

Nominal Tense in Tsou: *Nia* and Its Syntax/Semantics*

Henry Y. Chang

This paper investigates nominal tense (NT) in the Formosan language Tsou. In light of the NT diagnostics proposed in Nordlinger and Sadler (2004), this paper analyzes the nominal temporal marker *nia* as an instance of Independent NT (INT), heading a DP-internal tense phrase (TP). The INT-analysis explains nicely why (i) *nia* makes a temporal distinction of past versus nonpast within a noun phrase, (ii) *nia* cannot be replaced by a verbal tense/mood auxiliary, (iii) the meaning of *nia* is rather abstract—*nia* applies widely to nouns of various kinds, including nouns denoting artifacts, location and time, (iv) *nia* is normally preceded by a case marker, (v) a verb is required to undergo nominalization upon patterning with *nia*, (vi) *nia* is compatible both with definite and indefinite noun phrases, (vii) *nia* can co-occur either with a realis auxiliary or an irrealis auxiliary. These findings may advance our understanding of Tsou nominal structure on the one hand and shed new lights on the universal nominal structure on the other (cf. Cinque 2005, 2011).

Keywords: Tsou, nominal temporal marker, independent nominal tense, past versus nonpast, nominal structure.

1 Introduction

It is generally held that temporal information is characteristic of verbal categories and normally marked on them. However, recent studies have shown that temporal marking is also possible and productive with nominal categories across many genetically unrelated languages. The major debate in this connection is whether nominal temporal markers are instances of nominal tense (Nordlinger and Sadler 2004, 2008, Tonhauser 2007, 2008). Taking the debate as a backdrop, this paper examines in details the nominal temporal marker *nia* in Tsou and explores the analysis of *nia* as an instance of nominal tense (hereafter, NT).

Tsou is an Austronesian language spoken in the southwest highlands of Taiwan with a population of around 4,600 people (up to December 2011). The language is mildly endangered. Readers are referred to Zeitoun (2005) and H. Chang (to appear) for further

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updated information about its basic grammar.

Given this paper is concerned with temporality, it would be helpful to provide a brief introduction to Tsou grammatical system of tense, aspect, and modality (TAM). In Tsou, unlike in other Formosan languages, clausal TAM is typically encoded on the sentence-initial auxiliary rather than on the lexical verb following it (Zeitoun et al. 1996, Huang and Huang 2003). The auxiliary distinguishes between realis mood and irrealis mood.¹ In realis mood, the auxiliary additionally differentiates grammatical transitivity. The auxiliary system is summarized in Table 1 below.

Reality Status	Realis		Irrealis			
Focus	INTR	TR	INTR or TR			
Immediate	mi-, mio, mo	i-	Habitual	Predictive	Hypothetical	Counterfactual
			-----	te-, tena, ta-	nte	-----
Remote	mo(h)- moso	o(h)-	la-	-----	-----	nto(h)-, ntoso

Table 1. The tense, aspect, and modal system in Tsou²

The paper is organized as follows. Section 2 briefly reviews the NT literature, with special focus on the diagnostics and classification of NT. Section 3 investigates the semantics of *nia*. Section 4 analyzes *nia* as an NT marker in light of the diagnostics developed in Nordlinger and Sadler (2004). Section 5 fleshes out the syntactic structure of *nia*-phrases. Section 6 concludes the paper by discussing its typological/theoretical implications as well as pointing out some directions for future study.

2 Literature review

Nordlinger and Sadler (2004) presents one of the most updated and comprehensive surveys of NT. In this typological paper, they survey NT in 15 languages across various language families. They establish the following four criteria for identifying NT:

- (1) Nordlinger and Sadler (2004:778-779)
 - (i) **Temporal distinction:** Nouns (or other NP/DP constituents) show a distinction in one or more of the categories of tense, aspect, and mood (henceforth, TAM), where these categories are standardly defined as they would be for verbs (e.g. Crystal 1997).
 - (ii) **Productivity:** This TAM distinction is productive across the whole word class and not simply restricted to a small subset of forms.
 - (iii) **Encoding on arguments/adjuncts:** The TAM distinction is not restricted to nominals functioning as predicates of verbless clauses but is encoded on arguments and/or adjunct NP/DPs in clauses headed by verbs.
 - (iv) **Not as a syntactic clitic:** The TAM marker is a morphological category of the nominal word class and cannot be treated as a syntactic clitic that merely attaches phonologically to the NP/DP.

¹ To use Huang and Huang's (2003) terminology, the TAM might alternatively distinguish between future tense and nonfuture tense.

² This table is taken from Zeitoun (2005: 279), with the original opaque terminology of focus replaced by the more transparent terminology of transitivity.

