

# The derived intransitive in Formosan and its implication for the nature of Proto-Austronesian Actor Voice\*

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**Abstract.** Many Philippine-type languages spoken in Taiwan possess an understudied agentless construction formed with a *mu*-marked bivalent verb. This construction raises theoretical issues because bivalent verbs otherwise require an overt agent, no matter the voice type of a predicate. In this paper I demonstrate that the prefix sequence *mu*- consists of an Actor Voice (AV) morpheme *m*- and an agent/cause-eliminating valency-decreasing affix *u*-, which is likely to derive from a homophonous motion prefix (Starosta 1995; Blust 2003; Liao 2011) prior to the split of Proto-Austronesian. The detransitivizer *u*-’s compatibility with AV-marked bivalent verbs in languages under seven different Austronesian primary branches, I argue, presents novel evidence against the antipassive view of prototypical AV constructions and lends new support to a transitive analysis, as derived intransitives such as antipassives are incompatible with valency-decreasing operations across languages. I argue accordingly that the ergative approach to prototypical Philippine-type languages is difficult to maintain.

Keywords: Formosan languages, Actor Voice, detransitivization, Philippine-type voice, grammaticalization, comparative morphology

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# 1 Introduction

In Tgdaya Seediq (Philippine-type, Formosan), a number of semantically bivalent verbs can denote either a two-place construction or an agentless one-place construction depending on the affixal morphology on the verb. When such verbs are marked with an Actor Voice (AV) infix  $\langle m \rangle$ , both the agent/cause and the theme are mandatorily present (1a). When the same verb is marked with the prefix  $m-$ , the agent/cause is obligatorily absent, resulting in a one-place construction with subject case-marking present on the theme (1b).<sup>12</sup>

- (1) Tgdaya Seediq
- a. Wada d $\langle m \rangle$ engu  $\emptyset$  qhuni ka Dakis. [2-place]  
 PRF  $\langle AV \rangle$ roast CM<sub>1</sub> wood PIVOT Dakis  
 ‘Dakis heated the wood.’
- b. Wada m-dengu ka qhuni. [1-place]  
 PRF  $\langle M \rangle$ roast PIVOT wood  
 ‘The wood has been heated.’

According to primary fieldwork, this argument structure alternation is attested with both agent-oriented bivalent verbs (e.g. (1) ‘heat’, (2) ‘demolish’) and causative-inchoative verbs that denote change-of-state events (e.g. ‘break’), as in (3).<sup>3</sup>

- (2) a. Ga h $\langle m \rangle$ urah sapah na cmucac ka Watan. [2-place]  
 PROG  $\langle AV \rangle$ demolish house 3SG.POSS old PIVOT Watan  
 ‘Watan is demolishing his old house.’ (ODFL)
- b. M $\langle n \rangle$ hurah ka sapah na. [1-place]  
 $\langle M \rangle$ PRF-demolish PIVOT house 3SG.POSS  
 ‘His house collapsed.’
- (3) a. Wada s $\langle m \rangle$ etuq  $\emptyset$  negul nii ka Watan. [2-place]  
 PRF  $\langle AV \rangle$ break CM<sub>1</sub> string this PIVOT Watan  
 ‘Watan broke this string.’
- b. Wada m-setuq ka hako=ta. [1-place]  
 PRF  $\langle M \rangle$ break PIVOT bridge=1PL.POSS  
 ‘Our bridge broke.’

This phenomenon is theoretically interesting for several reasons. If  $\langle m \rangle$  and  $m-$  are two Actor Voice allomorphs—as reported in previous descriptions of Tgdaya Seediq (Yang 1976:18-21; Holmer 1996:38,40; Chang 2000:84)—the fact that both are compatible with the same stem is unexpected. The presence of  $m-$  in (1)-(3) further reveals that it may not be a normal AV allomorph, as AV morphology in Seediq usually surfaces as a prefix only when attached to a vocalic or bilabial stem (Tsukida 2009:196). Finally, that the  $m$ -marked construction is obligatorily agentless, as opposed to its  $\langle m \rangle$ -marked two-place counterpart, reinforces the idea that the prefix  $m-$  in (1)-(3) is not a simple AV morpheme, but is a portmanteau with some sort of valency-rearranging function.

<sup>1</sup>List of abbreviations: ABS: absolutive, ACC: accusative, AOR: aorist, AP: antipassive, ART: definite article, AV: actor voice, CN: common noun, DAT: dative, DET: determiner, DETR: detransitivizer, DETR: definite, F: feminine, ID: indefinite, INCOMPL: incomplete, IRR, irrealis, LK: linker, LOC: locative, N: neuter, NEG: negation, OBL: oblique, PART: particle, PASS: passive, PL: plural, POSS: possessive, PROJ: projective, PRF: perfective, PRS: present tense, PST: past tense, PCT: participle, PV: patient voice, RED: reduplication, SG: singular, TOP: topic, TR: transitive.

<sup>2</sup>In this paper, I use the label ‘CM<sub>1</sub>’ to replace the conventional label ‘OBL’ for theme arguments in two-place AV constructions—as I will argue in 5.2 that it marks accusative, rather than oblique case. See that section for the theoretical grounding of this treatment.

<sup>3</sup>See Holmer (1996:35) for a brief discussion of this phenomenon, where he provides one pair of examples  $m$ -*tutuy* ‘to get up’ vs.  $t\langle m \rangle$ -*utuy* ‘to wake someone up’ and describes the  $m$ -marked construction as involving reflexivization: “reflexivity is marked by the /m/ appearing as a prefix instead of an infix (1996:35). A similar argument structure alternation is also attested in Truku (Tsukida 2009:652), another major dialect of Seediq. See section 2.2 for details.

The goal of this paper is to demonstrate that the *m*-marked construction in (1)-(3) involves an understudied valency-decreasing operation that has important implications for our understanding of Philippine-type Actor Voice—in particular the long-lasting debate of whether two-place AV constructions (e.g. (1a), (2a), (3a)) are antipassives or true transitives (e.g. Foley 1998; Liao 2004; Paul & Travis 2006; Huang & Lin 2012; Chen 2017). I will first show that the agentless construction in (1)-(3) is best analyzed as cognate with an understudied *mu*-marked construction found in multiple Formosan languages. Consider the Puyuma examples (4).

- (4) Puyuma
- a. Tr<em>ima na        bangsaran kana katrakatr.        2-place AV-marked construction  
<AV>-buy DF.PIVOT young.man DF.CM<sub>1</sub> pants  
 ‘The young man bought the pants.’
- b. M-u-trima la na        katrakatr.        *u*-marked detransitive construction  
AV-DETR-buy PRF DF.PIVOT pants  
 ‘The pants were bought already.’

