Deictics and the morphological expression of location and motion in Siraya

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Abstract

Siraya is an extinct Formosan language. The present paper is based on a 17th century Siraya translation of the Gospel of St Matthew.

Siraya demonstratives and locative adverbs are straightforward in their use and rather uneventful. They probably owe this to the fact that they occur in a gospel text, which was translated by European missionaries and is virtually without any references to Siraya culture.

However, the language also makes use of so-called orientation prefixes to express notions of comitation (*a-*), place (*i-*) and movement (*u-*) in verbs. Together with a verbal root these derivational prefixes form new verbal bases to which the usual verbal affixation applies. Verbs with orientation prefixes are also used in prepositional phrases.

In the context of Formosan comparative linguistics in general, Starosta (1995) suggested that a motion prefix *mu-* in some languages is historically related to the Proto Austronesian actor orientation affix *um-/*<um>. This is contested by Blust (2003), who reconstructs a Proto Austronesian motion prefix *mu- along with its causative counterpart *pu-; Blust also reconstructs *pi- as a prefix expressing 'causative of location'. The evidence from Siraya clearly shows that Formosan *mu-* and Proto Austronesian *um-/*<um> are not related. However, it also shows that *mu-, *pu- and *pi- should be analysed as bimorphemic prefixes *m-u-*, *p(a)-u-* and *p(a)-i-* respectively, which combine the orientation prefixes (*u-* and *i-*) with prefixes expressing actor-orientation (*m-*) and causativity (*p-*).

Introduction

The present paper discusses deictic elements and orientation prefixes in Siraya, an extinct Formosan language once spoken in the southwestern plains of Taiwan in and around present-day Tainan City. Orientation prefixes add notions of comitation (*a-*), place (*i-*) and motion (*u-*) to verbal roots.

This paper is based on a 17th century translation of the Gospel of St Matthew, which is the only sizeable prose text in Siraya today (Gravius 1661). According to Blust (2009:30), Siraya, Basay-Trobiawan, Amis and Kavalan, together make up 'East Formosan', which is one of the ten first-order branches of Austronesian.[1]

The paper is organized as follows. Section 2 is a very short outline of Siraya grammar. Section 3 is a description of Siraya deictics proper, and it also gives a very brief overview of directional terms. Section 4 discusses the meaning and use of orientation prefixes. Section 5 critically assesses the theory that the directional orientation prefix *u-* is historically related to the actor orientation affix *<um>, which is realized as *um- before initial vowels. Section 6 is a conclusion.

In order to facilitate the reading of the Siraya data and to give a better insight in the phonology of this language, I present them in a near-phonemic spelling originally developed in Adelaar (1999). Words and sentences from the Gospel of Matthew are followed by their source place between brackets. Source places consist of a Latin numeral indicating gospel chapter, and an Arabic numeral indicating verse, which are divided by a semicolon.

1.   **Some basic information about Siraya grammar**[2]

Siraya has a "symmetric voice system", which means that it has actor-oriented and undergoer-oriented verb forms that are morphologically equally complex, and that undergoer orientation is as basic to the overall grammatical structure as actor orientation (Himmelmann 2005:112ff).

Siraya syntactic relations are encoded through the following morphosyntactic devices: relative position within the verb phrase, voice affixes on the verb, case markers, and oblique suffixes on personal names and pronouns.

The verb usually occurs at the beginning of a verb phrase. The subject follows and is in turn followed by other parts of the sentence. An important exception to this is that if the actor is not the subject, it comes immediately after the verb and before the subject.

Verbal voice affixes indicate what part of the sentence is the subject. There are four verb classes, which differ in voice marking. Class 1 verbs are usually stative; they have *m(a)-* for actor-orientation, and *k(a)-* everywhere else. Class 2 verbs have no voice affixes. Class 3 verbs are usually dynamic; for AO, they have *m-* before initial vowels

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[1] However, there are other classifications (Sagart 2005; Wolff 2010).
[2] Based on Adelaar (in press).

and *<m>* after initial consonants other than labials and nasals; in all other cases, they have ø marking. Class 4 verbs have *m(a)-* as AO marker, and *p(a)-* in all other cases. Other affixes indicating undergoer orientation are *-en* and *–an*, and furthermore the portemanteau suffixes *–aw* and *–ay* marking subjunctive as well as undergoer orientation.

Case markers introduce noun phrases that have a common noun as head. With common nouns, the 'nominative' marker *ta* introduces subjects, the 'locative' marker *tu* introduces locations, directions and time, and the 'default' marker *ki* introduces other grammatical relations (including possessor, actor, undergoer, instrument, purpose)[3]. *ki* also functions as a linker between a quantifier and its nominal head, and as a co-ordinator between noun phrases.