According to (1i), NT makes a temporal distinction, most notably, a past-nonpast distinction. In (1ii), NT markers distinguish themselves from derivational affixes such as the English *ex-*. In spite of its temporal encoding, the prefix *ex-* cannot be treated as an instance of NT in that it is not productive—it is limited to terms of non-kinship relations (e.g. *ex-wife*) and terms of occupations (e.g. *ex-manager*). Criterion (1iii) excludes the case where temporal marking is restricted to nominals that behave syntactically as predicates. Criterion (1iv) differentiates NT markers from syntactic clitics like the English *'ll* in *I'll*. In the next section, I apply these criteria to the nominal temporal marker *nia* in Tsou.

Moreover, Nordlinger and Sadler (2004) classify NT into two types: Independent NT (hereafter, INT) and propositional NT (hereafter, PNT). In INT, temporal interpretation is intrinsic to the noun phrase in which the NT marker occurs, whereas in PNT, temporal interpretation extends over to the clause-level. The INT-PNT division is useful to our investigation of Tsou NT, as will be illustrated in details in subsequent sections.

On the other hand, Tonhauser (2007, 2008) challenges Nordlinger and Sadler's NT analysis from a semantic viewpoint. Tonhauser argues that NT cannot be classified into the category of tense since it is not interpreted in the same way as verbal tense. In this paper, I leave Tonhauser's approach aside for two reasons. First, as will become clearer shortly, the NT marker in Tsou appears to serve the typical function of tense, this is, to locate a situation in time (Comrie 1999). This, as a first approximation, suggests that it behaves like verbal tense. Still, I leave its formal semantic representation for future study. Second, it seems to me that Tonhauser's approach is vaguer and hence more difficult to follow.

To the best of my knowledge, there has been no publication on NT in the Formosan literature thus far. Pan (2010) gives a detailed description of temporal grammar in Tsou. One of his major findings is that temporal expressions can be case-marked in the same manner as arguments. However, he does not address the issue of NT.

3 The semantics of *nia*.

In Tsou, nouns can be temporally marked by the morpheme *nia*, which Tung (1964) treats as a lexical item meaning 'passed-away' or 'ancient'. However, the interpretations of *nia* phrases are much wider than previously thought. In what follows, I summarize the functions of *nia*.

3.1 Change of existence (COE)

In this function, *nia* is used to encode an entity that used to exist prior to utterance time. In (2a), *nia* is associated with a person described by the kinship term *amo* who passed away prior to the utterance time. Likewise, in (2b), *nia* marks the proper name *beoku* and suggests that he is no longer alive.³

(2) Kinship term and proper name

- a. kuhcu to **nia** amo-'u (na) eni⁴
 fur.clothing GEN PST father-1S.POSS ABS this
 'This is my deceased father's fur clothing.'

³ This paper follows The Leipzig's Glossing Rules, with the following amendments: BA=benefactive applicative, COS=change of state, DT=downtoner, EMP=emphatic marker, NLMZ=nominalizer, NPST=nonpast, PLN=place name, and REAL=realis.

⁴ For typographic convenience, this paper substitutes *x* for the high unrounded vowel *i/ɨ*, *ng* for the velar nasal, and ' for the glottal stop.

- b. moso la nana aacni yuso na la-si kexpx no
 INTR HAB reportedly always two ABS HAB-3S bag GEN
nia beoku
 PST PN
 ‘It is said that the late Beoku’s bags used to be always two (in a pair).’

This is the sense which Tung (1964) glosses as ‘pass-away/ancient’, a sense comparable to the English adjective *late*, as indicated in the translations. I label this function as change of existence (COE), which is intended for something that used to exist.

The COE function of *nia* is also observed with terms of occupations and artifacts, as in (3).

- (3) Terms of occupation and artifacts
- a. mi-cu kuzo 'o **nia** icangaya ta tapangx
 INTR-COS bad ABS PST chief GEN PLN
 ‘The chief of the Tapangx village passed away.’
- b. i-si haf-a to chumu 'o **nia** hiapeoza ne eovokutana
 TR-3S bring-TR ERG water ABS PST bridge LOC PLN
 ‘The Eovokutana Bridge was washed away by the flood.’

Note that Tung’s characterization does not work for (3b), while it holds true of (3a). The washed-away bridge is neither ‘dead’ nor ‘ancient’ in the usual sense. Still, the entities encoded by *nia* in (3a)-(3b) share the property of change of existence—they used to exist but are gone prior to the speech time.

3.2 Change of identity (COI)

In this function, *nia* encodes an entity that used to hold a certain identity/post, but lost it prior to the utterance time. In (4a), *nia* is concerned with an individual who used to be Mo’o’s wife but broke up with him prior to the utterance time; in (4b), *nia* describes an individual who used to be a township chief but left the post prior to the speech time. I label this function as change of identify (COI).

- (4) Terms of realation/occupation
- a. 'a **nia** (la) vcongx to mo'o (na) taini
 EMP PST HAB spouse GEN PN ABS 3S.ABS
 ‘She is Mo’o’s ex-wife.’
- b. 'a **nia** (la) ngocoo (na) taini
 EMP PST HAB township.chief ABS 3S.ABS
 ‘He is an ex-township chief.’