I will demonstrate that the *m*- component in the prefix sequence *mu*- (4b) is an Actor Voice morpheme independent of *u*-, an underexplored valency-decreasing affix responsible for the absence of the agent/cause, which is synchronically unmarked in the Seediq agentless construction ((1b), (2b), (3b)). I then propose that this affix is likely to have grammaticalized from a homophonous motion prefix \**u*- (Starosta 1995; Blust 2003; Liao 2011) prior to the split of Proto-Austronesian, with both functions inherited in multiple Austronesian primary branches.

I argue that the existence of an AV-marked detransitive construction ((3b), (4b)) in multiple Philippine-type languages—and the fact that the construction is reconstructable to Proto-Austronesian—has important broader implications for the analysis of prototypical Philippine-type two-place AV constructions (i.e. AV constructions marked with a reflex of Proto-Austronesian AV affix \**<um>*, e.g. (3a), (4a)). Under the ergative view of Philippine-type Austronesian languages, two-place AV constructions are necessarily analyzed as antipassive constructions with a demoted non-core object. Now, the fact that this putative derived intransitive is compatible with agent detransitivization (e.g. (4a-b)) reveals that it is best analyzed as a true transitive—as antipassivization and agent detransitivization are theoretically infelicitous and cross-linguistically unattested to apply to the same clause. I conclude accordingly that (i) the baseline assumption of the ergative approach to any Philippine-type languages with a *mu*-construction is difficult to maintain, and (ii) two-place AV-constructions in such languages are best analyzed as true transitives, and (iii) the traditional view that AV morphology marks intransitivity is incompatible with the new picture—as it occurs in both intransitives and true transitives. The current observations therefore lends new support to a family of accusative approaches to Philippine-type languages (Chung 1998; Pearson 2005; Chen 2017), according to which AV morphology is not a marker of intransitivity, but agreement morphology that indicates that the subject of the clause is simultaneously the topic.

This paper is organized as follows. In section 2, I provide evidence that the *m*-marked agentless construction in Seediq (1)-(3) is cognate with the *mu*-marked construction presented in (4b). In section 3, I demonstrate that the prefix sequence *mu*- is bimorphemic with the *u*- component being a detransitivizer, and that the *mu*-construction represents an understudied type of derived intransitive that has received scant attention in the literature. In section 4, I put forward a diachronic analysis for the detransitivizer *u*-, drawing on the fact that it is homophonous with the motion prefix \**u*-N<sub>location</sub> reported in previous work (e.g. Starosta 1995; Blust 2003, 2013; Liao 2011). In section 5, I argue that any Philippine-type languages that possess a *mu*-construction is incompatible with an ergative analysis. Section 6 summarizes and concludes.

Except where otherwise indicated, the data presented in this paper comes from primary fieldwork on Tgdaya Seediq, Nanwang Puyuma, and Manila Tagalog. All languages discussed in this paper (Seediq, Atayal, Thao, Bunun, Puyuma, Saaroa, Siraya, and Tagalog) exhibit a Philippine-type voice system, except Rukai, which exhibits a simple active-passive contrast in main clauses (Zeitoun 2000a, 2007). The subgrouping affiliation of these languages will be discussed in section 4.

## 2 The etymology of *m-* in the Tgdaya agentless construction

I begin by demonstrating that the *m*-marked agentless construction in Seediq is best analyzed as cognate with the *mu*-marked construction exemplified in (4b). The organization of the section is as follows: I will first lay out the main traits of canonical Philippine-type Actor Voice constructions (2.1), and highlight how the *m*-marked construction in Seediq (1)-(3) differs from canonical AV constructions (2.2). In 2.3, I present evidence for the cognacy of the Seediq *m*-marked construction and the *mu*-construction in (4b).

### 2.1 Philippine-type Actor Voice basics

Across Philippine-type Austronesian languages, Actor Voice morphology (i.e. reflexes of Proto-Austronesian AV affix \**<um>*) is free to combine with either monovalent intransitive verbs or semantically bivalent verbs and create sentences with corresponding valency.<sup>4</sup> This is illustrated with the Puyuma and Tagalog examples (5)-(6).

- (5) Puyuma
- a. K*<em>*a-kawang na bulraybulrayan. [1-place]  
*<AV>CA.RED-walk* DF.PIVOT young.lady  
 ‘The young lady is walking.’
- b. Tr*<em>*ima dra pangudral na bulraybulrayan. [2-place]  
*<AV>buy* ID.CM<sub>1</sub> pineapple DF.PIVOT young.lady  
 ‘The young lady bought pineapples.’
- (6) Tagalog
- a. P*<um>*anaw ang babae. [1-place]  
*<AV>die* CN.PIVOT woman  
 ‘The woman died.’
- b. K*<um>*ain ang babae ng kandi. [2-place]  
*<AV>eat* CN.PIVOT woman ID.CM<sub>1</sub> candy  
 ‘The woman ate candy.’

Across these languages, the sole argument in AV-marked one-place constructions must bear pivot-marking, regardless of its being agent-like (e.g. (5a)) or theme-like (e.g. (6a)). Two-place AV-constructions, on the other hand, require the agent/cause (i.e. external argument) to bear pivot-marking, with the theme (internal argument) marked with a distinct marker, which I label as CM<sub>1</sub> throughout this paper. This argument-marking pattern is summarized in (7).

(7) Argument-marking patterns in types of Philippine-type AV constructions

	a. 1-place (unergative)	b. 1-place (unaccusative)	c. 2-place
agent	<b>Pivot</b>	--	<b>Pivot</b>
theme	--	<b>Pivot</b>	CM <sub>1</sub>

<sup>4</sup>Common reflexes of PAN \**<um>* in the languages discussed in this paper include Seediq/Atayal *<m>/m-*, Puyuma *<em>/m-*, Thao *<m>/m-*, Saaroa *mo-*, and Bunun *ma-*.

## 2.2 Main traits of the Seediq agentless construction

The infix  $\langle m \rangle$  in Tgdaya Seediq shows typical traits of an AV affix. As seen below, it is free to mark either monovalent intransitive verbs such as ‘dance’ (8a) and ‘sweat’ (8b) or semantically bivalent verbs such as ‘cook’ (8c), with all three examples following the argument-marking pattern in (7).