Other noun phrases are marked as follows. Personal names are introduced by nominative *ta* if they are subject, they have no overt (genitive) marking if they are actor and possessor, and they are suffixed with oblique *–ang* in all other cases. Personal pronouns have a nominative form if they are subject, a genitive form if they are actor and possessor, and an oblique form suffixed with *–ang* in all other cases. First and second person nominative and genitive pronouns are cliticized to the preceding verb or noun.

Common nouns	Nominative *ta*	Default *ki*		locative *tu*
Personal names	Nominative *ta*	Genitive Ø	Oblique with *-ang*	
Pronouns	Nominative series	Genitive series	Oblique series with *-ang*	

Table: overview of Siraya case distinctions

Apart from the nominative, genitive and oblique series of pronouns mentioned above, there is also a set of free pronouns, which mark emphasis.

The linker *ka-* (/ *k-*) functions as co-ordinator between verb phrases ('and; then'); it also introduces complement clauses, causal clauses ('because') and relative clauses ('which, who').

The personal article *ti* occurs before pronouns and nouns with a human referent. It can be preceded by *ta* but not by *ki* (which never appears with human referents). It does co-occur with the locative suffix *-ang*.

na precedes the noun it is qualifying. It has a partitive meaning ('one/some of, among'), although in some cases it is difficult to interpret.

Verbal affixes other than those indicating voice are *ni-* (past tense), *ma-* (stative) and the subjunctive markers, which are *–a* (+actor-oriented), *-aw* and *–ay* (both +undergoer-oriented); the subjunctive expresses a wish, an order or future tense. Post-clitic *-ato* basically indicates perfective aspect ('already') but sometimes it also indicates emphasis. *-ăpa* is an additive postclitic ('and, also').

Reduplication exists in several forms and meanings and is omnipresent in Siraya. In general, the following characterisation applies. Disyllabic reduplication adds the notion of plurality, variety and similarity, to nominal bases, and the notion of diffuseness (repetition of

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[3] Beneficiaries are introduced with tu or ki (the difference in distribution remains unclear).

action, plurality of actants) or continuity (including state, process) to verbal bases. First-syllable reduplication basically forms cardinal numbers and other count words with non-human referents (e.g. *tu-turu* 'three', in *tu-turu ki wäi* 'three days'). Ca-reduplication (e.g. *sa-sulat* 'to write', *m-ĭ-ka-kua* 'to last, always') applies to verbs: it either forms deverbal nouns or marks progressive aspect or a state in verbs. It is also used with cardinal numerals and other count words if they have a human referent (e.g. *ta-turu* 'three', in *ta-turu ki vual* 'three persons', see Adelaar 2000 for further details).

Note that root-initial *r* sometimes changes to *d*, and *v* to *b*. This fortition is most clearly seen in Ca- and CV-reduplication, but is not limited to this morphological process. In some cases reduplicated forms with and without fortition freely alternate, e.g. *ruha* 'two' yields *da-ruha* (/*du-ruha*) and *ra-ruha* (/*ru-ruha*); *vukĭn* 'mountain, hill' and *p-u-ba-vukĭn* 'into the hills'; *ma-vana* 'to know' and *bana-vana* 'to tell'.

Siraya has many complex verb phrases. In these phrases, auxiliaries precede the lexical verb, obtain all the verbal marking and become effectively the head of the verb phrase. They seem to form an open class and assume many of the meanings that English would express by adverbs and adverbial constructions. An example is sentence (1):

(1)   *Ka   ni-ma-dĭs   mi-laklak   ta   lakäwungən.*
        LK   PST-AO-immediately   INCH-wither   NOM   fig tree
        'and the fig [tree] instantly withered away' (xxi:19) [lit.: 'and the fig tree did immediately the withering away']

Negators can also become the head, but they only attract person marking: other verb marking remains with the lexical verb, as demonstrated in the following sentence:

(2)   *ăsey-ăpa-mau   ni-xĭlingix-ən   ta   taxlay*
        not-also-1S.GEN   PAST-hear-UO   NOM   clock
        'I have not yet heard the clock.'

