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THE TEMPORAL, ASPECTUAL, AND MODAL SYSTEMS OF SOME FORMOSAN LANGUAGES: A TYPOLOGICAL PERSPECTIVE¹

ELIZABETH ZEITOUN, LILLIAN M. HUANG,
MARIE M. YEH, ANNA H. CHANG, AND JOY J. WU

This paper examines how voice/focus, tense, aspect, and modality interact with each other, and how they are expressed in nine Formosan languages: Amis, Atayal (Wulai and Mayrinax), Bunun, Paiwan, Puyuma, Rukai, Saisiyat, and Tsou. We show that all the Formosan languages investigated—except Amis—exhibit a distinction between future/nonfuture or irrealis/realis. Temporal distinctions having been grammaticalized in only a few languages (such as Tsou), past and present interpretations usually depend on the occurrence of aspectual affixes or auxiliaries, or temporal adjuncts. Future is indicated either by the partial reduplication or affixation of the verb stem, or by a modal auxiliary. Aspectual distinctions such as perfective vs. perfect and progressive vs. habitual are also discussed and illustrated for each language. We find that distinctions of tense, aspect, and modality are expressed morphologically and/or lexically, and that this dual possibility accounts for most of the cross-linguistic variation observed.

1. INTRODUCTION. In the Formosan languages (as in the other Western Austronesian languages), voice (or focus) interacts with tense, aspect, and modality to form a complex system of verbal morphology. Zeitoun and Huang (1994) provide a brief overview of the temporal/aspectual and modal systems of five Formosan languages:² Atayal [Wulai], Bunun [Isbukun], Rukai [Tanan and Budai], Saisiyat [Tungho] and Tsou [Tfuya]. In the present paper, we include data from four more languages/dialects: Atayal [Mayrinax], Central Amis [Changpin], Northern Paiwan [Stimul], and Puyuma [Nanwang]. Our chief aim is to show how voice/focus, tense, aspect, and modality interact, and how they are expressed in each language. Several related topics are reserved for treatment elsewhere (see Chang et al., in prep., and Zeitoun et al., in prep.). These include imperative constructions, hypothetical and counterfactual clauses, and the function of the <in> infix and its counterparts. Our emphasis is deliberately synchronic.³ If not otherwise mentioned, the data we are making use of in this paper come from our own published and unpublished field notes.⁴

In Sections 2 and 3, we examine the distinction between nonfuture/realis and future/irrealis and show that such a dichotomy holds true for all the languages investigated except Amis. In Section 4, aspectual distinctions (perfective vs. perfect and progressive vs. habitual) are discussed and illustrated for each language.

Since focus interacts with tense, aspect, and modality, we provide in Tables 1a-b a list of the focus affixes found in declarative sentences in the languages under study. Different (focus) affixes have been reconstructed for Proto-Austronesian (PAN):⁵ AF *mu-/um-, PF *-ən, LF *-an⁶ and IF/BF *(i)Si- (see Starosta, Pawley, and Reid 1982, and Ross 1995). The Formosan languages have preserved these affixes to a certain extent, although their realization in the modern languages has been affected by the sound changes that have occurred in each. Note that Rukai is the only language to have developed an active/passive voice dichotomy, the active voice being marked by *w-* [u-] and the passive by *ky-* [ki-] (see Li 1973 and Zeitoun 1995).⁷

2. VOICE/FOCUS AND ITS INTERACTION WITH TENSE. Tense is traditionally defined as a *deictic* category, in that it grammaticalizes the temporal relationship between the time at which an event (E) takes place and speech time (ST) or any other reference time (RT) (see Comrie 1986, and Chung and Timberlake 1985). As is well known, languages may exhibit a tripartite tense system in which past contrasts with present and future as in (1), or a bipartite system in which future is distinguished from nonfuture as in (2),

TABLE 1A. LIST OF THE FOCUS AFFIXES FOUND IN THE FORMOSAN LANGUAGES UNDER STUDY

	AF	PF	LF	IF/BF
Wulai Atayal	m-, -m-, Ø	-un,	-an	s-
Mayrinax Atayal	m-, -um-, Ø	-un	-an	si-
Isbukun Bunun	m-, ma- Ø	-un	-an	ʔis-
Stimul Paiwan	-əm-	<in>, -in	-an	si-
Nanwang Puyuma	-əm-, ma-, mi-, m-, Ø	-ay, -aw	-an	-anay
Saisiyat	-om-, ma-, m-, Ø	-ən	-an	si-
Tsou	mo, ʔ-, mi-, m-, Ø	-a	-i	-eni
Central Amis	mi-, ma-, -um-, Ø	ma-, -ən	-an	sa-*

*The affix *sa-* is only found in IF (and not BF) constructions in Amis. Note that *-an* and *sa-* can cooccur with other verbal affixes such as *pi-* and *ka-* (e.g., *sa-pi*, *sa-ka*, *pi-an* and *ka-an*), depending on the verb root. For details, see Wu (1995:10ff).

TABLE 1B. ACTIVE/PASSIVE VOICE DICHOTOMY IN RUKAI

	ACTIVE	PASSIVE
Budai Rukai	w-	ky-

or past from nonpast as in (3). The examples are taken from Chung and Timberlake (1985:204-205).⁸

- (1) Lithuanian
- | | |
|--|---|
| a. dirb-au
work-I(PAST)
'I worked/was working.' | b. dirb-u
work-I(PRES)
'I work/am working.' |
| c. dirb-s-iu
work-FUT-I
'I will work/will be working.' | |
- (2) Takelma
- | |
|---|
| a. yana-t'e
go(IRR)-1SG(FUT)
'I will go.' |
| b. yan-t'e
go(REAL)-1SG(NF)
'I went/am going/am about to go.' |
- (3) Yidjin
- | |
|--|
| a. ŋayu gundj:n
I return(PAST)
'I have returned.' |
| b. ŋayu gundj:n-ala
I return(NONPAST)-NOW
'I am returning now./I'm about to return now.' |

As pointed out by Chung and Timberlake (1985:206), "the different temporal locations of an event—past, present, and future—are inherently correlated with differences in mood and aspect. An event that will occur after the speech moment is nonactual and potential. Hence there is a correlation between future tense and nonactual potential mood and, by implication, between nonfuture tense and actual mood." Lakhota is cited as a language that exhibits a dichotomy between realis and irrealis. Compare (4a-c), from Chung and Timberlake (1985:206).

- (4) Lakhota
- | | |
|--|--|
| a. Ma-khuzi
I-sick
'I was sick/am sick.' | b. Ma-khuzi kte
I-sick FUT
'I will be sick.' |
| c. Yi-kta iyechecha
go-FUT perhaps
'It is likely that he will go./He ought to go.' | |

All the Formosan languages under study (except Amis) exhibit a basic distinction between nonfuture/future or realis/irrealis.⁹ Temporal distinctions having been grammaticalized in only few languages—so far it has only been found in Tsou—past and present (i.e., nonfuture/realis) interpretations usually depend on the occurrence of aspectual affixes/auxiliaries or temporal adjuncts. Future/Irrealis is expressed either morphologically, by the partial reduplication of the verb or through the use of an affix and/or lexically, by means of an auxiliary. These auxiliaries have a large range of usage that usually goes beyond future: they function as (deontic and/or epistemic) modals. In other words, nonfuture tense interacts with aspect and future tense with modality. Tense also interacts with voice/focus, as will become clear below.

In what follows, we first pay attention to nonfuture situations, that is, situations regarded as having already occurred or actually taking place. In Section 2.1, we show that in most Formosan languages (Atayal, Bunun, Paiwan, Puyuma, Saisiyat, and Rukai), past and present are not overtly marked on the verb, but depend on the occurrence of various constituents in the sentence. In Section 2.2, we deal with the Tsou language, which has grammaticalized the notion of “absolute tense,” thus giving rise to an overt verbal distinction between “past” and “present.” In Section 2.3, we describe the temporal system of Amis by emphasizing in what respects it differs from the other Formosan languages.

2.1 NO OVERT DISTINCTION OF PAST VS. PRESENT. In Atayal, Bunun, Paiwan, Puyuma, and Saisiyat, focus affixes express temporal information if no other temporal adjuncts or aspectual affixes simultaneously occur in the sentence. Though the Rukai dialects exhibit different voice distinctions, they behave like these languages in that past and present are not overtly marked on the verb. In all these languages, past and present interpretations are usually obtained through morphological or lexical means. These two points are discussed in turn.

2.1.1 The so-called “neutral” form. In Atayal, Bunun, Paiwan, Puyuma and Saisiyat, verbs marked as AF or NAF refer to a past or present situation if the temporal frame of an utterance is left undetermined. What is stressed is the validation (or nonvalidation) of a situation. As an illustration, consider the AF and PF examples given in (5) and (6) respectively. Some linguists refer to this type of example as “neutral,” because the verb form is not marked for tense or aspect.¹⁰

- (5) a. Wulai Atayal
m-ihiy=ku? *laqi?*
 AF-beat=1SG.NOM child
 i. ‘I beat (past) a child.’
 ii. ‘I am beating a child.’
 iii. ‘I (usually) beat child(ren).’