- (8) Tgdaya Seediq
- a. K $\langle m \rangle$ eeki ka Robo. [unergative]  
 $\langle AV \rangle$  dance PIVOT Robo  
 ‘Robo will dance.’
- b. t $\langle m \rangle$ mering ka laqi nii. [unaccusative]  
 $\langle AV \rangle$  sweat PIVOT child this  
 ‘This child is sweating.’
- c. H $\langle m \rangle$ anguc  $\emptyset$  rodux ka Robo. [2-place]  
 $\langle AV \rangle$  cook ACC chicken PIVOT Robo  
 ‘Robo will cook chicken.’

The prefix  $m$ - in Tgdaya’s agentless constructions, on the other hand, clearly stands out from canonical AV morphemes. Though traditionally regarded as a prefix allomorph of  $\langle m \rangle$  (Yang 1976:18-21; Holmer 1996:38,40; Chang 2000:84), its combination with a semantically bivalent verb correlates with the mandatory absence of the external argument (agent/cause), which is obligatorily present when the construction is marked with an AV infix (see (9c) and (10c)). In this one-place construction, the theme is pivot-marked, akin to unaccusative subjects (e.g. (9b)).

- (9) Tgdaya Seediq
- a.  $\checkmark$ M-tggequq ka huling nii di. [ $m$ -prefix: 1-place]  
 $\overline{M}$ -drown PIVOT dog this PRF.PART  
 ‘This dog drowned.’
- b. \*M-tggequq  $\emptyset$  huling nii ka Watan. [ $m$ -prefix: \*2-place]  
 $\overline{M}$ -drown CM<sub>1</sub> dog this PIVOT Watan  
 (intended: ‘Watan drowned the dog.’)
- c.  $\checkmark$ T $\langle m \rangle$ ggequq  $\emptyset$  huling nii \*(ka Watan). [ $\langle m \rangle$ -infix: 2-place]  
 $\langle AV \rangle$ -drown CM<sub>1</sub> dog this \*(PIVOT Watan)  
 ‘Watan drowned the dog.’
- (10) Tgdaya Seediq
- a.  $\checkmark$ M-takur ka Robo di. [ $m$ -prefix: 1-place]  
 $\overline{M}$ -trip PIVOT Robo PRF.PART  
 ‘Robo tripped.’
- b. \*M-takur  $\emptyset$  Walis ka Temi. [ $m$ -prefix: \*2-place]  
 $\overline{M}$ -trip CM<sub>1</sub> Walis PIVOT Temi  
 (intended: ‘Temi tripped Walis.’)
- c.  $\checkmark$ T $\langle m \rangle$ akur  $\emptyset$  Walis \*(ka Temi). [ $\langle m \rangle$ -infix: 2-place]  
 $\langle AV \rangle$ -trip CM<sub>1</sub> Walis \*(PIVOT Temi)  
 ‘Temi tripped Walis.’

Crucially, this argument structure alternation is neither dialect-specific nor idiosyncratic. Both Tsukida (2009) and the Online Dictionary of Formosan Languages (henceforth ODFL) report the same alternation in Truku, another major dialect that belongs to a different Seediq primary branch.<sup>5 6</sup>

<sup>5</sup>There is a consensus in the literature that Proto-Seediq split into two branches, one consisting of the Truku dialect and another the Tgdaya and the Toda dialects (Holmer 1996:10; Tsukida 2009:34).

<sup>6</sup>In Tsukida (2009), the affixes  $m$ - and  $\langle m \rangle$  in (11) are presented as  $me$ - and  $\langle em \rangle$ , respectively (see, e.g., Tsukida (2009:652)). This is because  $m$ - in pre-stress positions are pronounced with a non-phonemic schwa in Truku (except when attached to a vowel-initial root) (Tsukida 2009:64-65). Here I follow the orthographic conventions adopted in ODFL and represent the two affixes as  $m$ - and  $\langle m \rangle$ .

## (11) Truku Seediq (ODFL)

<i>m</i> -marked (one-place)		< <i>m</i> >marked (two-place)	
a)	<i>m</i> -dngu ‘to be dry’	vs.	d< <i>m</i> >ngu ‘to dry’ (cf. (1))
b)	<i>m</i> -riqi ‘to be crooked’	vs.	r< <i>m</i> >iqi ‘to make crooked’
c)	<i>m</i> -takur ‘to stumble and skip’	vs.	t< <i>m</i> >akur ‘to make something fall’ (cf. (11))
d)	<i>m</i> -qulit ‘to be peeled’	vs.	q< <i>m</i> >ilit ‘to peel’
e)	<i>m</i> -gruy ‘to be covered’	vs.	q< <i>m</i> >ruy ‘to cover’
f)	<i>m</i> -srut ‘to be blunt’	vs.	s< <i>m</i> >rut ‘to blunt’
g)	<i>m</i> -rmux ‘to enter’	vs.	r< <i>m</i> >mux ‘to make enter’

The same alternation is attested in Atayal, the sister language of Seediq. As seen in (12)-(13), similar to Tgdaya and Truku, the presence of *m*- in a number of bivalent verbs in Atayal correlates with the absence of the agent/cause, which is mandatorily present in an <*m*>-marked AV-construction. Note that the stem *takuy* in (12) is cognate with *takur* in the Tgdaya and Truku examples (see (10) and (11c)).

## (12) Squliq Atayal

- a. Cyux *m*-takuy qu bnkis qasa la.  
 PROG [M-trip] PIVOT old.man that PART  
 ‘That old man slipped.’
- b. Cyux t<*m*>akuy minbuqax na lwax qu mlikuy qasa.  
 PROG [trip<AV>] rotten POSS pillar PIVOT man that  
 ‘That man is pushing down the rotten pillar.’ (ODFL)

## (13) Squliq Aayal

- a. Nyux *m*-hutaw pila’ su’ la.  
 PROG [M-drop] money 2SG.POSS PART  
 ‘Your money drops.’
- b. H<*m*>utaw saku’ ana nanu’ krryax.  
 [drop<AV>] 1SG.PIVOT any what everyday  
 ‘I drop (lose) things everyday.’ (ODFL)

The presence of this argument structure alternation in both primary branches of Seediq on one hand, and the sister language of Seediq exhibiting the same alternation on the other, suggests that this phenomenon may have existed in Proto-Atayalic, prior to its split into Atayal and Seediq. I will revisit this proposal in sections 3 and 4.

### 2.3 The etymology of the prefix *m*- in the Atayalic agentless construction

To summarize, in multiple Atayalic varieties, a number of semantically bivalent verbs allow an *m*-marked construction that functions as the agentless counterpart of AV-marked two-place constructions.

