical pronoun co-referential with the head noun.

(32) Paiwan (Tang *et al.* 1997)

*na-pacun ti kui_i tua azua a vavayan_j a [na-v-en-eLi ti
 Past-see-AF Nom Kui Acc that girl Past-buy-AF Nom
 madu_{i/j} tua kun].
 She Acc skirt
 'Kui saw that girl who bought a skirt.'

Another reason is that while cases like (33a-b) are grammatical, those like (34a-b) are not.

(33) Paiwan

a. k-em-elang ti kui tua azua a sengsengan tu [na-v-en-eLi ti
 know-AF Nom Kui Acc that matter Past-buy-AF Nom
 kai tua kun].⁸
 Kai Acc skirt
 'Kui knows the matter that Kai bought a skirt.'

b. k-em-elang ti kui tua azua a sengsengan tu [v-in-eLi ni kai

⁸ One reviewer points out that his/her informants consider sentences like (33) ungrammatical. Such speakers, then, seem to accept cases like (9c) only.

know-AF Nom Kui Acc that matter buy-PF Gen Kai
a kun].

Nom skirt

‘Kui knows the matter that Kai bought the skirt.’

- (34) a. *k-em-elang ti kui tua azua a sengsengana [na-v-en-eLi ti kai
know-AF Nom Kui Acc that matter Past-buy-AF Nom Kai
tua kun].

Acc skirt

‘Kui knows the matter that Kai bought a skirt.’

- b. *k-em-elang ti kui tua azua a sengsengana [v-in-eLi ni kai
know-AF Nom Kui Acc that matter buy-PF Gen Kai
a kun].

Nom skirt

‘Kui knows the matter that Kai bought the skirt.’

Is there, however, evidence against or for a complementizer analysis of the Paiwan *tu* in question? To begin with, consider first apparent counter-examples that argue against the postulation that in (5) and (7)-(8) *tu* functions as a complementizer which introduces a finite clause. It is well-known that English complementizer *that* can be omitted when perceptual difficulty will not be yielded, as demonstrated in (35) and (36).

- (35) English

a. I know (that) he will come tomorrow.

b. *(That) he will come tomorrow is known to everyone.

- (36) a. I know the girl (that) you saw yesterday.

b. I know the girl *(that) saw you yesterday.

By contrast, in Paiwan, Kavalan, Seediq and Mairynax the presence and absence of a certain marker preceding the finite clausal complement discussed so far seem to pattern more with its case properties in each language.

Another relevant fact is that in Paiwan the meaning of ‘say, tell’ may be expressed by *’ivu* or *aya* and they exhibit very distinct syntactic and semantic behavior. That is, *’ivu* is used in the so-called non-quotative construction whereas *aya* is found in the quotative construction. Examine, for instance, the following grammatical contrasts.

- (37) Paiwan
- a. *na-'ivu ti kui *a/*t(u)a/tu/*∅* [na-v-en-eLi ti kai tua
 Past-say-AF Nom Kui Past-buy-AF Nom Kai Acc
 kun].
 skirt
 'Kui said that Kai bought a skirt.'
- b. **na-aya ti kui a/t(u)a/tu/∅* [na-v-en-eLi ti kai tua kun].
 Past-say-AF Nom Kui Past-buy-AF Nom Kai Acc skirt
 'Kui said that Kai bought a skirt.'
- (38) a. **[na-v-en-eLi ti kai tua kun] na-'ivu ti kui.*
 Past-buy-AF Nom Kai Acc skirt Past-say-AF Nom Kui
 "Kai bought a skirt", Kui said.'
- b. [na-v-en-eLi ti kai tua kun] *na-aya ti kui.*
 Past-buy-AF Nom Kai Acc skirt Past-say-AF Nom Kui
 "Kai bought a skirt", Kui said.'
- (39) a. **tu [na-v-en-eLi ti kai tua kun] na-'ivu ti kui.*
 Past-buy-AF Nom Kai Acc skirt Past-say-AF Nom Kui
 "Kai bought a skirt", Kui said.'
- b. **tu [na-v-en-eLi ti kai tua kun] na-aya ti kui.*
 Past-buy-AF Nom Kai Acc skirt Past-say-AF Nom Kui
 "Kai bought a skirt", Kui said.'
- (40) a. *ti kui na-'ivu *a/*t(u)a/tu/*∅* [na-v-en-eLi ti kai tua kun].
 Kui Past-say-AF Past-buy-AF Nom Kai Acc skirt
 'Kui, he said that Kai bought a skirt.'
- b. **ti kui na-aya a/t(u)a/tu/∅* [na-v-en-eLi ti kai tua kun].
 Kui Past-say-AF Past-buy-AF Nom Kai Acc skirt
 'Kui, he said that Kai bought a skirt.'
- c. *ti kai na-v-en-eLi tua kun.*
 Kai Past-buy-AF Acc skirt
 'Kai, she bought a skirt.'
- d. **(tua) kun na-v-en-eLi ti kai.*
 Acc skirt Past-buy-AF Nom Kai
 'The skirt, Kai bought it.'

Grammatical (37a), (38b) and ungrammatical (37b), (38a) suggest that the clausal complement must follow *na-'ivu* and precede *na-aya*. The well-formedness of (37a) and the ill-formedness of (39b), on the other hand, indicate that the clausal

complement after *na-'ivu* must appear with *tu* while that before *na-aya* cannot co-occur with *tu*. Furthermore, contrary to the so-called subject-sensitivity facts about AF (40a), (38a), (39a) as well as (40c-d), the grammatical distinction between (38b) and (40b) illustrates the fact that the same condition does not hold for verbs like *aya*.⁹ Of (37a), with *'ivu*, and (38b), with *aya*, only (38b) is interpreted as a quotative construction, as shown in (41a-b) below.

- (41) Paiwan
- a. *na-'ivu ti kai tu [na-v-en-eLi-aken tua kun].*
 Past-say-AF Nom Kai Past-buy-AF-I.Nom Acc skirt
 = ‘Kai said that I bought a skirt.’
 ≠ (lit.) ‘Kai said that herself bought a skirt.’
- b. *[na-v-en-eLi-aken tua kun] na-aya ti kai.*
 Past-buy-AF-I.Nom Acc skirt Past-say-AF Nom Kai
 = “‘I bought a skirt’, Kai said.’
 ≠ ‘Kai said that I bought a skirt.’

It should be noted here that, like *'ivu*, *aya* functions as verb in that they both can take temporal bound morphemes like *na-* ‘past tense’ and *uri-* ‘will’, as in (37a), (38b), (42), they can be cliticized by bound pronouns, as in (43), and they have PF counterparts, as in (44).

- (42) Paiwan
- a. *uri-'ivu ti kui *a/*t(u)a/tu/*∅ [na-v-en-eLi ti kai tua kun].*
 will-say-AF Nom Kui Past-buy-AF Nom Kai Acc skirt
 ‘Kui will say that Kai bought a skirt.’

⁹ In Branigan and Collins’ (1993) analysis of English quotative constructions like (ia-b), the quote is argued to occur in A’-position. That is, it is in the Spec of CP.

(i) English

a. “I am so happy”, Mary thought.

b. “I am so happy”, thought Mary.

We will leave the structure of cases like (38b) for future research.

- b. [na-v-en-eLi ti kai tua kun] uri-aya ti kui.
 Past-buy-AF Nom Kai Acc skirt will say-AF Nom Kui
 ‘‘Kai bought a skirt’’, Kui will say.’
- (43) a. na-’ivu-sun *a/*t(u)a/tu/*∅ [na-v-en-eLi ti kai tua kun].
 Past-say-AF-you.Nom Past-buy-AF Nom Kai Acc skirt
 ‘You said that Kai bought a skirt.’
- b. [na-v-en-eLi ti kai tua kun] na-aya-sun.
 Past-buy-AF Nom Kai Acc skirt Past-say-AF-you.Nom
 ‘‘Kai bought a skirt’’, you said.’
- (44) a. ’-in-aivu ni kui *a/*t(u)a/tu/*∅ [na-v-en-eLi ti kai tua
 say-PF Gen Kui Past-buy-AF Nom Kai Acc
 kun].
 skirt
 ‘Kui said that Kai bought a skirt.’
- b. [na-v-en-eLi ti kai tua kun] in-aya ni kui.
 Past-buy-AF Nom Kai Acc skirt say-PF Gen Kui
 ‘‘Kai bought a skirt’’, Kui said.’

With the above-mentioned observations, what concerns our discussion now is the presence of *tu* in (37a) and the absence of *tu* in (38b). According to Branigan and Collins (1993), English complementizer *that* may appear in the quotative construction, as (45) demonstrates.

- (45) English (Branigan & Collins 1993)
 ‘‘(that) John likes Mary’’, Bill believes.

Should the *tu* in question act as a complementizer in Paiwan, the cross-linguistic difference between (45) and (38b), (39b) seems to be unable to be accounted for in a principled way. By contrast, if *tu* is analyzed as a case marker and the quote is assumed to be base-generated in a preverbal caseless A’-position, it may be expected that the quote cannot co-occur with Accusative *tu* in the quotative construction.

Similarly, it has been pointed out before that in Mayrinax *cu*’ appearing with the complement of PF verbs like *baq-un* ‘know’ in (26b), repeated below as (46), cannot be deleted.

(46) Mayrinax (Huang 1995)

baq-un=misu' cu'/*∅ {m-a'uwah=si' kisa}
 know-PF=1S.BG:2S.BN Lin AF-come=2S.BN today
 'I know that you are coming today'

However, on the basis of the examples given in Huang (1995), we find that *cu'* is not observed in preverbal quotative constructions like (47).