Other complex verb constructions in Siraya involve bound verbs, "anticipating sequences" and orientation prefixes (Adelaar 2004). Orientation prefixes will be treated in Section 4. Bound verbs are prefixed to a complement, which can be another verb, a noun or an adverb (including an adverbial construction), and with which they form a compound verb. The bound verb conveys a generalised – and sometimes rather opaque – version of the overall meaning of the verbal compound, whereas the complement makes the meaning more specific. Some of the bound verbs are marked for voice, but this is not the case for all of them. The overall meaning of the verbal compound can in some cases be guessed from its constituent parts, but in other cases it cannot, as in *s<m>aki-nanang* (see below). The gospel text has at least 34 bound verbs (Adelaar 2004:353-358). For instance, *mătäy-* has the notion of 'talking' or 'saying' and can form the following compounds, among others:

with	*rĭx* 'mind'	-->	*mătäy-ra-rĭx* 'talk within oneself'
	duma 'front, opposite'	-->	*mătäy-duma-duma* 'talk against'
	ma-riang 'good'	-->	*mătäi-riang* 'to bless'

s\<m>aki- implies 'throwing' or 'casting' and can form the following compounds:

with	*vaung* 'sea' -->	*s\<m>aki-vaung* 'to cast into the sea'
	tawax 'be far' -->	*s\<m>aki-tawax* 'to throw far away'
	pänäx 'the open; market place' -->	*s\<m>aki-pänäx* 'to cast out'
	nanang 'name'	*s\<m>aki-nanang* 'to call, give a name'

 Anticipating sequences consist of a formal element (usually the initial syllable) of the lexical verb, which is prefixed to the head of a complex verb phrase. In the following example, *mu-* in *mu-ĭməd-kamu* is an anticipating sequence: it is a copy of the first syllable of the lexical verb *m-umxa*. It contains the active prefix *m-* as well as the initial vowel of the root *umxa*:

(3) *mu-ĭməd-kamu*   *kawa*   *m-umxa*   *ki*   *ăta*
 AS-all-2P.NOM   perhaps   AO-understand   DF   this
 'do you understand all this?' (xiii:51)

2. Deictics

Siraya has two deictic elements, *ăta* 'PROX' and *ăna* 'DIST'. They can occur independently as nouns; when preceded by *ti*, they have a human referent. Examples:

(4) *ăta*   *ta*   *vual=au*
 PROX   NOM   body=1S.GEN
 'this is my body' (xxvi:26)

(5) *teni*   *ta*   *ti*   *ăna,*   *t\<m>urung-a*   *tini-än*
 3S.NOM   NOM   PA   DIST   <AO3>grab-SJ   3S-OBL
 'that's the one, grab him!' (xxvi:48)

However, in most cases they are used attributively and are preceded by a cliticised form of the linker of verbal clauses *ka* ((/k-):

(6) *P'h'-ey=kame*   *wäi*   *k=ăta*   *ki*   *paul=ian*   *ka*   *ma-m'sing.*
 Give-sj.uo=1PE.NOM   day   LK=PROX   DF   bread=1PE.GEN   LK   AO1-enough
 Give us this day our daily bread (vi:11)

(7) Ka   ni-käwx-darikax   ta   ra-rawey   tĭn
     LK   PST-INCH-recover   NOM   RDP-child   3S.GEN

     d'lix   tu   kidi   ki   taley   k=ăna.
     true   LOC   time   DF   clock   LK=DIST
     And the servant was healed at that very moment (viii:13)

In the following sentences, both *ăta* and *ăna* are used anaphorically (8, 10) and cataphorically (9, 11), showing that they cannot be attached to any one of these applications in particular:

(8) Iru   ka   pa-ka-eyraw   ĭmhu-an   [Tu   rĭx]   ta   rima=oho   ka
     when,if   LK   CAUS-V1-angry 2S-OBL   LOC   mind   NOM   hand=2S.GEN LK

     ual,   luk't-aw,   arĭng-an-ey   pa-tawax   ta   ăta   ĭmhu-an:
     right.side   chop.off-SJ.UO throw-UO-SJ.UO CAUS-away   NOM   PROX   2S-OBL
     And if your right hand causes you to sin, cut it off and throw it away (v:30)

(9) Ăta   hnĭn   ta   nanang   ki   Pa-da-dingi-an   ka   sa-saat kĭtiän
     PROX   now   NOM   name   DF   V4-RDP-send-UO   LK   RDP-one ten

     äb   ki   ruha: Si-uro   ta   ti   Simon,....
     plus   DF   two   to.rank-first NOM   PA   Simon,....
     The names of the twelve apostles are these: first, Simon, ...