The perplexing agentless construction is reminiscent of an understudied *mu*-marked construction attested in five other Formosan languages, Thao, Puyuma, Bunun, Rukai, and Saaroa. Consider (14)-(18).

## (14) Puyuma

- a. D<*em*>isdis na walak kantu=katrakatr. [AV-marked: 2-place]  
 [<AV>]tear DF.PIVOT child 3.POSS.ACC=pants  
 ‘The child tore his/her pants.’
- b. Mu-disdis na katrakatr. [*mu*-marked: 1-place]  
 [MU]tear DF.PIVOT pants  
 ‘The pants were torn.’

- (15) Thao
- a. Yaku t<m>uqris takic. [AV-marked: 2-place]  
 1sg.(PIVOT) <AV>catch.with.a.nose.trap barking.deer.ACC  
 ‘I caught a barking deer with a snare trap.’
- b. Mu-tuqris iza na lhizashan. [mu-marked: 1-place]  
 <MU>catch.with.a.snare.trap this LK pheasant(.PIVOT)  
 ‘The pheasant is caught with a snare trap.’ (Blust 2003:1020)
- (16) Saaroa
- a. C<um>acuhlu a tamalungaluna hliasaasapa. [AV-marked: 2-place]  
 burn<AV> PIVOT uncle field  
 ‘Uncle used fire to burn the field.’
- b. Mu-cacuhlu-a kiu’u naka manganicu. [mu-marked: 1-place]  
 <MU>burn-PROJ wood AUX be.dry  
 ‘Dry woods are easy to be burned.’ (ODFL)
- (17) Bunun<sup>7</sup>
- a. Ma-buhas tama sibus. [AV-marked: 2-place]  
 <AV>snap.off father.textscpivot sugarcane.cm1  
 ‘Father snapped off a/the sugarcane.’
- b. Mu-buhas a sihi. [mu-marked: 1-place]  
 <MU>snap.off PIVOT branch  
 ‘The tree branch (was) snapped off.’ (ODFL)
- (18) Rukai<sup>8</sup>
- a. Lri ngu babangate m-alra ka kaka. [AV-marked: 2-place]  
 FUT how.many nine <AV-take>PIVOT older.brother  
 ‘My older brother will only take nine (of these).’
- b. Madha puapuakwini lri ki <mu-alra>. [mu-marked: 1-place]  
 NEG place.there FUT ACC MU-take  
 ‘Do not put (it) there, (it) will be taken away.’ (ODFL)

As seen above, the prefix sequence *mu-* in these examples plays a role similar to *m-* in the Atayalic *m*-construction in (9)-(13).<sup>9</sup> Both denote an agentless counterpart of two-place AV-constructions. Similar to the *m*-construction, the sole argument in the *mu*-construction receives pivot-marking.

That the sequence *mu-* is functionally equivalent to *m-* in the Atayalic agentless constructions on one hand, and that Atayalic languages are known for having undergone a vowel deletion process that affects pre-stress syllables (Li 1977, 1991; Holmer 1996) on the other, offers a plausible account for the etymology of the Atayalic *m*-construction.<sup>10</sup> As seen in (19), CV-initial morphemes in Proto-Austronesian unitarily appear as C- in Atayalic, with the vowel obligatorily eliminated.

#### (19) Proto-Austronesian vs. Atayalic prefixal morphology

<sup>7</sup>In Bunun, the AV affix *ma-* (Zeitoun 2000b) is homophonous with the stative prefix. *ma-* as a typical AV affix is nevertheless evidenced by the fact that a number of AV-marked verbs that are reconstructable to Proto-Austronesian have *ma*-marked reflexes in Bunun, e.g. Bunun *ma-'un* vs. PAN \*k<um>aen ‘eat’; Bunun *m(a)-das* vs. PAN \*um-adaS ‘bring’; Bunun *ma-alak* vs. PAM \*alaq ‘to fetch, get, take’ (ACD). See also footnote 16 for a discussion.

<sup>8</sup>Although the structure of (18b) isn’t as transparent as other examples provided here, this sentence is translated as a passive construction ‘it will be taken away’ in ODFL, as opposed to its AV-marked counterpart (30a), which is translated as a two-place active clause with an agentive subject. Consistent with this observation, the word *mualra* in ODFL is translated as a passive verb ‘to be taken’, in contrast to *m-alra*, which is glossed as an active verb ‘to take’.

<sup>9</sup>The prefix sequence *mu-* has previously been reconstructed to Proto-Austronesian as a motion prefix in Starosta 1995, Blust 2003, 2013, and Liao 2011. The correlation between that motion prefix and the detransitivizing *mu*-sequence discussed here will be addressed in section 4.

<sup>10</sup>Both Yang (1976:19) and Holmer (1996:207-208) describe vowels in pre-stress positions as followed by an obligatory insertion of a non-phonemic vowel [u], i.e. [V → u/\_CV<sub>stressed syllable</sub>]; see also Li (1977, 1991) for a similar analysis for Atayalic in general, who characterizes the phenomenon as a vowel deletion process followed by the insertion of an epenthetic vowel. Holmer (1996:35) comments that this analysis makes accurate predictions for Tgdaya. Here I follow this analysis and describe the phenomenon as vowel deletion.

Proto-Austronesian affix	reflex in Atayalic	function
*Si-/Sa-	<i>s-</i>	circumstantial voice affix
*pa-	<i>p-</i>	causative prefix
Ca-reduplication	C-reduplication	reduplication for plurality
*mi-	<i>m-</i>	prefix indicating ‘to have/possess N’
*ma-ka-	<i>m-k-</i>	abilitative (attested in Seediq)
*pa-ka-	<i>p-k-</i>	causative of abilitative

Given (19), the cognate of the sequence *mu-* in Atayalic varieties is predicted to be *m-*, with the vowel *u-* phonologically deleted—exactly what is observed in the *m-*-marked one-place clauses. This offers a simple account for the non-allomorph-like behaviors of the prefix *m-* in the Atayalic agentless construction, as well as its apparent portmanteaus behavior.

I argue accordingly that the *m-*-construction in Atayalic is best analyzed as a *mu-*-construction cognate with (14)-(17), which is likely to involve a valency-decreasing process marked by the prefix sequence *mu-*. More evidence for this analysis will be presented in section 3.

### 3 *Mu-* = AV prefix *m-* + detransitivizer *u-*

In this section, I turn to two questions concerning the syntactic properties of the *mu-*-construction:

- (20) a. What is the function of the prefix sequence *mu-*? Is the fact that it shares an *m-* component with AV morphology a coincidence?  
 b. What is the syntactic property of the *mu-*-marked one-place construction (and its *m-*-marked equivalence in Atayalic)?