(47) Mayrinax (Huang 1995)

- a. {svil-∅ i' runi ku' xuil=su'} san=mu¹⁰
 leave-PF Loc here Nom-3rd dog=2S.BG say=1S.BG
 'I told him, "Leave your dog here!"'
- b. {m-a'uwah 'i' casan 'i' yumin} mha'=cu
 AF-come Part tomorrow Nom Yumin say=1S.BN
 'I said, "Yumin will come tomorrow"'

Taking into consideration English (35), (45), Paiwan (37)-(39) and Mayrinax (46)-(47), it seems that the complementizer analysis of *that*, coupled with the case analysis of *tu* and *cu'*, may better capture the discussed cross-linguistic similarities and differences between the quotative construction and the non-quotative construction.¹¹

¹⁰ According to our informants, the usage of Paiwan *aya* is not completely identical to that of Mayrinax *san* and *mha'*. As for a discussion of the differences between NAF *san* and AF *mha'*, see Huang (1995).

¹¹ As stated in Huang (1995), in Mayrinax the quote may appear before or after *san* but not *mha'*. And we find from her data that the postverbal quote co-occurs with *'i'* rather than *cu'*, as exemplified in (ii), though she did not specify the nature of *'i'*.

(i) Mayrinax (Huang 1995)

*mha'=cu {m-a'uwah 'i' casan 'i' yumin}
 say=1S.BN AF-come Part tomorrow Nom Yumin
 'I said, "Yumin will come tomorrow"'

(ii) san=nia' 'i' baicu' na' uqih, {'i' baq-un=su' ga',
 say=3S.BG Nom Baicu' Gen Uqih know-PF=2S.BG Top
 kal-ani kuing}
 say-IF 1S.FN

'He told Baicu' Na' Uqih, "if you know (the address to the Heaven), let me know (it)!"'

In addition, Huang (1995) points out that Mayrinax *mha'* can co-occur with another verb to express direct quote.

(iii) Mayrinax (Huang 1995)

l<um>anglung 'i' yaba' 'i' mha' {m-a'uwah 'i' casan 'i' yumin}
 think<AF>think Nom father Lin say AF-come Part tomorrow Nom Yumin
 'Father thinks, "Yumin will come tomorrow"'

The third observation related to our discussion is concerned with complements of the so-called non-bridge and bridge verbs. Cross-linguistically, several syntactic and semantic differences have been found between these two types of verbs. For example, as English (48) and Mandarin (49) illustrate, while non-bridge verbs like *know* and *zhidao* can take noun phrases as their objects, bridge verbs like *think* and *yiwei* cannot, though they all may have clausal complements.

(48) English

- a. I know that story.
- b. I know (that) he will come tomorrow.
- c. *I think that story.
- d. I think (that) he will come tomorrow.

(49) Mandarin

- a. ta zhidao na-yi-jian shi.
he know that-one-CL matter
'He knew that matter.'
- b. ta zhidao [ni hui qu].
He know you will go
'He knew that you would go.'
- c. *ta yiwei na-yi-jian shi.
he think that-one-CL matter
lit. 'He thought that'

-
- (iv) kaal-∅ ku' 'ulaqi' mha' {ta-tuing-un=su'=nia}
say-PF Nom.Rf child Quo Red-beat-PF=2S.BN=3S.BG
'Tell the child, "he will beat you"'

Three things are worthy of mentioning concerning (ii)-(iv). First, while *cu'* is absent in (ii)-(iv), *'i'* is found in (ii)-(iii) but not (iv). Second, Huang analyzes *'i'* in (iii) as a linker and *mha'* in (iii)-(iv) as a linker, an introducer or a quotative marker. Third, *mha'* is present in (iii)-(iv) but not (ii). It should be noted here that under Huang's linker approach to cases like (46) and (iii)-(iv), bridge verbs like AF *l-um-anglung* 'think' require two linkers *'i'* and *mha'* whereas non-bridge verbs like PF *baq-un* 'know' need one linker *cu'* and those like PF *kaal* 'say' take one linker *mha'*. Note also that according to Huang (1995), besides linker *'i'* may act as a particle, as in (47b), and as Nominative and Accusative markers for proper nouns, as in (52) and (v) below, the last of which is like *cu'* that is found with non-referential common nouns and finite clausal complements.

(v) Mayrinax (Huang 1995)

- h<um>ihip 'i' yumin 'i' limuy
kiss<AF>kiss Acc Yumin Nom limuy
'Limuy is kissing Yumin'

- d. ta yiwei [ni hui qu].
 he think you will go
 'He thought that you would go.'

In Paiwan, the meaning of 'think' can be expressed by *ki-manu* together with the quotative verb *aya* 'say, tell'.¹² By contrast, *ki-manu* cannot appear with the non-quotative verb *'ivu* 'say, tell', as illustrated in well-formed (50) and ill-formed (51).¹³

(50) Paiwan

- a. ki-manu na-d-em-ukuL ti kui tai palang aya ti kai.
 Past-beat-AF Nom Kui Acc Palang say-AF Nom Kai
 'Kai thought that Kui beat Palang.'
- b. ki-manu v-in-eLi ni kai a kun na-aya ti kui.
 buy-PF Gen Kai Nom skirt Past-say-AF Nom Kai
 'Kui thought that Kai bought the skirt.'

- (51) a. *ki-manu na-d-em-ukuL ti kui tai Palang 'ivu ti kai.
 Past-beat-AF Nom Kui Acc Palang say-AF Nom Kai
 'Kai thought that Kui beat Palang.'

¹² Another way is to use the prefix *paka-*, as shown in (i).

(i) Paiwan

- paka-pu'uLu ti kai tai kui
 smart Nom Kai Acc Kui
 'Kai thought that Kui was smart.'

Notice that, as opposed to (i), *ki-manu* cannot function as a verb.

(ii) Paiwan

- *ki-manu ti kai a/t(u)a/tu/∅ [na-d-em-ukuLti kui tai Palang].
 Nom Kai Past-beat-AF Nom Kui Acc Palang
 'Kai thought that Kui beat Palang.'

¹³ *ki-manu*, nevertheless, cannot appear with non-*say*-types of non-bridge verbs, as (i) and (ii) below illustrate.

(i) Paiwan

- *k-em-elang ti kui tu [ki-manu v-in-eLi ni kai a kun].
 know-AF Nom Kui buy-PF Gen Kai Nom skirt
 'Kui knew that Kai bought the skirt.'

(ii) *pa'-en-et ti kui tu [ki-manu d-in-ukuL ni kai ti palang].
 remember-AF Nom Kui beat-PF Gen Kai Nom Palang
 'Kui remembered that Kai beat Palang.'

One reviewer points out that his/her informants accept (51b).

- b. *na-'ivu ti kui tu [ki-manu v-in-eLi ni kai a kun].
 Past-say-AF Nom Kui buy-PF Gen Kai Nom skirt
 'Kui thought that Kai bought the skirt.'

As a result, Accusative *tu* is not observed in sentences like (50), in contrast to the obligatory presence of *tu* in cases with non-bridge verbs like *kelang* 'know'.

Interestingly enough, a similar statement has also been made with respect to Mayrinax. In Huang (1995), for instance, she claims that "utterance verbs such as *san* 'say (NAF)', and *lumanglung* 'think (AF)', the last of which may be regarded as one of the cognition verbs but behaves like the other utterance verbs." Based on her examples like (52), we find, on the one hand, that *cu*' no longer exists after Nominative subject *Yaba*', as opposed to (46), repeated here as (53). On the other hand, *'i*' and *mha*' appear before the clausal complement in (52) but not (53).

- (52) Mayrinax (Huang 1995)
 l<um>anglung 'i' yaba' 'i' mha' {m-a'uwah 'i' casan 'i'
 think<AF>think Nom father Lin say AF-come Part tomorrow Nom
 yumin}
 Yumin
 'Father thinks, "Yumin will come tomorrow"'

- (53) baq-un=misu' cu'/*∅ {m-a'uwah=si' kisa}
 know-PF=1S.BG:2S.BN Lin AF-come=2S.BN today
 'I know that you are coming today'

As mentioned in footnote 11, Huang (1995) regards *'i*' and *mha*' of (52) both as linkers though, among other occurrences, *'i*' is also observed with Accusative proper nouns. Given the observation that *'i*' may act as an Accusative marker and the proposal in Tsai (1993) that s-selected clausal complements may be case-marked, we may have an account of the above-mentioned contrasts between (52) and (53). First, it is postulated that cross-linguistically, an s-selected clausal complement may be preceded by a case marker and/or a complementizer, the choice of which is attributed to the principles and parameters of universal grammar. Second, case markers and complementizers may be overtly or covertly realized. Third, suppose that case and complementizer-marking may vary in accordance with verb types, then bridge verbs and quotative verbs may behave differently from non-bridge verbs with respect to case and/or complementizer-marking of the clausal complement.¹⁴ While it is yet to derive the distinction

¹⁴ To put it differently, the choice of complementizer (C) may be decided by its intrinsic features such as [+/- finite], [+/- root], [+/-interrogative], [+/- quotative], etc. By contrast, the choice of C may also be dictated by properties of its specifier, as pointed out in Chung's (1996)

between *think/say*-type verbs and *know*-type verbs, notice that none of the postulations just given is arbitrary. Thus, if this line of the thought is on the right track, then one may suggest that in Mayrinax non-bridge verbs case-mark the finite clausal complement with *cu'* and bridge verbs with *'i'*. Furthermore, while in Mayrinax non-bridge verbs take covert finite complementizers, bridge verbs may take overt finite complementizers like *mha'*, hence the above-mentioned differences between (52) and (53).¹⁵ An analysis of this kind seems to be evidenced by the fact that in (52) *'i'* must precede *mha'* but not the other way around.¹⁶

With the discussions given above, does it mean that Paiwan *tu* with the finite clausal complement does not show any property of complementizer? The answer seems to be negative. Before turning into the relevant data in Paiwan, two points need to be mentioned here. To begin with, pre-complementizer position has been posited to be universally the landing site of preposed wh-operators or phrases.¹⁷ There is abundant empirical evidence in support of this claim, as shown, for example, in (54)-(56).