(10) Neni   k-ăna   du   ni-tna-kaha='to   m-ĭlingix   ki   ma-i-sasu ka
     3P.NOM   LK-DIST when,if   PST-hear-finish=PRF   AO3-hear   DF   king

     Si-bavaw,   ni-d<m>arang=atu=ra
                        PST-<AO3>go.away=PRF=ADV
     When they had heard the king they went their way (ii:9)

(11) Ka   kĭt'-ey,   ta   ătatalingey
     LK   see-SJ.UO   NOM   star

     ka   ni-araraw   nein,   tää-reya,   ni-t'-ur-uru   taw-kua
     LK   PST-see   3P.GEN   be.at-East   PST-as-RDP-be.first go.down-be.at,move

     neini-än   tu   kidi=ăpa   k-ăna,   ka   ni-taw-kua   rikaw
     3P-OBL   LOC   time=ADD   LK-DIST   LK   PST-go.down-be.at,move stop

     tu   vavaw ki   itu-kua-n   ki   rawey=ra.
     LOC   top   DF   be.at-be.at,move-UO DF   child=ADV
     and lo, the star which they had seen in the East went before them, till it came to rest over the place where the child was (ii:9)

ăta and *ăna* are matched by the deictic adverbs *hia* 'here' and *hĭna* 'there':

(12) *m-i-e-rung-a*　　　　*hia*　　*tu*　　*kidi*　　*ki*
　　　AO-RDP-LOC-sit-SJ　　here　　LOC　　time　　DF

　　　u-kua-ey=mau　　　　　*hĭna*　　*mako-Ali-lid*
　　　MOT-move-SJ.UO=1S.GEN　there　　V4.invoke-RDP-God
　　　'sit here until I go there to pray' (xxvi:36)

Another term for 'here' is *ătaun*, which occurs only three times in the Gospel, once by itself (xii:6), and twice in conjunction with *hia* (xii:41, xii:42).
hĭna frequently occurs in the compound *kuma hĭna*, which means 'like that, thus', as in (13); *kuma hĭna* in turn is often used in verbal compounds meaning 'to speak like that, speak thus' (14), or simply 'to say' (15). Compare:

(13) *ăsi*　　*kawa*　*k'ma-hĭna*　　*ki*　　*na*　　*ringey*　*ta*　　*Tama-imŭx?*
　　　NEG　　QU　　like-there　　DF　　PART　activity　NOM　　person-assess,tax
　　　'isn't that the sort of thing the tax collectors do?' (v:47)

(14) *ĭna*　　*päx-kbu*　　*ki*　　*rĭx,*　　*mătäi-k'ma-hĭna*　　　*ki*　　*su:*
　　　don't　think-heart　DF　　mind　　AO4.say-like-there　　　DF　　word

　　　mang　*ta*　　*kan-aw=miän?*　　*mang*　*ta*　　*ĭt-aw=miän?*
　　　what　　NOM　eat-SJ.UO=1PE.GEN　what　　NOM　drink-SJ.UO=1PE.GEN
　　　'don't worry, saying: what are we going to eat? what are we going to drink?' (vi:31)

(15) *Ka*　　*ni-k'ma='to-hĭna*　　*neini-än,*　　*m-äu-äux-a*　　*ĭau-an,*
　　　LK　　PST-say=PRF-there　　3P-OBL　　　AO4-RDP-follow-SJ　1S-OBL
　　　And he said to them, "Follow me, …." (iv:19)

Finally, there is the temporal adverb *xnĭn* 'now', example:

(16) *kĭt'-ey,*　　　*ni-ĭlingix-n=umi*　　*xnĭn*　*ta*　　*ba-varŭx*　　*tĭn*　　*[ki*　　*Alid.]*
　　　see-SJ.UO　　PST-hear-UO=2P.GEN　now　　NOM　RDP-blasphemy　3S.GEN　DF　　　God
　　　'look, now you have heard his blasphemies' (xxvi:65)

<u>Directional terms</u> occurring in the Gospel text are *Reya* 'East' (< PAn *Daya 'towards the interior', cf. Indonesian *orang Dayak* and *To-raja* referring to the traditional inhabitants of interior Borneo and South Sulawesi respectively), *raur* 'West' (< PAn *laSud 'towards the sea', Indonesian *laut* 'sea') and *timawx* 'South' (< *qaCimuR 'dry monsoon'; Indonesian *timur*

'(direction of the dry monsoon=) East').[4] It is likely that outside the Gospel context these terms did not refer to cardinal points but to directions coinciding with cardinal points. Some evidence can be found in the name 'Siraya', which also occurs as 'sireya' and 'Sideia' (Dutch "Sideisch") and must be derived from < si- + *raya. The original meaning of this ethnonym is probably 'the inland people' in a geographical environment where the inland is to the East and the sea is to the West. The use of *timawx* for 'South' is explained by the fact that in Taiwan the dry monsoon blows from a southern or south-eastern direction.