- b. Mayrinax Atayal
t<um>utin *cku?* *?ulaqi?* *ʔi?* *yaʔa?*
 beat<AF> ACC child NOM father
 i. ‘Father is beating a child.’
 ii. ‘Father beat (past) a child.’
 iii. ‘Father (usually) beat (child(ren)).’
- c. Isbukun Bunun
ma-ludah *tina?* *ðaku?*
 AF-beat mother 1SG.ACC
 i. ‘Mother (usually) beats me.’
 ii. ‘Mother beat (past) me.’
- d. Stimul Paiwan
k<am>əəm *ti* *paləŋ* *tai* *kalalu* *kati* *cəmədas*
 beat<AF> NOM Palang ACC Kalalu and Cəmədas
 i. ‘Palang (usually) beats Kalalu and Cəmədas.’
 ii. ‘Palang beat (PAST) Kalalu and Cəmədas.’
- e. Nanwang Puyuma
[<əm>əkəl-ku *ɕa* *ənay*
 drink<AF>1SG.NOM OBL water
 i. ‘I (usually) drink water.’
 ii. ‘I drank water.’
- f. Saisiyat
minkorinən *[<om>əʔət* *ka* *korkorin*
 woman beat<AF> ACC child
 i. ‘The woman is beating a child.’
 ii. ‘The woman beat (past) a child.’
 iii. ‘The woman (usually) beats child(ren).’
- (6) a. Wulai Atayal
ʔhiy-an=mu *laqi?*
 beat-PF=1SG.GEN child
 ‘I beat the child.’
- b. Mayrinax Atayal
tutin-un *ni* *yaʔa?* *ku?* *?ulaqi?*
 beat-PF GEN father NOM child
 i. ‘Father is beating the child.’
 ii. ‘Father beat (past) the child.’
 iii. ‘Father (usually) beats child(ren).’
- c. Isbukun Bunun
ludah-un *saikin* *tina?*
 beat-PF 1SG.NOM mother
 i. ‘Mother usually beats me.’
 ii. ‘Mother beat (past) me.’

d. Stimul Paiwan

- ʔoc-in ni palanj kati kalalu a watu
 PF-beat.to.death GEN palanj and kalalu NOM dog
 i. 'Palang and Kalalu beat the dog to death (not long ago).'
 ii. 'Palang and Kalalu (usually) beat dogs to death.'

e. Nanwang Puyuma

- ku-ʔakəl-aw na ənay
 ISG.GEN-drink-PF NOM water
 i. 'I (usually) drink water.'
 ii. 'I drank the water.'

f. Saisiyat

- korkorij səʔet-ən ni ʔoyaʔ
 child beat-PF GEN mother
 i. 'The child is beaten by mother.'
 ii. 'Mother beat (past) the child.'
 iii. 'Mother usually beat child(ren).'

There are several matters that should be noted concerning the preceding examples. In some languages, as for example Mayrinax Atayal, informants may have a certain preference for a progressive over a past or habitual interpretation, but accept the other readings as possible, depending on the discourse context. In other languages, as for example Stimul Paiwan, the situation in question will be interpreted as habitual or past, the present progressive being expressed through reduplication of the verb stem (see Section 4.2). As pointed out by Ross (1995:742), the "functional range [of the neutral form] depends on the availability of other forms in the language, e.g., on whether there is a special durative form or whether the neutral form functions as both punctual and durative."

In Wulai Atayal, nonfuture is marked by *-an*; the suffix *-un* indicates future. Compare (7a-b).¹¹

- (7) a. niq-an=mu qulih
 eat-PF=ISG.GEN fish
 i. 'I ate the fish.'
 ii. *'I will eat the fish.'

- b. niq-un=mu qulih
 eat-PF=ISG.GEN fish
 i. 'I will eat the fish.'
 ii. *'I ate the fish.'

Stimul Paiwan makes use of two different affixes, *<in>* and *-in* (derived from *-ən*) in PF constructions. Compare (6d) and (8). Their distinctive features are discussed below.¹²

- (8) ʔ<in>əci ni palanj kati kalalu aza watu
 <PRFTV/PF>-beat.to.death GEN Palang and Kalalu that dog
 'Palang and Kalalu beat that dog to death.'

Though the Rukai dialects lack focus affixes, they exhibit a form of marking parallel (though not identical) to that found in the other Formosan languages mentioned above: an active or a passive verb with *a-*, as in (9a-b), usually refers to a nonfuture situation. In the Budai dialect, case markers may refer to a visible (*ka*) or an invisible (*ku*) participant. Their occurrence may yield some semantic variations (past vs. present).¹³

(9) a. Active

- w-a-baʔ-aku ka/ku paisu ki ʔipulu
 ACT-NF-give-ISG.NOM OBL money OBL ʔipulu
 'I give/gave money to ʔipulu.'

b. Passive

- ky-a-baʔ-aku ki ʔipulu ka/ku paisu
 PASS-NF-give-ISG.NOM OBL ʔipulu OBL money
 'I am given/was given money by ʔipulu.'

In all these languages, there are two distinct processes to specify the temporal frame of an utterance. The first is morphological, the second lexical. They are examined in turn below.

2.1.2 Morphological and lexical marking. All the languages under investigation have an aspectual affix or an adverb indicating perfectivity. As shown in (10) and (11) respectively, *<in>* is found in Atayal, Bunun,¹⁴ and Saisiyat; Paiwan makes use of *na-* in AF constructions; *la* occurs in Puyuma and *-ga* in Rukai. What is important to notice is that in these languages, there is no *temporal* distinction past vs. present. The notions "past" and "present," to the extent they are expressed, are done so through the aspectual distinctions perfective vs. imperfective. The imperfective includes both the progressive and habitual aspects. However, in many languages, only the progressive is treated as an aspectual category. We return to the progressive and habitual interpretations in Sections 4.2 and 4.3.

(10) a. Wulai Atayal

- m<in>aziy qutux ʔasan yaʔaʔ=mu
 AF<PRFTV>buy one house father=ISG.GEN
 'My father bought a house.'

b. Mayrinax Atayal

- t<um><in>utij ckuʔ ʔulaqij ʔiʔ yaʔaʔ
 <AF><PRFTV>beat ACC child NOM father
 'Father beat a child.'

c. Isbukun Bunun

h<in>uɔf saikin ɔavus
 drink<PRFTV> 1SG.NOM wine
 'I drank wine.'

d. Stimul Paiwan

na-k<am>ə|an ti palan tai kalalu kati cəmədas
 PRFTV <AF> beat NOM Palang OBL Kalalu and Cəmədas
 'Palang beat Kalalu and Cəmədas.'

e. Saisiyat

minkorijan [cəm<in>əβat ka korkorin
 woman <AF><PRFTV> beat ACC child
 'The woman beat the child.'

(11) a. Nanwang Puyuma

[cəm>əkəi-ku la ɔa ənay
 <AF> drink-1SG.NOM already OBL water
 'I drank water (already).'

b. Budai Rukai

w-a-apəcə-ŋa ku [ulay
 ACT-NF-sleep-already NOM child
 'The child (has) slept (already).'

The examples given in (10) illustrate the occurrence of <in> in AF constructions. In NAF constructions, we find the following cooccurrence restrictions between the infix <in> and the PF and IB/IF focus affixes (for a detailed discussion, see Zeitoun et al., in prep. a).

(i) In all the languages mentioned above, a verb suffixed with the PF -un or -ən suffix does not (usually) cooccur with the aspectual infix <in>. ¹⁵ On the other hand, <in> can cooccur with the LF/PF -an suffix. Compare the grammaticality of (12) and (13).

(12) a. Mayrinax Atayal

*t<in>utin-un ni? yaβa? ku? ?ulaqi?
 beat<PRFTV>PF GEN father NOM child

b. Isbukun Bunun

*l<in>uɔh-un ?amin saitia? ?uvað-a?
 beat-Past-PF also 3SG.ACC child

c. Stimul Paiwan

*?<in>ac-in ni palan kati kalalu aza watu
 PF/PRFTV-beat.to.death-PF GEN Palang and Kalalu that dog

d. Saisiyat

*korkorin s<in>əβat-ən ni ?oya?
 child <PRFTV>beat-PF GEN mother

(13) a. Mayrinax Atayal

h<in>ihip-an ni? yaya? ku? ?ulaqi?
 kiss<PRFTV>LF GEN mother NOM child
 'Mother kissed the child.'

b. Isbukun Bunun

l<in>udah-an ?amin saitia? ?uvað-a?
 beat<PRFTV>LF all 3SG.ACC child
 'He beat all the children.'

(ii) The infix <in> can cooccur with the IF/BF focus affix in Bunun and Paiwan but not in the other languages mentioned here. Compare (14a-c).

(14) a. Isbukun Bunun

?adu? s<in>ka-su-in-ik tama?
 Q BF<PRFTV>make-money-PRF-1SG.NOM father
 'Has father been earning money for me?'

b. Stimul Paiwan

s<in>?əci ni palan kati kalalu
 IF<PRFTV>beat.to.death GEN Palang and Kalalu

tua watu a paŋul
 that dog NOM stick

'Palang and Kalalu beat the dog to death with the stick.'

c. Mayrinax Atayal

*s<in>itutin ni yaβa? cku? ?ulaqi? ku? hauku?
 IF<PRFTV>beat GEN father ACC child NOM wood

(iii) In all these languages, it turns out that the infix <in> functions as a PF and/or IF/BF infix, in the absence of any other focus on the verb. The utterance must be interpreted as referring to a past and completed situation. As an illustration, consider (15) and (16).

(15) a. Atayal (Wulai)

p<in>aŋa?=maku? laqi? qani
 carry<PRFTV/PF>=1s.gen child this
 'I (once) carried the child on my back.'

b. Mayrinax Atayal

t<in>utin=m ku? xuil
 beat<PRFTV/PF>1s.gen NOM dog
 'I beat the dog.'

c. Isbukun Bunun

l<in>udah-ku? takna? hay minsum-an
 beat<PRFTV/PF>1s.acc yesterday TOP come-still
 'The one beaten by me yesterday came again.'

- d. Stimul Paiwan
 k<in>əəm ni palan ti kalalu
 <PRFTV/PF>kill GEN Palang NOM Kalalu
 'Palang beat Kalalu.'

- e. Saisiyat
 korkorin s<in>əβat ni ʔoyaʔ
 child beat<PRFTV/PF> GEN mother
 'Mother beat the child.'

- (16) Mayrinax Atayal
 a. q<in>aluap=miʔ yaβaʔ
 <PRFTV/BF>hunt=1SG.GEN father
 'I hunted for father.'

- b. s<in>amay niʔ taliʔ kuʔ sayorun
 <PRFTV/IF>place GEN Taliʔ NOM mat
 'Taliʔ placed the mat.'

