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# Higher Functional Elements in Siraya Sentences*

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In this article, we survey higher functional syntactic elements in Siraya sentences, including elements that express tense, voice, aspect, negation, modality, and others. It is shown that some of them are high in structure, though some of them are lexical verbs taking clauses or verbal predicates as complements. We also discuss some related issues, such as the generation of the verb-voice-aspect complexes, classification of negators and modals, and the hierarchical structure of certain C-level elements.

Keywords: Siraya, syntax, tense-aspect-modality (TAM), voice, negation

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# 1. INTRODUCTION

This work investigates the higher functional elements in Siraya sentences. Siraya is the language spoken by the indigenous people of the southwestern Taiwan when the Dutch arrived in the 17th century AD. A cultural legacy left by the Dutch is a Siraya translation of the gospels of Matthew and John, along with a Christian catechism. These texts are written in the language known as *Sinkang-Formosan* (as indicated in the preface of the Gospel of Matthew) or *Sideia* (as shown in the first page of the catechism).[1] It is these texts (along with other language materials of Siraya discovered by later scholars) that provide us with an opportunity to look into the grammatical properties of the language of Siraya, in particular its syntactic structure and the morphological makeup of lexical items as well as functional categories.[2]

There have been linguistic works on different aspects of the grammatical properties of Siraya, including Li (2007), Tsuchida (2000), Adelaar (1997, 1999, 2000, 2006, 2011), and so on. Adelaar (2011) is the most important study of the grammar of Siraya up to date, which contains discussions of different aspects of the Siraya grammar. These works, however, focus either on the description of linguistic phenomena or on the typological, historical, and phonetic/phonological aspects of the language. There has not been much attention to the sentence structure of Siraya and related problems. This work is an effort toward that goal. In this work, we discuss some of the higher functional elements that play an important role in the formation of sentence structures in Siraya, which contribute

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[1] The two names refer to the same language, judging from the syntactic, morphological, and phonological features of the languages used in these texts. The language of these texts is somewhat different from another Siraya dialect, known as the dialect of Utrecht Manuscript (UM). See Chao-Lin Li (2009) and Paul Jen-kuei Li (2010) for more details.

[2] There are also post-Dutch Siraya documents, such as land contracts collected by Japanese scholars in the early 20th century and later scholars. See Li (2010).

substantially to the expansion of a predicate-argument complex into a clausal-propositional construction. This work is organized as follows. Section 2 provides a brief introduction to the word order and voice system of Siraya. Section 3 discusses tense, voice, and aspect in Siraya sentences, and section 4 discusses negators. Section 5 looks at question particles, and section 6 examines the modals and certain clause-initial elements. Section 7 is the summary and conclusion.

A few remarks are in order. First, our data come from the texts of the gospel of Matthew, the gospel of John, and the Christian catechism.[3] These texts are written in the same language (and the same Siraya dialect). Second, we assume the syntactic theory of Chomsky (1995, 2013, 2015), according to which a sentence structure is built through mergers of the elementary categories C, T, v, and V. In addition, we assume the category Asp (Aspect), which is the complement of T. So, we have the basic syntactic structure C-T-Asp-v-V for the syntactic structure of Siraya sentences (though there can be multiple C's in a Siraya sentence; see the discussion in sections 4 and 5).

# 2. Word order and the voice system

## 2.1 Word order

Siraya is a verb-initial language. That is, the word order of a Siraya sentence is typically VSO or VOS. As to the syntactic positions of the arguments, variation exists. The default word order is as (1a), namely, the nominative subject occurring after the oblique object, though the reverse order (1b) is also acceptable, i.e., the nominative subject occurring before the oblique

[3] For details about the history and publication of the gospel of Matthew and the catechism, see Adelaar (2011). The gospel of John was re-discovered in 2019. The details about the re-discovery are described in Joby (2020).

object. See (2a) and (2b). The nominative subject of a sentence, AV (Actor Voice) and NAV (Non-actor Voice) alike, can be a clitic attached directly to the main verb. See (2c) and (2d). However, when the sentence is in a Non-Actor Voice, the agent argument may occur as a genitive clitic pronoun attached directly to the main verb. See (2e). There are still other word order possibilities, which we will not go into.[4]

(1) a. [Main V] - [Oblique object] - [Nominative subject]
b. [Main V] - [Nominative subject] – [Oblique object]
c. [Main V] - [Genitive agent] - [Nominative subject]

(2) a. Ra madis masusu neini-an **ta** **ti** **Jesus**…
but quick speak them-OBL NOM DET Jesus
'But straightway Jesus spake unto them…' (Matthew 14: 27)

b. Ni-pai-imd-en **ta** **mamang** ki ana,
PAST-make-all-PV NOM everything OBL it
'All things were made by him.' (John 1: 3)

c. Ka kitay, aya-lam **ko** imumi-an
and behold.LV at.together I.NOM you.PL-OBL
tu imid ki wai, tu kidi
LOC all OBL day LOC time

[4] The abbreviations used in this work include: AV = actor voice, COMP = complementizer, DET = determiner, EXCL = exclusive, FOC = focus marker, GEN = genitive, INCL = inclusive, IMP = imperative, IV = instrument voice, LOC = locative case, LV = locative voice, MOD = modalized, NOM = nominative case, OBL = oblique case, PAST = past tense, PC = prefix concord, PFV = perfective, PL = plural, PV = patient voice, Q = question particle, REL = relative marker.

ki limulimu ki idarinuxan.
OBL end OBL world
'And lo, I am with you alway, even unto the end of the world.' (Matthew 28: 20)

d. Ra at-apa ta kasu-en au
yet this-instead NOM speak-PV I.GEN
alay ka pakariang-ayl-ato **kamu**.
because COMP save-PV.MOD-PFV you.PL
'But these things I say, that ye might be saved.' (John 5: 24)

e. ka pa-lilid-aw **tin** ta irung tu
and cause-gather-PV.MOD he.GEN NOM work LOC
'And he will gather his wheat into the garner.' (Matthew 3: 12)

We suggest that the verb-initial word order is derived via head movement of the lexical verb to the tense T. There have been different theories for the verb-initial structures of Austronesian languages; see Potsdam (2009) for a general survey. Wu (2013) argues that the verb-initial order in Bunun is derived by VP fronting leaving the nominative subject behind (also see Massam 2001). Among the different pieces of evidence that Wu (2013) refers to is the phenomenon that VP-internal material in Bunun sentences occurs before, but not after, the subject argument. The case of Siraya appears to be different. The fact that the nominative subject may freely occur before or after the oblique object in sentences like (2a-b) seems to be sufficient evidence that the verb-initial order of Siraya sentences cannot be derived by VP fronting. Besides, the location phrase *tu kuraw* 'into the garner' in (2e), which is a VP-internal locational PP, occurs at the end of the sentence but not before the nominative subject. This, again, is evidence that the verb-initial order of Siraya sentences cannot be derived by VP

fronting.

We suggest the following derivation for the verb-initial order of Siraya sentences. First, the lexical verb moves to T through the light verb v. Suppose that we have an underlying syntactic structure as in (3a). After the verb movement, we have the structure in (3b), where we obtain the verbal complex V+v+T. An optional step can be performed here: the patient argument can be extracted out of VP and adjoined to vP (see Rackowski and Richards 2005). This yields the structure in (3c).

(3) a. $[_{CP/TP} \ldots T \ldots [_{vP}$ Agent v $[_{VP}$ V Patient$]]]$

b. $[_{CP/TP} \ldots [_{T}$ V+v+T$] \ldots [_{vP}$ Agent $\boldsymbol{t}_{v} [_{VP} \boldsymbol{t}_{V}$ Patient$]]]$

c. $[_{CP/TP} \ldots [_{T}$ V+v+T$] \ldots [_{vP}$ Patient $[_{vP}$ Agent $\boldsymbol{t}_{v} [_{VP} \boldsymbol{t}_{V} \boldsymbol{t}_{Patient}]]]$

Now the two different structures (3b) and (3c) are subject to a probing operation by the V+v+T complex, which determines the nominative case (Chomsky 2000, 2001). When the sentence is in the Actor Voice (AV), the agent argument receives the nominative case, and the patient argument receives the default oblique case. When the sentence is in, for example, the Patient Voice (PV), then the patient argument receives the nominative case, and the agent argument receives the genitive case. If the sentence is in some other Non-Actor Voice (NAV) mode, such as the Locative Voice (LV), a different argument (e.g., a locative argument) is extracted and adjoined to vP, where it is probed for the nominative case. We turn to this issue in the next subsection.

## 2.2 The voice system

We assume the following four-way division of grammatical voices in Siraya (Shi 2008).[5]

**Table 1. Siraya Voice System[6]**

| | Agent Voice (AV) | Patient Voice (PV) | Locative Voice (LV) | Instrument Voice (IV) |
|---|---|---|---|---|
| Realis | *m*-V | V-*en* | V-*an* | |
| Modalized | V-*a* | V-*aw* | V-*ay* | V-*anay* |

We use the notion of "voice" instead of the traditional concept of "focus;" see Ross and Teng (2005) for an overview and relevant discussion. Besides, we adopt the theory of Shi and Lin (2011, 2014), which has the following content.

(A) The voice system determines the subjecthood of the sentence. Specifically, the subject takes the nominative case, licensed by the voice morphology via agreement.

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[5] The voice marker in Siraya occurs on the main verb of the sentence. If there are multiple verbs in a sentence, then it typically occurs on the first verb. But we find example in which the voice marker occurs on the second verb rather than on the first verb, as in (i):

(i) Asi kawa masaun kairang-en ta kawaxan ki kakanen?
not Q more great-PV NOM life OBL food
' Is not the life more than meat?' (Matthew 6: 25)

This makes the first verb much like an adverbial. We do not know how general this phenomenon is, though.

[6] In Siraya, the AV marker *m*- is not necessarily prefixed to a verb; it can be an infix as well. Besides, not all verbs in the AV take the marker *m*-; some verbs do not. See Adelaar (2011: 101ff). So, the use of the expression "*m*-V" is just for ease of exposition.

(B) The voice morphology probes the argument that it minimally c-commands and determines its case as nominative (Chomsky 2000, 2001). In AV, the argument that the voice morphology minimally c-commands is the agent argument, which is the specifier of the light verb v. Thus, the agent receives the nominative case marking, and the other arguments receive other case markings (oblique, locative, or genitive). In NAV (Non-AV, including PV, LV, and IV), the designated argument (the theme/patient, the location, or the instrument) moves to the left edge of vP in compliance with the minimality requirement of probing, gets probed by the voice morphology, and receives the nominative case marking (see Rackowski and Richards 2005; also see Aldridge 2004). The location and instrument arguments may be generated through the merger of an applicative head to the VP (see Rackowski and Richards 2005 and Shi and Lin 2011).