Prior to this work, the *mu-*-marked agentless construction has been reported in number of reference grammars and dictionaries (Bunun: Lin 2001; Thao: Blust 2003; Puyuma: Teng 2008, Cauquelin 2015; Rukai: Zeitoun 2007).<sup>11</sup> Both Teng (2008:179-181) and Cauquelin (2015) refer to the prefix sequence *mu-* in Puyuma as a (monomorphemic) anticausative affix without presenting specific diagnostics for the syntactic properties of the *mu-*-construction. I will argue in 3.1 that the sequence *mu-* contains an AV prefix *m-* and a valency-decreasing affix *u-*. In 3.2, I demonstrate that the *mu-*-construction represents an understudied type of detransitive construction distinct from all four common types of derived intransitive (passives, anticausatives, middles, and impersonals).

#### 3.1 The role of *m-* and *u-* in the *mu-*-construction

There are three potential analyses for the prefix sequence *mu-*:

- (21) a. *Mu-* is a monomorphemic valency-decreasing (agent-eliminating) affix.  
 b. *Mu-* is a monomorphemic portmanteau affix that functions both as an AV affix and a valency-decreasing affix.  
 c. *Mu-* is bimorphemic, consisting of an AV affix *m-* and a valency-decreasing affix *u-*.

The analysis in (21a) can first be ruled out, as treating *mu-* as a monomorphemic valency-decreasing affix would make the *mu-*-construction exceptional to an otherwise well-motivated generalization, that every lexical verb in Philippine-type Austronesian languages must carry a voice marker, except for sporadic cases, where voice morphology is null (see, e.g., typical traits of Philippine-type languages defined in McKaughan 1971:158, Blust 2002:63-64, and Chen & McDonnell 2019:176). Analyzing the *mu-*-construction as bearing a zero-marked voice affix is however disfavored, as *m-*'s presence as a prefix in this construction follows directly from an allomorphic

<sup>11</sup>Zeitoun (2007) refers to a *mo-*-marked construction in Mantauran Ruaki as an anticausative, though most examples presented there are instances of *o-* (reflex of \**u-* in Mantauran) attached to a nominal root, which are different from the canonical examples discussed in this paper.



rule shared across Philippine-type languages, that AV morphology must surface as a prefix *m-* when attached to vowel-initial stems (22) (Blust 2013:384).<sup>12</sup> This allomorphic rule is attested in all languages with a *mu*-construction.<sup>13</sup>

(22) AV affix → { *m-* on V-initial stems }

Given the vocalic nature of the affix *u-*, an AV affix attached to it is predicted to surface as a prefix *m-*—exactly what is observed with the prefix sequence *m-u-*. The fact that the *mu*-construction displays an argument-marking pattern consistent with one-place AV-constructions (see (8)) reinforces the notion that *m-* is an AV affix, and lends support to the bimorphemic analysis of *mu-* (21c).

This analysis is additionally supported by language-specific evidence from Puyuma and Rukai. In Puyuma, the AV prefix *m-* is overt in the perfective and phonologically null in the future imperfective, as seen in (23).

(23) Aspect-sensitive AV morphology in Puyuma

- a. M-ekan=ku                    la dra    kuyan adaman.                    [AV; perfective]  
     AV.(PRF)-eat=SG.PIVOT PRF ID.ACC shrimp yesterday.  
     ‘I already ate shrimp yesterday.’
- b. ∅-a-ekan=ku                    dra    kuyan andaman.                    [AV; future imperfective]  
     AV.IRR-IMPF-eat=1SG.PIVOT ID.ACC shrimp tomorrow.  
     ‘I will eat shrimp tomorrow.’

The *m-* component in the *mu*-construction displays exactly the same alternation, reinforcing the idea that it is an AV affix. As seen in (24) and (25), in the perfective, a *mu*-construction presents the affixation *m-u-*, whereas in the future imperfective, only the affix *u-* is morphologically present. That the agent in the *u*-marked imperfective clause is obligatorily absent enhances the current claims that (i) the prefix *m-* behaves like a normal AV prefix, and (ii) the affix *u-* is independent of the AV morpheme *m-*, and is responsible for the elimination of the agent/initiator.

(24) Aspect-conditioned morphological alternation of *m-* in Puyuma *mu*-construction

- a. M-u-sapana’                    la i                    Akang.                    [perfective]  
     AV.(PRF)-DETR-cheat PRF SG.PIVOT Akang  
     ‘Akang was cheated.’

<sup>12</sup>The examples below illustrate this rule: when an AV affix is attached to a consonant-initial stem (e.g. *saba* ‘help’, *capu* ‘sweep’), it surfaces as an infix <em>; when attached to a vowel-initial root (e.g. *aleb* ‘close’, *apa* ‘carry’), it surfaces as a prefix *m-*.

(1) Thao

- a. Yaku    c<m>apu taun.                    [<m> with C-initial stem]  
     1sg.pivort <AV>sweephouse  
     ‘I’m sweeping the house.’ (Blust 2003:342)
- b. Ama M-apa sa cumay.                    [m- with V-initial stem]  
     father AV-carryTOP bear  
     ‘Father carried a bear.’ (Blust 2003:298)

(2) Puyuma

- a. S<em>aba na                    walak kan                    tinataw.                    [<em> with C-initial root]  
     <AV>help DF.PIVOT child    SG.ACC his/her.mother  
     ‘The child helps his mother.’ (Cauquelin 2015:392)
- b. M-apung=ku                    la dra    kualrengan na walak.                    [m- with V-initial stem]  
     AV-calm.down=1SG.PIVOT PRF ID.ACC sick                    LK child  
     ‘I calm down the sick child.’ (Cauquelin 2015:60)

<sup>13</sup>Sources: Seediq: Tsukida 2009; Thao: Blust 2001; Puyuma: Teng 2008; Cauquelin 2015; Bunun/Saaroa/Rukai/Atayal: ODFL

- b.  $\emptyset$ -u-a-sapana'=yu. [future imperfective]  
AV.IRR-IMPF-cheat=2SG.PIVOT  
 'You will be cheated.'

- (25) Aspect-conditioned morphological alternation of *m-* in Puyuma *mu*-construction
- a. M-u-sanga' la na ruma. [perfective]  
AV.(PRF)-DETR-make PRF DF.PIVOT house  
 'The house was already built.'
- b.  $\emptyset$ -u-a-sanga'=yu. [future imperfective]  
AV.IRR-IMPF-make=2SG.PIVOT  
 'The house will be finished building tomorrow.'