In this usage, *nia* functions like the English prefix *ex-*: both involve COI. Tung’s glossing leaves this function unexplained. In both cases, the individuals are still alive rather than dead or ancient.

3.3 Change of possession (COP)

In this function, *nia* describes an entity that used to belong to some individual but ceased to hold the relation prior to the speech time. I label this function as change of

possession (COP). In (5a), the COP applies to a building; in (5b), it applies to an animal.⁵

- (5) Artifacts and animal
- a. **nia** la emoo-'u (na) eni
 PST HAB house-1S.POSS ABS this
 lit. 'This is my former/old house.'
 'This house used to be mine.'
- b. tonoi 'o **nia** av'u-'u
 that ABS PST dog-1S.POSS
 lit. 'That is my former/old dog.'
 'That dog used to be mine.'

Semantically, *nia* in this function is roughly equivalent to the English adjectives *former* and/or *old*. Tung's analysis falls short in accounting for this function. The *nia*-phrase does not refer to an ancient building in (5a); neither does it denote a dead dog in (5b). It is evident that an alternative analysis is in order. I shall return to this in section 4.

3.4 Change of shape (COSH)

In this usage, *nia* refers to an entity that used to be in good shape but broke down before the utterance time. I label this function as change of shape (COSH).⁶ Note that COSH usually applies to artifacts and natural kinds, as illustrated in (6a-c) and (7).

- (6) Artifacts
- a. mi-cu aemo'x si **nia** ca'hx
 INTR.REAL-COS fall.apart ABS PST chair
 'The chair already fell apart.'
- b. i-ta tupuz-a si mi-cu kuzo ci **nia** ca'hx
 TR.REAL-3S burn-TR ABS REAL-COS bad REL PST chair
 'He burned the broken chair.'
- c. mi-cu kxhtosx si **nia** ufi.
 REAL-COS harden ABS PST rice cake
 'The rice cake has become stiff.'
- (7) Natural kinds
- mi-cu tmuchumu si **nia** yuho
 REAL-COS turn.into.water ABS PST snow
 'The snow has turned into water.'

⁵ Tsou has a family name called *Niahosa*, which is arguably derived from *nia* plus *hosa* 'village'. In this case, *nia* seems to be in its COP function, meaning literally 'old'—*Niahosa* means 'old village'. This analysis receives empirical support from the following examples. In (i), the two words *nia hosa* are kept separate and intended for the reading 'old village'. In contrast, in (ii), they are fused together into a compound and intended for a family name.

- (i) oh la yon-i no nia takupuyanx 'o **nia** hosa ne sinvi.
 REAL HAB stay-LA GEN PST PN ABS PST village LOC PLN
 'The Takupuyanx family used to live at the Sinvi's old village.'
- (ii) na nia atuhcu mameoi ta **niahosa** zou bania na ongko-si
 TOP PST mainly elderly GEN PN EMP PN ABS name-3S.GEN
 'As for Niahosa's main ancestor, his name was Bania.'

According to my language consultants, the *Niahosa* family were the early habitants of the old village and hence named after it.

⁶ The abbreviation COSH distinguishes itself from the aspectual abbreviation COS, with the latter standing for change of state.

Unlike the other functions discussed above, *nia* in this function does not seem to have a lexical equivalent in familiar languages like English. In the contexts comparable to those like (6-7), English normally does not employ a nominal temporal expression. It is more natural to refer to the artifact in (6a) as ‘the chair’ instead of ‘the former chair’ (‘the late/ex- chair’ is even worse). The same comment also applies to (6b-c). Likewise, English typically refers to the natural object in (7) as ‘the snow’ rather than ‘the former snow’. Another two potential translations, ‘the late snow’ and ‘the ex-snow’, are utterly nonsense.

3.5 Change of function (COF)

As in its COSH function, *nia* in this function also applies to artifacts and natural kinds. However, *nia* encodes a change of function (COF) rather than a change of shape. In (8a), the bed did not break down; instead, it has changed its typical function from being a sleeping place to a place for storage. Likewise, in (8b), the tree may not change its shape, but it must involve a change of function—a change from a natural object to a building material.

- (8) Artifacts and natural kinds
- a. os-'o si-i to macucuma 'o **nia** hopo-'u
 TR-1S put-LA OBL things ABS PST bed-1S.POSS
 ‘I put things on my (former) bed.’
- b. os-'o teai teova 'o **nia** evi to voyu
 TR-1S make hut ABS PST wood GEN PN
 ‘I built a hut from Voyu’s woods.’

A similar COF also applies to parts of animal. In (9a), it is the bearskin that underwent COF, a shift from animal skin to feather clothing; in (9b), there is a change from goat flesh to roasted meat.