(C) The feature of voice is in T. It is part of the function of T. We assume that the voice feature may be "bundled" with different syntactic heads in different languages (see Pylkkänen 2002 for the notion of bundling of grammatical features). In English, it is bundled with the light verb v, so the change in voice directly affects the realization of arguments in overt syntax -- for instance, the agent argument is demoted in sentences with passive voice in English. In Siraya and other Austronesian languages, the voice feature is bundled with T, so the change in voice does not affect the realization of the core arguments, such as the agent. As a result, the agent can still appear without being demoted to the status of an adverbial.

One thing that needs to be clarified is the use of the term "modalized" for the irrealis set of voices in Table 1, namely V-*a*, V-*aw*, V-*ay*, and V-*anay*. Adelaar (2011) calls them the "subjunctive" voices. We do not use the term "subjunctive" but instead use the term "modalized" because they clearly have modal meanings. They typically represent such modal meanings as the future (similar to *will* or *shall* in English), the deontic modality (similar to *must*, *should*, and *have to* in English),

and the imperative (such as issuing a command, making a demand, and so on). See the examples below. The modal meanings of the voices are clear in the translations of the sentences.

(4) a. **Kit-ay** ta patak ki yuko
see-LV.MOD NOM colt OBL lamb
ki Alid
OBL God
'Behold the Lamb of God!' (John 1: 29)

b. Alay ka asi **tawruma-a** ta maibuvual
so that not perish-MOD NOM everyone
ka tnamsing tini-an ka **akume-a**-lapa
REL believe him-OBL but have-MOD-also
ki kawaxan ka mikakua midarinux.
OBL life REL always last.infinitely
'That whosoever believeth in him should not perish, but have eternal life.' (John 3: 15)

c. **Udadarang-aw** makipungas kmiim alay
go-PV.MOD PC.diligent search for
ki raway.
OBL child
'Go and search diligently for the young child.' (Matthew 2: 8)

d. Kidi-ato ka **tubx-ay** tin ta
must-PFV that endure-LV.MOD he.GEN NOM
havung ki ina mita
suffering OBL would.have we.GEN.INCL

**havung-anay**
suffer-IV.MOD
'He must bear the punishment that we must suffer.' (Catechism, Question 22)

# 3. Tense, voice, and aspect

We start with a survey of the tense, voice, and aspect systems of the Siraya grammar.

## 3.1 Past tense

Siraya exhibits a three-way tense distinction. On the one hand, past contrasts with non-past, and on the other hand, realis situations contrast with modalized situations, which can be thought of as non-future vs. future. (Note that the different modal meanings of the modalized voices in Siraya are all future-oriented; thus, it seems legitimate to consider all of them as denoting some sort of future.)

**Table 2. The three-way tense distinction in Siraya**

| | AV | PV | LV | IV |
|---|---|---|---|---|
| Past | *ni*-V | *ni*-V-*en* / *ni*-V | *ni*-V-*an* | |
| Non-past / Realis | *m*-V | V-*en* | V-*an* | |
| Modalized / Future | V-*a* | V-*aw* | V-*ay* | V-*anay* |

The past tense marker *ni-* is a prefix to the main verb; see the example in (5a). When there is more than one verbal element in a sentence, *ni* typically occurs on the first verbal element, as shown in (5b-c).[7, 8]

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[7] There are a few sentences where *ni-* occurs on V2 rather than V1. This makes V1 very much like an adverbial. Look at the following sentences.

| | | | | | | |
|---|---|---|---|---|---|---|
| (i) Ka | ni-mila | rmau | ta | ti | Petrus. | |
| and | PAST-again | deny | NOM | DET | Peter | |
| Ka | **madis** | **ni-muni** | ta | tauka. | | |
| and | quick | PAST-sound | NOM | cock | | |

'Peter then denied again: and immediately the cock crew.' (John 18: 27)

Most of the examples showing this phenomenon have the manner predicate *madis* 'quick' as V1. A few examples have the degree predicate *uhang* 'huge, greatly' as V1 (e.g. Matthew 26: 8). It is not clear how general this phenomenon is.

[8] The element *na*, which has a number of different meanings (as a determiner for partitivity, a preposition denoting source, and so on), seems to be able to function as a past-tense marker in Siraya sentences, too. Look at the following examples:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (i) a. | Ka | **na** | **kma** | ta | ti | Jesus | tini-an... | | | |
| | and | PAST | say.AV | NOM | DET | Jesus | him-OBL | | | |
| | 'Jesus said unto him...' (Matthew 4: 7) | | | | | | | | | |
| b. | ka | **na** | **sasbux** | tin | ta | malituk, | ki | tamaviri | ki | malituk, |
| | and | PAST | pour.out | he.GEN | NOM | silver | OBL | exchanger | OBL | silver |
| | ka | ni-papaawtukax | | tin | ta | tpal | da. | | | |
| | and | PAST-overthrow | | he.GEN | NOM | table | FOC | | | |

'... and [Jesus] poured out the changers' money, and overthrew the tables.' (John 2: 15)

Since the meanings and uses of *na* are still not very clear, we will leave it for future research.

(5) a. **Ni-ataral** tini-an ta litu.
PAST-leave.AV him-LOC NOM devil
'Then the devil leaveth him.' (Matthew 4: 11)

b. **Ni-irua** ta tamaxnaw **milingix** tini-an.
PAST-come.AV NOM angel listen.AV him-OBL
'Angels came and ministered unto him.' (Matthew 4: 11)

c. Maimid ta namamang ka **ni-siuro**
all.AV NOM anyone REL PAST-prior.AV
**irua** iau-an, tamahauzung ta neni
come.AV me-OBL thief NOM they
ki tamariux apa,
OBL robber also
'All that ever came before me are thieves and robbers.' (John 10: 8)

A special property of the past-tense marker *ni* is that it can function as a *relative past marker*. Suppose that we have a complex sentence, such that there is a temporal adverbial clause adjoined to the main clause. If the adverbial clause overlaps with the main clause in the event time, the verb of the adverbial clause does not take *ni*. On the other hand, if the verb of the adverbial clause takes the past-tense marker *ni*, then the adverbial clause must be denoting an event that is prior in time to the main-clause event. In this use, *ni* clearly denotes a relative past time. See the examples in (6). (6a) is an example where the verb of the adverbial clause does not take the past-tense marker *ni*, and (6b-c) are examples where the verb of the adverbial clause takes the marker *ni*. It is clear from the translations of these sentences that *ni* serves as a relative past-tense marker here, similar to a pluperfect aspect in English. The sentence in (6c) is particularly

interesting, because the verb in the adverbial clause *ni-maawvering* takes the marker *ni*, yet the main-clause verb *kmavis-a* takes the future-oriented modalized AV marker *a*. Thus, the use of the marker *ni* does not necessarily imply a past event relative to the speech time. It can be past relative to another past event, or even relative to a future event.

(6) a. Iru ka **milingix** ta sat kitian
when COMP hear.AV NOM one ten
ka raruma ki ata, uhang **ni-tnavaingbing**
COMP other OBL this huge PAST-angry.AV
ki raruha ka matataiapapara.
OBL two REL brothers
'And when the ten heard it, they were moved with indignation against the two brethren.' (Matthew 20: 24)

b. Iru ka **ni-dadauk** tin ta
when COMP PAST-dip.NAV he.GEN NOM
na pi, **ni-px-an** tin ti
DET crumb PAST-give-LV he.GEN DET
Judas-an ka ti Simon Iskariot.
Judas-OBL REL DET Simon Iscariot
'And when he had dipped the sop, he gave it to Judas Iscariot, the son of Simon.' (John 13: 26)

c. Alay ka asi hmitxid-a ki
because COMP not trample.AV-MOD OBL
ana ki na kurkur nein, ka du
it OBL DET hoof their and while

**ni-maawvering** kmavis-a imumi-an ra
PAST-turn.around.AV rend-MOD you.PL-OBL however
'... Lest they trample them under their feet, and turn again and rend you.' (Matthew 7: 6)

## 3.2 Tense and voice in nominals

Another special property of the past-tense marker *ni* in Siraya is that it may occur in nominals. See the following examples.

(7) a. Umang-al-ato ru kmita kamu
do.what.AV-MOD-PFV if see.AV you.PL
ki Alak ki kaawlung ka
OBL son OBL man REL
sabavaw tu **ni-ituawro-en** tin **itukua**?
ascend LOC PAST-before-PV he.GEN be.at.AV
'What and if ye shall see the Son of man ascend up where he was before?' (John 6: 62)
(*ni-ituawro-en itukua* = '[the place where] he was at before')

b. Timamang ta maya ki **ni-padarang**,
whoever NOM take.AV OBL PAST-put.away.NAV
rburo apa ra.
adultry too FOC
'Whosoever marrieth her which is put away doth commit adultery.' (Matthew 19: 9)
(*ni-padarang* = '[the woman who] was put away')

c. Ra pani ta ni-muma mapoungas,
yet other NOM PAST-farm.AV work.AV

ka ni-sakakua-n umi ki
and PAST-go.along-LV you.PL.GEN OBL
**ni-uma-an** nein mapungas.
PAST-farm-LV they.GEN work.AV
'Other men laboured, and ye are entered into their labours.' (John 4: 38)
(*ni-uma-en* = '[the labor work that] they did in farming')

Not only the past-tense marker *ni*, but other voice markers, realis and modalized alike, may occur in nominals as well. A nominal can even contain *ni* and a voice marker at the same time.