(54) Chamorro (Chung 1996)

discussion of Chamorro.

¹⁵ Alternatively, one might propose that the finite complement of non-bridge verbs takes covert case marker and overt complementizer *cu'*. Under the principle of recoverability, one may expect that the case marker assigned to the clausal complement may be conditionally deleted. Thus, while, to be compared with (52), *mha'* and *'i'* may be omitted in (ii) and (iv) of footnote 11, respectively, the deletion of *cu'* in (53) will result in ungrammaticality.

¹⁶ Under the postulation of recursive CP in Vikner (1994), but not that of recursive C' in Koizumi (1994), multiple complementizers may be expected. The true nature of the considered *cu'* and *'i'*, however, still requires the study of Mayrinax sentences with the interaction of them and wh-phrases, etc. The same may be said about Kavalan *tu* with finite clausal complements.

¹⁷ Apparent counter-examples are those like Spanish (i) taken from Rivero (1978).

(i) Spanish (Rivero 1978)

Me preguntaron que quien vio que.

Me they-asked that who saw what

'They asked me who saw what.'

Also, as discussed in Rudin (1988) and others, multiple wh-fronting in Bulgarian/Romanian and Serbo-Croatian/Czech shows the pattern of (ii) and (iii), respectively.

(ii) WH WH ... WH Comp

(iii) WH Comp WH WH ...

Various kinds of analyses have been postulated concerning cases like (i)-(iii). Koizumi (1994), for instance, argues for two types of complementizers—one heads the projection of CP and another heads that of Polarity Phrase (PolP). C takes PolP as its complement. Depending on languages, they each may license many C' or Pol' specifier positions.

Ginin hayi na un-risibi kattat?
 From who? Comp agr-receive letter
 ‘From whom did you receive a letter?’

(55) Norwegian (Taraldsen 1978)

Jeg forfalte Jan hvem som var kommet.
 I Asked Jan who that had come
 ‘I asked Jan who had come.’

(56) Flemish (Haegeman 1983)

Ik weten niet wien dat Jan gezeen heet.
 I know not whom that John seen has
 ‘I don’t know whom John has seen.’

The second point is that the presence of an overt complementizer has been claimed to prevent the trace left by Wh-movement from being antecedent-governed by its antecedent. Consequently, a non-lexically-governed trace cannot move over the overt complementizer. This government distinction concerning the complementizer is illustrated in English sentences like (57a-b) below, in which, as opposed to the object trace, the subject trace has been claimed to require antecedent-government.

(57) English

- a. Who_i do you think [t’_i (*that) t_i will come tomorrow]?
- b. What_i do you think [t’_i (that) he bought t_i yesterday]?

Now, Consider the following data in Paiwan.

(58) Paiwan

- a. aku (*a) na-v-en-eLi ti kai tua kun?
 why Past-buy-AF Nom Kai Acc skirt
 ‘Why did Kai buy a skirt?’
- b. aku (*a) v-in-eLi ni kai a kun?
 why buy-PF Gen Kai Nom skirt
 ‘Why did Kai buy the skirt?’

(59) a. *si-ngida-n(a) na-d-em-ukuLti kui tai palang?

when-LF Past-beat-AF Nom Kui Acc Palang
 ‘When is the time that Kui beat Palang?’

b. si-ngida-n*(a) d-in-ukuL-an ni kui tai palang?

when-LF beat-LF Gen Kui Acc Palang
 ‘When is the time that Kui beat Palang?’

In Paiwan constituent questions may be of different forms, depending on the types of verbs and wh-phrases involved. For nonverbal expressions like *aku* ‘why’ which are nonnominal in the sense of Tsai (1994), among others, they cannot occur as predicates in the equational construction to denote a constituent question, hence the impossibility of *a* and the possibility of AF and PF *veLi* ‘buy’ in cases like (58). Contrarily, verbal expressions like *si-ngida-n* ‘when’ must appear by means of a predicate in the equational construction, hence the requirement of *a* and LF *d-in-ukuL-an* ‘beat’ in cases like (59).

Examine, next, sentences with both *tu* and wh-phrases.

(60) Paiwan

a. k-em-elang ti kui tu/* \emptyset [na-v-en-eLi ti kai tua kun].
 know-AF Nom Kui Past-buy-AF Nom Kai Acc skirt
 ‘Kui knows that Kai bought a skirt.’

b. k-em-elang ti kui tu/* \emptyset [ti-ma a na-v-en-eLi tua kun].
 know-AF Nom Kui who Past-buy-AF Acc skirt
 ‘Kai knows who bought a skirt.’

c. k-em-elang ti kai tu/* \emptyset [ti-ma a na-v-en-eLi tua kun]?
 know-AF Nom Kai who Past-buy-AF Acc skirt
 ‘Who does Kai know bought a skirt?’

(61) a. k-em-elang ti kai tu/* \emptyset [na-d-em-ukuL ti kui tai palang].
 know-AF Nom Kai Past-beat-AF Nom Kui Acc Palang
 ‘Kai knows that Kui beat Palang.’

b. k-em-elang ti kai *tu/ \emptyset [aku na-d-em-ukuL ti kui tai palang].
 know-AF Nom Kai why Past-beat-AF Nom Kui Acc Palang
 ‘Kai knows why Kui beat Palang.’

(60b-c) suggest that *tu* may and must appear with the predicate wh-phrase *ti-ma* ‘who’. (61b), however, indicates that *tu* cannot co-occur with the non-predicate wh-phrase *aku* ‘why’. Such a distinction may be attributed to a complementizer analysis of the *tu* in question, but not to a case analysis.

Among others, Jeng (1977) and Chung (1996) indicate that Bunun *tu*’ and Chamorro *na* in (62) and (63), respectively, are complementizers.

- (62) Bunun (Jeng 1977)
 uka maupata' Sia qa'bsanang taqu tu' 'ita' Bunun tu' [haida'
 SB so (MV) the ancestor tell ACC us Bunun COMP there-
 are
 Dau dadusa' bananad].
 EMP two man
 'Thus the ancestors told us Bunun people that there were two men.'
- (63) Chamorro (Chung 1996)
 Ta-tungu' na [guaha man-mafanagu ni man-mo'na
 agr-know Comp agr.exist WH[nom].agr-born Comp WH[nom].agr-front
 ki hita].
 than us
 'We know that there are some born earlier than us.'

Suppose that like Bunun *tu'* and Chamorro *na, tu* in the relevant cases functions as the head of complementizer phrase (CP). In addition, we assume that the formation of constituent question in sentences like (60b-c) involves the postulation of a pre-C null wh-operator as well as the co-indexation of this operator and the in-situ predicate wh-phrase, as shown in (64a-b), respectively.

- (64) Paiwan
 a. k-em-elang ti kai [CP Op_i [C tu/*∅ [IP ti-ma_i a na-v-en-eLi
 know-AF Nom Kai who Past-buy-AF
 tua kun]]].
 Acc skirt
 'Kai knows who bought a skirt.'
- b. [CP Op_i k-em-elang ti kai [CP t_i [C tu/*∅ [IP ti-ma_i a na-v-en-eLi
 know-AF Nom Kai who Past-buy-AF
 tua kun]]]]?
 Acc skirt
 'Who does Kai know bought a skirt?'

As for the formation of constituent question in sentences like (61b), we assume that the postulation of such a null wh-operator is not available and thus the non-predicate wh-phrase itself must move to a pre-C position.

- (65) k-em-elang ti kai [CP aku_i [C *tu/∅ [IP t_i na-v-en-eLi tua
 know-AF Nom Kai why Past-buy-AF Acc
 kun]]].
 skirt

‘Kai knows why Kui bought a skirt.’

Based on the facts about English (57) and Paiwan (58)-(59), we further assume that the trace of nonnominal/non-predicate *aku* ‘why’ in (65) requires antecedent-government and thus complementizer *tu* must be deleted.¹⁸

As stated in Noonan (1985), complementizers are found to be derived historically from pronouns, conjunctions, adpositions or case markers. Taking into consideration all the Paiwan data with *tu* discussed so far, we claim that *tu* with the object noun phrase acts as an Accusative marker, while that with the finite clausal complement serves as a complementizer. The observation that *tu* cannot appear in the quotative construction may be attributed to its intrinsic [-quotative] feature. Because of the case origin of complementizer *tu*, its presence and absence seemingly pattern with the property of Accusative *tu*. But in fact the occurrence of complementizer *tu* is conditioned under the theory of proper government, but not the Case theory, nor the perceptual difficulty.¹⁹ In Paiwan s-selected finite clausal

¹⁸ For a discussion of the relevant assumptions mentioned above, see, for example, Tsai (1994) and Aoun & Li (1993). For structures like (64b), one may posit that the predicate wh-phrase *ti-ma* ‘who’ may be lexically governed and hence the trace left over by Op may be invisible for the Empty Category Principle (ECP). We will leave the full analysis of movement structures like (64) and (65) for further research.