- (9) Parts of animals
- a. mi-ta maceofx to **nia** feo'u no cmoi.
 INTR-3S wear OBL PST fur GEN bear
 ‘He wears the bearskin clothing.’
- b. i-ta-cu chu-a 'o **nia** fou-moatx'nx.
 TR-3S-COS roast-TR ABS PST meat-goat
 ‘He has roasted the goat meat.’

In this function, *nia* indicates that something used to have a typical function but lost it prior to the utterance time. As in its COSH function, *nia* in this function is typologically rare. It does not have a lexical equivalent in familiar languages like English.

3.6 Summary and discussion

I have shown that *nia* seems to perform various functions in Tsou, as summarized in Table 2.

Functions	Semantic description of <i>nia</i> -phrase	Terms of application	Rough English equivalents
COE	an entity that used to exist	people, animal, artifacts	<i>late</i> (for people only)
COI	an entity that used to hold a certain identity/post	terms of relation/occupation	<i>ex-</i> , <i>former</i>
COP	an entity that used to belong to someone	artifacts, animal	<i>former</i> , <i>old</i>
COSH	an entity that used to be in good shape	artifacts, natural kinds	None
COF	an entity that used to hold a typical function	artifacts, natural kinds, parts of animal	None

Table 2. The functions of *nia*

Among other things, an important message from Table 2 is that *nia* encodes a wider range of functions than any lexical temporal expression can do. The meaning of *nia* is rather abstract and general—it locates a state at a time prior to the utterance time. This points to the conclusion that *nia* functions like a grammatical category rather than a lexical category. Its seemingly multiple functions/meanings are arguably inferred from the contexts with which it is associated rather than its inherent senses. Consider *nia ca'hx* for example. It means ‘a broken chair’ in (6a) (in its COSH function) but ‘a chair that used to exist’ in the subsequent example (23b) (in its COE function). Most importantly, the semantic shift is pragmatically dependent and thus largely predictable: in (6a), *nia* goes with the verb of destruction *aemo'x* ‘fall apart’ and hence obtains the COSH reading; in (23b), *nia* patterns with an existential verb and thus derives the COE reading. In what follows, I provide further evidence in support of this observation.

4 *Nia* as a nominal tense marker

In this section, I treat *nia* as a NT marker in light of Nordlinger and Sadler’s diagnostics for NT. The diagnostics were already introduced in (1), repeated below as (10).

- (10) Nordlinger and Sadler (2004:778-779)
- (i) **Temporal distinction:** Nouns (or other NP/DP constituents) show a distinction in one or more of the categories of tense, aspect, and mood (henceforth, TAM), where these categories are standardly defined as they would be for verbs (e.g. Crystal 1997).
 - (ii) **Productivity:** This TAM distinction is productive across the whole word class and not simply restricted to a small subset of forms.
 - (iii) **Encoding on arguments/adjuncts:** The TAM distinction is not restricted to nominals functioning as predicates of verbless clauses but is encoded on arguments and/or adjunct NP/DPs in clauses headed by verbs.
 - (iv) **Not as a syntactic clitic:** The TAM marker is a morphological category of the nominal word class and cannot be treated as a syntactic clitic that merely attaches phonologically to the NP/DP.

In the subsequent sections, I shall apply these criteria one by one.

4.1 A temporal distinction

As summarized in Table 2, *nia* consistently locates a state that holds of an entity at a time prior to the utterance time, with the state concerning an entity's existence, belonging, bearing an identity/post, being in a good shape, or holding a typical function. In these contexts, *nia* usually translates into 'passed-away', 'ancient', 'ex-', 'former', 'late', 'old', and the like. In this respect, *nia* denotes a past reading and contrasts with an irrealis auxiliary. As illustrated in (11a), *nia* is associated with a(n) ex-wife/husband, whereas the irrealis auxiliary *tena* is intended for a fiancé/fiancée, as in (11b).

- (11) Past vs. non-past
- | | | | | | | | | |
|----|----------------------------------|------------|-----|-------------|--------|--------|-------|-----------|
| a. | 'a | nia | la | vcong | -u | (na) | taini | (Past) |
| | EMP | PST | HAB | spouse-1S | ABS | 3S.ABS | | |
| | 'She/he is my ex-wife/-husband.' | | | | | | | |
| b. | zou | taini | 'o | tena | -u | vcong | | (Nonpast) |
| | EMP | 3S | ABS | IRR-1S | spouse | | | |
| | 'He/She is my fiancé/fiancée.' | | | | | | | |

A similar temporal contrast is also attested in (12): (12a) refers to an ex-chief but (12b) a chief-to-be.

- (12) Past vs. non-past
- | | | | | | | | |
|----|----------------------------|-------------|-----|---------|-----|------|-----------|
| a. | 'o | nia | la | kingatu | zou | mo'o | (Past) |
| | TOP | PST | HAB | chief | EMP | PN | |
| | 'Mo'o is the ex-chief.' | | | | | | |
| b. | 'o | tena | la | kingatu | zou | mo'o | (Nonpast) |
| | TOP | IRR | HAB | chief | EMP | PN | |
| | 'Mo'o is the chief-to-be.' | | | | | | |

Thus, *nia* passes the first test of making a temporal distinction.