(8) a. Kmiim-a kamu yau-an, ra asi
seek.AV-MOD you.PL me-OBL yet not
kamu makivalay-a. tu **ayakua-ay** mau,
you.PL find.AV-MOD LOC be.at-LV.MOD I.GEN
asi kamu hmalpux irua.
not you.PL PC.able.AV come.AV
'Ye shall seek me, and shall not find me; and where I am, thither ye cannot come.' (John 7: 34)
(*ayakua-ay* = '[the place where] I will be at')

b. Alay ki ata ina paxkbu
because OBL this do.not worry.AV
ki wai ka **udamay-a**.
OBL day REL tomorrow-MOD
'Take therefore no thought for the tomorrow.' (Matthew 6: 34)

c. Iru ra asi kamu ataral
if however not you.PL forgive.AV
ki kaawlung ki **ni-tawrahay-en**
OBL man OBL PAST-trespass-PV
nein, dumiaka asi ataral-a
they.GEN therefore not forgive.AV-MOD
ta raraman umi ki
NOM father you.PL.GEN OBL
**ni-tawrahay-an** umi.
PAST-trespass-LV you.PL.GEN
'But if ye forgive not men their trespasses, neither will your Father forgive your trespasses.' (Matthew 6: 15)
(*ni-tawrahay-en* = '[sins resulting from] past trespassing')

d. ka iru-a ta ti Christus
that come.AV-MOD NOM DET Christ
maka-ap ti David, maka-awma ki
from-seed.AV GEN David from-city.AV OBL
Bethlehem, tu **ni-ayakua-an** ti David?
Bethlehem LOC PAST-be.at-LV GEN David
'[Hath not the scripture said,] That Christ cometh of the seed of David, and out of the town of Bethlehem, where David was?'(John 7: 42)
(*ni-ayakua-an* = '[the place where] David was at')

## 3.3 Nominalization of clauses

We propose that, in the examples above, it is a verb that takes the past-tense marker *ni* or a voice marker and then undergoes *nominalization*.[9] In a few cases, though, it is a noun that is being used as a verb -- an instance of "denominalization" (see Hale and Keyser 1993) -- and takes the past tense *ni* or a voice marker, and then undergoes nominalization again.[10] All these examples involve nominalization of clauses. In fact, nominalization of verbs in Siraya usually takes verbal voices along the process, either AV or NAV. See the examples below:

(9) a. **ma**dlix matiktik
truly.AV righteous
'Saints' (= '[those who are] truly righteous') (Matthew 27: 52)

b. ukua-**aw**
marry.as.wife-PV.MOD
'Fiancée' (= '[the one who] will be married as wife') (Matthew 1: 24)

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[9] An anonymous reviewer suggests that these examples are actually headless relatives, which are common in Austronesian languages. We leave the relevant questions open.

[10] For instance, Matthew 1: 6 has the following nominal:

(i) ni-kaya ti Urias
PAST-wife GEN Urias
'The wife of Urias' (lit. '[the woman who had been] the wife of Urias')

Though *kaya* is a noun, it is used as a verbal predicate meaning 'being the wife of...' and as such receives the temporal modification of the past-tense marker *ni*. The resulting expression then undergoes nominalization and becomes a nominal again.

c. paikaku-**an** masit
carry-LV fight
'Weapons' (= '[things which are] carried [in hand] for fighting') (John 18: 3)

d. ayakua-**ay**
be.located-LV.MOD
'The place to be' (= '[the place where I] will be') (John 7: 34)

e. kararamax-**en**
bright-PV
'Majesty' (= '[that which] is very bright') (Catechism, Question 60)

So, the examples in (7)-(8) above actually involve nominalization of a clause. It is a clause that is being nominalized because of the presence of the tense and voice, which are clause-level elements. Technically, we assume that in these examples, a D takes a CP as complement resulting in the nominalization of a clause. For example, the nominal *ni-padarang* 'divorced woman' (lit. '[woman who] was put away') in (7b) is derived in the way shown in (10), namely, a phonetically empty D taking a CP as complement which has *ni-padarang* as the main verb.[11]

(10) [DP D [CP ... *ni-padarang* ...]]

[11] For general discussions on the syntax of nominalization of predicates and clauses in natural languages, see Baker and Vinokurova (2009) and Baker (2011), among others.

## 3.4 Aspect

There are two overt aspects in Siraya: the perfective aspect, which is represented by the suffix *ato*, and the progressive aspect, which is represented by morphological C*a*-reduplication (Adelaar 2011: 112-113). Both aspects are realized on a lexical verb. If there is more than one verbal element in the predicate, the perfective aspect always gets realized on the first verbal element. (11a-b) are examples of *ato*, and (11c-d) are examples of progressives ((11c, d) from Adelaar 2011: 112-113, (175) and (177)).

(11) a. Ka **ni-mara-ato** ki ni-uvavarux-an nein.
and PAST-receive.AV-PFV OBL PAST-reward-LV their
'They have their reward.' (Matthew 6: 16)

b. Ka **uhang-ato** **palungpung** ka ni-ausi ki sipaw.
and exceed.AV-PFV calm.AV and PAST-not OBL strong.wind
'And there was a great calm.' (Matthew 8: 26)

c. Timamang ta kmakiim, makivalay ta teni:
whoever NOM search.AV find NOM he
'He that seeketh findeth.' (Matthew 7: 8)

d. Hairu madadilux ta mavuta
if lead NOM blind

ki mavuta...
OBL blind
'If the blind lead the blind...' (Matthew 15: 14)

We assume that both the perfective and the progressive are in the head Asp. When the lexical verb moves through it on the way to T, the verb acquires the relevant affix or feature that morphologically realizes as *ato* or C*a*-reduplication.

The perfective marker *ato* can occur on a verb together with a voice marker. In that case, the order must be V-voice-*ato*. See the following examples.

(12) a. ni-sawtawax-en-ato
PAST-divorce-PV-PFV
'[The woman who] was divorced' (Matthew 5: 32)

b. ni-px-an-ato
PAST-give-LV-PFV
'was given [the mysteries of the kingdom of heaven]' (Matthew 13: 11)

c. akua-aw-to[12]
obey-PV.MOD-PFV
'[whatever he says] shall be obeyed' (John 2: 5)

d. mit-al-ato[13]
drink.AV.MOD-PFV
'[anyone who] shall drink [the water]' (John 4: 14)

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[12] In this case, the segment *a* of *ato* is deleted after the modalized PV marker -*aw*.

[13] The segment *l* in this and next example is an epenthetic consonant between the modalized voice marker and *ato*.

e. pakariang-ayl-ato
save-LV.MOD-PFV
'[that you] shall be saved' (John 5: 34)

For an illustration of the meanings and functions of the marker *ato*, see Adelaar (2011: 122-125). Adelaar notes that it is difficult to provide a unified meaning for *ato*. This marker appears in various contexts as a clitic to a verb or a negator. It can add the meaning of perfectivity, pluperfect, or result/consequence to the element that it is suffixed to. A cursory look of the grammatical behavior of *ato*, though, leads one to the impression that it is fairly like the verbal suffix *le* in Mandarin (known as *le1*, different from the sentence-final marker *le*, known as *le2*), which marks boundedness of an event, either start-bound or end-bound (see Klein et al. 2000; Lin 2000; Lin 2010). Thus, it sometimes behaves like a perfective marker, but sometimes it seems to just mark the start and continuation of a situation.

## 3.5 The syntactic structure of the tense, voice, and aspect

The above discussion leads us to the following structural analysis of tense, voice, and aspect in Siraya sentences. We assume a sentence structure with the syntactic projections TP-AspP-vP-VP. The lexical verb is base-generated in V and moves to T through v and Asp. We assume that the voice morphology is on the lexical verb. In other words, the voice morphology is part of the makeup of the lexical verb. The lexical verb then moves to T and checks the corresponding voice feature in T.

It seems reasonable to take the voice morphology as part of the morphological makeup of the lexical verb if we consider the suppletive nature of the voice morphology. In Siraya, the morphological forms of different voices often depend on idiosyncratic lexical properties of verbs. Adelaar (2011: 101-104) distinguishes Siraya verbs into four classes, each of which exhibits a different

morphological alternation between the AV form and the NAV form:

(13) Class.1: AV *m(a)-*, NAV *k(a)-*.
e.g. *mamuy* (AV) vs. *kamuy-en* (PV) 'to want'
Class.2: No overt voice marking for either AV or NAV.
e.g. *akumea* 'to have' (for AV and NAV)
Class.3: AV *m-* or *-m-*, no overt marking for NAV.
e.g. *dmarang* (AV) vs. *darang-en* (PV) 'to leave'
Class.4. AV *m(a)-*, NAV *p(a)-*.
e.g. *makualilid* (AV) vs. *pakualilid-en* (PV) 'to pray'

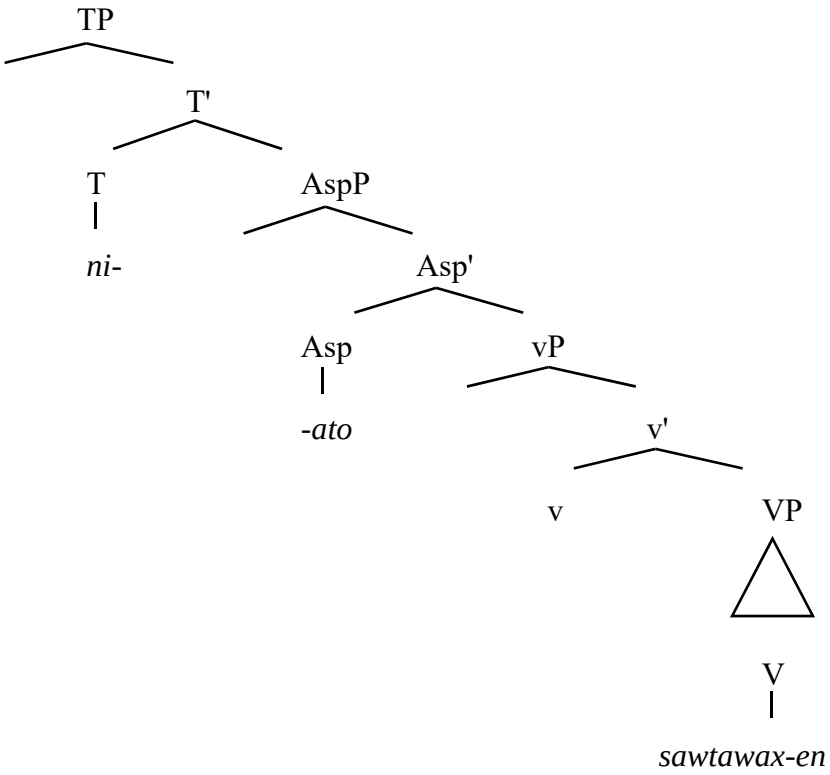
Since the morphological forms of different voices depend crucially on the lexical properties of individual verbs, we assume that a lexical verb is generated with its own voice-morphological realization, and the ensuing voice-feature checking through the probing operation makes sure that the correct voice-morphological form is chosen, and the right argument is probed as the nominative subject.

Also remember that when a Siraya verb takes the perfective marker *ato*, this marker always follows the voice morphology; see the examples in (12) in the previous subsection. According to the Mirror Principle of Baker (1985), morphological derivations directly reflect syntactic derivations, and vice versa (Baker 1985: 375). Thus, the suffixation of the perfective marker *ato* must come after the appearance of the voice morphology on the verb in syntactic derivation. So, it seems natural to assume that the lexical verb starts out with its own voice-morphological realization, and then moves to AspP to acquire the suffixation of *ato*. Thus, the fact that the suffixation of *ato* occurs linearly after the voice marker, then, also supports our assumption that the lexical verb is generated in syntactic structure with a full-fledged voice morphology.