¹⁹ In addition to the so-called *that*-trace effects shown in English (57), Chung (1996), for instance, also points out that in Chamorro C has a different set of realizations when its specifier heads an A-bar dependency formed by Wh-movement. By contrast, it is rather unlikely to assume that the overt or covert realization of a case marker assigned to the finite clausal complement may depend on the types of elements occupying the specifier of C in cases like (64a-b) and (65).

It should be noticed here that besides the grammatical contrasts between (60b-c) and (61b), there exists another kind of well-formedness distinction in Paiwan which seems to suggest that the *tu* in question is best analyzed as a complementizer. Consider first the following sentences taken from Tang *et al.* (1997).

(i) Paiwan (Tang *et al.* 1997)

- a. na-v-en-eLi ti kai tua ni kui *(a) kun.
past-buy-AF Nom Kai Acc Poss Kui skirt
‘Kai bought Kui’s skirt.’
- b. na-v-en-eLi ti kai tua azua *(a) kun.
past-buy-AF Nom Kai Acc that skirt
‘Kai bought that skirt.’
- c. na-v-en-eLi ti kai tua va’uan *(a) kun.
past-buy-AF Nom Kai Acc new skirt
‘Kai bought a new skirt.’

- (ii) a. na-v-en-eLi ti kai tua kun (*a) ni kui.
past-buy-AF Nom Kai Acc skirt Gen Kui
‘Kai bought Kui’s skirt.’

- b. *na-v-en-eLi ti kai tua kun (a) azua.
 past-buy-AF Nom Kai Acc skirt that
 'Kai bought that skirt.'
- c. na-v-en-eLi ti kai tua kun *(a) va'uan.
 past-buy-AF Nom Kai Acc skirt new
 'Kai bought a new skirt.'

As pointed out in Tang *et al.* (1997), Paiwan observes both N-initial and N-final constructions, though different modifiers are subject to different constraints. What concerns our discussion here is that in (i)-(ii) Accusative marker *tua* need not be adjacent to the head noun *kun* 'skirt'. Second, in Paiwan temporal adjuncts can occur sentence-initially, among other positions.

(iii) Paiwan

- a. katiiau na-v-en-eLi ti kai tua azua a kun.
 yesterday past-buy-AF Nom Kai Acc that skirt
 'Yesterday Kai bought that skirt.'
- b. na-v-en-eLi katiiau ti kai tua azua a kun.
 past-buy-AF yesterday Nom Kai Acc that skirt
 'Yesterday Kai bought that skirt.'
- c. na-v-en-eLi ti kai katiiau tua azua a kun.
 past-buy-AF Nom Kai yesterday Acc that skirt
 'Yesterday Kai bought that skirt.'
- d. na-v-en-eLi ti kai tua azua a kun katiiau.
 past-buy-AF Nom Kai Acc that skirt yesterday
 'Yesterday Kai bought that skirt.'

Nevertheless, in the case of finite clausal complements like (60a) and (61a), the only position that temporal expressions cannot occur in is the one between *tu* and the predicate-complexes.

(iv) Paiwan

- k-em-elang ti kui tu [*katiiau] na-v-en-eLi (katiiau) ti kai (katiiau)
 know-AF Nom Kui yesterday Past-buy-AF yesterday Nom Kai yesterday
 tua kun (katiiau)].
 Acc skirt yesterday
 'Kui knows that yesterday Kai bought a skirt.'

If *tua* in (i)-(ii) and *tu* in (iv) both function as case markers, it is a mystery that in (iv) temporal adjuncts cannot appear between *tu* and the predicate-complexes. By contrast, if in (iv) *tu* is a bound morpheme which acts as a complementizer, the adjacency constraint just given above can be accounted for. That is, in Paiwan Pred(icate)-movement takes place to support not only temporal bound morphemes, but also bound complementizers. The ill-formedness of cases like (va) and (via) below is also attributed to the violation of this obligatory Pred-movement.

- (v) a. *uri-nutiau-mangetez ti kai.
 will-tomorrow-come-AF Nom Kai
 'Tomorrow Kai will come.'
- b. uri-mangetez nutiau ti kai.
 will-come-AF tomorrow Nom Kai
 'Tomorrow Kai will come.'
- (vi) a. *na-katiiau-mangetez ti kai.
 Past-yesterday-come-AF Nom Kai
 'Yesterday Kai came.'

b. na-mangetez katiau ti kai.
 Past-come-AF yesterday Nom Kai
 ‘Yesterday Kai came.’

A number of other head-movement processes suggested in the literature have been argued to be motivated on similar grounds. For example, V-movement to C in V2 languages has been argued by Haider (1986), among others, to be motivated by the presence of an affixal element in C.

With the assumption that in Paiwan functional categories may license adjuncts, in addition to Pred-movement, the adjacency requirement between *tu* and the embedded predicate-complexes may be attributed to an obligatory operation of cliticization between them at PF or the impossibility of topic elements in Paiwan. While we will leave this issue open and for future study, it should be noted that if PF-cliticization turns out to be the correct analysis, problems will be raised for Chomsky’s (1995) theory of affixes in terms of feature checking.

It should be pointed out here that some data from Tsou seem to suggest that the operation under consideration may be Pred-movement. According to Ya-Yin Chang (personal communication, 1998), unlike in Paiwan, in Tsou, temporal expressions cannot appear between the verbs and the objects in simple sentences, as shown in (vii) below.

(vii) Tsou (Ya-Yin Chang, personal communication, 1998)
 (ho hucma)te-ta bonæ (*ho hucma) to fou (ho hucma) ta pasuya
 tomorrow Fut-3Seat (tomorrow) Obl meat (tomorrow) Nom Pasuya
 (ho hucma).
 tomorrow
 ‘Pasuya will eat meat tomorrow.’

In complex sentences with matrix predicates like *cohivi* ‘know’, by contrast, temporal expressions cannot appear after complementizer *ho* though it can occur between the embedded predicate and the object. Compare, for instance, (vii) with (viii).

(viii) Tsou (Ya-Yin Chang, personal communication, 1998)
 i-si cohivi to amo ho [(**ne hucma*) i-si eobaka (*ne hucma*)
 NAF-3S know(PF) Obl father that yesterday NAF-3S beat(PF) yesterday
 to voyu (*ne hucma*) ’o pasuya (*ne hucma*).
 Obl Voyu yesterday Nom Pasuya yesterday.
 ‘Father knows that Voyu beat Pasuya yesterday.’

Temporal expressions may, nevertheless, occur in the sentence-initial position of the clausal complement in cases like (viii) if the complementizer *ho* is not present and there appears a pause after *cohivi*. Furthermore, it seems that C-elements which trigger the V-movement in question need not be overt; they could be covert grammatical features like [+wh] (cf. Chomsky 1995). This observation is illustrated in cases like (ix) in which, as mentioned in the discussion of (66) and (67), matrix predicates like *ucia cohivi* ‘wonder’ cannot co-occur with complementizer *ho*.

(ix) Tsou (Ya-Yin Chang, personal communication, 1998)
 i-si ucia cohivi to amo [(**ne hucma*) mo mhia (*ne hucma*)
 NAF-3S want(PF) know(PF) Obl father yesterday AF buy(AF) yesterday
 no cuma (*ne hucma*) ’o pasuya (*ne hucma*).
 Obl what yesterday Nom Pasuya yesterday
 ‘Father wondered what Pasuya bought.’

Also, if there exists a pause after *ucia cohivi*, *ne hucma* may be permitted in the sentence-

complements are covertly case-marked, as what has been claimed in Li (1985) and Tsai (1993) about Mandarin clausal complements.

It should be noticed here that the claims given above seem to be further supported by some facts about finite clausal complements in (Northern) Tsou. Ya-Yin Chang (personal communication, 1997) points out that in Tsou *ho* acts as a complementizer and is found with the finite complement clause of verbs like *cohivi* ‘know’ and *tauzva* ‘believe’, but not with those like *ta’unana* ‘think’ and *yainca* ‘say’.

(66) Tsou (Ya-Yin Chang, personal communication, 1997)

a. i-si cohivi to amo (ho) [mo mhia emi ’o pasuya].
 NAF-3S know(PF)Obl father that AF buy (AF) wine Nom Pasuya
 ‘Father knew that Pasuya bought wine.’

b. i-si tauzva to amo (ho) [mo mhia emi ’o pasuya].
 NAF-3S believe(PF) Obl father that AF buy (AF) wine Nom Pasuya
 ‘Father believed that Pasuya bought wine.’

(67) a. i-si ta’unana(*ho) [mo mhia emi to amo ’o pasuya].
 NAF-3S think that AF buy(AF) wine Obl father Nom Pasuya
 ‘Father thought that Pasuya bought wine.’

b. i-si yainca to amo (*ho) [mo mhia emi ’o pasuya].
 NAF-3S say Obl father that AF buy (AF) wine Nom Pasuya
 ‘Father said that Pasuya bought wine.’

Several things are to be mentioned here. First, according to Zeitoun’s (1993) analysis of case markers in Tsou, *ho* is not one of them. Second, sentences like (66) and (67) do not contain *wh*-phrases. Third, while *ho* may appear optionally with the finite complement of non-bridge verbs like *cohivi* ‘know’ and *tauzva* ‘believe’, it cannot co-occur with that of *yainca* ‘say’ and bridge verbs like *ta’unana* ‘think’. One may thus posit that *cohivi* and *tauzva* may take overt complementizers like *ho*, whereas *yainca* and *ta’unana* take covert ones. And, like Paiwan, both types of clausal complements receive covert case-marking.²⁰

initial position of the embedded clause.