4.2 Productivity

Unlike the English *ex-*, *nia* is not restricted to terms of non-kinship relation and occupation; it applies to a wide variety of nominals, as summarized in Table 2. In addition, *nia* also applies to event nouns, as shown below in (13).

- (13) *Nia* and event nouns
- | | | | | | | | | | |
|----|--|------------|---------------|----------|---------------|------|-------|-------------|-----|
| a. | 'o | nia | hia | mayasvi | ne-noaa'o | o'a | mo | | |
| | TOP | PST | NMLZ | war rite | long.time.ago | NEG | REAL | | |
| | totiski | ta | hia-mayasvi | maitan'e | | | | | |
| | same | OBL | NMLZ-war rite | today | | | | | |
| | 'The way Mayasvi was held long time ago is not the same as the way it is held nowadays.' | | | | | | | | |
| b. | 'o | nia | hia | esvtx | ne | moso | ayyu | toxsvxsvtx, | o'a |
| | TOP | PST | NLMZ | decide | SUB | REAL | first | discuss | NEG |
| | i-to | hia | | | | | | | |
| | TR-1P | work(TR) | | | | | | | |
| | 'We did not carry out the resolution made in the last meeting.' | | | | | | | | |

In the case of a ritual in (13a), *nia* is likely to encode a COSH—a past ritual is different from the current one. On the other hand, in the case of a resolution in (13b), *nia* seems to represent a COF—a past resolution does not perform its expected function.

Furthermore, *nia* can even mark locative and temporal nouns, as illustrated in (14).

- (14) Locative and temporal nouns
- a. te-'o uh to **nia** 'o-'ochia-'u
IRR-1S get.to OBL PST RED-tea-1S.POSS
'I will go to my old tea field.'
- b. mi-'o maine'e to **nia** taseona-si ne moso meesi
REAL-1S return OBL PST morning-3S SUB REAL rite
'I went home in the morning on that day when the rite was held.'

This accords with the observation that *nia* behaves like a grammatical category rather than a lexical category. There is no question that *nia* passes the productivity test of NT.

4.3 Encoding on arguments

The reader might have already noticed that *nia* can be preceded by case markers of various kinds. In (9b), repeated below as (15a), the *nia*-phrase is led by the absolutive case marker 'o; in (2a), repeated below as (15b), the *nia*-phrase is preceded by the genitive case marker *to*; in (9a), repeated below as (15c), the *nia*-phrase is marked by the oblique case marker *to*.

- (15) *Nia* and case markers
- a. i-ta-cu chu-a 'o **nia** fou-moatx'nx.
REAL-3S-COS roast-TR ABS PST meat-goat
'He has roasted the goat meat.'
- b. kuhcu **to** **nia** amo-'u (na) eni
fur.clothing GEN PST father-1S.POSS ABS this
'This is my deceased father's fur clothing.'
- c. mi-ta maceofx **to** **nia** feo'u no cmoi.
INTR-3S wear OBL PST fur GEN bear
'He wears the bearskin clothing.'

This indicates that *nia*-phrases normally surface as arguments.

For a few *nia*-phrases that are not case-marked, they should occur as DPs as well. Consider (11a) for instance, repeated below as (16a). In (16a), the *nia*-phrase should occur as a DP and function as a nominal predicate. Witness the fact that *nia* in this usage cannot alternate with the verbal realis auxiliary *moso*, which Huang and Huang (2003) take as a marker of nonfuture tense, as illustrated in (16b).

- (16) *Nia* vs. *moso*
- a. 'a **nia** (la) vcongx to mo'o (na) taini
EMP PST HAB spouse GEN PN ABS 3S.ABS
'She is Mo'o's ex-wife.'
- b.* 'a **moso** (la) vcongx to mo'o (na) taini
EMP REAL HAB spouse GEN PN ABS 3S.ABS
Intended for 'She is Mo'o's ex-wife.'

It is thus concluded that *nia* is nominal rather than verbal, despite its temporal reading. The observation receives further support from examples such as (13a-b), repeated below as (17a-b), where *nia* requires that the co-occurring verb must be nominalized. As noted in M. Chang (2002), the morpheme *hia* is a syntactic nominalizer that turns a verb into a noun.

- (17) *Nia* and nominalized verbs
- a. 'o **nia** *(**hia**) mayasvi ne-noaa'o o'a mo
 TOP PST NMLZ war rite long.time.ago NEG REAL
 totiski ta hia-mayasvi maitan'e
 same OBL NMLZ-war rite today
 'The way Mayasvi was held long time ago is not the same as the way it
 is held nowadays.'
- b. 'o **nia** *(**hia**) esvxtx ne moso auyu
 TOP PST NLMZ decide SUB INTR.REAL first
 toxsvxsvxtx, o'a i-to hioa
 discuss NEG TR-1P work(TR)
 'We did not carry out the resolution made in the last meeting.'