On the lexical level, a verb marked as AF or NAF (or as active/passive in Rukai) may cooccur with a temporal adjunct referring to the past or to a habitual present, as shown in (17) and (18). Note that in Paiwan, the two affixes <in> and -in cooccur with different temporal adjuncts: as the examples given in (19) illustrate, <in> can only appear with temporal adjuncts referring to the past, and -in to an habitual present. Verbs suffixed with -un/-ən in Mayrinax Atayal, Bunun and Saisiyat freely cooccur with these two types of temporal adjuncts.

- (17) a. Wulai Atayal
 m-ihiy=sakuʔ taliʔ hiraʔ/krryax
 AF-beat=1SG.NOM Taliʔ yesterday/often
 'I beat Taliʔ yesterday/I often beat Taliʔ.'

- b. Mayrinax Atayal
 t<um>utiq=ciʔ cuʔ ʔulaqiʔ cuʔ hesaʔ/kariariax
 beat-AF=1SG.NOM ACC child Part yesterday/often
 'I beat a child yesterday/I often beat child(ren).'

- c. Isbukun Bunun
 ma-ludah ōakuʔ tinaʔ taknaʔ
 AF-beat 1SG.ACC mother yesterday
 'Mother beat me yesterday.'

- c'. minsasan ma-ludah ōakuʔ tinaʔ
 often AF-beat 1SG.ACC mother
 'Mother often beats me.'

- d. Stimul Paiwan
 na-k<əm>əəm ti palan tai kalalu katicəmədas katiaw
 PRFTV-beat<AF> NOM Palang ACC Kalalu and Cəmədas yesterday
 'Palang beat Kalalu and Cəmədas yesterday.'

- d'. k<əm>əəm a paʔaʔaut ti palan tai kalalu katicəmədas
 beat<AF> 1SG every.day NOM palan ACC Kalalu and Cəmədas
 'Palang often beats Kalalu and Cəmədas.'

- e. Nanwang Puyuma
 adaman/malayas θ-kabkas-ku
 yesterday/often AF-run-1SG.NOM
 'I run yesterday/I often run.'

- f. Saisiyat
 minkorin kahiʔaʔ/ramram f<om>əβat ka korkorin
 woman yesterday/often beat<AF> ACC child
 'The woman beat the child yesterday/. . . often beat the child.'

- g. Budai Rukai
 w-a-baθ-aku kuiya ku paisu ki ōipulu
 ACT-NF-give-1SG.NOM yesterday OBL money OBL ōipulu
 'I gave money to ōipulu yesterday.'

- (18) a. Wulai Atayal
 βhiy-an=makuʔ taliʔ hiraʔ/krryax
 beat-PF=1SG.GEN Taliʔ yesterday/often
 'I beat Taliʔ yesterday/I often beat Taliʔ.'

- b. Mayrinax Atayal
 tutiq-un=misu cuʔ hisaʔ/kariariax
 beat-PF=1SG.GEN:2SG.NOM yesterday/often
 'I beat you yesterday/I often beat you.'

- c. Isbukun Bunun
 ludah-un saikin tinaʔ taknaʔ
 beat-PF 1SG.NOM mother yesterday
 'I was beaten by mother yesterday.'

- c'. minsasan-ik ma-ludah tinaʔ
 often-1SG.NOM AF-beat mother
 'Mother often beats me.'

- d. Saisiyat
 korkorin kahiʔaʔ/ramram səβat-an ni ʔoyaʔ
 child yesterday/often beat-PF GEN mother
 'Mother beat the child yesterday/Mother often beats the child.'

- e. Budai Rukai
 ky-a-baθ-aku kuiya ki ōipulu ku paisu
 PASS-NF-give-1SG.NOM yesterday OBL ōipulu OBL money
 'I was given money by ōipulu yesterday.'

- (19) Stimul Paiwan
 a. ʔ<in>əci ni palan kati kalalu aza watu katiaw
 PF-beat.to.death GEN Palang and Kalalu that dog yesterday
 'Palang and Kalalu beat that dog to death yesterday.'

- b. *ʔec-in ni palan kati kalalu aza vatu katiaw
PF-beat.to.death GEN Palang and Kalalu that dog yesterday
- c. *ʔ<in>eci a pa/a/aut ni palan kati kalalu aza vatu
PF-beat.to.death LIG every.day GEN Palang and Kalalu that dog
- d. ʔec-in a pa/a/aut ni palan kati kalalu aza vatu
PF-beat.to.death LIG every.day GEN Palang and Kalalu that dog
'Palang and Kalalu beat dogs to death every day.'

In Wulai Atayal, a past interpretation may also be carried out by an aspectual auxiliary, *wan*, which occurs in initial position. As an illustration, consider (20).

- (20) wan=suʔ m-ihiy sayun
ASP=2SG.NOM AF-beat Sayun
'You beat Sayun.'

In this section, we have shown that in Atayal, Bunun, Puyuma, Saisiyat and Rukai, nonfuture tense distinctions are not overtly marked on the verb but depend on the occurrence of aspectual affixes/auxiliaries or temporal adjuncts. In the following section, we will argue that Tsou has grammaticalized the notion of "absolute" tense.

2.2 REMOTE/IMMEDIATE DISTINCTIONS IN TSOU. Tsou differs from the other Formosan languages in (at least) the following three respects: (i) An auxiliary verb, attracting the pronominal suffix, (usually) occurs in initial position. It is obligatory. (ii) Both the auxiliary verb and the (lexical) verb carry focus distinctions. However, while (lexical) verbs indicate the semantic role of the NP selected as subject, auxiliaries only indicate whether the sentence is an AF or a NAF construction. Auxiliaries fall into three distinct classes: *mio*, *moso*, *mi-*, *mo(h)-* occur only in AF constructions, and *i-*, *o(h)-* only in NAF constructions, while *te*, *ta*, *tena*, *n-te*, *nto*, *da* appear both in AF and NAF constructions. Consider the following examples.

- (21) a. *mo t<m>eaphi ta oko ta skayi si ino*
AF put<AF> OBL child OBL cradle NOM mother
'Mother is putting a child in the cradle.'
- b. *i-si teaph-a ta skayi ta ino ʔe oko*
NAF-3SG.GEN put-PF OBL cradle OBL mother NOM child
'Mother (just) put the child in the cradle.'
- c. *te t<m>eaphi ta oko ta skayi si ino*
AF put<AF> OBL child OBL cradle NOM mother
'Mother will put a child in the cradle.'
- d. *te-si teaph-a ta skayi ta ino ʔe oko*
NAF-3SG.GEN put-PF OBL cradle OBL mother NOM child
'Mother will put the child in the cradle.'

Temporal, aspectual, and modal information are not marked on verbs through the use of focus affixes or reduplication) as in the other Formosan languages but on the auxiliaries. What is more, the use of the AF/NAF auxiliaries (cf. *mi-* vs. *mo(h)-*, *mo* vs. *moso* and *i-* vs. *o(h)-*) depends on whether a situation is regarded as having already occurred at speech time or actually taking place/having certain relevance at ST. Compare (22a-c) and (22d-f).¹⁶

- (22) a. *moso ʔoni to tacimi ʔo amo*
AF AF-eat OBL banana NOM father
'Father ate a banana.'
- b. *moh-ta ʔoni to tacimi*
AF-3SG.NOM AF-eat OBL banana
'He ate a banana.'
- c. *oh-ta ana to amo ʔo tacimi*
NAF-3SG.GEN eat-PF OBL father NOM banana
'Father ate the banana.'
- d. *mo ʔoni to tacimi ʔo amo*
AF AF-eat OBL banana NOM father
'Father is eating a banana' (while not in sight).
- e. *mi-ta ʔoni ta tacimi*
AF-3SG.NOM AF-eat OBL banana
'He is eating a banana.'
- f. *i-ta ana ʔe tacimi*
NAF-3SG.GEN eat-PF NOM banana
'He has been eating the banana.'

As a consequence, the substitution of one auxiliary verb for another may either yield an ungrammatical utterance or produce semantic variations.

Note, first, that *mo(h)-* (or *o(h)-* and *moso*) can occur with (i) a temporal adjunct that indicates the situation has occurred before ST, as in (23a) or (ii) the aspectual particle *da* which implies a disjunction with ST (or RT), as in (23b) while *mi-* (or *i-*) cannot. Compare the grammaticality of (23) and (24).

- (23) a. *mo-ʔu ʔoni to tacimi ne-hucma*
AF-1SG.NOM AF-eat OBL banana yesterday
'I ate a banana yesterday.'
- b. *mo-ʔu da ʔoni to tacimi*
AF-1SG.NOM PRFTV AF-eat OBL banana
'I ate a banana.'
- (24) a. **mi-ʔo ʔoni ta tacimi ne-hucma*
AF-1SG.NOM AF-eat OBL banana yesterday
- b. **mi-ta da ʔoni ta tacimi*
AF-3SG.NOM PRFTV AF-eat OBL banana

In (25a), *mo(h)-* cooccurs with *cu* 'already' and the sentence must be given a past reading. In (25b), *mi-* cooccurs with *cu* and the utterance is interpreted as on-going at ST.

- (25) a. *mi-ta-cu* *boni* *ta* *tacimi*
 AF-3SG.NOM-already AF-eat OBL banana
 'He is already eating a banana.'
- b. *moh-ta-cu* *boni* *to* *tacimi*
 AF-3SG.NOM-already AF-eat OBL banana
 'He ate a banana (and then ...).'

It is worth recalling that more than thirty years ago, Tung (1964:96) warned against the misuse of the traditional two-way distinction "past" vs. "present" in Tsou because the notion of tense masks important linguistic facts in that language. We will follow him in arguing that the temporal system of this language is based on a remote/immediate dichotomy. This distinction accounts for the morphological parallelism between situations seen as immediate, which are marked with an auxiliary verb ending with *-i/-e* (cf. *mi-*, *i-*, *te-*, *nte-*) and those regarded as remote, which are referred to by an auxiliary verb with an *-o* ending (cf. *mo(h)-*, *moso*, *o(h)-*, *nto(h)-*, *ntoso*), both in the realis and in the irrealis. This contrast is illustrated in (26) and (27).