In conclusion, the Gospel of St. Matthew does not give a very interesting insight in the structure of Siraya deictics. This text is no doubt compromised by the fact that was translated by Dutch missionaries. It cannot provide more than a very general and vague impression of Siraya deixis.

3. Siraya Orientation prefixes

There are three orientation prefixes:

(1) comitative *a-* (or *ä-* as a result of non-phonemic palatalisation);
(2) location-oriented *i-* (or *ĭ-*);
(3) motion prefix *u-* (or *äw-* as a result of non-phonemic palatalisation).

These prefixes are historically probably a subcategory of bound verbs (§5.13), but they are more grammaticalised. They often occur in combination with other grammatical prefixes (including reduplication). Their contribution to the overall meaning of the resulting derivation is not always apparent, and their original meanings are often "bleached" (especially in the case of the location-oriented prefix).

Derivations with the comitative prefix have meanings such as 'be with', 'take along', 'go along with' and 'obey'. Instances are few; they include:

a-keyŭl (xvi:7) 'to be provided with bread' (*keyŭl* 'bread')
a-para (xxv:4) 'to take along, be together with' (*para* 'together')
a-kua (vii:24) 'to obey', *pa-a-kua* (xxiii:3) 'to make obey'
a-lam (ii:20) 'to take along' (*lam* 'with')

Derivations with the motion prefix usually either mean 'to move towards' or 'to be in motion, make (sudden) moves':

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[4] No term for North, except *hanglut* 'north wind' (in Utrecht Ms) (related to Hokkien word for 'cold').
Cf. also *amix-an* 'Winter' (which appears as *amix-ang* 'dry monsoon' in the UM) and *daäwlang* 'Summer' (*dagul-ang* 'rainy season in the UM).

'to move towards':
m-u-mala (xxvi:71) 'to go out' (*mala* 'outside')
m-u-rbo (ix:28) 'to go inside' (*rbo* 'inside')
m-u-pänäx (8:32) 'to come/go out' (*pänäx* 'outside; public place, market place')
p-u-pänäx (xii:35) 'to put forth, bring forth', (xiii:31) 'propose'
m-u-vukĭ-vukĭn (xviii:12) 'to go up the mountains' (*vukĭn* 'mountain')
m-u-rarim (iii:16) 'to go down' (*rarim* 'bottom')
m-äw-äwma (viii:33) 'to go to the city'(*äwma* 'town, city')
m-u-kua (viii:9) 'to go' (-*kua* 'be at, move'); *u-kua*! (viii:9) 'go!'
m-u-Lĭtu (viii:26) 'to enter, take possession of' (said of a *lĭtu* 'devil')
m-u-arĭng (xv:14) 'to fall (into)' (-*arĭng* 'to throw')
m-u-mutus (xv:17) 'to go into the mouth' (*mutus* 'mouth')
m-u-arux (viii:28) 'to cross over' (-*arux* 'the opposite side')
p-u-alak (xxiii:15)'to produce a child (of men), beget'
p-u-su (viii:8) 'to say, utter' [lit. 'produce words'] (*su* 'word')
u-paräx-ən (i:23) "to be gone to by a man" (have sex, said of a woman)
m-u-ku-kua (i:16) 'to have a wife' (in first years of marriage, husband and wife do not live
      together; to be with her, husband has to steal his way into wife's parental home)

pa-u-tiri-ən ta hala (ix17)'wine is poured out' (-*tiri* 'to pour, run'; *hala* 'wine')

'to make (sudden) moves':
m-äw-äsäs ta vato (xxvii:51) 'the rocks rent' (*äsäs*'?rent'; *vato* 'rock')
m-u-pto (ix:17, xii:20) 'to burst'
pa-u-bla (C175) 'to break something'
m-u-kiap (xix:25) 'to be astonished'

As indicated before, derivations with the location prefix are semantically less transparent than
derivations with other orientation prefixes. Many instances can be classified into the broad
semantic domains of either 'location in space or time' or 'action causing physical affection'.
However, many other derivations do not seem to belong to a specific semantic domain.