²⁰ It has long been observed that, as opposed to those of non-bridge verbs, complements of bridge verbs may have main clause properties. Thus, Vikner (1994), for instance, proposes that non-bridge verbs do not allow CP recursion, whereas bridge verbs freely allow CP recursion. Our discussion of Paiwan, Mayrinax and Tsou suggests that they may also differ from one another with respect to the choice of case maker and/or complementizer. In addition, *say*-type verbs, quotative in Paiwan and Mayrinax as well as non-quotative in Tsou, may pattern with bridge verbs in these two aspects. As stated in Klammer (this volume), a similar behavior in the

The observation that, unlike Paiwan *tu*, Tsou *ho* may be optionally deleted may be attributed to a postulation that, like English *that*, it is not derived from a case marker.²¹

3. NON-FINITE CLAUSAL COMPLEMENTS

It has been assumed in section 2 that the clausal complements under consideration are finite. With respect to the form of a finite verb, we have shown that it may take the AF or NAF affixes, it may co-occur with temporal or aspectual markers, etc. Also, as mentioned before, the tense of a finite clause is referential or deictic.

By contrast, the non-finite clause has anaphoric or no tense. Many languages use subjunctive clauses and/or nominalized forms to express what in the Indo-European languages and others is expressed by means of a non-finite form of the verb. For example, as discussed in Ouhalla (1991), Arabic uses the subjunctive complementizer *'an* 'that' to denote the tenseless of the clausal complement.

(68) Arabic (Ouhalla 1991)

'u-ridu 'an [ya-shtarri Zayd-un daar-an].
 1s-want that 3ms-buy Zayd-Nom house-Acc

choice of complementizers is also found in Kambara, Buru and Tukang Besi.

²¹ The behavior of wh-phrases in Tsou constituent questions is rather complicated and not entirely identical to what is found in Paiwan (60) and (61). For example, based on the data from Ya-Yin Chang (personal communication, 1997), proper government alone cannot determine the obligatory deletion of *ho*, as (i) and (ii) below demonstrate, given the assumption that the object wh-phrase *no cuma* 'what' is nominal and lexically governed.

(i) Tsou (Ya-Yin Chang, personal communication, 1997)

a. os-ko cohivi ho/∅ [mo mhino no cuma 'e pasuya].
 NAF-2S know that AF buy(AF) Obl what Nom pasuya
 'You know what Pasuya bought.'

b. os-ko cohivi [CP Op_i [C ho/∅[mo mhino no cuma;'e pasuya]]].
 NAF-2S know that AF buy(AF) Obl what Nom pasuya
 'You know what Pasuya bought.'

(ii) a. os-ko cohivi *ho/∅ [mo mhino no cuma 'e pasuya]?
 NAF-2S know that AF buy(AF) Obl what Nom pasuya
 'What do you know Pasuya bought?'

b. [CP Op_i os-ko cohivi [CP t_i [C *ho/∅ [mo mhino no cuma;'e pasuya]]] ?
 NAF-2S know(PF) that AF buy(AF) Obl what Nom pasuya
 Pasuya
 'What do you know Pasuya bought?'

One proposal may be that in Tsou the realization of C may be dictated by the properties of its specifier as well as the ECP.

‘I want Zayd to buy a house.’

In addition, Nominative overt subject *Zayd* is found in tenseless subjunctive clausal complements like (68). The observed presence of an overt embedded subject, however, is disallowed in tenseless non-finite clausal complements, as illustrated in English (69) and Mandarin (70) below.

(69) English

John tried [(**he*) to help you].

(70) Mandarin

wo dasuan [(**wo*) qu].

I plan I go

‘I planned to go.’

This distinction between the subjunctive construction and the non-finite construction is further evidenced by the raising and control facts about Niuean. Massan and Smallwood (1997) point out that the subjunctive complementizer *ke* is found with the Niuean raising and control constructions. Raising is optional, as in (71)-(72), and a co-indexed overt Absolute pronoun may appear in the control construction, as in (73).

(71) Niuean (Massan & Smallwood 1997) – Raising

a. To maeke ke [lagomatai he ekekafo e tama e].
 fut possible Sbjnctv help ErgArt doctor AbsArt child this
 ‘It is possible for the doctor to help this child.’

b. To maeke e ekekafo_i ke [lagomatai ec_i e tama e].
 fut possible AbsArt doctor Sbjnctv help AbsArt child this
 ‘It is possible for the doctor to help this child.’

(72) a. To nakai toka e au ke [kai he pusi e ika].
 fut not let ErgPropArt I Sbjnctv eat ErgArt cat AbsArtfish
 ‘I won’t let that the cat eat the fish.’

b. To nakai toka e au e pusi_i ke [kai ec_i e ika].
 Fut not let ErgPropArtI Abs cat Sbjnctv eat AbsArt fish
 ‘I won’t let that the cat eat the fish.’

(73) Niuean (Massan & Smallwood 1997) – Control

a. Kua lali a ia_i ke [vagahau ec_i].
 Perf try AbsPropArt he Sbjnctv talk
 ‘He is trying to talk.’

- b. Kua lali lahi [e kapitiga haau]_i ke [sake e au
 Perf try really AbsArt friend your Sbjctv sack ErgPropArt I
 a ia_i].
 AbsArt him
 ‘Your friend is really trying to get me to sack him.’

Unlike Arabic and Niuean, Chung (1996) states that in Chamorro the subject of a non-finite clause must be phonetically covert, as in (74). The only allowable options are PRO, as in (75), or the NP-trace of raising, as in (76).

(74) Chamorro (Chung 1996)

- *Ma’a’nao i patgun [tumaitai si Dolores esti na lepblu].
 Agr.afraid the child Infin.read Dolores this L book
 ‘The child is afraid for Dolores to read this book.’

(75) Ti gofya-hu [yumayas PRO].

- not very.like-agr Infin.tired
 ‘I don’t like being tired.’

(76) Sa’ esta ha-tutuhun pro_i [mam-a’tinas t_i latgeru pra i

- because already agr-begin Infin.AP-make shaft for the
 fa’i].
 rice.plant
 ‘Because he had already started making shafts for the rice plants.’

Given the above contrasts in the realization of an embedded subject between English, Mandarin, Chamorro and Arabic, Niuean, it should be clear by now that while the tense of non-finite and subjunctive clausal complements is anaphoric or tenseless, the subject of the non-finite clause, not that of the subjunctive clause, must be covert.

3.1 Purpose clauses

Cross-linguistically, purpose clauses are one of those involving non-finite verbs. We assume with Carstens (1988) that English purpose clauses may be of the structures (77) and (78).

(77) English

- John_i uses a knife_j [Op_j [PRO_i to kill the pig t_j]].

(78) Mary_i bought fish_j [Op_j [PRO_i to eat t_j]].

Consider now the Paiwan counterparts of (77).

(79) Paiwan

a. *semi'unu_i ti kui_j [Op_i a/*t(u)a/*tu/*∅ [c-em-ulu tua 'acang t_i
use-knife Nom Kui kill-AF Acc pig
PRO_j]].*

'Kui uses a knife to kill the pig.'

b. *ceka'u ti kui_i tua si'unu_j [Op_j a/*t(u)a/*tu/*∅ [c-em-ulu
use Nom Kui Acc knife kill-AF
tua 'acang t_j PRO_i]].*

Acc pig

'Kui uses a knife to kill the pig.'

(80) a. **semi? unu_i ti kui_j [Op_i a/t(u)a/tu/∅ [c-in-ulu PRO_j a 'acangt_i]].*

use-knife Nom Kui kill-PF Nom pig

'Kui uses a knife to kill the pig.'

b. **ceka'u ti kui_i tua si'unu_j [Op_j a/t(u)a/tu/∅ [na-c-em-ulu
use Nom Kui Acc knife Past-kill-AF
tua 'acang t_j PRO_i]].*

Acc pig

'Kui uses a knife to kill the pig.'

In view of (79) and (80), we find that purpose clauses with a shared instrument take obligatory *a* marker and the embedded verb cannot carry NAF or aspectual markers. Given that AF verbs like *semi'unu* 'use a knife' and *ceka? u* 'use' *s*-select an agent as their subject and that in Paiwan *a* does not mark Accusative, we posit that in sentences like (79) and (80) *a* acts as a non-finite complementizer.²² This claim is supported by cases like (81) and (82) below.

²² If our approach is plausible concerning finite complementizer *tu* and non-finite complementizer *a*, it seems that in Paiwan the non-finite complementizer is derived historically from Nominative marker, and the finite one from Accusative marker.

Following Tsai's (1993) claim that *s*-selected clauses require case-marking, we assume that like the *tu*-marked finite clausal complement, the *a*-marked non-finite clausal complement is covertly marked for Accusative. Note that though *a* marks non-finiteness in Paiwan, it might be argued to act as an infinitival marker, like that of the English *to*, rather than non-finite complementizer. While we will leave this issue open and for future research, we would like to point it out here that there seems to be evidence for a complementizer analysis. First, Ouhalla (1991) claims that one of the reasons that complementizers are present in non-finite clauses is that they are not inherently nominal. By inherently nominal Ouhalla means that the verb is not marked for tense. As an example, for languages like English, as shown in (ia-b), complementizer *that* cannot appear because the embedded verbs *hitting* and *leave* are not marked for tense.

(81) Paiwan

- a. maLap ti kai tua kasiv a [d-em-ukuL tai kui].
 take-AF Nom Kai Acc stick beat-AF Acc Kui

(i) English

- a. I prefer (*that) John's hitting the ball.
 b. John tried (*that) to leave.

By contrast, for languages like French there exist two types of C elements, *que* which appears with tensed clauses and *de* which appears with infinitival clauses.