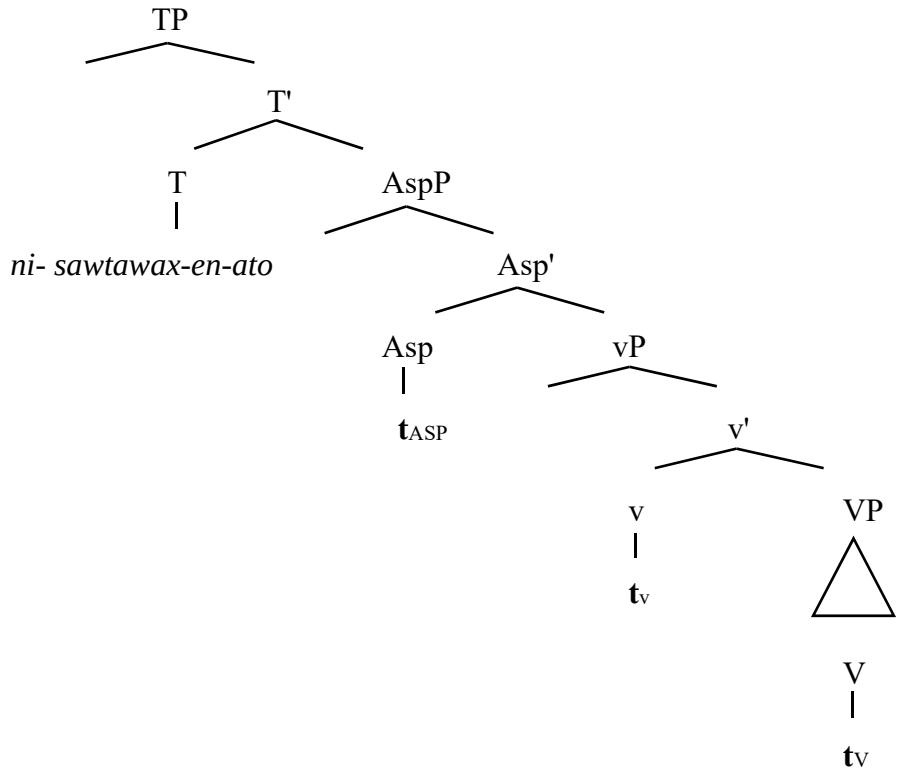
Look at (14)-(15) for a sample derivation. We assume that the past-tense marker *ni* is in T, and the perfective marker *ato* is in Asp. We use the verb *ni-*

*sawtawax-en-ato* 'was divorced' in (12a) as an example. Suppose that the underlying syntactic structure is as in (14). After the movement of the lexical verb to T through v and Asp, the surface structure (15) is obtained.

(14)



(15)




The derivation will be the same when the verb is in the progressive aspect or when the tense in T is non-past. The only difference is that the affixes are replaced by features of appropriate types, to be checked against the morphological inflection of the lexical verb.

# 4. Negation

In this section, we look at the negators in Siraya sentences. There are five negators in Siraya:

(16) Negators in Siraya

| | |
|---|---|
| *Asi* | Propositional negation |
| *Ina* | Imperative negation |
| *Inang* | Volitional negation |
| *Ausi* | Existential/possessive negation |
| *Awlux* | Existential negation |

*Asi* is a propositional negator, in the sense that it takes a proposition as its scope. *Ina* is an "imperative" negator; that is, it is used in negative imperative contexts. *Inang* denotes volitional negation, very much like refusal. *Ausi* and *awlux* are existential or possessive negators, which negate the existence or possession of a certain thing.

## 4.1 *Asi*

*Asi* occupies a very high structural position. For example, it precedes the verb-voice-tense complex. Besides, it does not take tense; the past-tense marker *ni* occurs on the verb that follows *asi*. See (17a-c).

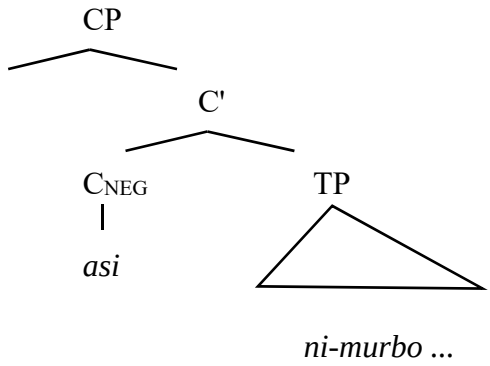
(17) a. **Asi** tin **kalang-en** ta teni.
not he.GEN know-PV NOM she
'He does not know her.' (Matthew 1: 25)

b. **Asi** nein **ni-pakivalay-en** ki mamang.
not they.GEN PAST-find-PV OBL anything
'Yet found they none.' (Matthew 26: 60)

c. Ra **asi** **ni-murbo** hina.
yet not PAST-enter there
'Yet went he not in.' (John 20: 5)

Since *asi* always appears before the verb and takes the whole proposition as its scope, we assume that it is generated at a CP-level focus projection, which we tentatively call $C_{NEG}$.[14]

(18)




However, there is a question that needs to be resolved. Sometimes *asi* can take a voice marker or a perfective marker, or both. See the following examples.

(19) a. ku **asi-a** ko milala maitu, ...
so.that not-MOD I PC.again thirsty
'[Sir, give me this water,] that I thirst not, ...' (John 4: 15)

b. Kita-n umi kawa ka **asi-ay**
see-LV you.PL.GEN Q COMP not-LV.MOD
mumi puthanen?
you.PL.GEN gain.profit
'Perceive ye how ye prevail nothing?' (John 12: 19)

c. Ni-ito-en au, ka **asi-n** umi
PAST-thirsty-PV I.GEN and not-PV you.PL.GEN

[14] On the left-peripheral CP projections, see Rizzi (1997, 2004).

ni-pait iau-an.
PAST-cause.drink me-OBL
'I was thirsty, and ye gave me no drink.' (Matthew 25: 42)

d. Hairu mawmia kaw ti at-an,
if release you DET this.man-OBL
**asi-ato** kaw riu ki Siatix-sibavaw.
not-PFV you friend OBL emperor
'If thou let this man go, thou art not Caesar's friend.' (John 19: 12)

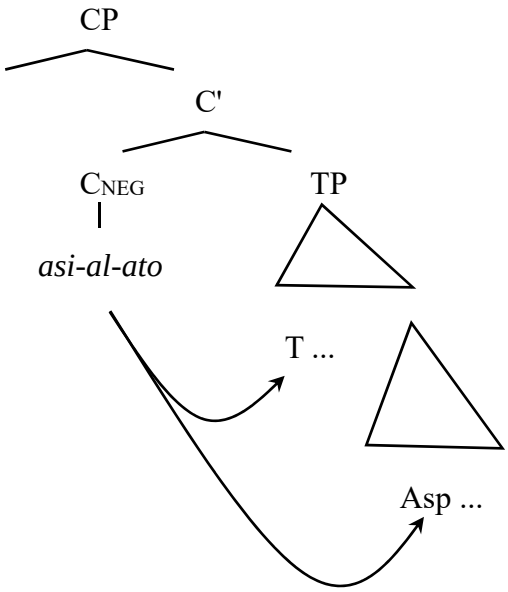
e. Asi madalia, ka **asi-al-ato** kamu
not for.long and not-MOD-PFV you.PL
kmita iau-an.
see me-OBL
'A little while, and ye shall not see me.' (John 16: 16)

How do we account for this phenomenon while maintaining that *asi* is in C? Note that *asi* must be in C even when it takes a voice marker and/or a perfective marker. It cannot be, so to speak, used as a regular verb occurring in T like other verbs. Consider the sentence in (19c), where *asi* takes a PV marker. In this sentence, the lexical verb, which occurs after *asi*, takes the past-tense marker *ni*. Since *ni* is attached to the lexical verb but not to *asi*, the lexical verb must be in T. Consequently, *asi* must be in C, even though it takes a PV marker.

Thus, in addition to the derivation that we suggested in (14)-(15), we need an alternative way to check the voice and aspect features for cases like (19a-e). Suppose that in these sentences, the voice and perfective markers are suffixed to *asi* due to some sort of focus effect, namely, to semantically emphasize the presence of the negator *asi*. Let us tentatively call this phenomenon "voice/aspect raising," i.e., raising of the voice/aspect marking to the negator *asi*

triggered by focus, rather than attaching them to the lexical verb. This phenomenon need not involve real syntactic raising movement of the relevant affixal markers, though. We suggest that, in these sentences, the negator is base-generated with the relevant voice/aspect markers, just like the base-generation of a lexical verb with a voice marker. At the same time, the functional categories T and Asp have features that need to be checked. Then, the Negator-Voice/Asp complex in C probes for the unchecked voice and aspect features in T and Asp as its goals, checks them, and determines the correct argument as the nominative subject. See the following diagram with (19e) as an example, where the arrows indicate the probe-goal relation and the ensuing feature checking.[15]

(20)




This analysis, then, makes it possible to maintain that *asi* always occurs in C, even though voice/aspect raising occurs sometimes.

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[15] A reviewer asks how we exclude the possibility of both *asi* and the verb each taking a voice marker (and/or aspect). This will not be a problem if we assume that the voice/aspect features in Siraya cannot be doubly checked by C and by T at the same time.

## 4.2 *Ina*

Next, we look at *ina* 'do not'. The negator *ina* occurs in imperative sentences. See (21a), which is a command using *ina*. Usually, the lexical verb that follows it takes the voice and aspect markers; see (21b). But just like *asi*, *ina* can take voice/aspect markers too; see (21c-d).

(21) a. **Ina** paiyup ki yup tu
do.not blow OBL trumpet LOC
duma imuhu-an.
front you-OBL
'Do not sound a trumpet before thee' (Matthew 6: 2)

b. Imumi ra **ina** **pananag-ay** Rabbi.
you.PL however do.not call-LV.MOD Rabbi
'But be not ye called Rabbi.' (Matthew 23: 8)

c. Ka **in-ay** kame dmilux tu
and do.not-LV.MOD we.EXCL lead LOC
rpungan.[16]
temptation
'And lead us not into temptation.' (Matthew 6: 13)

[16] The word *in-ay* is a contracted form of *ina-ay,* with the final *a* of *ina* deleted.

d. **In-ay-to** smulat, Ta Maisasu
do.not-LV.MOD-PFV write NOM ruler
ka Sibavaw ki Joden.[17]
REL chief OBL Jews
'Write not, The King of the Jews.' (John 19: 21)

Thus, we postulate the same structural analysis for asi be applied to *ina* as well. That is, *ina* is base-generated in a C, and has the option of taking voice-aspect markers and probing T and Asp for agreement and feature checking.