'location in space or time':
m-i-rung (iv:16) 'to sit'
m-i-ka-kua (v:34) 'always' (-*kua* 'be at, move')
pa-ĭ-ka-kua (xxii22, xxvi44) 'to leave behind'
i-ka-kua-ən (vi:6) 'room'
i-ka-kua-an m-ĭ-da-rĭnux (vi:14) 'eternity' (*m-ĭ-da-rĭnux* 'infinite')
m-i-mala (xxvi:69) 'to be outside'(*mala* 'outside')
ĭ-la-limux-an (x:22) 'the end' (*limux* 'limit')
i-da-rinux-an (xii:32) '1. century (also: eternity, infiniteness); 2. world'

i-rua (iii:1) 'to arrive'
ma-i-vavaw (xii:49) '(to stretch out) over' (*vavaw* 'top')
m-ĭ-ta-talax (viii:15) 'to receive at home' (*tălax* 'house')
pa-i-al-aley (xxi:17) 'to place, put'

'action causing physical affection':
ma-i-alak (i:25) 'to get a child'
ma-i-kua (xxvi:7) 'to carry', (iii:11) wear (clothes, shoes)'
ma-i-paringid (ix:23) 'to play the flute'
ma-i-said ki rĭx (xviii:28) 'to take by the throat' (*said* 'side'; *rĭx* 'throat')
i-sa-saun-ən ki Lĭtu (iv:24) 'possessed with devils'
mä-i-ä-äpo (vi:8) 'to need'
ni-pa-i-apĭngit (xvi:7) 'leaven, (what has) leavened'.

(no specific semantic domain):
ta i-danga-ranga-aw=mau (xxii:4) '[what I intend to have for lunch=] my lunch'
i-kalawakaw-ən (xxiv:6) 'rumour'
ma-i-ra-rarey (xi:20) 'to reproach, upbraid'
ma-i-ringey (xvi:18) 'to perform, build'
m-i-saal '(do together)': *m-i-saal m-avok* (xix:11) 'to eat together'
ma-i-saal kŭtŭng (xviii:23) 'to settle accounts with his servants'
m-i-tădŭx (xii:23) 'to hope'
pa-pa-i-ä-voak (xxvi:31) 'to be spread around, scattered around'

Note that some derivations appear to combine several orientation prefixes:

COM + LOC: *ä-i-ku'-n* (xxiv:21) 'included'
MOT + COM: *m-äw-a-kla ki rĭx* (xviii:19) 'to agree' (*-kla* 'join', *rĭx* 'mind')
MOT + LOC: *m-äw-i-saal* 'to congregate, hold council', *p-äw-i-saal-an* 'council',
                    p-äw-i-sa-saal-an 'synagogue' (*saal* 'together')

In some other cases, orientation prefixes appear to combine with bound verbs. In one case, *p-u-täi-kidi-ən*, *p-u-ta-täi-kidi-ən* (C89v) 'what is meant, thing signified', the orientation prefix precedes the bound verb, whereas in another case, *täi-ä-para* (v:22) 'brother', it follows.

Bound verbs and verbs with orientation prefixes also function as prepositions. They constitute a particular instance of verb serialisation. In Siraya they often perform as prepositions (sometimes in conjunction with case markers), yielding a high level of deictic specificity. Examples:

(17) *tu*   *kidi*   *ki*   *takàla-ey*   *p-u-kua*   *tu*   *Babilon*
      LOC   limit, time   DF   to exile-SJ-UO   CAUS-MOT-be.at/move   LOC   BABYLON
      'at the time of the exile to Babylon' (i:17)

(18) *ni-ad*   *nein*   *pa-u-kua*   *tĭni-än ta*   *ĭmid*   *ka*   *ma-alam*
PST-bring   3P.GEN [CAUS-MOT-move/be.at=] to   3S-OBL NOM   all   LK   AO1-ill
'they brought to him all who were diseased' (xiv:35)

(19) *pa-u-kua-ey=ko*   *ĭmhu-an*   *pa-u-xalap*   *ki*   *ralum*
CAUS-MOT-move/be.at-SJ.UO=1S.NOM   2S-OBL   [CAUS-MOT-surface=] over   DF   water
'Let me come to you on the water' (xiv:28)

(20) *ni-d<m>arang*   *sa-ka-kua*   *tu*   *Egypten*
PST-<AO3>leave   [go.through.difficulty-RDP-move/be.at =] to   LOC Egypt
'and he went away to Egypt' (ii:14)

(21) *akumea-a=kamu*   *ki*   *ma-lĭmuk*   *äya-kua*   *ĭmumi-än*
exiST-SJ=2P.NOM   DF   AO1-poor   [be with-move/be.at=] with   2P-OBL
'you [will] have the poor with you' (xxvi:11)

5. On the alleged relationship between *mu- and the actor-oriented infix *<um>.

Starosta (1995) speculated that the motional *mu-* prefix occurring in some Formosan languages might be a historical variant of the Proto Austronesian AO infix *um-/*<um>[5]. Blust (1999, 2009) rejects this connection on the basis of the formal and semantic differences between the affixes in question. On the basis of evidence from three other Formosan languages (Thao, Puyuma and Paiwan), he reconstructs a Proto Austronesian basic motion prefix *mu- together with its causative counterpart *pu-. His arguments are discussed in detail in Liao (in press).