- (26) a. *mi-ta* *m-imo* *ta* *emi*
 AF-3SG.NOM AF-drink OBL wine
 'He is drinking wine.'
- b. *te-ta* *m-imo* *ta* *emi*
 AF-3SG.NOM AF-drink OBL wine
 'He will drink wine.'
- (27) a. *moh-ta* *m-imo* *ta* *emi*
 AF-3SG.NOM AF-drink OBL wine
 'He drank wine.'
- b. *ntoh-ta* *m-imo* *ta* *emi*
 AF-3SG.NOM AF-drink OBL wine
 'He would have drunk wine.'

Amis differs from the other Formosan languages in that it does not distinguish between future and nonfuture but between past and nonpast. It will be examined in detail below.

2.3 AMIS: AN ABERRANT LANGUAGE? In Amis, as in the other Formosan languages, focus affixes carry temporal/aspectual information even when no other constituents (aspectual particles or temporal adjuncts) occur in the sentence. As shown in Table 1a, Amis exhibits the following focus affixes: AF *-um-*, *ma-*, *mi-* and \emptyset , PF *-an* and *ma-*, LF *-an* and IF *sa*. Here we examine the temporal/aspectual information carried by the AF and PF affixes.

The AF affixes (*mi-*, \emptyset , *ma-* and *-um-*) usually refer to nonpast situations, but different readings obtain. (i) Verbs prefixed or infix with *ma-* or *-um-* usually indicate that a situation is on-going at ST, as in (28). All of the examples in this section are from Changpin Amis.¹⁷

- (28) a. *t<um>anjic* *ci* *aki*
 eat<AF> NOM Aki
 i. 'Aki is crying.'
 ii. *'Aki is going to cry.'
- b. *ma-tayal* *ci* *aki*
 AF-work NOM Aki
 i. 'Aki is working.'
 ii. *'Aki is going to work.'

(ii) Verbs marked with *mi-* or \emptyset refer to either on-going or immediate future events, as in (29).

- (29) a. *mi-kilim* *kaku* *ci* *panay-an*
 AF-search 1SG.NOM ACC₁ Panay-ACC₂
 'I am looking for Panay/I am going to look for Panay.'
- b. \emptyset -*tayra* *ci* *aki*
 AF-go. NOM Aki
 'Aki is on his way/Aki is going to leave/go.'

The semantic contrast between these two categories of affixes (cf. *ma-* and *-um-* vs. *mi-* and \emptyset) can be accounted for as follows: verbs prefixed with *mi-* are associated with a higher degree of transitivity (volition);¹⁸ verbs marked as \emptyset are mostly motion verbs; both types of verbs are therefore more likely to be used to refer to the future.

Verbs marked with the PF prefix *ma-* refer to past situations. Those marked with the PF suffix *-an* usually indicate an immediate future. Compare (30) and (31).

- (30) *ma-kaen* *ni* *aki* *kuya* *futing*
 PF-eat GEN Aki that fish
 i. 'Aki ate that fish.'
 ii. *'Aki is eating that fish.'
 iii. *'Aki is going to eat that fish.'
- (31) *kaen-an* *ni* *aki* *ku* *pawli*
 eat-PF GEN Aki NOM banana
 'Aki is going to eat the banana.'

When the temporal frame of an utterance is not explicitly determined, the past/nonpast distinction is found fairly consistently. It is blurred out, however, when AF and NAF verbs cooccur with temporal adjuncts. Our data show that any types of verbs can cooccur with any types of temporal adjuncts, in other words, they may refer to the past, the present or future, as shown in (32), or with the aspectual particle *tu*, as illustrated in (33).

- (32) a. *mi-kilim kaku ci panay-an inacila/anini/anuhoni*
AF-search ISG.NOM ACC₁ Panay-ACC₂ yesterday/now/late
'I looked/am looking/will look for Panay yesterday/now/late.'
- b. *tayra ci aki inacila/anini/anuhoni*
go NOM Aki yesterday/right now/late
'Aki went/is going/will go yesterday/now/late.'
- c. *t<um>agic ci aki inacila/anini/anuhoni*
cry-AF NOM Aki yesterday/now/late
'Aki cried/is crying/will cry yesterday/now/late.'
- d. *ma-tayal ci aki inacila/anini/anuhoni*
AF-work NOM Aki yesterday/now/late
'Aki worked/is working/will work yesterday/now/late.'
- e. *ma-kaən ni aki kuya futiŋ inacila/anini/anufak*
PF-eat GEN Aki that fish yesterday/now/tomorrow
'Aki ate/is eating/will eat that fish yesterday/right now/tomorrow.'
- (33) a. *Ø-tayni tu¹⁹ ci aki*
AF-come already NOM Aki
'Aki came.'
- b. *mi-nanum tu ci aki*
AF-drink water already NOM Aki
'Aki drank water.'
- c. *k<um>aən tu ci aki tu pawli*
eat<AF> already NOM Aki ACC banana
'Aki ate a banana.'
- d. *ma-lafi tu ci aki*
AF-eat dinner already NOM Aki
'Aki has eaten dinner already.'
- e. *ma-kaən tu ni aki kuya futiŋ*
PF-eat already GEN Aki that fish
'Aki ate the fish.'

Since the voice and tense system of Amis differs quite drastically from the other Formosan languages, we may suggest two alternative hypotheses to account for the differences found in this language—(1) it may have developed a temporal system on its own; (2) like Yami, it may be genetically closer to other extra-Formosan languages—but neither possibility will be further discussed here.

3. INTERACTION OF FOCUS, TENSE, AND MODALITY. In this section we examine how future readings are obtained in the Formosan languages and the interaction of voice/focus, tense, and modality.

3.1 FUTURE. Depending on the language, future is marked either morphologically or lexically. In the first case, it is indicated by the partial reduplication of the verb stem or through the use of an affix; in the second, the future interpretation is carried out by an auxiliary verb. Some languages (e.g., Wulai and Saisiyat) exhibit a mixed system. These two processes are examined in turn.

3.1.1 Future marked morphologically. Future is morphologically marked in Atayal, Amis, Bunun, and Rukai. In Atayal (Wulai and Mayrinax dialects), future is expressed through different means in AF and NAF constructions. In AF constructions, the verb is marked by *p(a)-*, as shown in (34).

- (34) a. Wulai Atayal
p-qwas=saku? (suxan)
AF/FUT-sing=ISG.NOM (tomorrow)
'I will sing (tomorrow).'
- b. Mayrinax Atayal
pa-tutiŋ=ci? cu? ?ulaqi?
AF/FUT-beat=ISG.NOM ACC child
'I will beat a child.'

In NAF constructions, the verb is suffixed with *-un* in Wulai, as in (35). In Mayrinax, the initial consonant of a verb marked with the focus affixes *-un* or *-an* is reduplicated and followed by the vowel *a*, thus yielding the following pattern: C_1aC_1V _. If a verb is prefixed with the IF/BF prefix *si-*, it is also reduplicated but the prefix disappears.²⁰ This contrast is illustrated in (36a-c).

- (35) Wulai Atayal
nanu? qwas-un=nya? tali? (suxan)
what sing-PF=3SG.GEN Tali? (tomorrow)
'What will Tali? sing tomorrow?'
- (36) Mayrinax Atayal
a. *ta-tutiŋ-un=cu* nku? ?ulaqi?
RED-beat-PF=ISG.NOM GEN child
'The child will beat me.'
- b. *ha-hihip-an* ni? yumin ?i? limuy
RED-kiss-LF GEN Yumin NOM Limuy
'Yumin will kiss Limuy.'
- c. *ba-Ø-baiq* nku? nabakis ku? xuil ?i? limuy
RED-give GEN old.man NOM dog ACC Limuy
'The old man will give the dog to Limuy.'

In Amis, Bunun and Puyuma, future is expressed the same way in AF and NAF constructions. In Amis²¹ and Puyuma,²² future is marked by the reduplication of the first consonant followed by *a*-, thus yielding the same reduplicative pattern as in Mayrinax, C_1aC_1V _, as illustrated in (37)–(38). In Bunun, future is expressed by the prefix *na-*, attached to the main verb, as shown in (39).

(37) Changpin Amis

- a. *ta-tayra* ci aki
RED-go NOM Aki
'Aki is about to go.'
- b. *ma-mi-kilim* ci aki ci panay-an
RED-AF-search NOM Aki ACC₁ Panay-ACC₂
'Aki is going to look for Panay.'
- c. *ma-ma-tayal* ci aki
RED-AF-work NOM Aki
'Aki is going to work.'
- d. *pa-palu?-ən* ni aki ci panay
RED-beat-PF NOM Aki NOM Panay
'Aki will beat Panay.'

(38) Nanwang Puyuma

- a. *ta-təkəl-ku* qa anay
RED-drink-1SG.NOM OBL water
'I will drink water.'
- b. *ku-na-niwan-ay* iduna ruma
1SG.GEN-RED-sell-PF that house
'I will/want to sell that house.'

(39) Isbukun Bunun

- a. *na-ma-ludah-ik-su*
FUT-AF-beat-1SG.NOM-2SG.ACC
'I will beat you.'
- b. *na-ludah-un-ku-as* mais ni-tu ta?aōa?
FUT-beat-NAF-1SG.ACC-2SG.NOM when NEG listen
'I'm going to beat you if you are naughty (=you don't listen).'
- c. *na-?is-haltun* bunun tu minutaō ?a? sidu?-an
FUT-IF-bury man 1SG dead Top mat
'What I'll use to bury the dead man is this mat.'

In Budai Rukai, */i-* attaches to the verb root in active sentences and to the verb prefixed by *ki-* in passive clauses. As an illustration, consider (40).

(40) a. Active

- /i-θ-baō-aku* ku paisu ki θipulu
FUT-give-1SG.NOM OBL money OBL Dipulu
'I will give money to Dipulu.'

b. Passive

- /i-ki-baō-aku* ki θipulu ku paisu
FUT-PASS-give-1SG.NOM OBL Dipulu OBL money
'I will be given money by Dipulu.'