## *4.3 Inang*

The negator *inang* 'not willing to, refuse' denotes volitional negation or refusal. It is a lexical verb, as it can take the past-tense marker *ni* and voice markers. See (22a-b). Besides, it can take an oblique object directly, as in (22c). All these are verbal properties. Thus, we treat it as a regular lexical verb occupying the V position in a syntactic structure.

(22) a. Ra **ni-inang** ta teni.
however PAST-not.willing NOM he
'And He would not.' (Matthew 18: 30)

b. ka **ni-inang-en** tin pakaamax
and PAST-not.willing-PV he.GEN PC.public
paka'ngala tini-an
make.shameful him-LOC
'… and not willing to make her a public example…" (Matthew 1: 19)

[17] The word *in-ay-to* is a contracted form of *ina-ay-ato*, with the final *a* of *ina* and the first *a* of *ato* deleted.

c. Ti Rachel ta ni-tmangitangi
DET Rachel NOM PAST-cry
matavulavulas ki alalak tin, ka
PC.sad OBL children her and
**inang ki pakahaniapen**, alay ka
refuse OBL comfort because COMP
awlux-ato.
not.exist-PFV
'Rachel weeping for her children, and would not be comforted, because they are not.' (Matthew 2: 18)

## 4.4 *Ausi* and *awlux*

*Ausi* is an existential/possessive negator, in the sense that it negates the existence or possession of a certain thing. See (23a). Like *inang*, they can take the past-tense marker *ni* and voice markers, as in (23b-c). It can also take an oblique object directly, as in (23a). These properties indicate that *ausi* is a verb. As to *awlux*, it is an existential negator. It differs from *ausi* in that it takes a nominative argument instead of an oblique argument. See (23d). We only have an example where it takes the perfective marker *ato*, as in (23e). These properties also indicate that it is a lexical verb, just like *inang*.

(23) a. Kitay dlix ta Israelit,
see.LV.MOD true NOM Israelite
ka **ausi** ki sivanavanan tinian.
REL not.have OBL deceit him-OBL
'Behold an Israelite indeed, in whom is no guile.' (John 1: 47)

b. ka **ni-ausi** ki sipaw.
and PAST-not.have OBL storm
'… and there was a great calm.' (Matthew 8: 26)

c. ka **ausi-a** likux-ay apit.
COMP not.have-MOD return-LV.MOD arise
'… that there is no resurrection.' (Matthew 22: 23)

d. Iru ka **awlux** ta hala
when COMP not.exist NOM wine
ki karawmatax...
OBL grape
'And when they wanted wine...' (John 2: 3)

e. Ti Rachel ta ni-tmangitangi matavulavulas
DET Rachel NOM PAST-cry PC.sad
ki alalak tin, ka inang ki
OBL children her and refuse OBL
pakahaniapen, alay ka **awlux-ato**.
comfort because COMP not.exist-PFV
'Rachel weeping for her children, and would not be comforted, because they are not.' (Matthew 2: 18)

## 4.5 Constituent negation and negation in nominalization

*Asi* can be used for constituent negation, as in (24a). There are also examples where *asi* occurs in a nominalized expression, as in (24b-c). The other negators do not exhibit this usage, however.

(24) a. Ka ina **asi** **tnamsing**,
and do.not not believe
ra tamatnamsing apa.
rather believer instead
'And be not faithless, but believing.' (John 20: 27)

b. Ina kamu asi ni-dmungdung
would.have you not PAST-condemn
kmaix-kahir ki **asi** **ni-mavaraw**.
speak-hatred OBL not PAST-sin
'… ye would not have condemned the guiltless.' (Matthew 12: 7)

c. Sapanax-a ta tamaxnaw, ka
come.forth-MOD NOM angel and
papapiax-a ki **asi** **mariang** na
separate-MOD OBL not good from
tu tamawx ki matiktik.
LOC middle OBL righteous
'The angels shall come forth, and sever the wicked from the just.' (Matthew 13: 49)

## 4.6 Summary for negators

In this section, we discuss the negators in Siraya sentences. We show that *asi* and *ina* are C-elements, as they precede the main verb of the sentence and do not take tense, though sometimes they take voice and aspect markers. On the other hand, *inang*, *ausi*, and *awlux* are lexical verbs. They take tense/voice/aspect markers, and they also take a nominative or oblique argument directly. So, the negators in Siraya can be classified into two types, namely those

that are C-elements, and those that are lexical verbs.

# 5. Question particles

Like many other languages, there are two ways in Siraya to form question sentences. One is employing a wh-phrase and form a wh-question, and the other is using a question particle and form a yes-no question. In this section, we look at the two question particles in Siraya sentences, leaving the discussion of wh-questions to another study.

## 5.1 *Kawa*

The question particle *kawa* is used to form a yes-no question. It has the following properties. First, it only occurs in the root clause, and always yields an interrogative meaning. It does not occur in an embedded clause. See the following examples.

(25) a.

| | | | | |
|---|---|---|---|---|
| Asi | **kawa** | imhu | apa | ta |
| not | Q | you | also | NOM |
| na | patatautaux | tin? | | |
| DET | disciple | his | | |

'Art not thou also one of his disciples?' (John 18: 25)

b.

| | | | | |
|---|---|---|---|---|
| Ilpux | **kawa** | ta | litu | parkilat |
| able | Q | NOM | devil | open |
| ki | mavuta? | | | |
| OBL | blind | | | |

'Can a devil open the eyes of the blind?' (John 10: 21)

c. Papismado-a **kawa** pakapatay tini-an?
PC.self-MOD Q kill him-OBL
'Will he kill himself?' (John 8: 22)

Second, *kawa* is a *second-position clitic*. That is, it occurs in the second major position of a sentence.[18] This is clear in the examples above, where *kawa* occurs right after the clause-initial negator *asi* in (25a) and main verb of the sentence in (25b-c)). But notice that the so-called "second position" is not defined on the count of words in a sentence. In (26a-b), there are two words that precede *kawa*; in (26c-d), three words precede *kawa*.

(26) a. (Simon alak ti Jona,)
Simon son GEN Jonas
**masaun** **kaw** kawa mavaango iau-an
PC.more you Q love me-OBL
neini-an kata?
them-OBL these
'(Simon, son of Jonas,) lovest thou me more than these?' (John 21: 15)

b. **Asi** **mumi** kawa araraw-en
not you.PL.GEN Q see-PV
ta mamang kata?
NOM things these
'See ye not all these things?' (Matthew 24: 2)

[18] On the grammatical properties and syntactic analysis of second-position clitics in natural languages. (See Chung 2003; Pancheva 2005; and Legate 2008; among others).

c. **Mauro** **apa** **kamu** kawa ta imumi?
ignorant still you.PL Q NOM you.PL
'Are ye also yet without understanding?' (Matthew 15: 16)

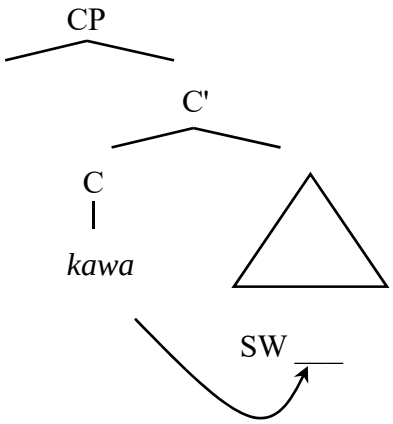
d. **Maka-Galilea** **apa** **kaw** kawa ta imhu?
from-Galilee also you Q NOM you
'Art thou also of Galilee?' (John 7: 25)

These examples, however, do not undermine the claim that *kawa* is a second-position clitic. The elements *kaw*, *mumi*, *kamu*, and *apa* are also clitics that are cliticized on the first major constituent of the sentence, i.e., *asi* in (26b) and the main verb in (26a, c, d).[19] Consequently, there actually is only one syntactic word that precedes *kawa*, even though the syntactic word itself may consist of more than one morpho-lexical word.

We assume the theory of Embick and Noyer (2001) and propose that the second-position property of *kawa* arises from post-syntactic lowering. Suppose that *kawa* is base-generated in a C position that is dedicated to the interrogative mood. In the post-syntactic PF (Phonetic Form) component of the grammar, it undergoes lowering to the right side of the syntactic word (SW) that it minimally c-commands. This generates the surface structures that we see. Look at the following diagram for demonstration.

[19] A reviewer suggests that "the first major constituent" could be defined as the first prosodic word. Also see Chung (2003).

(27)




## 5.2 Malava

The particle *malava* 'whether' marks an indirect question.[20] It occurs in the initial position of a subordinate clause. Look at the following examples.

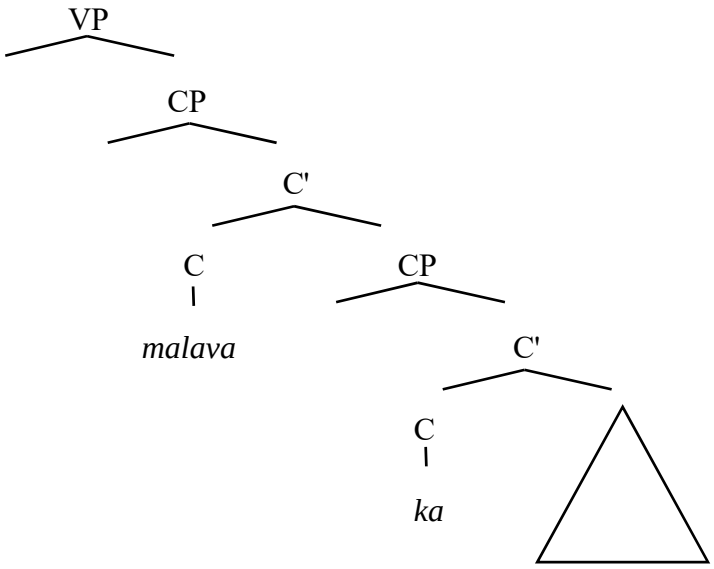
(28) a. **Malava** ka tamakavarw ta
whether COMP sinner NOM
teni asi mau kavan-an.
he not I.GEN know-LV
'Whether he be a sinner or no, I know not.' (John 9: 25)

b. Os-ay-to kit-ay mita,
tolerate-LV.MOD-PFV see-LV.MOD we.INCL.GEN
**malava** ka iru-a ta ti
whether COMP come-MOD NOM DET
Elias hmamia tini-an.
Elias save him-OBL
'Let us see whether Elias will come to save him.' (Matthew 27: 49)

[20] The word *malava* is the "verbalization" of the disjunction *lava* 'or', with the AV marker *ma-* on *lava*.