It is now evident that *nia* passes the Encoding-On-Argument test.

Before moving on to the next diagnostic, I would like to point out that while *nia* freely patterns with arguments, it does not go with locative and temporal adjuncts. As in (18), *nia* is not compatible with the locative and temporal adjuncts *ne 'o'ochia* and *ne taseona*.

- (18) *Nia* incompatible with adjuncts
- a.* te-'o uh **ne nia** 'o-'ochia-'u
 IRR-1S get.to LOC PST RED-tea-1S.POSS
 'I will go to my old tea field.'
- b.* 'a mo-'u-cu bonx ne **nia** taseona
 EMP REAL-1S-COS eat(INTR) PST PST morning
 'I have eaten this morning.'

Compare (18a-b) with (14a-b). The lesson is that the sentences will be grammatical once the locative/temporal marker *ne* is replaced by an oblique case marker. While I have no clear idea about the mechanism underlying the contrast, I think that it should have something to do with the argumenthood of the *nia*-phrase: a *nia*-phrase that receives oblique case-marking is identified as an argument but one that receives locative case-marking as an adjunct. Another way out is to replace *nia* with a realis auxiliary, as in (19).

- (19) *Nia* replaced by *mo*
- a. 'a mo-'u-cu bonx ne **mo** taseona
 EMP REAL-1S-COS eat(INTR) SIB.PST REAL morning
 maitan'e
 today
 'I have eaten this morning.'
- b. mi-'o uh ne tfuya ne **mo** taseona
 REAL-1S get.to LOC PLN PST REAL morning
 'I went to Tfuya in the morning.'

This departs from Nordlinger and Sadler's third test, where arguments and adjuncts are treated alike.

4.4 *Not as a syntactic clitic*

Unlike the English reduced form of the future tense auxiliary 'll, *nia* does not behave like a clitic. Despite being phonologically unstressed, *nia* does not attach to the highest syntactic head of its phrase. Note that it patterns with elements of various kinds and its neighboring elements are not uniformly syntactic heads, as shown above. Moreover, there

is evidence that *nia* surfaces as a syntactic head by itself. As shown in (20a), *nia* can attract the aspectual clitic *n'a*, just like typical syntactic heads such as the irrealis auxiliary *te*, as in (20b).

- (20) *Nia* can host a clitic
- a. mi-cu aemo'x 'o **nia-n'a** imucu
 REAL-COS fall.apart ABS PST-DT PLN
 'The few people who used to live in Imucu have scattered around.'
- b. **te-ko-n'a** tuocos-neni a'o no huphina-si pohe-taini
 IRR-2S-DT ask-BA 1S.ABS OBL price-3S.GEN corn-3S.GEN
 'You should ask the price of his corns for me.'

It is obvious that *nia* also meets the fourth criterion.

4.4 Summary

We have shown that *nia* satisfies all of the four criteria for NT proposed by Nordlinger and Sadler (2004). This leads to the conclusion that *nia* should occur as an instance of NT. Specifically, *nia* should represent past tense within a determiner phrase (DP), anchoring a state denoted by the DP prior to the utterance time. In the next section, I take a close look at the syntactic structure of *nia*-DPs.

5 *Nia* as INT head

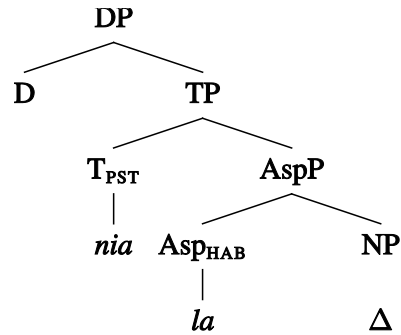
5.1 *Nia* as *T*

Given its NT-encoding and clitic-hosting, *nia* presumably heads a tense projection (TP) within a DP. Note also that *nia* precedes the habitual aspectual marker *la*, as shown in (4), repeated below as (21).

- (21) Terms of relation/occupation
- a. 'a **nia** la vcongx to mo'o (na) taini
 EMP PST HAB spouse GEN PN ABS 3S.ABS
 'She is Mo'o's ex-wife.'
- b. 'a **nia** la ngocoo (na) taini
 EMP PST HAB township.chief ABS 3S.ABS
 'He is an ex-township chief.'

This suggests that *nia* should be situated above an aspectual phrase (AspP), as schematized below:⁷

⁷ For the time being, I assume with Tang (2006: 965) that a possessor is either generated in spec of NP or adjoined to N' instead of being merged high above as D in Formosan languages (cf. Cardinaletti 1998 and Alexiadou et al. 2010). This will account for, among other things, the fact that a bound possessor attaches to the head noun rather than the T head, as in (2a), (5a,b), (8a), (11a), and (14a) above.