While the Puyuma data sheds light on the nature of *m-*, Rukai presents specific evidence that *u-* is a valency-decreasing affix. As seen below, Rukai exhibits a number of zero-marked Actor Voice bivalent verbs that denote two-place constructions. When marked with the prefix *u-*, however, such verbs are translated into a passive verb in an agentless one-place sentence in Mandarin, indicating that the affix *u-* is responsible for the absence of the agent/cause.

(26) Rukai

	zero-marked (two-place)		<i>u</i> -marked (one-place; agentless)
a	renere 'cause to drown'	vs.	u-renere 'be drown'
b	kadrulu 'to push down'	vs.	u-kadrulu 'to fall down'
c	cilri 'to abandon'	vs.	u-cilri 'to be lost'
d	ruru-a 'drop-IMP.'	vs.	u-ruru 'fall, to be dropped'
e	lacungu 'to burn'	vs.	u-cungu 'to be burned'

Finally, the current analysis makes a testable prediction: if the affix *m-* in the *mu*-construction is indeed an AV affix subject to the allomorphy rule in (22) (repeated in (27)), an AV-marked two-place construction should form a minimal pair with its *u*-marked counterpart when the construction is formed with a vowel-initial verb, hence: [*m*-V<sub>bivalent</sub> (two-place) vs. *m*-*u*-V<sub>bivalent</sub> (one-place)].

- (27) AV affix  $\rightarrow$  { *m-* on V-initial stems }

This prediction is borne out with data from Puyuma and Rukai. The two-place/one-place alternation conditioned by the minimal pair *m-* and *mu-* (28)-(29) reinforces that *u-* is a valency-decreasing affix independent of *m-*.<sup>14</sup>

(28) Puyuma

- a. M-apit=ku dra inupidran. [AV prefix *m-*: 2-place predicate]  
AV-pile.up=1SG.PIVOT ID.ACC garland.  
 'I piled up the garlands.'
- b. Mu-apit na kirwan. [*mu*-sequence: 1-place predicate]  
MU-pile.upDF.PIVOT clothes.  
 'The clothes are piled up.' (Cauquelin 2015:60)

(29) Puyuma

- a. M-abak=ku la dra rumay i pawti. [AV prefix *m-*: 2-place pred.]  
AV-contain=1SG.PIVOT PRF ID.ACC rice LOC gunnysack  
 'I have put rice in the gunnysack.'

<sup>14</sup>For the reasons discussed above, there are independent reasons that disfavor analyzing *mu-* as a monomorphemic portmanteau affix that functions both as an AV affix and a valency-decreasing affix.

- b. **Mu**-abak na rumay kananu=pawti. [mu-sequence: 1-place pred.]  
MU-contain DF.PIVOT rice 2SG.POSS.OBL=gunnysack.  
 ‘The rice has been put into your gunnysack.’

(30) Rukai

- a. Lri ngu babangate **m**-alra ka kaka. [AV prefix *m*-: 2-place predicate]  
 FUT how.many nine AV-take PIVOT older.brother  
 ‘My older brother will only take nine (of these).’
- b. Madha puapuakwini lri ki mu-alra. [mu-sequence: 1-place predicate]  
 NEG place.there FUT ACC MU-take  
 ‘Do not put (it) there, (it) will be taken away.’ (ODFL)

Thao, which exhibits a special allomorphic rule that requires AV morphology to surface as a prefix when preceding either vowel-initial or liquid-initial stems (Blust 2003:44), presents similar evidence for the current claim. As seen in (31)-(32), under such environments, we observe the same minimal pair of *m*- and *mu*- that conditions the one-place/two-place argument structure alternation. This, along with the Puyuma and Rukai data above, enhances the analysis that *u*- is a valency-decreasing affix independent of the AV prefix *m*-.

(31) Thao

- a. Yaku a ma-kan fizfiz, **m**-ruqit shapa. [AV prefix *m*-: 2-place clause]  
 1SG.PIVOT LK AV-eat banana AV-peel skin  
 ‘I will eat a banana, peel its skin.’
- b. Nak a kuskus **mu**-ruqit. [mu-sequence: 1-place clause]  
 1SG.POSS LK leg MU-peel  
 ‘My leg is scratched.’ (Blust 2003:848)

(32) Thao

- a. Caycay **m**-rubuz nak a taun. [AV prefix *m*-: 2-place clause]  
 3PL.PIVOT AV-demolish 1SG LK house.ACC  
 ‘They demolished my house.’
- b. **Mu**-rubuz na ruza. [mu-sequence: 1-place clause]  
MU-demolish DET boat.PIVOT  
 ‘The boat broke down.’ (Blust 2003:843)

I conclude accordingly that the *mu*-construction is a derived intransitive construction marked with an AV affix *m*- and a detransitivizer *u*-.

### 3.2 The *mu*-construction as an understudied type of derived intransitive

A subsequent question arising from the current analysis is whether the *mu*-construction is the equivalent of some crosslinguistically common type of derived intransitive constructions such as passives, anticausatives, middles, or impersonals. In this subsection, I demonstrate that the *mu*-construction in fact represents an understudied type of detransitive construction that has received scant attention in the literature.

An impersonal analysis for the *mu*-construction can first be ruled out. Impersonals are characterized by the absence of object-promotion followed by the downgrading of the agent/cause. This differs from other types of derived intransitives, which require the original object to upgrade to subject status and bears subject case-marking. This is seen in the data below from Polish. In the impersonal (33a), the theme remains as an object and bears accusative case-marking despite the absence of a lexical agent/cause, as opposed to the passive construction (33b), which contains an upgraded nominative-marked theme subject.

(33) Polish

a. Impersonal

Rodzano **dzieci** w domu.  
born.IMPERS **children.ACC** in home  
'(They) bore children at home.' (Levine 2005:21)

b. Passive

**Jan** był obtabowany przez nich.  
**Jan.NOM** was robbed.3M.SG by them  
'Jan was robbed by them.' (Maling & Sigurjónsóttir 2002:103)

The *mu*-construction is distinct from an impersonal, given the obligatorily subject-marking (i.e. pivot) on the theme. This is exemplified with the Puyuma examples (34a-c).

(34) Puyuma

- a. M-u-sabana' la {**na**/\***kana**} bulraybulrayan. [mu-construction]  
AV-U-cheat PRF {**DF.PIVOT**/\***DF.ACC**} young.lady  
'The young lady was cheated.'
- b. K<em>a-kawang **na** bulraybulrayan.  
<AV>CA.RED-walk **DF.PIVOT** young.lady  
'The young lady is walking.'
- c. Tr<em>ima dra pangudral **na** bulraybulrayan.  
<AV>buy ID.ACC pineapple **DF.PIVOT** young.lady  
'The young lady bought pineapples.'