Our foregoing discussion shows that languages making use of morphological marking to express future may be divided into two types. Some, such as Wulai, do not allow the focus affixes found in the realis to occur in the irrealis. The future morpheme then plays a dual role: it carries a tense interpretation and a focus distinction. Others, such as Bunun, allow the focus affixes found in the realis to occur with a future morpheme. In this case, tense and focus are carried by different verbal affixes. Mayrinax Atayal exhibits both kinds of marking. The first is found in AF constructions, the second in NAF constructions.

3.1.2 Future marked lexically. Future is lexically marked in Paiwan and Tsou, whereas Saisiyat and Wulai Atayal exhibit mixed systems, with future marked both lexically and morphologically. These languages are examined in turn.

In Paiwan, *uri* precedes verbs marked as AF or NAF, as shown in (41). Note, however, that it usually does not occur with a PF verb infixed by *<in>*, as the ungrammaticality of (43) illustrates. ([41–43] are from Stimul Paiwan.)

- (41) *uri ?<am>ci ti palan kati kalalu tua watu*
will <AF>beat.to.death NOM Palang and Kalalu ACC dog
'Palang and Kalalu will beat that dog to death.'
- (42) a. *uri ?ac-in ni palan kati kalalu aza watu*
will beat.to.death-PF GEN Palang and Kalalu that dog
'Palang and Kalalu will beat that dog to death.'
- b. *uri si-?aci ni palan kati kalalu tua watu azua paŋul*
will IF-beat.to.death GEN Palang and Kalalu ACC dog that stick
'Palang and Kalalu will beat the dog to death with that stick.'
- (43) **uri ?<in>aci ni palan kati kalalu aza watu*
will <PRFTV/PF>beat.to.death GEN Palang and Kalalu that dog

In Tsou, three auxiliaries—*te*, *ta*, and *tena*—are used to refer to future events. They all occur in AF and NAF constructions, as illustrated in (44)–(46).

- (44) a. *te-ta boni ta tacimi*
will-3SG.NOM AF-eat OBL banana
'He is going to eat a banana.' (at once or very soon)
- b. *te-ta ana ?e tacimi*
will-3SG.GEN eat-PF NOM banana
'He is going to eat a banana.' (at once or very soon)
- (45) a. *ta-ta boni ta tacimi*
will-3SG.NOM AF-eat OBL banana
'He will eat a banana.' (later)
- b. *ta-ta ana ?e tacimi*
will-3SG.GEN eat-PF NOM banana
'He will eat a banana.' (later)

- (46) a. *tena-ta* *boni* *ta* *tacimi*
 will-3SG.NOM AF-eat OBL banana
 'He will eat a banana.'
- b. *tena-ta* *ana* *?e* *tacimi*
 will-3SG.GEN eat-PF NOM banana
 'He will eat a banana.'

The semantic distinctions among these three auxiliaries remain to be worked out. Our informants believe that *te* and *ta* differ in terms of immediacy/remoteness: *te* refers to an event which is to happen soon whereas *ta* indicates a certain remoteness in time. Compare (44)–(46). Tung (1964:105) claims that "the difference between /*tena*/ and /*te*/ is just the same as the difference between /*o?ana*/ 'not longer, not more' and /*o?a*/ 'not' or between /*uk?ana*/ 'there is no more' and /*uk?a*/ 'there is not'. Hence, the special function of /*tena*/ is to indicate a new situation, or something as the result of a previous event."

We have shown above that in Wulai and Mayrinax, future is morphologically marked. Wulai (but not Mayrinax) has grammaticalized the motion verbs *musa* 'go' into an aspectual auxiliary indicating an immediate future.²³ It can occur with verbs marked as AF or NAF, as illustrated in (47).

- (47) a. *musa?=*sakul** *m-ibiy* *tali?*
 ASP=1SG.NOM AF-beat Tali?
 'I am going to beat Tali?.'
- b. *musa?=*maku?** *Bhiy-un* *tali?*
 ASP=1SG.GEN beat-PF Tali?
 'I am going to beat Tali?.'

Saisiyat has grammaticalized the verb *ʔam* 'want' into a modal auxiliary. It occurs in AF constructions but not in NAF constructions. In PF constructions, a nominalized predicate must be used to obtain a future reading. Compare the grammaticality of (48a–c).

- (48) a. *minkorin* *ʔam* *[<om>əβet* *ka* *korkorin*
 woman will beat<AF> ACC child
 'The woman will beat the child.'
- b. **korkorin* *noka* *minkorin* *ʔam* *ʔəβet-ən*
 child GEN woman will beat-PF
- c. *korkorin* *ka-ʔəβet-ən* *noka* *minkorin*
 child NOMIZ-beat-PF GEN woman
 'The woman will beat the child.'

In the languages examined above, future is either morphologically and/or lexically marked. In the languages that make use of lexical marking (e.g., Wulai, Paiwan, Saisiyat, and Tsou), auxiliaries have a large range of usages that go beyond the future interpretation given above. In these languages, tense clearly interacts with modality.

3.1.3 Interaction between future tense and (epistemic/deontic) modality. The following examples show that in Paiwan, Tsou, Wulai, and Saisiyat, the auxiliaries/particles used to refer to the future function as epistemic/deontic modals.

- (49) Stimul Paiwan
- a. *uri* *k<am>an* *ti* *palan* *tua* *veləval*
 will <AF>eat NOM Palang ACC banana
 'Palang will eat a banana.'
- b. *uri* *?<am>udal* *nutiaw?*
 will <AF>rain tomorrow
 'Will it rain tomorrow?'
- (50) Tsou
- a. *te-nʔa* *etamaku* *?e* *amo*
 will-still AF-smoke NOM father
 'Father wants to smoke again.'
- b. *te* *m-ichi* *nehucma*
 will AF-rain tomorrow
 'It will rain tomorrow.'
- (51) Saisiyat
- a. *sia* *ʔam* *m-wali?* *a* *tomal*
 3SG.NOM will AF-come LIG very
 'She may come.' (lit: 'It is likely that she will come.')
- b. Q: *ʔoʔo* *kayini?-ny* *s<om>iʔəl* *ka* *ʔalaw*
 1SG.NOM NEG-Q eat-AF ACC fish
 'Don't you want to eat the fish?'
- A: *yako* *ʔam* *s<om>iʔəl*
 1SG.NOM will eat-AF
 'I want to eat it.'

The modal use of these auxiliaries manifests itself differently in these three languages. In Paiwan, *uri* can cooccur with the two PF affixes <*in*> and <*in*> in equational sentences. Compare (52a) and (52b), from Stimul Paiwan.

- (52) a. *aycu* *a* *ciʔaw* *uri* *k<in>an* *ni* *palan*
 this LIG fish will eat<PRFTV/PF> GEN Palang
 'This fish, it is Palang that certainly ate it.'
- b. *aycu* *a* *ciʔaw* *uri* *kan-in* *ni* *palan*
 this LIG fish will eat-PF GEN Palang
 'This fish, Palang wants to eat it.'

In Tsou, the auxiliary verb *te* occurs in imperative (affirmative and negative) constructions, as in (53a–b).

- (53) a. *te* *etamaku*
 AF AF-smoke
 'Let('s) smoke!'

- b. *ʔo-te* *boni* *ta* *tacimi*
 NEG-AF AF-eat OBL banana
 'Don't eat (that) banana.'

In Saisiyat, there are two negators, *ʔokik* and *ʔokay* that occur in complementary distribution: *ʔokik* occurs with stative verbs, *ʔokay* with active verbs, as in (54) (for details see Yeh 1991). To negate a situation referring to the future, the auxiliary *ʔam* is combined with these negators, thus yielding *ʔamkik* and *ʔamkay*, as in (55).

- (54) a. *yako* *ʔokik* *kəpəl*
 1SG.NOM NEG fat
 'I am not fat.'

- b. *Bakiʔ* *ʔokay* *waliʔ*
 grandfather NEG come
 'Grandfather did not come.'

- (55) a. *yako* *naw* *ʔəhəʔ* *ʔəhəʔ* *hahilaʔ* *ʔaʔaʔəw*,
 1SG.NOM if one one day run

ʔamkik *nak* *hiniʔ* *kin* *kəpəl*
 NEG like this very fat
 'If I had run every day, I would not be so fat.'

- b. *Bakiʔ* *ʔamkay* *waliʔ*
 grandfather NEG come
 'Grandfather will not come.'

3.2 SUMMARY. In the foregoing discussion, we have tried to show that most Formosan languages, except Amis, exhibit a distinction between future/nonfuture or realis/irrealis. Tense is marked morphologically in Atayal, Bunun, and Rukai, and lexically in Tsou. Some languages (e.g., Paiwan, Saisiyat, Wulai) display a mixed system, with both morphological and lexical tense marking.

Tense interacts with focus, aspect, and modality. In most languages, past and present distinctions are not overtly marked when focus affixes do not cooccur with any constituents determining the temporal frame of an utterance. What is emphasized is the validation of a situation. The notions of past and present are usually expressed either through the occurrence of an aspectual affix/adverb or a temporal adjunct. One language, Tsou, can be treated as having grammaticalized the notion of "absolute tense" in that both "past" and "present" distinctions (reinterpreted here as remote/immediate) are overtly marked. In languages that make use of lexical tense marking (Paiwan, Saisiyat, Wulai Atayal, and Tsou), future is marked through the use of an auxiliary verb that expresses modal information.

The temporal system of Amis is based on a distinction between past and nonpast. Our discussion is summarized in Tables 2a-d.

4. ASPECT. Aspect, as opposed to tense, is defined as a *nondeictic* category, in that it does not locate a situation in time but rather characterizes the internal constituency of that situation.