(22) The syntactic position of *nia*

It should be noted that *nia* is not merged in D. Although most of the *nia*-phrases are definite, indefinite ones are also possible, as illustrated in (23a-b).

(23) *Nia* and indefinites

- a. pan to **nia** la huyu no fuzu tan'e
 there OBL PST HAB trail GEN wild.pig here
 'There used to be wild pig trails here.'
- b. pan to **nia** ca'hx tan'e
 there OBL PST chair here
 'There used to be a(n) old/broken chair here.'

In other words, *nia*-phrases can be either definite or indefinite. This indicates that *nia* does not encode definiteness and hence does not represent D. This observation is echoed by the fact that *nia* can optionally co-occur with a demonstrative, as in (24).

(24) *Nia* and demonstratives

- a. mi-cu aemo'x 'e **nia** ca'hx (eni)
 REAL-COS fall.apart ABS PST chair this
 'This chair already fell apart.'
- b. mi-cu kxhtosx 'e **nia** ufi (eni)
 REAL-COS harden ABS PST rice cake this
 'This rice cake has become stiff.'

Neither does *nia* represent Case, since it is usually preceded by a case marker, as already illustrated extensively above.

5.2 *Nia* as INT head

Recall that NT is of two types: INT vs. PNT. The question is which type of NT *nia* represents. My data indicate that *nia* basically represents INT rather than PNT.

Note that the tense interpretation of *nia* is typically restricted to the noun phrase it is associated with. Thus, *nia* can pattern with a matrix irrealis auxiliary, despite its past tense reading, as illustrated in (25a-b).

(25) *Nia* and matrix irrealis

- a. **teav'a** payo'-a 'o **nia** hia toxsvxsvxtx
 NEG.IMP(TR) forget-TR ABS PST NMLZ discuss
 'Don't forget the resolution of the last meeting.'
- b. **ta-'u** tupuz-a si mi-cu kuzo ci **nia** ca'hx
 IRR-1S burn-TR ABS REAL-COS bad REL PST chair
 'I will burn the broken chair.'

This suggests that the tense interpretation of *nia* is internal to its DP and that it does not affect the temporal reading of the matrix clause.

However, it is noteworthy that *nia* can go beyond its DP and scope over the whole sentence once the sentential temporal auxiliary is missing. Existential constructions are a case in point. Existential constructions are notoriously known as one of the very few exceptions that do not start with a temporal auxiliary in Tsou (Zeitoun 2005, H. Chang 2009, among others). Surprisingly, *nia* seems to behave like an instance of PNT in existential constructions—it determines the temporal interpretation of the sentence. As in (26a-b), the two existential sentences are unambiguously in past reading with *nia*: (26a) means ‘there used to be wild pig trails’ rather than ‘there are old wild pig trails’; (26b) means ‘there used to be a broken chair’ rather than ‘there is a broken chair’.

(26) *Nia* and PNT

- a. pan to **nia** la huyu no fuzu tan’e
 there OBL PST HAB trail GEN wild.pig here
 ‘There used to be wild pig trails here.’
- b. pan to **nia** ca’hx tan’e
 there OBL PST chair here
 ‘There used to be a(n) old/broken chair here.’

In this case, *nia* seems to be representing PNT instead of INT. It is not immediately clear at this point how the exception comes about. I leave it for future investigation.

6 Conclusion

It has been established in the preceding sections that *nia* functions as a marker of INT and heads a DP-internal TP. More specifically, *nia* overtly encodes past tense in the nominal system, with the nonpast tense morphologically unmarked. These findings have far-reaching typological and theoretical implications.