(ii) French (Ouhalla 1991)

- a. Marie a dit que Jean est parti trop tard.
 'Marie has said that Jean has left too late.'
 b. Jean refuse de révéler le secret.
 'Jean refuses to reveal the secret.'

According to Ouhalla, the requirement of an infinitival complementizer in French is due to the fact that the infinitival marker *-er* in French is also used in matrix clauses as a future tense marker, as (iii-a-b) illustrate.

(iii) French (Ouhalla 1991)

- a. Jean révèl-er-a le secret demain.
 Jean reveal-will-3s the secret tomorrow
 'Jean will reveal the secret tomorrow.'
 b. Les candidats arriv-er-ont de Paris.
 the candidates arrive-will-3p from Paris
 'The candidates will arrive from Paris.'

If Ouhalla's approach is on the right track, *a* under consideration should be treated as complementizer for in Paiwan and other Formosan languages AF affixes are not without tense-marking. This is illustrated in sentences like (iv) below.

(iv) Paiwan

- t-em-aLem ti kui tua saviki.
 plant-AF Nom Kui Acc beetlenut
 'Kui plants beetlenuts.'

Second, it has been pointed out in example (iv) of footnote 19, repeated here as (v), that no element can intervene between finite complementizer *tu* and the embedded predicate-complexes.

- (v) k-em-elang ti kuitu [(**kati*au) na-v-en-eLi (kati) au) ti kai (kati) au)
 know-AF NomKui yesterday Past-buy-AF yesterday NomKai yesterday
 tua kun (kati) au].
 Acc skirt yesterday
 'Kui knows that yesterday Kai bought a skirt.'

The same adjacency constraint is found with non-finite complementizer *a*, as shown in (vi).

- (vi) s-em-avuta ti kai tai kui a [(**nut*iau) t-em-aLem (nut) iau) tua
 force-AF Nom Kai Acc Kui tomorrow plant-AF tomorrow Acc
 saviki (nut) iau].
 beetlenut tomorrow
 'Kai forces Kui to plant beetlenuts tomorrow.'

‘Kai takes a stick to beat Kui.’

- b. in-aLap ni kai a kasiv a [d-em-ukuL tai kui].
 take-PF Gen Kai Nom stick beat-AF Acc Kui
 ‘Kai took a stick to beat Kui.’

- (82) maLap ti kai tua kasiv a [d-em-ukuL tua anema]?
 take-AF Nom Kai Acc stick beat-AF Acc what
 ‘What does Kai take a stick to beat?’

na- and NAF affixes in Paiwan have been argued in Zeitoun *et al.* (1996) to be aspect markers expressing the perfective meaning. It seems that for languages like Paiwan such elements cannot appear in the non-finite clause.²³ One may suggest that the other reason why NAF markers cannot be used in non-finite clauses is that the controllee must be an actor in subject position. In languages like Tagalog, however, the actor controllee may occur as a nonsubject.

- (83) Tagalog (Schachter 1994)

- a. Nag-atubili siyang [humiram ng pera sa bangko].
 hesitated-AN N-3sg-L borrow-AN P money D bank
 ‘He hesitated to borrow money from a/the bank.’
- b. Nag-atubili siyang [hiramin ang pera sa bangko].
 hesitated-AN N-3sg-L borrow-AN N money D bank
 ‘He hesitated to borrow money from a/the bank.’
- c. Nag-atubili siyang [hiraman ng pera ang bangko].
 hesitated-AN N-3sg-L borrow-AN P money N bank
 ‘He hesitated to borrow money from the bank.’

Note also that while the tense of cases like (83a-c) is anaphoric, they are not the non-finite construction in question. For one thing, in (83b-c) the subject of the embedded clause is overt. For another, Schachter points out that in each sentence the covert controllee can be replaced by a resumptive pronoun.

Examine next the Paiwan counterpart of (78).

- (84) Paiwan

- a. *na-v-en-eLi ti kai tua ci’au a/t(u)a/tu/∅ [k-em-an/ k-in-an].
 Past-buy-AF Nom Kai Acc fish eat-AF / eat-PF
 ‘Kai bought fish to eat.’

²³ Similar restrictions have also been found with the non-finite clausal complement of languages like Mayrinax, as in Huang (1995), Kavalan, as in Lee (1997), Chamorro, as in Chung (1996), etc.

- b. na-v-en-eLi ti kai tua ci'au *a/t(u)a/tu/*∅ [kan-en / kan-in/
 Past-buy-AF Nom Kai Acc fish eat-PF / eat-PF
 si-kan (ni madu)].
 SI-eat Gen she
 'Kai bought fish to eat.'

As opposed to purpose clauses with a shared instrument, those with a shared patient cannot take embedded AF verbs. By comparison, the embedded verb must take certain kinds of NAF affixes.²⁴ A second difference is that non-finite complementizer *a* cannot be used before this kind of purpose clause whereas *t(u)a* and *tu* can. Third, the controllee may be in the form of a genitive overt or covert pronoun. Accordingly, we propose that while the tense of clausal complements like (84b) is anaphoric or tenseless, they are not the non-finite construction in question. They may be more of the nature of nominalization, hence the possibility of *t(u)a* and *tu*-type of marker, but not *a*-type, the requirement of certain NAF affixes, but not AF affixes, and the existence of an overt or covert controllee.

3.2 Raising

In addition to the instrument-sharing purpose clause, intransitive verbs like AF *vaik* 'go' and modal verbs like AF *maca'u* 'be able to' also appear with non-finite complementizer *a*.

(85) Paiwan

- a. na-vaik ti kai a/*t(u)a/*tu/*∅ [t-em-aLem tua saviki].
 Past-go-AF Nom Kai plant-AF Acc beetlenut
 'Kai went to plant beetlenuts.'
- b. *na-vaik ti kai a/t(u)a/tu/∅ [t-in-aLem a saviki].
 Past-go-AF Nom Kai plant-PF Nom beetlenut
 'Kai went to plant beetlenuts.'

- (86) a. maca? u ti kai a/*t(u)a/*tu/*∅ [k-em-an tua vutul].
 can Nom Kai eat-AF Acc meat
 'Kai can eat meat.'
- b. *maca'u ti kai a/t(u)a/tu/∅ [k-in-an a vutul].
 can Nom Kai eat-PF Nom meat
 'Kai can eat meat.'

²⁴ We will leave for future study the morphological and syntactic structures of *-en*, *-in* and *si-* in cases like (84b).

In cases like (85a) and (86a), Nominative *ti kai* may appear after the matrix verb, between the embedded verb and its Accusative object, and at the end of the whole sentence.

- (87) Paiwan
 na-vaik _I_ a t-em-aLem _II_ tua saviki _III_.
 Past-go-AF plant-AF Acc beetlenut
 ‘Kai went to plant beetlenuts.’

In view of the second distribution, one might postulate that the first occurrence results from raising of *ti kai* out of the non-finite clausal complement. Such an approach does not seem to be on the right track, given that the VP-internal-subject position of AF verbs like *vaik*, *maca’u*, *t-em-aLem* and *k-em-an* are theta-marked. Raising in Nuiean (71)-(72) and Chamorro (76) all involve movement from a theta position to a theta-bar position. It should be mentioned here that, unlike ungrammatical Chamorro cases like (74), with an overt subject in matrix and embedded clauses, in grammatical (87) only one of them is overt. This observation is supported by the fact that while (87), with one overt subject, is well-formed, (88), with two overt subjects, is not.

- (88) Paiwan
 *na-vaik ti kai_i a [t-em-aLem ti madu_{i/j} tua saviki].
 Past-go-AF Nom Kai plant-AF Nom she Acc beetlenut
 ‘Kai went to plant beetlenuts.’

Recall that in the discussion of sentences like (7a), (8) and (14a), repeated below as (89)-(90), we have claimed that raising may not be involved since the embedded clause may have a co-referential subject.

- (89) Paiwan
 k-em-elang ti kui_i *ti/tai kai_j *a/*t(u)a/tu/*∅ [na-v-en-eLi
 know-AF Nom Kui Nom/Acc Kai Past-buy-AF
 (ti madu_{*i/j}) tua kun].
 Nom she Acc skirt
 ‘Kui knows that Kai bought a skirt.’

- (90) k-in-elang ni kui_i ti kai_j *a/*t(u)a/tu/*∅ [na-v-en-eLi
 know-PF Gen Kui Nom Kai Past-buy-AF
 (ti madu_{*i/j}) tua kun].
 Nom she Acc skirt
 ‘Kui knew that Kai bought a skirt.’

The grammaticality distinction between (88) and (89)-(90) thus indicates that in (87) there is only one Nominative case available.

It has been mentioned before that Paiwan exhibits VOS and VSO word orders. Examine, for instance, sentences (91)-(92) and the simplified hierarchical structure (93).

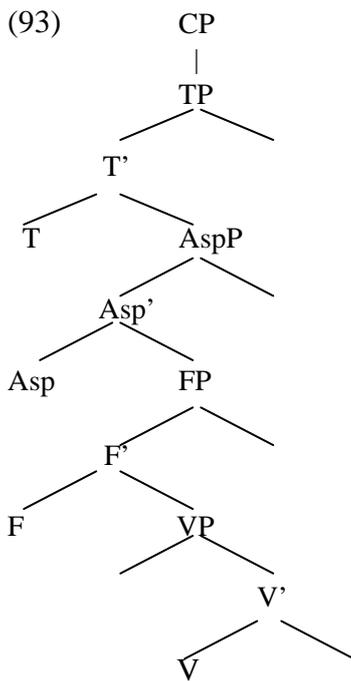
(91) Paiwan

a. na-d-em-ukuL tai kui ti kai.
 Past-beat-AF Acc Kui Nom Kai
 ‘Kai beat Kui.’

b. na-v-en-eLi ti kai tua kun.
 Past-buy-AF Nom Kai Acc skirt
 ‘Kai bought a skirt.’