The *mu*-construction is incompatible with a middle analysis, either. Middles are standardly defined as agentless one-place constructions with an unmarked bivalent verb (Kemmer 1993; Kaufmann 2007), as in (35)-(36). The *mu*-construction, on the other hand, requires an overt detransitivizing affix on the verb, as defined in 2.3. In addition, middle constructions are often characterized as containing a subject that is simultaneously the initiator and the undergoer of the event (e.g. O'Grady 1980; Croft 1991). This property is not observed with most cases of *mu*-constructions, which typically contains an undergoer subject. This can be seen in the table in (45) and examples presented in the following parts of the paper.<sup>15</sup>

(35) English middles

- a. The car *drives* well.  
b. The book *sells* well.  
c. Glass bottles *break* easily.  
d. Love letters *write* easily. (Chun 2003:145)

(36) Dutch middles

- a. Deze muur schildert gemakkelijk.  
this wall paint easily  
'This wall paints easily.'

<sup>15</sup>It is nevertheless noteworthy that the *mu*-construction can be used for sentences with middle semantics. Consider the examples below.

- (1) a. Puyuma  
Salaw m-u-trima na aputr.  
very AV-DETR-buy DF.PIVOT flowers  
'The flowers sell well.'
- b. Saaroa  
M-u-acuhlua-a kiu'u naka manganicu.  
AV-DETR-burn-PROJ wood be.dry  
'Dry wood burns easily.' (ODFL)

- b. Dit vlees snijdt gemakkelijk.  
 this meat cut easily  
 ‘This meat cuts easily.’ (Hoekstra & Roberts 1993:183)

The *mu*-construction is incompatible with either a passive or an anticausative analysis, either. Passive constructions across languages are compatible with agent-denoting prepositional adjuncts (henceforth *by*-phrases) (see, e.g. Marantz 1984; Levin & Rappaport Hovav 1995; Reinhart 2000; Alexiadou et al. 2006), as in (37)-(38). Anticausatives, on the other hand, are incompatible with *by*-phrases, but occasionally allow the presence of an adjunct prepositional phrase that embeds the cause of the event (henceforth *from*-phrases) (DeLancey 1984; Pinon 2001; Levin & Rappaport 2005; Kallulli 2005; Alexiadou et al. 2006). Consider the English and German examples (37)-(38).

- (37) English  
 a. The window was closed (by John/\*from John). [passive]  
 b. The window closed (from the wind/\*by John). [anticausative]
- (38) German  
 a. Die Vase wurde (von Peter) zerbrochen. [passive]  
 the vase was (by Peter) broken  
 ‘The vase was broken (by Peter).’  
 b. Die Vase zerbrach (durch ein Erdbeben/\*von Peter). [anticausative]  
 the vase broke (through an earthquake/\*by Peter)  
 ‘The vase broke (from the earthquake/\*by Peter). (Alexiadou et al. 2006:184-5)

According to primary fieldwork, the *mu*-construction in Puyuma and Seediq are incompatible with agent-denoting *by*-phrases, but occasionally allowing the presence of a cause-denoting *from*-phrase, as in (41)-(42).<sup>1617</sup> This indicates that the construction is not a passive.<sup>18</sup>

- (39) Puyuma  
 a. Mu-deru na patraka (✓dra kadaw/\*kana walak/\*draw draw).  
 [MU-cook] DF.PIVOT meat (ID.OBL sun/\*DF.OBL child/\*ID.OBL someone)  
 ‘The meat (was) cooked (from sunshine/\*by the child/\*by someone).’  
 b. Mu-truwal na aleban (✓dra balri/\*kana sinsi/\*draw traw).  
 [MU-open] DF.PIVOT door (ID.OBL wine/\*ID.OBL teacher/\*DF.OBL teacher)  
 ‘The door opened (from the wind/\*by the teacher/\*by someone).’  
 c. Mu-sabsab na palridring (✓dra udal/\*kana bangsaran/\*draw draw).  
 [MU-wash] DF.PIVOT car (ID.OBL rain/\*DF.OBL young.man/\*ID.OBL someone)  
 ‘The car (was) washed (from rain/\*by the young man/\*by someone).’

(40) Seediq

<sup>16</sup>The claim that this construction is distinct from a passive is additionally informed by the presence of a *ki*-marked passive-like construction in Puyuma, which is compatible with agent-denoting *by*-phrases. Consider the example below:

- (1) The *ki*-construction in Puyuma  
 Ki-karatr ku=suan (kana ngiyaw/kan Senten).  
 [PASS-bite] 1SG.PIVOT.POSS=dog (DF.OBL cat/\*ID.ACC teacher/\*SG.OBL Senten)  
 ‘My dog was bitten (by the cat/by Senten).’

<sup>17</sup>In Puyuma and Seediq, adjunct prepositional phrases take the same case marker with core objects, similar to those in modern English. Their syntactic status is nevertheless distinct from core objects given their optionality.

<sup>18</sup>This observation is consistent with data from ODFL, which, to the best of my knowledge, contains no instances of *mu*-construction with an agent-denoting *by*-phrase.

- a. m<n>rqeraq (✓∅ bohu/✓∅ bruwa/\*∅ Walis) ka qhuni.  
 [MU<PRF>fall] (OBL typhoon/\*OBL thunder/\*OBL Walis) PIVOT wood  
 ‘The wood fell (from the typhoon/from the thunder/\*by Walis).’
- b. Wada m-setuq (✓∅ bohu/\*∅ pais) ka hako=ta.  
 PRF [MU-break] (OBL typhoon/\*OBL enemy) PIVOT bridge=1PL.POSS  
 ‘Our bridge broke (from a typhoon/\*by the enemy).’
- c. Wada m-dengu (✓∅ mttlux/\*∅ Dakis) ka qhuni.  
 PRF [MU-roast] (OBL hot.wind/\*OBL Dakis) PIVOT wood  
 ‘The wood was heated (from hot wind/\*by Dakis).’

The *mu*-construction also differs from passives in its incompatibility with agent-oriented adverbs. As exemplified with the English and German data below, passive constructions across languages are free to be modified by an agent-oriented adverb (41)-(42).