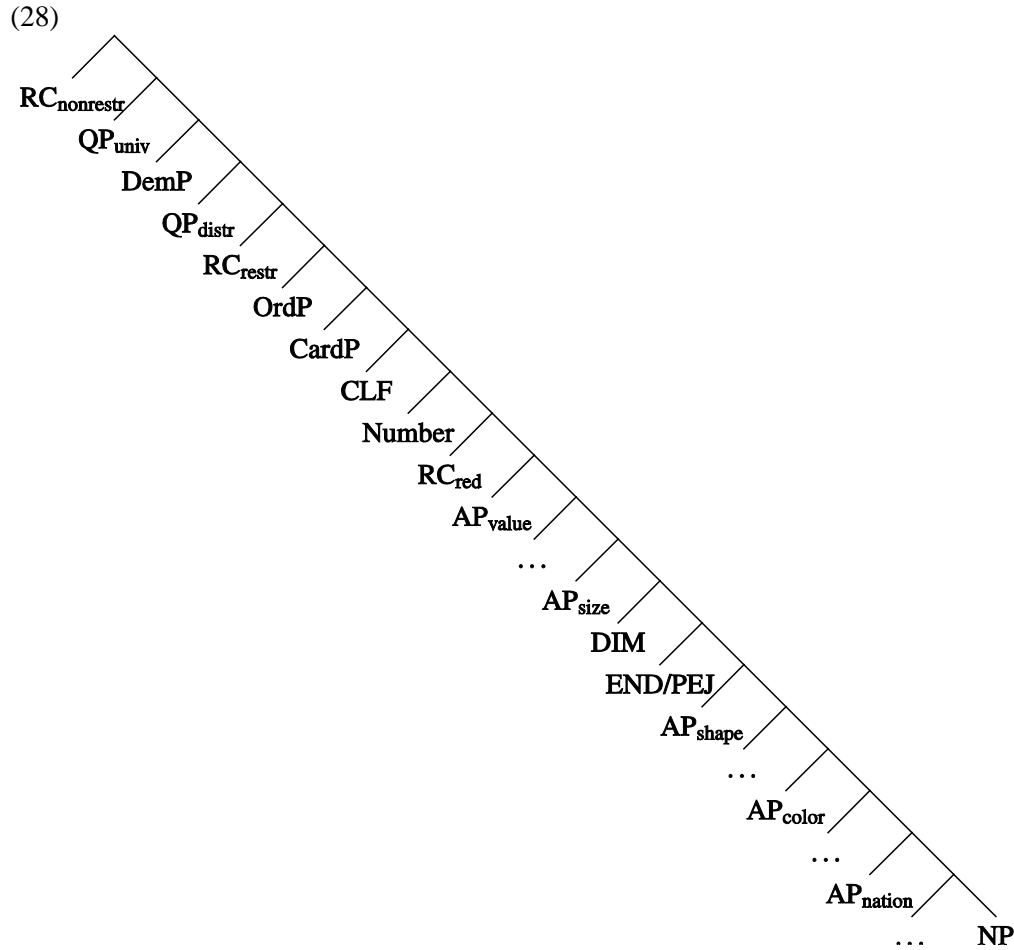
First, the findings lead to a conclusion that Tsou is a language like Somali (Lecarme 2004, 2008) that exhibits a morphological NT. In this regard, Tsou differs typologically from familiar languages like English. In the Formosan literature, there was no report of NT in the past. This study represents the first attempt of its kind. It is desirable to investigate whether other Formosan languages are also of this morphological NT type.

Second, Cinque (2005, 2011) advocates a universal nominal structure, as schematized in (28) on the next page.

What concerns us is that there is no TP projection in the structure. However, our findings strongly suggest that TP might be built into the universal nominal structure. It has been illustrated above that *nia* is situated below D and DEM (demonstrative). There is further evidence that *nia* should be placed above number phrase (NumP) and restrictive relative clause (RC_{restr}). As in (27), *nia* precedes rather than follows the numeral relative clause *yuso ci*:

(27) *Nia* before a numeral relative clause

- pan to **nia** **yuso ci** ca’hx tan’e
 there OBL PST two REL chair here
 ‘There used to be two chairs here.’



Given the widely observed DP-CP (complementizer phrase) parallelism, D is expected to take TP as its complement on a par with C. Along this line of thought, our discovery of a DP-internal TP in Tsou is a pleasantly welcome result.

Finally, let us discuss what we should go next. In section 4.3, it has been noted that *nia* distinguishes arguments from adjuncts. As a matter of fact, Tsou adjuncts have their distinct temporal markings from *nia*, that is, *ne* versus *ho* (Pan 2010, among others). As in (29a-b), *ne* encodes a past event but *ho* a nonpast (typically future) event.

- (29) *Ne* vs. *ho* = past vs. non-past
- a. mi-'o uh ne maibayx **ne** taseona
 REAL-1S get.to LOC Chiayi PST morning
 'I went to Chiayi this morning.'
- b. ta-'u uh ne maibayx **ho** taseona
 IRR-1S get.to LOC Chiayi NPST morning
 'I will go to Chiayi in the morning.'

Note also that a temporal concord between the temporal adjuncts headed by *ne/ho* and the matrix auxiliary must be observed—the past *ne* must pattern with a realis auxiliary and the nonpast *ho* must go with an irrealis auxiliary. Otherwise, ungrammaticality will arise, as in (30a-b).

(30) Temporal concord constraint

a.* **ta-'u** uh ne maibayx **ne** taseona
 IRR-1S get.to LOC Chiayi PST morning

Intended for 'I will go to Chiayi this morning.'

b.* **mi-'o** uh ne maibayx **ho** taseona
 REAL-1S get.to LOC Chiayi NPST morning

Intended for 'I went to Chiayi this morning.'

This implies that the temporal readings induced by *ne/ho* are sentential/propositional rather than restricted to their own phrases. It is very likely that they might involve PNT. Further inquiry along this line of research is desirable.

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Affiliation

Henry Y. Chang
Institute of Linguistics
Academia Sinica, Taiwan
henrylc@gate.sinica.edu.tw