(92) a. d-in-ukuL ni kai ti kui.
 beat-PF Gen Kai Nom Kui
 ‘Kai beat Kui.’

b. v-in-eLi a kun ni kai.
 buy-PF Nom skirt Gen Kai
 ‘Kai bought a skirt.’



Assuming that the thematic subject is base-generated in the Spec of VP and the thematic object under V', on the one hand, and the verb moves from V to T successively cyclically, on the other hand, we assume with Ouhalla (1991) that there might be two different ways of getting Nominative case. In Paiwan one is in the Spec of VP and the other in the Spec of TP. Thus, (91b) might involve no movement whereas (91a) and (92a) might involve movement of *ti kai* and *ti kui* respectively to the Spec of TP. However, assuming also that lowering is not a possible movement, it is yet to derive (92b). It is posited that a raising operation might adjoin the thematic subject or object to the maximal projection(s) dominating the grammatical subject position (i.e., TP or CP) by rightward adjunction. If this approach is plausible, movement might also be said to take place in (91b).²⁵

With the postulation of rightward adjunction, (94a) may be derived by the adjunction of *tua saviki* 'beetlenut' to the right of TP.

(94) Paiwan

- a. na-vaik a t-em-aLem ti kai tua saviki.
 Past-go-AF plant-AF Nom Kai Acc beetlenut
 'Kai went to plant beetlenuts.'
- b. na-vaik t_i [a t-em-aLem t_j] ti kai_i tua saviki_j.
 Past-go-AF plant-AF Nom Kai Acc beetlenut
 'Kai went to plant beetlenuts.'

Alternatively, one might propose that (94a) is of structure (95).

(95) Paiwan

- na-vaik a [t-em-aLem ti kai tua saviki].
 Past-go-AF plant-AF Nom Kai Acc beetlenut
 'Kai went to plant beetlenuts.'

A question then arises as to how *ti kai* may be marked with Nominative in (95). One stipulation would be that for predicate-initial languages like Paiwan, the Nominative subject of a non-finite verb may be licensed by forming a chain with a matrix null subject, a way that is also found with the VP-internal subject of a finite verb (cf. Ouhalla 1991).²⁶

²⁵ We will leave the function and constraint of such an adjunction operation for future study. Note also that more data are needed so as to decide the right structures of cases like (91)-(92) and (94a) for different kinds of generation will yield different kinds of c-command relationship and A/A'-dependency.

²⁶ Below are some other similar observations.

These two options are, however, not available for SVO languages like Mandarin and English, as illustrated in the ill-formedness of (96b) and (97b).

(96) Mandarin

- a. wo qu [zhong binlang].
I go plant beetlenut
'I went to plant beetlenuts.'
- b. *qu zhong wo binlang.
Go plant I beetlenut
'I went to plant beetlenuts.'

(97) English

- a. I went [to plant beetlenuts].
b. *went to plant I beetlenuts.

Ouhalla (1991) claims that SVO languages have AGR outside Tense whereas VSO languages have AGR inside Tense. We will leave the issue for future study whether this typological variation should be attributed to this distinction or/and others.

Before turning to the next section, examine, for instance, the grammatical contrast between (98a-b) and (99a-b) below.

(i) Paiwan

- a. na-vaik ti kai a [t-em-aLem *a/tua saviki].
Past-go-AF Nom Kai plant-AF Nom/Acc beetlenut
'Kai went to plant beetlenuts.'
- b. v-in-aik ni kai a [t-em-aLem a/tua saviki].
go-PF Gen Kai plant-AF Nom/Acc beetlenut
'Kai went to plant beetlenuts.'

(ii) a. s-em-avuta ti kai tai kui a [k-em-an *a/tua ci'au].

force-AF Nom Kai Acc Kui eat-AF Nom/Acc fish
'Kai forces Kui to eat fish.'

- b. s-in-avuta ni kai ti kui a [k-em-an *a/tua ci'au].
force-PF Gen Kai Nom Kui eat-AF Nom/Acc fish
'Kai forces Kui to eat fish.'

c. s-in-avuta ni kai a [k-em-an a/tua ci'au].
force-PF Gen Kai eat-AF Nom/Acc fish
'Kai forced someone to eat fish.'

- d. s-in-avuta ni kai tai kui a [k-em-an a/tua ci'au].
force-PF Gen Kai Acc Kui eat-AF Nom/Acc fish
'Kai forces Kui to eat fish.'

It should be pointed out here that the grammatical contrasts given above further support our claim that in Paiwan *a* introducing the non-finite clausal complement should not be treated as a Nominative marker.

(98) Paiwan

a. pa'uLid a/tu [na-k-em-elang ti kai tua azua a sengsengan].
 true Past-know-AF Nom Kai Acc that matter
 'It is true that Kai knew that matter.'

b. pa'uLid a/tu [k-in-elang ni kai a azua a sengsengan].
 true know-PF Gen Kai Nom that matter
 'It is true that Kai knew that matter.'

(99) a. *va'uan a/tu [na-v-en-eLi ti kai tua kun].

new Past-buy-AF Nom Kai Acc skirt
 'The skirt that Kai bought is new.'

b. va'uan a/*tu [v-in-eLi ni kai a kun].

new buy-PF Gen Kai skirt
 'The skirt that Kai bought is new.'

To begin with, while they both may act as one-argument predicates, adjectives like *pa'uLid* 'true' may take a proposition as argument and those like *va'uan* 'new' cannot. Thus, the so-called subject-sensitivity condition on the equational construction applies to (99) only.

Next, though, like the relative clauses discussed in section 2.2, *tu* is disallowed in the equational construction (99), it is found in cases like (98), in addition to *a*. Furthermore, *a* in question should not be treated as a non-finite complementizer because it can co-occur with *na-* or PF affixes. One important issue then is what the properties of *a* and *tu* in (98) are.²⁷ We propose that in (98) the proposition *na-k-em-elang ti kai tua azua a sengsengan* 'Kai knew that matter' may appear as the subject or object of verbs like *pa'uLid* 'true', hence the possibility of Nominative *a* and finite complementizer *tu*.²⁸

3.3 Choice of markers

²⁷ For an analysis of *a* in the relative clause, see Tang *et al.* (1997).

²⁸ It should be pointed out here that while finite clauses following adjectives like *pa'uLid* may be marked with *a* or *tu*, they are of two distinct structures. As shown in the grammatical contrast between (ia)-(ib) below, *pa'uLid* with *a* functions as an one-argument predicate, whereas with *tu*, it does not.

a. *pa'uLid ti kai_i a [na-k-em-elang ti madu_i/pro_i tua azua a sengsengan].
 true Nom Kai Past-know-AF Nom she Acc that matter
 'It is true that Kai knew that matter.'

b. pa'uLid ti kai_i tu [na-k-em-elang ti madu_i/pro_i tua azua a sengsengan].
 true Nom Kai Past-know-AF Nom she Acc that matter
 'It is true that Kai knew that matter.'

It is well-known that a verb may take more than one type of clausal complement. In English, for instance, verbs like *agree* s-select a finite or non-finite clausal complement.

(100) English

- a. He agreed that you should come tomorrow.
- b. She agrees to come tomorrow.

In Paiwan perception verbs like AF *pacun* ‘see’ and AF *L-em-adenga* ‘hear’ may also take either a finite or a non-finite clausal complement.²⁹ These two types of complements, however, exhibit very distinct syntactic and semantic behavior. Consider, for example, the following data.

(101) Paiwan

- a. na-pacun ti kai *a/*t(u)a/tu/*∅ [na-d-em-ukuL ti kui
Past-see-AF Nom Kai Past-beat-AF Nom Kui
tai Palang].
Acc Palang

‘Kai saw that Kui beat Palang.’

- b. na-pacun ti kai tai kui_i *a/*t(u)a/tu/*∅ [na-d-em-ukuL
Past-see-AF Nom Kai Acc Kui Past-beat-AF
(ti madu_i) tai Palang].

Nom he Acc Palang

‘Kai saw that Kui beat Palang.’

- (102) a. L-em-adenga ti kai tai kui a/*t(u)a/*tu/*∅ [’-em-aung].
hear-AF Nom Kai Acc Kui cry-AF

‘Kai hears Kui crying.’

²⁹ The same observation has been found with Mayrinax perception verbs, as discussed in Huang (1995).

- b. L-em-adenga ti kai tai kui_i a/*t(u)a/*tu/*∅ ['-em-au'aung].
 hear-AF Nom Kai Acc Kui cry-AF-Prog
 'Kai hears Kui crying.'
- c. *L-em-adenga ti kai tai kui_i a/t(u)a/tu/∅ [na-'-em-aung
 hear-AF Nom Kai Acc Kui Past-cry-AF
 (ti madu_i)].
 Nom he
 'Kai hears Kui crying.'

Clausal complements in cases like (101) are finite. Accordingly, finite complementizer *tu* must occur and there may appear an embedded overt subject. Those in cases like (102), on the other hand, are non-finite, hence the requirement of non-finite complementizer *a* and the impossibility of the perfective prefix *na-* as well as the overt embedded subject.³⁰ Notice here that in Paiwan, as illustrated in (102b), verbs in the non-finite complement of perception verbs may be in the progressive form. This is not surprising for progressive markers, like AF affixes, denote the meaning of imperfectivity. Zeitoun *et al.* (1996), for example, point out that in languages like Amis, Tsou and Mayrinax, the progressive meaning is implied in AF constructions.