     In this section I would like to explore how the alleged connection agrees with the Siraya data. As seen in Section 4, Siraya *u-* is a motional prefix, and it usually co-occurs with *m-* or *p-*. Adelaar (in press) shows that the Proto Austronesian *um-/*<um> expressing actor-orientation became Siraya *m-/<m>* and appears as m- before initial vowels, and as <m> after initial consonants other than labials and nasals.

     The Siraya data make two things clear: they do not support Starosta's suggestion that motional *mu- and AO *<um> are related, and they show that Blust's *mu- and *pu- prefixes should be re-analyzed as bimorphemic prefixes combining the orientation prefix *u- with the actor affix *<m>/*m- and causative prefix *pa- respectively.

     That Siraya *m-u-* is bimorphemic and *u-* is the basic motion prefix already became clear from the discussion in Section §4. Siraya *m-u-* consists of the AO prefix for Class 3 verbs *m-* followed by *u-*, which is the motion prefix proper. It is just a vowel: although it is often preceded by the actor-oriented prefix *m-* or the causative prefix *p(a)-*, this is by no means always so, as is

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[5] In Indonesian this affix only occurs in fossilised form, e.g. as the initial *m/-* in *m/uda* 'young' and *m/asak* 'cooked, ripe', *m/andi* 'to bathe', *m/uncul* 'to emerge', and the /əm/ in *turun-t/əm/urun* 'descendants' and *tali-t/əm/ali* 'cordage generally'.

demonstrated in cases like *u-paräx-ən* 'to be gone to by a man', *ni-u-Lĭtu* '(who) were possessed by the Devil', and *u-kua!* 'Go!' (§4). Doublets such as *p-u-kua* and *pa-u-kua* (as exhibited in sample sentences 17, 18 and 19) show that *p-u-* is still identified as a combination of *p(a)-* + *u-* rather than as a unitary causative *pu- as suggested by Blust. Both *m-u-* and *u-* also occur in Mantauruan Rukai (Zeitoun 2007:225-226), Puyuma (Teng 2008:181) and Saaroa (Li 2009:208), and both Teng and Li argue for the same bimorphemic analysis in the language they investigate (see also Liao in press).

If the motion prefix were related to *<m>*/*m-*, one would expect that verbs that can take on motional prefixes cannot take on the AO affix *<m>*/*m-*. However, there is no such constraint, (whether one takes *u-* or *mu-* as the basic shape of the motion prefix). Contrastive examples are not abundant but do exist, e.g. *d<m>ikur* 'to turn one's back (to someone)' vs *m-u-rikur* 'to follow from behind'; *d<m>uma-duma* 'to go out to meet (someone)' vs *m-u-duma* '(to go) against (someone or something)'; *m-aring* 'to throw' vs *m-u-aring* 'to fall on/into'.

Even if *m-u-* were a unitary morpheme, the valency of this affix combination shows that it is different from AO *<m>* and its allomorph *m-*. The distribution of *<m>* and its allomorph *m-* are clearly subject to phototactic constraints: *<m>* appears after initial consonants other than labials and nasals, and *m-* appears before initial vowels. On the other hand, no such constraints apply to the prefixation of *m-u-*, as seen in *m-u-mutus* 'to enter into the mouth', *m-u-piri* 'to distinguish', *m-u-vatung* 'to go to the sea', *m-u-näi* 'to go down to the ground'.

The fact that Siraya *m-u-* is indeed bimorphemic and combines the AO - and motion prefixes shows that these prefixes may even co-occur within the same derivation, which makes the suggestion of a historical identification of the two even more unlikely.

Semantically, verbs containing *u-* are motion verbs and indicate a movement or direction. This basic notion is reasonably transparent. On the other hand, AO prefixes indicate voice and generally do not have such a lexical meaning attached to them, as in *h<m>a* 'to hide', *k<m>alang* 'to know', *d<m>ingding* 'to judge'. One could of course argue that verbs such as *s<m>ulat* 'to write' (from *sulat* 'document') and *k<m>ari* 'to dig', involve motion, and that *d<m>arang* 'to go away' (from *darang* 'road, path') involves motion and direction. However, in such cases these notions are a function of the basic meaning of the verbal root in combination with its pragmatic use, whereas the affix only indicates actor-orientation in all verbs in which it occurs.