We have tried to show above that only a few Formosan languages have grammaticalized the notion of tense. Most of them, however, distinguish between perfective and imperfective situations, that is, between situations viewed as completed and those viewed as on-going or habitual. More specifically, in this section we examine how perfective vs. perfect and progressive vs. habitual interpretations are obtained in the Formosan languages under investigation. Note that aspectual

TABLE 2A. TENSE MARKING IN ATAYAL AND SAISIYAT

	NONFUTURE/REALIS		FUTURE/IRREALIS	
	AF	NAF	AF	NAF
Wulai Atayal	m-	-an, s-	p-	-un, s-
Mayrinax Atayal	(-u)m-	-an, -un, si-	pa-	C ₁ aC ₁ V-... -an C ₁ aC ₁ V-... -un C ₁ aC ₁ V Nominalization
Saisiyat	-om-	-ən	ʔam	

TABLE 2B. TENSE MARKING IN BUNUN, PAIWAN, AND TSOU

	NONFUTURE/REALIS		FUTURE/IRREALIS
	AF	NAF	
Isbukun Bunun	m-	-an, -un, ʔis-	na-
Stimul Paiwan	-əm-	<in>, -in, si	uri
Nanwang Puyuma	-əm-	-aw, -ay	C ₁ aC ₁ V- C ₁ aC ₁ V-... -aw C ₁ aC ₁ V-... -ay
Tsou			
Remote	mo(h)-, moso	o(h)-	ta, tena
Immediate	mi-, mo	i-	te

TABLE 2C. TENSE MARKING IN RUKAI

	NONFUTURE/REALIS		FUTURE/IRREALIS
	(w/ky)-	a-	li- + stem if active + ki- if passive
Budai Rukai			

TABLE 2D. PAST VS. NONPAST TENSE DISTINCTION IN AMIS

	PAST NAF	NONPAST AF / NAF CONSTRUCTIONS		
		ON-GOING	IMMED. FUTURE	FUTURE
Central Amis	ma-	ma-, -um- mi-, Ø	-ən mi-, Ø	C ₁ aC ₁ V- C ₁ aC ₁ V-... -ən

distinctions, like temporal and modal distinctions, may be marked either overtly or covertly. That is, some languages (such as Atayal and Saisiyat) may have developed a progressive aspect while using temporal adjuncts to refer to habitual situations. Note also that aspect interacts with focus, tense, and modality.

4.1 PERFECTIVE VS. PERFECT DISTINCTIONS. We have shown above that the perfective aspect is expressed in different ways in the Formosan languages under investigation here: *<in>* (and its phonological variants) is found in Atayal, Bunun, Saisiyat, Paiwan (only NAF constructions, as shown above) while *-ga* occurs in Rukai, *da* in Tsou, *la* in Puyuma, *tu* in Amis, and *na-* in Paiwan (only in AF constructions). Consider the following examples.²⁴

- (56) a. Wulai Atayal
 m<in>aniq=ku? qulih
 AF<PRFTV>eat=1SG.NOM fish
 'I ate fish.'
- b. Mayrinax Atayal
 m<in>aniq=ci? cu? qulih
 AF<PRFTV>eat=1SG.NOM ACC fish
 'I ate fish.'
- c. Isbukun Bunun
 m<in>aum saikin ?utan
 eat<PRFTV>AF 1SG.NOM sweet potato
 'I ate sweet potatoes.'
- d. Saisiyat
 ?iβan h<om><in>iwa? ila ka Baβoy
 Iban kill<AF><PRFTV> already ACC pig
 'Iban has killed a pig.'
- e. Stimul Paiwan
 k<in>an aza ci?aw ni palan
 eat<PF/PRFTV> that fish GEN Palang
 'Palang ate that fish.'
- (57) a. Changpin Amis
 ma-lafi tu ci aki
 AF-eat dinner already NOM Aki
 'Aki ate dinner (already).'
- b. Budai Rukai
 w-a-kana-ga ka aama ku urasi
 ACT-NF-eat-PRFTV NOM father OBL sweet potato
 'Father ate (a) sweet potato.'

- c. Tsou
 moso da boni to f?ue
 AF PRFTV AF-eat OBL sweet potato
 '(He) ate (a) sweet potato.'
- d. Puyuma
 m-akan la i sigimuli
 AF-eat already NOM Sigimuli
 'Sigimuli has already eaten.'
- e. Stimul Paiwan
 na-k<am>an tua ci?aw ti palan
 PRFTV<AFeat OBL fish NOM Palang
 'Palang ate fish.'

Note that in Isbukun Bunun, there coexist two affixes *in*. Both the infix *<in>* and the suffix *-in* can appear simultaneously, but their semantic functions differ, as (58a) and (58b) show.

- (58) a. h<in>ud saikin d'anum
 drink<PRFTV> 1SG.NOM water
 'I drank water.'
- b. hud-in saikin d'anum
 drink-PRF 1SG.NOM water
 'I have been drinking water.'
- c. h<in>ud-in saikin d'anum
 drink<PRFTV>PRF 1SG.NOM water
 'I have drunk water.'

Both *<in>* and *-in* indicate an anteriority, in that the situation is understood as having taken place before ST. With *<in>*, it is viewed in disconnection with ST (completed situation/perfective), whereas with *-in*, the event is on-going and has a certain relevance (resultant state/perfect) at speech time. Bunun is the only language where a perfective vs. perfect distinction has been discovered so far.

4.2 PROGRESSIVE. The progressive is morphologically marked in Amis, Tsou, Bunun, Paiwan, and Rukai, but lexically marked in Wulai Atayal and Saisiyat. One language, Mayrinax Atayal, exhibits both morphological and lexical marking.

4.2.1 Progressive marked morphologically. Progressive is morphologically marked in Tsou, Bunun, Paiwan Puyuma and Rukai. The Formosan languages display two distinct morphological processes to indicate that a situation is "on-going" at ST, the first through the use of focus affixes, the second through the reduplication of part of the verb stem.

In Amis, Tsou, and Mayrinax Atayal, a progressive reading is implied in AF constructions. This is due to the fact that in this type of construction, the speaker usually draws attention to the agent and its on-going performance of an activity. Consider the following examples.

- (59) a. Changpin Amis
 r<um>atiw ci aki
 <AF>sing NOM Aki
 'Aki is singing.'
- b. Tsou
 mi-ta pasunaeno
 AF-3SG.NOM AF-sing
 'He is singing.'
- c. Mayrinax Atayal
 ma-quwas ku? ?ulaqi?
 AF-sing NOM child
 'The child is singing.'

Amis and Tsou do not display any other way to express the progressive. Atayal, on the other hand, does (see 2.2).

In Bunun, Paiwan, Puyuma, and Rukai, it is the reduplication of (part of) the verb stem that yields a progressive interpretation, as shown in (60a-d).

- (60) a. Stimul Paiwan
 k<am>a/ə-kə]əm ti palan tai kalalu kati cəmədas
 <AF>RED-beat NOM Palang ACC Kalalu and Cəmədas
 'Palang is beating/(often) beats Kalalu and Cəmədas.'
- b. Isbukun Bunun
 ma-m-aʔun ʔuvað-aʔ tai
 RED-AF-eat child taro
 'The child is eating taro/eats taro continuously.'
- c. Budai Rukai
 w-a-tubi-tubi ka lulai
 ACT-NF-RED-cry NOM child
 'The child is crying/(often) cries.'
- d. Nanwang Puyuma
 mə-la-laub-ku qa anay
 AF-RED-boil-1SG.NOM ACC water
 'I am boiling water.'

There are two things to notice concerning the above examples. First, in Paiwan and Rukai, the (partial) reduplication of the verb also gives the utterance a habitual reading, as shown in the glosses. In Bunun, it yields an iterative meaning. This structural ambiguity can only be raised by the situational context in

Paiwan and Bunun, as shown respectively in (61) and (62) below. The occurrence of *ka* [+visible] vs. *ko* [-visible] in Budai Rukai gives the sentence a progressive (63a) or habitual (63b) interpretation. We mentioned (see Note 22) that in Puyuma, future is sometimes expressed by the reduplication of one syllable of the root followed by *-a-* (e.g., *rəpu* > *pu-a-rəpu* 'will make a fire'). Those verbs (and only those) may also be interpreted as progressive.

Second, the situation in question will always be interpreted as taking place at speech time. There is no overt aspectual category indicating a past or a future progressive. Such an interpretation is obtained lexically, with the addition of other constituents in the sentence.

- (61) Stimul Paiwan
 a. ka-maŋəz-akən katiaw icəŋcəŋ a k<am>a/ə-kə]əm
 when-come-1SG.NOM yesterday just LIG RED<AF>beat
 ti palan tai kalalu
 NOM Palang ACC Kalalu
 'Yesterday, when I came back, Palang was beating Kalalu.'
- b. nu-maŋəz-akən icəŋcəŋ a k<am>a/ə-kə]əm
 when-come-1SG.NOM just LIG RED-beat-PF
 ti palan tai kalalu
 NOM Palang ACC Kalalu
 'Each time I come, Palang beats Kalalu.'
- (62) Isbukun Bunun
 a. ʔisa ʔuvað-aʔ dau ta-tarjɨs
 where child RED-cry
 'Where is the child crying?'
- b. maisnaʔ taknaʔ ʔuvað-aʔ ta-tarjɨs
 from yesterday child RED-cry
 'The child is crying since yesterday.'
- (63) Budai Rukai
 a. w-a-kanə-kanə-su ka bələbələ?
 ACT-NF-RED-eat-2SG.NOM ACC banana
 'Are you eating a banana?'
- b. w-a-kanə-kanə-su ku bələbələ?
 ACT-NF-RED-eat-2SG.NOM ACC banana
 'Do you (often) eat bananas?'