Before turning to the discussion of the next section, consider again sentences like (3), repeated below as (103).

(103) Paiwan

- a. l-em-auy ti kai a/t(u)a/tu/*∅[k-em-an tua ci'au].
 agree-AF Nom Kai eat-AF Acc fish
 'Kai agrees to eat fish.'
- b. s-em-avuta ti kai tai kui a/t(u)a/tu/*∅[k-em-an tua ci'au].
 force-AF Nom Kai Acc Kui eat-AF Acc fish
 'Kai forces Kui to eat fish.'

From our discussion so far, it should be clear by now that *a*, *t(u)a* and *tu* in cases like (103) function as non-finite complementizers. In addition to what is found with verbs like *lauy* 'agree' and *savuta* 'force', the co-occurrence restrictions between matrix verbs and tenseless clausal complements given before are summarized in (104)

- (104) a. Instrument-sharing purpose clauses are in the form of non-finite clause introduced by non-finite complementizer *a*.

³⁰ One reviewer points out that his/her informants accept *tu* in sentences like (102b).

- b. Patient-sharing purpose clauses are in the form of nominalized clause introduced by non-finite complementizer *t(u)a* or *tu*.
- c. Intransitive verbs and modal verbs take the non-finite clause introduced by non-finite complementizer *a*.
- d. Perception verbs take the non-finite clause introduced by non-finite complementizer *a*.

A closer examination of (104) further indicates that except for modal verbs, none of the clausal complement in question is the obligatory argument of the matrix verb. The clausal complement in cases like (103), by contrast, is the obligatory argument of the typical control verbs. Taking into consideration all these factors, we thus suggest that in Paiwan the status of being an obligatory argument of a non-modal control verb will somehow nominalize a non-finite clause.³¹ Accordingly, a tenseless clausal complement may be marked with *t(u)a* or *tu* if it may become nominalized by the embedded NAF verb or by being the obligatory argument of a matrix verb.³²

³¹ Modals have been classified into two types: deontic and epistemic. The former has been argued to be of control structure, and the latter of raising structure. *maca? u* ‘can’ in (86) is of deontic modal whereas *makaya* ‘may’ in (ia) below is of epistemic modal. Accordingly, for epistemic modals like *makaya* ‘may’ in Paiwan they may be said to have the raising structure (ib), similar to that of Chamorro in (76).

(i) Paiwan

- a. *makaya ti kai a [t-em-aLem tua saviki].*
 may Nom Kai plant-AF Acc beetlenut
 ‘Kai may plant beetlenuts.’
- b. *makaya ti kai_i a [t-em-aLem t_i tua saviki].*
 may Nom Kai plant-AF Acc beetlenut
 ‘Kai may plant beetlenuts.’

In Paiwan the meaning of modality may be expressed by verbs and nonverbs. Future tense marker *uri-* ‘will’, for instance, is a bound morpheme and does not act as a verb, hence the impossibility of taking a bound pronominal and a non-finite clausal complement.

(ii) Paiwan

- a. **uri-aken mapu’ tua saviki.*
 will-I.Nom chew-AF Acc beetlenut
 ‘I will eat beetlenuts.’
- b. *uri-mapu’-aken tua saviki.*
 Will-chew-AF-I.Nom Acc beetlenut
 ‘I will eat beetlenuts.’
- (iii) *uri- (*a) mapu’-aken tua saviki.*
 Will- chew-AF-I.Nom Acc beetlenut
 ‘I will eat beetlenuts.’

³² A further research will be done so as to account for the grammaticality variations found among informants.

4. FURTHER EVIDENCE

We have shown in the previous sections that in Paiwan subordinating conjunctions like complementizers may be derived historically from case markers. If this line of thought is on the right track, we should be able to find other types of conjunctions formed with elements that may act as case markers in other constructions. In addition, it has been assumed that some conjunctions function like preposition and thus may assign Accusative case to objects in the form of noun phrase or clause. This assumption, coupled with the above-mentioned postulation, will further predict that two seeming case markers may be fused historically to serve as a conjunction. These two predictions are borne out in Paiwan sentences like (105) and (106).

(105) Paiwan

nu v-en-eLi ti kai tua vutul, ki k-em-an ti kui.³³
 if buy-AF Nom Kai Acc meat then eat-AF Nom Kui
 ‘If Kai buys the meat, Kui eats it.’

(106) ata k-em-esa ti kai tua vutul, sika k-em-an ti kui.
 because cook-AF Nom Kai Acc meat so eat-AF Nom Kui
 ‘Because Kai cooks the meat, Kui eats it.’

Synchronically, it is very unlikely that *nu* and *ata* are to be treated as Partitive Nominative marker and the juxtaposition of Nominative and Accusative markers in (105) and (106), respectively. A more desirable analysis would be that they result from the fusion of “P + Accusative case marker”, in which P is derived from case marker and must be overt, and the Accusative-marking, like what has been found with the finite and the non-finite clausal complements of a verb, may be covert or overt.³⁴ Such a view seems to be further evidenced by examples like (107) and (108) below.

³³ According to our informants, in constructions with subordinating conjunctions the form and the sequence of both verbs are not without restrictions. We will not go into the details here.

³⁴ This proposal does not imply that conjunctions are all derived from case markers.

(107) Paiwan

ka mangetez ti kai, '-em-au'aung ti kui.
 When come-AF Nom Kai cry-AF-Prog Nom Kui
 'When Kai came, Kui was crying.'

(108) a. d-in-ukuL ni kai a vatu kat(u)a ngiau.³⁵
 beat-PF Gen Kai Nom dog and cat
 'Kai beat the dog and the cat.'

b. na-d-em-ukuL ti kai tai kui ka(t(u)a)ti Palang.
 Past-beat-AF Nom Kai Acc Kui and Palang
 'Kai beat Kui and Palang.'

It is worthy of note that in the discussion of the interaction between Mayrinax Accusative 'i' and complementizer *mha*' in cases like (52), we point out that as case is assigned to the whole clause, the linear order would be for 'i' to precede *mha*'. By contrast, in cases like (106) and (108) *ta* must follow *a* and *ka* since the latter elements may be considered historically as case assigners.

Notice also that in cases like (109) *nu* seems to be historically fused with another prefix to act as a conjunction. It is, again, rather unlikely for one to assume that synchronically the internal structure of *manu* is "P + Partitive Nominative".

(109) Paiwan

a. t-en-gelay-sun tai kai manu ti-Palang?
 like-AF-you.Nom Acc Kai or P-Palang
 'Do you like Kai or Palang?'

³⁵ From sentences like (108) and (109), one can tell that the second conjunct of *kata* or *manu* is in fact not overtly marked with the relevant Accusative marker. Cases like (i) and (ii) are ill-formed.

(i) Paiwan

* na-d-em-ukuL ti kai tai kui kat(u)a tai palang.
 Past-beat-AF Nom Kai Acc Kui and Acc Palang
 'Kai beat Kui and Palang.'

(ii) * t-en-gelay-sun tai kai manu tai palang?
 like-AF-you.Nom Acc Kai or Acc Palang
 'Do you like Kai or Palang?'

We assume with Tang *et al.* (1997) that *ti-* following *kata* and *manu* is not a case marker. Instead, it is a prefix indicating the non-common noun status of personal names. Note that *ti-* after *kata*, not *manu*, may in turn undergo contraction with the preceding conjunction.

- b. t-en-gelay-sun tua vatu manu ngiau?
 like-AF-you.Nom Acc dog or cat
 ‘Do you like the dog or the cat?’

Before concluding our discussion, compare Mayrinax sentences like (110), as in Huang (1995), with Paiwan sentences like (111).

(110) Mayrinax (Huang 1995)

- lihka’ ’i’ ma-ktaliyun ku’ ’ulaqi’
 Fast Lin AF-run Nom.Rf child
 ‘The child is running fast’

(111) Paiwan

- a. *g-em-alu a k-em-an ti kai.
 slow-AF eat-AF Nom Kai
 ‘Kai is slow in eating.’
- b. [nu k-em-an] g-em-alu ti kai.
 regarding eat-AF slow-AF Nom Kai
 ‘Kai is slow in eating.’

Based on the grammatical contrast between (110) and (111a) as well as that between (111a) and (111b), we found that in Paiwan, not Mayrinax, in addition to the meaning of ‘if’ in examples like (105), *nu* may also be used to express that of ‘regarding’.³⁶ Its complement is non-finite in nature, as shown in (112).

(112) Paiwan

- *[nu k-in-an] g-em-alu ti kai.
 regarding eat-PF slow-AF Nom Kai
 ‘Kai is slow in eating.’

Notice that *nu* may also be used to denote the adverbial meaning of ‘while’ in examples like (113) below.

(113) Paiwan

- nu k-em-an na migacal ti kai.
 while eat-AF stand Nom Kai
 ‘Kai is standing while eating.’

The multiple adverbial usage of *nu* just given further argues for our posited claim that in Paiwan certain case markers may be derived to function as non-case markers.

36 One reviewer points out that his/her informants accept sentences like (111a).

5. CONCLUSION

An optimal analysis of clausal complements in Paiwan requires the collection of more data, the investigation of more constructions and the study of more Austronesian languages. For instance, with respect to Paiwan alone we have not yet examined the form of the clausal complement in imperative, causative, negative constructions, etc., nor have we considered the internal structure of different types of clausal complements. The preliminary study presented in this paper is just part of an on-going research on Paiwan. We, nevertheless, hope to have established some interesting and important empirical and theoretical issues for future research.

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