Blust shows that many of the above criteria to distinguish the motion prefix from the AO prefix also apply to their reflexes in Thao and Puyuma, and, to a lesser extent, Paiwan (Blust 2003:451-5). However, he refrains from analysing his *mu- and *pu- as bimorphemic. He also refrains from analysing as bimorphemic another of his Proto Austronesian reconstructions, namely *pi- expressing causativity of location. In a footnote (p.454, fn.4), he argues that Formosan languages other than Siraya are not amenable to this bimorphemic analysis, although he concedes that it may have been applicable at some pre-Proto Austronesian stage. However, since Siraya u- is morphologically on a par with locational *i-*, and both occur in combination with *m-* and *p-*/*pa-* as well without these prefixes, the analysis clearly fits Siraya. The fact that it fits at least one Formosan language makes it very likely that it also applies to Proto Austronesian itself, and that at that stage, the structure of *mu-, *pu- and *pi-, must have been bimorphemic.

Another point in favour of a bimorphemic analysis is that in some Siraya verbs, *pi- is sometimes reflected as *pa-i-*, and *mi- as *ma-i-*.[6] In other words, *ma-i-*, *pa-i-* and also the previously mentioned *pa-u-* exhibit causative *pa-* and AO *ma-* (appearing in Class 4 verbs) in their unreduced form. The only combination in this series which is not attested in the Siraya data is *ma-u-: this is due to that fact that motion verbs are as a rule Class 3 verbs, which receive the AO marker *m-* (never *ma-*) before an initial vowel. The various combinations are shown in the following paradigm:

	Motional	Locational	Comitative
Verb base (imperative etc.)	u- (/äw-)	i-, (/ĭ-)	a-, (/ä-)
With Actor-oriented prefix m-	m-u- (/m-äw-)	m-i- (/m-ĭ-) ma-i- (/ma-ĭ-)	?
With Causative prefix p(a)-	p(a)-u- (/p-äw-)	p(a)-i- (/p(a)-ĭ-)	pa-a- (?pä-ä-)

Contrastive examples with the motion prefix are *u-kua* 'go!' vs *m-u-kua* 'to go' vs *p-u-kua* or *pa-u-kua* 'to take (someone) along, put (someone) into'.
Contrastive examples with the locational prefix are *ĭ-ka-kua-n* 'continuity, state; room' vs *m-ĭ-ka-kua* 'to continue; always' vs *pa-ĭ-ka-kua* 'to leave behind'. Compare also *ma-i-kua* 'to wear (clothes), use, carry' and *ma-i-alak* 'to give birth' (both Class 4 verbs).
Contrastive examples with the comitative prefix are *a-kua* 'to obey' vs *pa-a-kua* 'to make obey, tell to do'.

A final argument for analysing *p-u- and *p-i- as bimorphemic is that it avoids the reconstruction of an unusually high number of causative prefixes for Proto Austronesian. Blust (2003:451-455) distinguishes four Proto Austronesian causative prefixes:

*pa- (causative)
*paka- (causative prefix occurring with stative verbs)
*pu- (the causative counterpart of the motion prefix *mu-)
*pi- (the causative counterpart of the locative prefix *mi-, or 'causative of location' prefix).

All of these prefixes can be analysed as consisting of the causative prefix *pa- in itself or in combination with another prefix. Zeitoun and Huang (2002) demonstrated that *paka- was in fact a combination of causative *pa- and stative *ka-. The Siraya evidence presented in this paper strongly supports an analysis of *pu- as a combination of *p(a)- + a motion prefix *u-, and *pi- as a combination of *p(a)- + a location prefix *i-.

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[6] All these forms also occur with short vowels, hence *p-ĭ-*, *pa-ĭ-*, *m-ĭ-*, *ma-ĭ-*; these short vowels do not seem to contrast with long vowels (Adelaar in press).

6. Concluding remarks

In this paper I presented a brief overview of the deictic elements in Siraya. Their analysis remains shallow perforce, as it is unlikely that much can be learned from a biblical text translated into Siraya by European missionaries.
I also gave a presentation of the Siraya orientation prefixes *a-* (+comitative), *u-* (+motion) and *i-* (+location). The Siraya evidence confirms Blust's claim that the motion prefix in Formosan languages is historically independent from the Proto Austronesian affix *um-/<um> indicating actor orientation. However, it does not support his reconstruction of *mu-, *pu- and *pi- as unitary prefixes but calls for a bimorphemic analysis. In Siraya, *u-* and *i-* are monomorphemic prefixes, although they can of course be combined with the actor prefixes *m-* and *ma-* or the causative prefix *pa-* to form the bimorphemic prefixes *m-u-*, *m(a)-i-*, *p(a)-u-* and *p(a)i-* respectively).

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