The particle *malava* is very different from the question particle *kawa*. It always occurs in a subordinate clause and hence only yields an indirect question, not a direct question. Third, it is immediately followed by the complementizer *ka*; on the other hand, *kawa* never occurs with *ka*. Despite all these differences, however, we still propose that it is generated in a C position, similar to *kawa*. It is a C-element of a subordinate clause, and it selects another CP as complement, a CP headed by the complementizer *ka*:

(29)




The fact that *malava* always occurs in a subordinate clause and yields an indirect question can be accounted for by the assumption that it needs to be selected by a higher verb, such as *kavan-an* 'know-LV' in (28a) and *kit-ay* 'see-LV.MOD' in (28b).

## 5.3 Hierarchical structure of CPs

So far, we have seen a number of C-elements in Siraya sentences: *asi* and *ina* are negators generated in C, the question particles *kawa* and *malava* are C-elements too. Furthermore, the complementizer *ka* is a C-element, too. These C-elements present themselves in a hierarchical fashion in Siraya sentences. We have seen that *ka* is lower than *malava* in structure. The C-element *ka* shows multiple functions. It may function as a conjunction (the two *ka*'s in (30a)), it may give a sense of reason (the first *ka* in (30b)), it may introduce a complement clause (the second *ka* in (30b)), and it may function as a relative clause marker (the third *ka* in (30b)).[21]

(30) a.

| | | | | | |
|---|---|---|---|---|---|
| Tu | nawnamu | akumea | ta | | |
| LOC | beginning | exist | NOM | | |
| Su, | **ka** | ayakua | ki | Alid | ta |
| Word | and | be.with | OBL | God | NOM |
| Su, | **ka** | Alid | ta | Su | kana. |
| Word | and | God | NOM | Word | that |

'In the beginning was the Word, and the Word was with God, and the Word was God.' (John 1: 1)

b.

| | | | | |
|---|---|---|---|---|
| Ina | matakut | ta | imumi, | **ka** |
| do.not | fear | NOM | you.PL | for |
| kavana-en | aw | **ka** | kmiim | kamu |
| know-PV | I.GEN | COMP | search | you.PL |

[21] *Ka* also occurs after markers of adverbial clauses, such as *iru* 'when', *hairu* 'if', *maita* 'even though', and so on. We will not go into issues about the complex sentences in Siraya.

ti Jesus-an **ka** ni-punavavarax-en-ato.
DET Jesus-OBL REL PAST-crucify-PV-PFV
'Fear not ye: for I know that ye seek Jesus, which was crucified.' (Matthew 28: 5)

*Ka*, in turn, can be followed by the negator *asi* 'not', as the following examples show.

(31) a. Ka maramax ta ramax tu
and shine NOM light LOC
karumduman, **ka** **asi** ni-mibalay
darkness and not PAST-receive

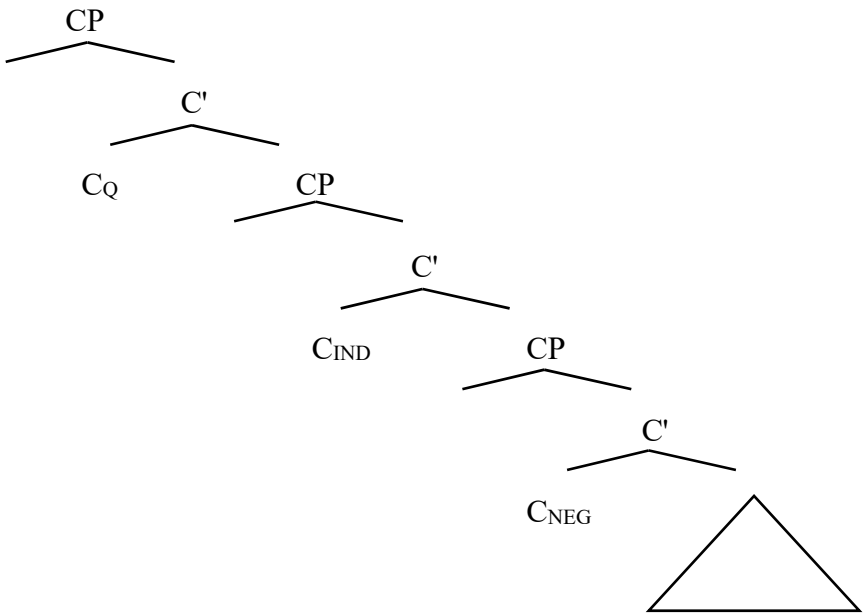
ta karumduman ki ana.
NOM darkness OBL it
'And the light shineth in darkness; and the darkness comprehended it not.' (John 1: 5)

b. **Ka** **asi** puku-an ta hala ki
and not put-LV NOM wine OBL
karaewmata ka vaaw tu vanak
grape REL new LOC leather.bag
ka rii.
REL old
'Neither do men put new wine into old bottles.' (Matthew 9: 17)

Summing up the above discussions, we obtain the following hierarchical structure for the CP-area of Siraya sentences. The question particles, which we assume are in $C_Q$, are the highest among these C-elements; then is *ka*, which we

assume to be an indicative C, $C_{IND}$; and then is $C_{NEG}$ for negation.[22]

(32)




# 6. Modals and imperatives

## 6.1 Modal elements in Siraya

In the currently available Siraya texts, we find a complete set of modal elements. They are listed in the following table.

[22] We use "CP" as a general label for the CP-level elements in the theory if left periphery or split CP. The analysis presented in this paper, presumably, is compatible with the theory of left periphery of Rizzi (1997, 2004). We assume that the ordering of the different CPs is determined by the selectional and scope properties of the individual CPs.

**Table 3. Modal elements in Siraya**

| | |
|---|---|
| Necessity | *kidi*/*kidiato*, *ina* |
| Possibility | *lava* |
| Future | Modalized voices *-a*, *-aw*, *-ay*, *-anay* |
| Deontic | *kidi*/*kidiato*, modalized voices *-a*, *-aw*, *-ay*, *-anay* |
| Ability | *lpux, hmahay/hahay* |
| Permission | *hmahay*/*hahay* |
| Volition | *mamuy*/*kamuy* |

In what follows, we will look at these modal elements, and examine their grammatical properties.

## 6.2 Necessity

Siraya has two lexical items that express epistemic necessity: *kidi* or *kidiato*, and *ina*. We look at each of them.

*Kidi* or *kidiato* (usually in the form of *kidiato*, which is composed of *kidi* and the perfective marker *ato*) can denote epistemic necessity (though it denotes deontic modality more often; see section 6.4). Look at the following examples.

(33) a. **Kidi** ka tu saun-a kawxirang
must COMP LOC more-MOD become.great
ta teni, ra lau-ay ko ta
NOM he yet reduce-PV.MOD I NOM
ti iau.
DET I
'He must increase, but I must decrease.' (John 3: 30)

b. Ra **kidiato** ka iru-a ta
yet must COMP come-MOD NOM
pasaisalakuap-en pakavaraw.
offend-PV cause.sin
'… for it must needs be that offences come.' (Matthew 18: 7)

Note that *kidi*/*kidiato* takes a clausal complement introduced by the complementizer *ka*. Thus, it must be a verb that takes a CP complement. The fact that the verbal perfective marker *ato* occurs on *kidi* is also consistent with the claim that *kidi*/*kidiato* is a verb.[23]

The word *ina*, which has the meanings of 'mother/woman' and 'not', can also denote necessity modality, with a strong sense of hypotheticality or even counterfactuality. It typically occurs in the consequent clause of a conditional sentence meaning 'would have' or 'should have', denoting a hypothetical or counterfactual situation that follows from the antecedent of the conditional. See the following examples.

(34) a. Ka ru tnamsing kamu ti Moses-an,
and if believe you.PL DET Moses-OBL
**ina** kamu tnamsing yaw-an.
would.have you.PL believe me-OBL
'For had ye believed Moses, ye would have believed me.'
(John 5: 46)

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[23] Another piece of evidence is that *kidiato* occasionally could take a nominative subject, which is a property of a verb. See the following example:

(i) Ka kidiato imitan ta kma-hina...
and ought.to us.INCL.OBL NOM this.way
'Suffer it to be so now.' (Matthew 3: 15)

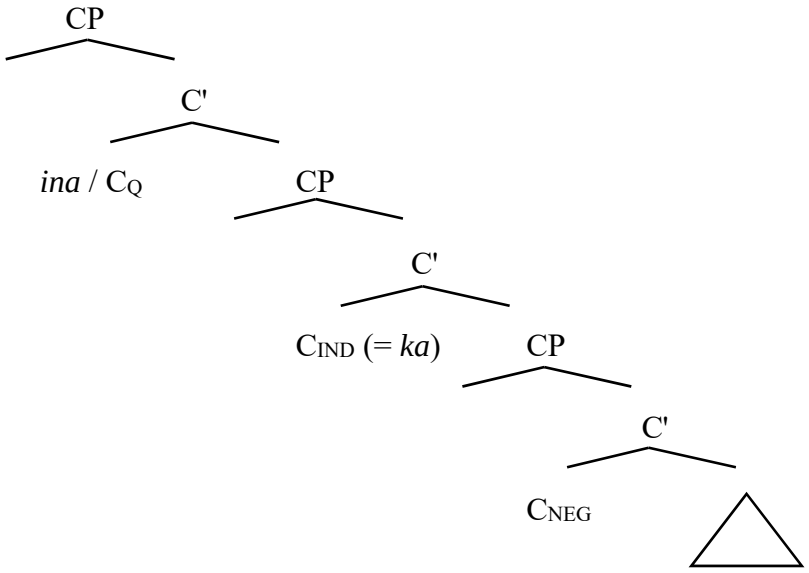
b. Iru ni-umx-an ki taitalax tu
when PAST-know-LV OBL house.head LOC
suayamen ka papina ta iru-a
watch,time REL how.many NOM come-MOD
ta mateliaw, **ina** tin mawa-a,
NOM thief would.have he.GEN awake-MOD
**ina** tin asi pakari-anay ta
would.have he.GEN not ause.dig-IV.MOD NOM
talax tin.
house his
'If the goodman of the house had known in what watch the thief would come, he would have watched, and would not have suffered his house to be broken up.' (Matthew 24: 43)

c. Hairu ni-ina ko pamut ki na
if PAST-not I do OBL DET
ringay neini-an, ka asi ni-pamt-in
work them-OBL REL not PAST-do-PV
timamang ka pani, **ina** ka
anyone REL other would COMP
ausi ta varaw neini-an.
not.have NOM sin them-OBL
'If I had not done among them the works which none other man did, they had not had sin.' (John 15: 24)

Note that in (34c), *ina* occurs before the complementizer *ka*. This indicates that *ina* occurs in a very high position. We therefore assume that it is a C-element occupying the same position as the interrogative C, namely $C_Q$, as both of them

denote a specific clause type (a question or an epistemic inference).[24] The structural position would be like the following.