4.2.2 Progressive marked lexically. Progressive is lexically marked in Atayal, Saisiyat, but it seems to have developed through different processes. In Atayal (Wulai and Mayrinax dialects), verbs of possession/location/existence—*nyux* and *cyux* in Wulai, *haniʔan* and *kiaʔ* in Mayrinax—have been

grammaticalized into aspectual (and more specifically, progressive) auxiliary verbs. The auxiliaries *nyux* and *haniʔan* differ from *cyux* and *kiaʔ* in terms of spatial and temporal remoteness/immediacy. As shown in Huang (1993:71, 1995d:156–158), the former two indicate that the action is either “taking place close to the speaker” or on-going at ST, while the latter two refer to an action “taking place away from the speaker” or in rupture with ST (i.e., in the past). This contrast is illustrated in (64)–(65).²⁵

- (64) a. Wulai Atayal
nyux=sakuʔ m-aniq qulih
 ASP=ISG.NOM AF-eat fish
 ‘I am eating fish (now).’
- b. Mayrinax Atayal
haniʔan=ciʔ m-aniq cuʔ qulih
 ASP=ISG.NOM AF-eat ACC fish
 ‘I am eating fish (now).’
- (65) a. Wulai Atayal
cyux=sakuʔ m-aniq qulih
 ASP ISG.NOM AF-eat fish
 i. *‘I am eating fish (now).’
 ii. ‘I was eating fish.’ (when the telephone rang)
- b. Mayrinax Atayal
kiaʔ=ciʔ m-aniq cuʔ qulih
 ASP=ISG.NOM AF-eat ACC fish
 i. *‘I am eating fish now.’
 ii. ‘I was eating fish.’ (when the telephone rang)

While the grammaticalization of the progressive aspect in Atayal is quite straightforward, the development as well as the syntactic function of the two particles *ma* and *mag* in Saisiyat remain to be worked out. Yeh (1991) argues that both refer to an on-going situation; *mag* only occurs in AF constructions, *ma* only in NAF constructions. As an illustration, consider the following pairs of examples.

- (66) a. *ɲiaw mag s<om>ɲæl ka ʔalaw*
 cat PROG eat-AF ACC fish
 ‘The cat is eating a fish.’
- b. *ʔalaw ma siʔæl-an nokaʔ ɲiaw*
 fish PROG eat-PF GEN cat
 ‘The fish is being eaten by the cat.’

4.3 HABITUAL ASPECT. The habitual aspect is morphologically marked in Bunun, Paiwan, and Rukai, and lexically marked in Amis, Atayal, Saisiyat, and Tsou. Paiwan exhibits both morphological and lexical marking. These languages are examined in turn.

4.3.1 Habitual aspect marked morphologically. Habitual aspect is marked morphologically in Bunun, Rukai, and Paiwan. In Paiwan and Rukai, the progressive overlaps with the habitual aspect, giving rise to ambiguous utterances, as mentioned in 4.2. Paiwan also makes use of affixation to indicate the habitual aspect: *ru-*, which is found in AF constructions, attaches to the verb root while *ka-*, which appears in NAF constructions, is prefixed to verb marked with the PF suffix *-in*. Note that the examples where *ru-* or *ka-* occur can only refer to a “habitual present”. For reasons that remain to be worked out, the prefix *ka-* cannot cooccur with the infix *<in>* (used as a PF infix) or the prefix *si-*.

- (67) Stimul Paiwan
- a. *ru-kəʔəm ti palan tai kalalu*
 Hab-beat NOM Palang ACC kalalu
 ‘Palang (usually) beats Kalalu.’
- b. *ka-kəʔəm-in ni palan ti kalalu*
 Hab-beat-PF GEN Palang NOM Kalalu
 ‘Palang (usually) beats Kalalu.’

4.3.2 Habitual aspect marked lexically. Habitual aspect marked lexically in Amis, Atayal, Bunun, Paiwan, Puyuma, Saisiyat, and Tsou. In most other Formosan languages (Amis, Atayal, Bunun, Puyuma, and Saisiyat) but also in Paiwan, it is marked through the occurrence of a temporal adjunct.

- (68) a. Changpin Amis
romiʔamiʔ mi-paluʔ ci aki ci panay-an
 every.day AF-beat NOM Aki ACC, Panay-ACC₂
 ‘Aki beats Panay every day.’
- b. Wulai Atayal
mihy=sakuʔ taliʔ krryax
 beat=ISG.NOM Taliʔ every.day
 ‘I beat Taliʔ every day.’
- c. Mayrinax Atayal
ma-nubuwag kariariax cuʔ qusiaʔ ʔiʔ yumin
 AF-drink every.day ACC water NOM Yumin
 ‘Yumin drinks water every day.’
- d. Isbukun Bunun
minsasan ma-ludʔah ʔakuʔ tinaʔ
 often AF-beat ISG.ACC mother
 ‘Mother often beats me.’
- e. Nanwang Puyuma
malayas ʔ-kabkas-ku
 often AF-run-ISG.NOM
 ‘I often run.’

f. Stimul Paiwan

k<om>[əm a pa/a]ut ti palan tai kalalu kati cəmədas
beat-AF every.day NOM Palang ACC Kalalu and Cəmədas
'Palang beats Kalalu and Cəmədas every day.'

g. Saisiyat

ʔoyaʔ rəmram ʃ<om>əβət ka korkorin
mother often beat<AF> ACC child
'Mother often beats the child.'

In Tsou, the habitual aspect is also realized lexically but this language differs from those mentioned above in that the sole occurrence of verbs such as 'often', 'every day' does not yield a habitual reading.²⁶ (69) is ungrammatical because of the cooccurrence of *mi-* (which basically refers to an on-going event at ST) and *huhucmasi* 'every day', which implies the scanning of a class of occurrences.

- (69) *mi-ta huhucmasi eobako ta oko
AF-3SG.NOM every.day AF-beat OBL child

To obtain a habitual reading, the auxiliary *da*, must be used instead, as in (70). The occurrence of 'every day' is optional.

- (70) da-ta (huhucmasi) eobako to oko
Hab-3SG.NOM AF-every.day AF-beat OBL child
'He beats the child every day. / He (often) beats the child.'

Note that *da* occurs in initial position when it refers to a "habitual present."²⁷ In cooccurrence with *mo(h)-*, *moso*, *o(h)-* or *te*, *tena*, *ta*, which determine the temporal frame of the utterance (either "past" or "future"), it is positioned after the auxiliary verb. As an illustration, consider the following examples.²⁸

- (71) moh-ta da huhucmasi boni to tacimi
AF-3SG.NOM HAB every.day-AF AF-eat OBL banana
'(In the past), he would eat a banana every day.'

- (72) tena da-ta huhucmasi boni to tacimi
will HAB-3SG.NOM every.day-AF AF-eat OBL banana
'(In the future), he will eat a banana every day.'

4.4 SUMMARY. In the foregoing discussion, we have dealt with aspectual distinctions (perfective vs. perfect, progressive, and habitual) and shown that they are realized differently in the Formosan languages selected for our study. Our discussion is summarized in Table 3.

5. CONCLUDING REMARKS. In this paper, we have provided a description of the temporal, aspectual, and modal systems of a number of Formosan languages/dialects: Central Amis [Changpin], Atayal [Wulai and Mayrinax], Bunun [Isbukun], Saisiyat [Tungsho], Northern Paiwan [Stimul], Rukai [Budai], Puyuma [Nanwang], and Tsou [Tfuya]. These languages were primarily selected for their geographical distribution (they cover the whole island) and their syntactic diversity. We have tried to reach cross-linguistic generalizations that account for all these languages by highlighting their resemblances and differences. Working in a typological perspective implies, of course, careful examination of the data at hand to avoid overstatements. Starosta (1988:552) claims, for instance, that "tense or aspect in Formosan languages is typically [our emphasis] marked by a temporal/aspectual auxiliary verb which occurs at the beginning of the clause." We have shown that, in fact, depending on the language, tense and aspect are either morphologically and/or lexically marked. Not all these languages have developed an aspectual auxiliary verb system, nor is the occurrence of an auxiliary verb syntactically required for the well-formedness of a sentence. The present paper includes only some of the Formosan languages. The languages that have not been mentioned, as for example Kanakanavu, Saaroa, Thao, Pazeh, and Kavalan, are still being investigated. It remains to be seen whether those results will show that these languages also exhibit a nonfuture/future (realis/irrealis) distinction, or that they have developed temporal/aspectual and modal systems of their own.

Table 4 summarizes the discussion carried out throughout this paper, showing the distribution of lexical and morphological marking of tense, aspect, and modality in the various languages. The details of that variation are summarized in Tables 1-3.

TABLE 3. ASPECT IN FORMOSAN LANGUAGES

	Central Amis	Wulai Atayal	Mayrinax Atayal	Isbukun Bunun	Saisiyat	Stimul Paiwan	Nanwang Puyuma	Budai Rukai	Tsou
PERFECTIVE	—	<in>	<in>	<in>	<in>	na- (AF) <in> (NAF)	—	—	—
PERFECT	—	—	—	-in	—	—	—	—	—
PROGRESSIVE	AF	nyux, cyux	AF haniʔan kiaʔ	RED	maŋ (AF) ma (NAF)	ru- (AF) ka- (NAF) RED	RED	RED	AF
HABITUAL	—	—	—	RED	—	RED ka-, ru-	—	RED	da ₁

NOTE: A dash indicates that a particular aspect is not found in the language.

NOTES

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Our affiliations are as follows: Elizabeth Zeitoun, Institute of History and Philology, Academia Sinica; Lillian M. Huang and Joy J. Wu, National Taiwan Normal University; Marie M. Yeh, Lian-ho College of Technology and Commerce; and Anna H. Chang, Da-ren College.

2. As mentioned previously, the Formosan languages include a number of dialects that may differ phonologically (e.g., Saisiyat) but also syntactically (e.g., Rukai).
3. See Ross (1995) for a detailed account of the reconstruction of PAN verbal morphology.
4. Elizabeth Zeitoun provided data on Rukai, Bunun, and Tsou, Lillian M. Huang on Atayal and Puyuma, Marie M. Yeh on Saisiyat, Anna H. Chang on Paiwan, and Joy J. Wu on Amis. The geographical distribution and population of these languages is given in Huang (1995a).
5. The following abbreviations are used throughout this paper: ACC, Accusative; ACT, Active; AF, Agent Focus; ASP, Aspect; AUX, Auxiliary verb; BF, Beneficiary Focus; GEN, Genitive; HAB, Habitual; IF, Instrument Focus; IRR, Irrealis; LEX, Lexical marking; LG, Locative Focus; LIG, Ligature; LOC, Locative; MORPH, Morphological marking; NAF, Non Agent Focus; NF, Non Future; NEG, Negation; NOM, Nominative; NOMIZ, Nominalization; OBL, Oblique; PL, Plural; PASS, Passive; PAST, Past; PRES, Present; PRFTV, Perfective; PRF, Perfect; PF, Patient Focus; REAL, Realis; RED, Reduplication; RT, Reference Time; SG, Singular; ST, Speech Time; TA, Temporal Adjunct; TOP, topic marker. To facilitate comparison across languages, IPA symbols will be used in the examples, unless mentioned otherwise.