(35)




One note about the imperative negator *ina*:[25] Though $C_{NEG}$ is for the negator *asi*, we do not think that the imperative negative *ina* also occurs in $C_{NEG}$. The negator *ina* represents a negative imperative mood. Thus, it is likely that the negator *ina* occurs at the same position as the necessity modal *ina* and the question particle $C_Q$. If this is indeed the case, we can replace the category $C_Q$ by a more general category, $C_{MOOD}$, which hosts the question particles *kawa* and *malava*, the necessity modal *ina*, and the imperative negator *ina*. These elements represent different grammatical moods and define different clause types. We subsume them under the category $C_{MOOD}$:

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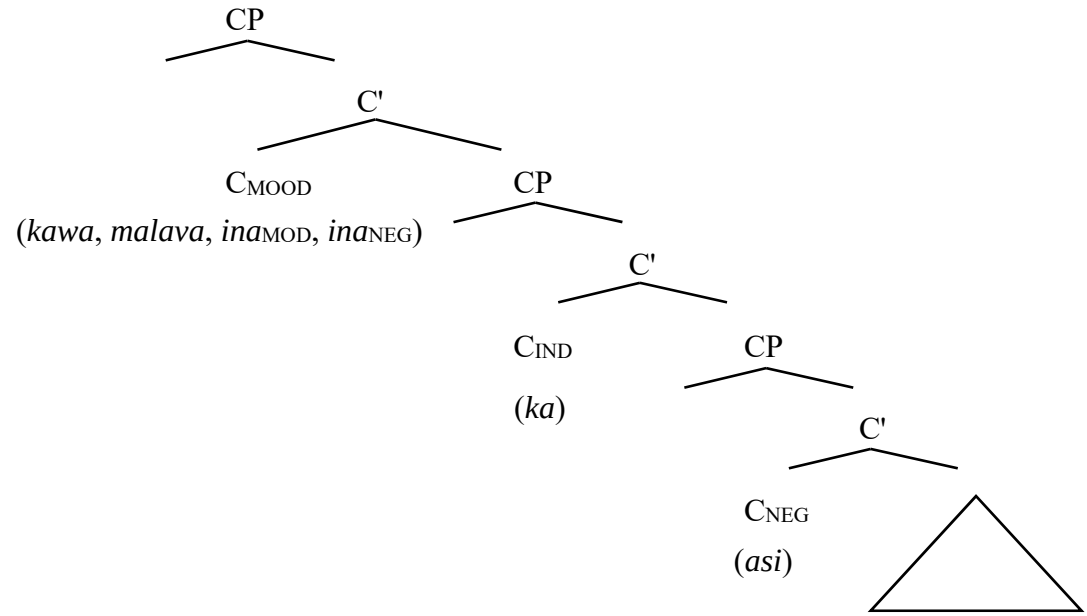
[24] Recent discussions on epistemic modality tend to think of epistemic modals as evidentials. Thus, sentences with an epistemic modal (especially a necessity modal) cannot be negated or questioned. See Lin (2012) and references cited therein for relevant discussions.

[25] See section 4.2 for the discussion of the negator *ina*.

(36)




There appears to be evidence for locating the negator *ina* higher than the negator *asi*. In the following example, *ina* occurs before *asi*:

(37) a.

| | | | | |
|---|---|---|---|---|
| Ka | ina | asi | tnamsing, | ra |
| and | do.not | not | believe | rather |
| tamatnaming | apa. | | | |
| believer | instead | | | |

'And be not faithless, but believing.' (John 20: 27)

Note incidentally that in this sentence *ka* occurs higher than *ina*. We assume that *ka* in the coordination use, as in (37), occurs in a higher position than the indicative use of *ka*. We will leave the relevant questions open.

## 6.3 Possibility

Siraya does not have a word dedicated specifically to epistemic possibility. However, the word *lava* 'or', which is a disjunction particle and a second-position clitic, sometimes can mean the modal meaning of possibility. The examples in (38) show that *lava* can serve as a disjunction linking two nominals.[26] The examples in (39) show that it can be used to denote a meaning similar to the possibility modality.[27]

| | | | | | | |
|---|---|---|---|---|---|---|
| (38) | a. | Ina | paxdimdim | ka | irua-to | ko |
| | | do.not | think | that | come-PFV | I |
| | | ki | awkakirix-aw | mau | ta | tatuko |
| | | OBL | untie-PV.MOD | I.GEN | NOM | law |

[26] *Lava* also can be used to denote the meaning of 'roughly' or 'about', as in the following example:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (i) | Ka | ni-mirung | ta | paparax | rima | katununan | lava | ki | vual. |
| | so | PAST-sit | NOM | men | five | thousand | roughly | OBL | man |

'So the men sat down, in number about five thousand.' (John 6: 10)

[27] The second-position status of *lava* sometimes is obscured by additional elements that are attached to or are part of the first element. In (38a), it is a clitic after the nominal *tatuko* 'law' and the nominal constituent *na su* 'the word', so it is in the second position in terms of the internal constituency of the nominative subject NP. In (38b), it occurs after the wh-phrase *timamang* before the relative clause introduced by *ka*. Again, it is in the second position in terms of the internal constituency of the NP that it attaches to. Sometimes, the presence of a sentence-initial modifier obscures the second-position status of *lava*. For instance, *lava* in (40a) in later text occurs after the antecedent clause of a conditional. In this case, though, the first element is the antecedent clause itself; furthermore, there is an additional time modifier *tu kidi kana* 'at that time' that occurs before the antecedent clause of the conditional. This makes the second-position status of *lava* even more obscure. The element that it attaches to may be a nominal, a predicate, or a clause; in addition, there can be modifiers that precede the first element. All these do not affect the second-position status of *lava*.

| | | | | |
|---|---|---|---|---|
| **lava**, | ta | na | su | **lava** |
| or | NOM | DET | word | or |
| ki | tamamataitan. | | | |
| OBL | prophet | | | |

'Think not that I am come to destroy the law, or the prophets.' (Matthew 5: 17)

b.

| | | | | |
|---|---|---|---|---|
| Ni-tnamsing | kawa | tini-an | ta | timamang |
| PAST-believe | Q | him-OBL | NOM | anyone |
| ki | maisasu, | timamang | **lava** | ka |
| OBL | ruler | anyone | or | REL |
| na | Fariseen? | | | |
| DET | Pharisee | | | |

'Have any of the rulers or of the Pharisees believed on him?' (John 7: 28)

(39) a.

| | | | | |
|---|---|---|---|---|
| Anata | ni-masawtatimix | | ta | patatautauxan, |
| then | PAST-look.at.one.another | | NOM | disciple |
| paxdalax | timang | **lava** | ta | pataimimimi-an |
| doubt | who | may | NOM | speak-about-LV |
| tin. | | | | |
| he.GEN | | | | |

'Then the disciples looked one on another, doubting of whom he spake.' (John 13: 22)

b. Kamang-al-ato **lava** ta papapa ki
what-MOD-PFV may NOM gift OBL
tau, ka paviri-ay ki vati
man such.that exchange-LV.MOD OBL soul
tin?
his
'What shall a man give in exchange for his soul?' (Matthew 16: 26)

As a matter of fact, the possibility meaning of lava seems to be derived from a more general meaning of lava denoting alternativity. [28] According to Zimmermann (2000), if "P or Q" is true, then "P is possible and Q is possible" is also true. Thus, it is theoretically possible to derive possibility modality from the alternativity semantics of disjunction.

In addition to the meanings of disjunction of nominals and possibility modality, *lava* can also be understood as meaning 'alternatively', 'supposedly', 'otherwise', or 'shall' (in the hypothetical sense). These meanings can be derived from the alternativity or disjunction meaning of *lava* directly or indirectly. In (40a), for example, *lava* occurs in the antecedent clause of a conditional, indicating that the situation denoted by the clause is a hypothetical situation, a situation that is "alternative" to the real-world situation. In (40b), *lava* occurs in an elliptical wh-question, indicating that the question is oriented to an alternative situation different from an expected or preconceived one ("If you are the Christ, then, alternatively, are you the incarnation of the prophet Elijah?"). In (40c), *lava* occurs in a rhetorical question, again indicating a situation which is different from the expected or preconceived one (something like "Do you feel bad simply because

[28] See Aloni (2016) for an introduction and related references on the semantics of disjunction and alternativity.

I am nice to other people?"). In (40d), *lava* occurs in an indicative clause, and it indicates that the identification of the individual in question results from a (wrong) supposition. In (40e), *lava* occurs in the antecedent clause of a condition, and provides a semantic function similar to the case of (40a).

(40) a. Tu kidi kana ru matai-kma-a-hina
LOC time that if say.such.MOD
**lava** ta timamang ki su imumi-an,
shall NOM anyone OBL word you.PL-OBL
Kit-ay, tu hia ta ti
see-LV.MOD LOC here NOM DET
Christus, tu hina lava, ina
Christ LOC there or do.not
tnamising da.
believe FOC
'Then if any man shall say unto you, Lo, here is Christ, or there; believe it not.' (Matthew 24: 23)

b. Ka ni-taitalix nein tini-an, na
and PAST-ask they.GEN him-OBL DET
mang **lava**? Ti Elias kaw kawa?
what otherwise DET Elias you Q
'And they asked him, What then? Art thou Elias?' (John 1: 21)

c. Asi **lava** mariang ta mata
not shall good NOM eye
uhu alay ka mariang ko?
your because that good I
'Is thine eye evil, because I am good?' (Matthew 20: 15)

d. Tamasiraraul **lava** ni-kua tin,
gardener supposedly PAST-consider she.GEN
ka ni-kma ta teni tini-an...
and PAST-say NOM she him-OBL
'She, supposing him to be the gardener, saith unto him...'
(John 20: 15)

e. Hairu makanay kamu **lava**,
if from.world you.PL hypothetically
ina kavaango-ay ki nay
would.have love-LV.MOD OBL world
ta ateni.
NOM his.own
'If ye were of the world, the world would love his own.'
(John 15: 19)

As to the syntax of *lava*, since it may occur in a variety of positions and with different types of categories (e.g., the second position in a nominal or in a clause), we assume that it is an $X^0$ adverb adjoined to the element that it has scope over. Post-syntactic lowering then moves it to the second position of internal structure of the element that it is adjoined to. See (41) for demonstration. The symbol $\alpha$ stands for the syntactic category that *lava* is adjoined to (DP, CP, etc.).

(41) ... ([$\alpha_1$ ... ]) [$\alpha_2$ *lava* [$\alpha_2$ X ... ]] (Syntactic structure)
... ([$\alpha_1$ ... ]) [$\alpha_2$ __ [$\alpha_2$ X *lava* ... ]] (Post-syntactic structure with lowering)

## 6.4 Deontic modality

We mentioned that the verb *kidi*/*kidiato* can denote the meaning of epistemic necessity or deontic modality. We have seen examples for the former usage. The following are examples of the deontic usage of *kidi*/*kidiato*.