TABLE 4. MORPHOLOGICAL (AFFIXATION OR REDUPLICATION) AND LEXICAL (OCCURRENCE OF AN AUXILIARY) MARKING OF TENSE, ASPECT, AND MODALITY IN NINE FORMOSAN LANGUAGES

	NONFUTURE/REALIS						FUTURE/IRREALIS					
	PERFECTIVE		PROGRESSIVE		HABITUAL							
	MORPH AFF	LEX AUX	MORPH RED	LEX AUX	MORPH RED	LEX AUX	MORPH AFF	MORPH RED	LEX AUX	MORPH AFF	MORPH RED	LEX AUX
Wulai Atayal	+	+	-	+	-	-	+	-	+	-	-	+
Mayrinax Atayal	+	-	-	+	-	-	+	+	-	-	-	-
Isbukun Bunun	+	-	+	-	-	-	+	-	-	-	-	-
Stimul Paiwan	+	-	+	-	+	-	-	-	-	-	-	+
Nanwang Puyuma	+	-	+	-	-	-	-	+	-	-	-	-
Saisiyat	+	-	-	+	-	-	+	-	+	-	-	+
Budai Rukai	+	-	+	-	+	-	+	-	-	-	-	-
Tsou	-	+	-	+	-	+	-	-	-	-	-	+

NOTE: [+] indicates that the language in question makes use of a morphological or lexical marking and [-] that it does not.

6. Note that -an occurs in nominalized verbs in some languages (e.g., Saisiyat). In Bunun and Mayrinax Atayal, -an and -in occur in contrast, their occurrence depending on verbal semantics while in Wulai Atayal, they (usually) occur in complementary distribution, their occurrence depending on tense distinctions (nonfuture vs. future).
7. For an overall discussion of focus in Formosan languages, see Yeh et al. (in prep.).
8. In the glosses, we have followed the indications given by Chung and Timberlake (1985).
9. To our knowledge, Tsuchida (1980:204) is one of the first (and among the few) scholars working on Formosan languages to have pointed out that in Puyuma, the temporal/aspectual system is actually based on a realis/irrealis dichotomy.
10. AF constructions, though translated as transitive utterances, carry an indefinite interpretation. One of the reviewers reminded us that Starosta has long ago (see Starosta 1988) pointed out that in the Formosan languages, NAF constructions should be regarded as basic (transitive) sentences while AF constructions should be treated as antipassives (i.e., intransitive), in other words that the Formosan languages are ergative in nature. The translations given here, however, should not imply that we adhere to his analysis.
- The equals sign is used, rather than a hyphen, to distinguish clitic boundaries.
11. This distinction is also found in Seediq but not in the other Formosan languages investigated here.
12. In this paper, <in> is tentatively treated both as an aspectual and focus infix in the absence of an overt PF affix. One of the reviewer suggested that in Paiwan, the infix <in> only indicates perfectivity and that verbs marked as PF are unmarked (see Starosta, Pawley, & Reid 1982, and Zeitoun et al., in prep. a).
13. These variations are not found in the other Rukai dialects (see Zeitoun 1995).
14. Note that in Wulai Atayal the infix <in> may occur as *n-*, and replace the initial verbal prefix *m-*. Compare (i) and (ii).

- (i) *m<in>wah=ku?* *hira?*
AF-PRFTV-COME=1SG.NOM yesterday
'I came yesterday.'
- (ii) *n-wah=ku?* *hira?*
(AF)PRFTV-COME=1SG.NOM yesterday
'I came yesterday.'

In Bunun, on the other hand, <in> sometimes occurs as *-i-*. Compare (iii) and (iv), from Isbukun Bunun.

- (iii) *h<in>ud* *saikin* *d'anum*
(AF)drink<PRFTV> 1SG.NOM water
'I drank water.'
- (iv) *ma<i>lud'ah* *tina?* *masinau'af-tia?*
AF<PRFTV>beat mother sibling
'Mother beat (my little) sister/brother.'

15. In Saisiyat, <in> cooccurs with -an in a set of restricted sentences such as (v).

- (v) *hiza? ?alaw ma'an minay?ansow s<in>i?al-an*
that fish 1SG.GEN leave <PRFTV>eat-PF
'That fish is what I left of my eating.'

R. Blust and P. Li mentioned to us that in Thao, the infix <in> frequently cooccurs with the suffix -in (<*-an>). The permissible cooccurrence of these two affixes in these languages remains to be accounted for.

16. Tsou has developed a complex system of case markers. For a detailed discussion on their distribution and their semantic functions, see Tung (1964) and Zeitoun (1993).
17. One of the reviewers suggested that *ci* (in Amis) should be treated as a personal marker since it is found both in the nominative and accusative case. There is an ongoing discussion in Taiwan on the status of pronominal markers in Amis, Paiwan, and Kavalan, whether they should be regarded as case markers, personal markers, or something else? (See Tang, Zhang, & Ho, to appear.) In this paper, we have adopted the analysis proposed by Huang (1995a, 1995b).
18. We do not know of any other Formosan language that makes this kind of distinction, as is found in the Philippine languages (cf. the contrast between *mag-* vs. *-um-*).
19. We follow Huang (1995a) in treating *tu* as a free morpheme.
20. Recall that in the realis, the prefix *si-* does not appear in cooccurrence with *<in>*, which then takes over the function of IF/BF.
21. As shown in Wu (1995:25–27), this reduplication process is used to indicate a relative (and not absolute) future tense. The event is regarded as posterior to ST (as in the examples given above) or RT as in (vi), from Changpin Amis.

- (vi) *ma-mi-nanum kaku, mi-tahitaj kisu*
 RED-AF-drink 1SG.NOM AF-call 2SG.NOM
 'I was going to drink water when you called me.'

Amis has also developed a relative past tense, marked by the occurrence of *na* before the main verb. For details, see Wu (1995:26).

22. Depending on the verb root, future is also expressed by (i) the reduplication of a syllable followed by *-a* (e.g., *θ-rəpu* 'make a fire' > *pu-a-rəpu*) or (ii) by the suffixation of *-a* to the root (e.g., *m-uka* 'go' > *a-uka*) in Puyuma.
23. The same grammaticalization is found in Seediq, as shown in (vii).

- (vii) *maha-ku m-cepah*
 going to-1SG.NOM AF-work
 'I am going to work.'

24. The syntactic distribution as well as the semantic function of *<in>* and its counterparts in languages where it does not occur won't be further discussed here (for details, see Zeitoun et al., in prep. a).

25. The same distinction is found in Seediq, as shown in (viii) and (ix).

- (viii) *ni-su humua?*
 ASP-2SG.NOM do
 'What are you doing (here and now)?'

- (ix) *gaga-su humua*
 ASP-2SG.NOM do
 'What are you doing (over there)?'

26. Arguments for treating 'often', 'every day' as verbs in Tsou were given in Zeitoun (1992).
27. Reasons for distinguishing two *das* (marking "habituality" vs. "perfectivity") in Tsou are given in Zeitoun (1992).
28. For reasons still ill-understood, we find that if the pronominal clitic is attached to the first preverb, *da* must then be placed after. When followed by *da*, the modal *tena* can't serve as a host to the pronominal clitic. The pronoun must be suffixed to *da* which occurs immediately after *tena*. Compare the grammaticality of the Tsou expressions (x) and (xi).

- (x) **da moh-ta* huhucmasi boni to tacimi
 HAB AF-3SG.NOM every.day eat OBL banana
- (xi) **tena-ta da* huhucmasi boni to tacimi
 IRR-3SG.NOM HAB every.day eat OBL banana

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THE CIA SUFFIX AS A PASSIVE MARKER IN SAMOAN¹

KENNETH WILLIAM COOK

HAWAII PACIFIC UNIVERSITY AND UNIVERSITY OF HAWAII AT MĀNOA

The role of the *Cia* suffix in Samoan has remained a mystery for over a century. Although the earliest description of Samoan analyzed *Cia* as a passive suffix, current studies have made claims against that analysis. The present paper argues in favor of a passive analysis for certain Samoan clause types that contain *Cia*-suffixed verbs. A prototype for passive is posited, and it is shown that the suffix occurs in impersonal passive clauses with a transitive verb stem, and in personal passive clauses without such a stem. These two clause types each differ in only one characteristic from the posited prototype. It is demonstrated that *ina*, a suffix previously analyzed as a variant of *Cia*, generally functions differently from *Cia*. *Ina* occurs in clauses with fronted ergatives, and in negative clauses containing transitive verbs, while *Cia*, in addition to marking passive in certain clause types, also derives transitive from intransitive verbs. Finally, it is argued that the data presented in this paper support a passive-to-ergative reanalysis as part of the history of the Samoan language.

1. INTRODUCTION. The *Cia* suffix, which marks passive in Eastern Polynesian languages (e.g. Hawaiian), supposedly does not mark passive in Samoan (a Western Polynesian language). This thesis has been put forth by Churchward (1951), Milner (1962, 1966), Chung (1976, 1978), Cook (1988), and Mosel and Hovdhaugen (1992). However, Pratt (1960), in his pioneering *Grammar and Dictionary of the Samoan Language* (first written in 1862) maintained that *Cia* does mark passive in Samoan, and in today's Samoan one finds clauses like (1), which look very much like Hawaiian passive sentences such as (2).

- (1) Sā tanumia le ta'avale e le solo. (Samoan)²
 PAST bury-*Cia* the car ERG the landslide
 'The car was buried by the landslide.'
- (2) Ua kākau 'ia ka leka e Pua. (Hawaiian)
 PERF write *Cia* the letter by Pua
 'The letter was written by Pua.'
 (Elbert and Pukui 1979:147)