(42) a. **Kidiato** mau ka awlux-ay muhu
must I.GEN COMP baptize-LV.IRR you.GEN
ko, ka irua kaw mukua iau-an?
I and come you come I-OBL
'I have need to be baptized of thee, and comest thou to me?'
(Matthew 3: 14)

b. Ka **kidi** ka tawku-ay tin
and must COMP go.through-LV.MOD he.GEN
malidawa tu Samarien.
pass LOC Samaria
'And he must needs go through Samaria.' (John 4: 4)

In addition, the modalized voice markers in Siraya may also denote deontic modality:

(43) a. Pipina ta manini ka
how.many NOM various.things COMP
upiri-**aw** mita tu
discern-PV.MOD we.GEN.INCL LOC
kariang-ay mita?
future.bliss our.INCL
'How many things must we know to our bliss?' (Catechism, Question 2)

b. Nda pavut-aw mama-ki-mang ta
now fulfill-PV.MOD how NOM
sasulat, ka kma ka pamt-**anay**
scripture COMP say COMP do-IV.MOD
kma-hina ta mamang kata?
such NOM things these
'But how then shall the scriptures be fulfilled, that thus it must be?' (Matthew 26: 54)

So, two sets of elements in Siraya can denote the meaning of deontic modality, namely the verb *kidi*/*kidiato* and the modalized voice markers.

## 6.5 Dynamic modals

The dynamic modalities, namely ability, permission, and volition, are expressed by the verbs *lpux*, *hmahay*/*hahay*, and *mamuy*/*kamuy*, respectively. They are verbs because they can take the past tense marker *ni* and voice markers. They can also occur as the first verb of a verb sequence with prefix concord (PC).[29]

The sentences in (44) are examples of the ability modal verb *lpux*.

[29] For prefix concord in Formosan languages, see Chao-Lin Li (2009). According to Chao-Lin Li (2009), the application domain of PC in Formosan languages is vP. Thus, the fact that these dynamic modal elements are subject to PC indicates that they are generated inside vP. This is also a piece of evidence that these elements are verbs.

(44) a. Ka pasusu-en aw kamu ra
and tell-PV I.GEN you FOC
ka pai-**lpux** ta Alid paapit ki
COMP PC-able NOM God raise OBL
vatokana ki alalak ti Abraham-an.
rockthat OBL children DET Abraham-OBL
'For I say unto you, that God is able of these stones to raise up children unto Abraham.' (Matthew 3: 9)

b. Pai-**lpux**-awl-ato maialak ta kaawlung
PC-able-PV.MOD-PFV bear NOM man
mamaimang ru mamu-ato ta teni?
how when old-PFV NOM he
'How can a man be born when he is old?' (John 3: 4)

The sentences in (45) are examples of the permission modal verb *hmahay*/*hahay*. Interestingly, just like the permission modals in many languages (e.g., *may* in English and *keyi* in Mandarin), *hmahay*/*hahay* may also be used to denote the meaning of ability modality. See the examples in (46).[30]

(45) a. Kit-ay, pamut ta patatautauxan uhu
see-LV.MOD do NOM disciple your
ki asi **hahay-en** pamut tu wai
OBL not permit-PV do LOC day
ki Paihababan.
OBL Sabbath
'Behold, thy disciples do that which is not lawful to do upon

[30] All examples that we can retrieve in which a permission verb is used for the ability meaning involve the AV form, namely *hmahay*. We are not sure how general this phenomenon is.

the sabbath day.' (Matthew 12: 2)

b. **Ni-hahay-en** kamu ti Moses alay
PAST-allow-PV you.PL DET Moses because
ki thax umi ki tintin ka
OBL hardness your OBL heart so.that
padarang-a kamu ki kayan umi.
cause.leave-MOD you.PL OBL wife your.PL
'Moses because of the hardness of your hearts suffered you to put away your wives.' (Matthew 19: 8)

(46) a. **Hmahay** kaw maupiri tumang, malava
can you discern where whether
ka matiktik ta tnamsingan uhu?
COMP righteous NOM faith your
'How can you know that your faith is also sincere?' (Catechism, Question 1)

b. Ramax ki imid ki nai ta
light OBL all OBL world NOM
imumi: asi **hmahay** itudung ta
you.PL not can in.darkness NOM
awma ka puvukin-en da.
city REL cause.on.mountain-PV FOC
'Ye are the light of the world. A city that is set on an hill cannot be hid.' (Matthew 5: 14)

The sentences in (47) are examples of the volitional modal verb *mamuy*/*kamuy*.

(47) a. Matatautaux, **kamuy-en** ian kmita
master want-PV we.GEN.EXCL see
ka paamut-ay imhu ta pukidien.
COMP do-LV.IRR you NOM sign
'Master, we would see a sign from thee.' (Matthew 12: 38)

b. Tu aux ki wai **ni-mamuy** ta
LOC after OBL day PAST-want NOM
ti Jesus thabul mukua tu Galilea.
DET Jesus travel go LOC Galilee
'The day following Jesus would go forth into Galilee.' (John 1: 44)

While the necessity, possibility, and obligation modals in Siraya take a propositional scope, the dynamic modals only take scope over the predicate of the sentence. This patterns with the scope properties of modals in other languages (see Butler 2003, among many others).

## 6.6 Imperatives

The Siraya grammar expresses the imperative mood by modalized voice markers. See the following examples.

(48) a. Maawux-**a** iau-an da!
follow-MOD me-OBL FOC
'Follow me!' (John 1: 44)

b. Apit-**a**! Awx-**aw** ta raway
rise-MOD take-PV.MOD NOM child

patupar-**aw** ta ti ina
take.away.together-PV.MOD NOM DET mother
tin, ilput-**a** mukua tu Egypten.
his escape-MOD go LOC Egypt
'Arise, and take the young child and his mother, and flee into Egypt.' (Matthew 2: 13)

c. Kit-**ay** ta patak ki yuko
see-LV.MOD NOM colt OBL sheep
ki Alid
OBL God
'Behold the Lamb of God!' (John 1: 29)

There are two verbal suffixes in Siraya, *-u* and *-i*, that seem to be specifically devoted to the marking of the imperative mood. See the examples below.

(49) a. Mairang, kading-**u** kame.
lord save-IMP we.EXCL
'Lord, save us!' (Matthew 8: 25)

b. Na alak ti David kaharum-**u** kame.
DET son GEN David have.mercy-IMP we.EXCL
'Thou son of David, have mercy on us.' (Matthew 9: 27)

c. Pataimsing-i kame ki pamikaulaulan ki
explain-IMP we.EXCL OBL parable OBL
ururu ka asi mariang tu uma.
herbs REL not good LOC farm.field
'Declare unto us the parable of the tares of the field.' (Matthew 13: 36)

d. Ad-**i** ko ki ana pukua hia.
bring-IMP I OBL those cause.come here
'Bring them hither to me.' (Matthew 14: 18)

e. Mairang, kading-**u** ko.
lord save-IMP I
'Lord, save me.' (Matthew 14: 30)

f. Mairang ka na Alak ti David,
lord REL the son GEN David
kaharum-**u** ko.
have.mercy-IMP I
'Have mercy on me, O Lord, thou Son of David.' (Matthew 15: 22)

g. Pait-**u** ko.
let.drink-IMP I
'Give me to drink.' (John 4: 10)

h. Ka pakuimd-**i** ta neni mataut aux
and PC.all-IMP NOM they teach
ki Alid.
OBL God
'And they shall be all taught of God.' (John 6: 45)

However, the precise meanings (e.g. how they differ from the modalized voice markers in meaning and use) and the morpho-phonological factors that condition the occurrences of these two elements are still not clear (see Adelaar 2011: 115 for a brief discussion).

# 7. Conclusion

In this work, we surveyed syntactic elements with higher functional meanings in Siraya sentences. We have shown that these elements can be CP-level elements, TP-level elements, or even lexical verbs. Some of them are second-position clitics and need to be handled by PF lowering operations. Below is a summary of the elements and their structural positions.

**Table 4. Summary of higher functional elements in Siraya sentences**

| **Type** | **Item** | **Category** |
|---|---|---|
| Tense | *ni-* | T |
| Voice | Voice markers | Affix on V |
| Aspect | Perfective: *-ato*<br>Imperfective: RED | Asp |
| Negation | *asi*<br>*ina*<br>*inang*<br>*ausi*<br>*awlux* | C<br>C<br>V<br>V<br>V |
| Question particles | *kawa*<br>*malava* | C<br>C |
| Necessity modal | *kidi*/*kidiato*<br>*ina* | V<br>C |
| Possibility modal | *lava* | Adv |
| Deontic modal | *kidi*/*kidiato*<br>Modalized voices | V<br>Affix on V |
| Ability modal | *lpux*, *hmahay*/*hahay* | V |
| Permission modal | *hmahay*/*hahay* | V |
| Volition modal | *mamuy*/*kamuy* | V |
| Imperative | Modalized voices<br>The suffixes *-i*/*-u* | Affix on V<br>Affix on V |

Note that these elements come in a variety of syntactic categories. Some of them are of the category C, and some of them V. There are also elements of the categories Asp, Adv, and T. This means that, when we talk about "higher" functional elements in Siraya, we do not necessarily mean that they occur in high syntactic positions. It is likely that they are low in syntactic structure, e.g. as lexical verbs. The word "higher" should be understood as higher in *semantic type*. For example, *kidi*/*kidiato* is a verb and hence low in syntactic position, but it takes a clausal complement and introduces modal force into the meaning of the sentence. Thus, unlike the usual kinds of transitive verbs which have the semantic type <*e*, <*e*, *t*>>, *kidi*/*kidiato* has the semantic type <*t*, <*s*, <*e*, *t*>>> (*s* for possible worlds, *e* for atomic entity, and *t* for truth value). This semantic type is of a higher order than the ordinary kind of lexical verbs. So, the diversity of syntactic categories and structural heights of the elements listed in the table above do not undermine the claim that they are "higher functional elements."

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# 西拉雅語句中的高位功能成分

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本文討論西拉雅語中的高位功能成分，如表達時態、語態、動貌、否定，模態等字詞。研究結果顯示，這些詞當中，有一些的確位於句法結構中較高的位置，但也有一些本身即是動詞，並不出現在特別高的結構位置，而是帶子句或動詞組謂語為補語。本文同時也討論了一些相關的問題，如動詞-語態-動貌結構體的生成，否定詞和模態詞的分類，以及不同 C 層次成分的階層關係。

關鍵詞: 西拉雅語、句法、時態-動貌-模態、語態、否定詞