(41) English

- a. The vase was broken (✓deliberately). [passive]  
 b. The vase broke (\*deliberately). [anticausative]

(42) German

- a. Die Vase wurde (absichtlich) zerbrochen. [passive]  
 the vase was (deliberately) broken  
 ‘The vase was broken (✓deliberately).’
- b. Die Vase (absichtlich) zerbrach. [anticausative]  
 the vase (deliberately) broke  
 ‘The vase broke (\*deliberately).’

The *mu*-construction in Puyuma and Seediq, on the other hand, cannot be modified by agent-oriented adverbs ((43a), (44a)), as opposed to its AV-marked two-place counterpart ((43b), (44b)). This enhances the current claim that it is not a passive.

(43) Puyuma

- a. (\*Tr<em>akatrakaw) m-u-ekan na kuraw. [mu-construction]  
 (secretly<AV>) [AV-DETR-eat] DF.PIVOT fish  
 ‘The fish was eaten (\*secretly).’
- b. (✓Tr<em>akatrakaw) m-ekan na ngiyaw kana kuraw. [AV-construction]  
 (secretly<AV>) [AV-eat] DF.PIVOT cat DF.ACC fish  
 ‘The cat ate the fish (secretly).’

(44) Seediq

- a. (\*M-nseung) m-qaliq ka patis na Pawan. [mu-construction]  
 (AV-deliberately) [MU-tear] PIVOT book POSS Pawan  
 ‘Pawan’s book was torn (\*deliberately).’
- b. (✓M-nseung) S<m><n>qliq ∅ patis na Pawan ka Temi. [AV-construction]  
 (AV-deliberately) [AV<PRF>tear] ACC book POSS Pawan PIVOT Temi  
 ‘Temi tore Pawan’s book deliberately.’

Finally, the fact that the *mu*-construction is compatible only with a subset of bivalent verbs in all seven languages observed with this construction reinforces that it is not a passive—as passivization is highly productive across languages (e.g. Marantz 1984; Roeper 1987; Levin & Rappaport Hovav 1995; Alexiadou et al. 2006).

All diagnostics so far seem to suggest that the *mu*-construction is an anticausative. A closer look at its distribution however reveals that it does not fit well with that analysis. Anticausativization is standardly defined as compatible only with change-of-state verbs, which allow an inchoative counterpart that denotes a *spontaneous* event (Haspelmath 1993:90). An anticausative construction is therefore incompatible with bivalent verbs that denote *agent-oriented* semantics, such as ‘cut’, ‘wash’, ‘build’, or ‘catch’ (see, e.g. Smith 1970; Haspelmath 1993:93; Levin & Rappaport Hovav 1995:105-106; Alexiadou 2006:6). The *mu*-construction’s compatibility with agent-oriented verbs that do not allow an inchoative counterpart (e.g. ‘catch’, ‘gather’, ‘cut’, ‘bend’) therefore indicates that it is not an anticausative. See below for a sample list of verbs compatible with the *mu*-construction in the seven languages discussed in 2.3 (45).

(45) Bivalent verbs compatible with the  $u_{\text{DETR}}$

	Agent-oriented verbs	Causative-inchoative verbs	Sources
a. Thao	catch with a trap, demolish, gash, scratch, peel, rive, tear, tear, untie, catch in a trap	break, break down, extinguish, fall off, fall into pieces, loosen, split wide open	ODFL, Blust (2001)
b. Puyuma	bury, carve, catch, cheat, cleave, comb, cook, cut, lock, pack, take	break, break down, burst open, burn, close, collapse, crack, sink, spray	Cauquelin (2015), Teng (2008), primary data
c. Bunun	demolish, flip, spin, collect, mix, gather, mash, pull up, rub, scatter, untie	break, crack, crush, fall off, spray, loosen, collapse, spray, break into pieces	ODFL
d. Saaroa	bury, catch with a trap, cut open, polish	burn, extinguish, fall, loosen, melt, open	ODFL
e. Rukai	abandon, burn, push, squash, take	be blown away, be drown, fall, open	ODFL
f. Atayal	bend, block, demolish, drop, rive, tie	break, break off, decay, fall, float, trip	ODFL
g. Seediq	abandon, demolish, roast, drop, remove, rive, stick in, trip, tear, untie	accumulate, break, break off, crack, crush, be drown, fall, split wide open, trip	ODFL

I conclude accordingly that the *mu*-construction represents an understudied-type of detransitive construction distinct from all four common types of derived intransitives known in the literature. Whether a similar construction exists in similar languages and/or other language families awaits future investigation.

#### 4 The diachronic source of the detransitivizer \*u-

In this section, I turn to two diachronic questions arising from the wide distribution of the *mu*-construction across seven higher-order Austronesian languages:

- (46) a. What is the diachronic source of the detransitivizer *u-*? Is its homophony with the Proto-Austronesian motion prefix *\*u-* (Starosta 1995; Blust 2003) merely a coincidence?  
 b. If the valency-decreasing function of *u-* is a product of grammaticalization, when had the grammaticalization process completed?

In 4.1, I propose that the diachronic source of the detransitivizer is a homophonous motion prefix. I then present evidence in 4.2 that the proposed evolutionary pathway of *GO* > *valency-decreasing affix* had already completed prior to the split of Proto-Austronesian. I argue accordingly that *\*u-* was already a bi-functional affix compatible with both locative nouns and bivalent verbs in Proto-Austronesian.

#### 4.1 Two functions of *u-* in Formosan

Much previous work has shown that the prefix sequence *mu-* in many Formosan languages bears one other function—a motion prefix attached to locative nouns ( $N_{\text{locative}}$ ) and denotes the meaning of ‘move/go to  $N_{\text{locative}}$ ’ (Starosta 1995; Blust 2003, Teng 2008; 2013; Liao 2011; Adelaar 2011, 2014; Li 2009, a.o.). This function is illustrated in (47). For the sake of clarity, I refer to this sequence as *mu-N<sub>locative</sub>* and the one attached to bivalent verbs as *m-u-V<sub>bivalent</sub>* in the following discussion.

- (47) a. *Bunun*  
 Sanavan hai, **mu-lumah** masabah. [mu- attached to a nominal root]  
 night TOP, **MU-house** AV.sleep  
 ‘At night, go home and sleep.’ (ODFL)
- b. *Rukai*  
 Lri **mu-lregelrege**=ku lwiya. [mu- attached to a nominal root]  
 will **MU-mountain**=1SG.PIVOT tomorrow  
 ‘I will go to the mountain tomorrow.’ (ODFL)
- c. *Thao*  
 Ihu uan **mu-fafaw** malhinuna. [mu- attached to a nominal root]  
 2SG. PART **MU-upper.location** AV.talk  
 ‘Please go up to the upper location and talk.’ (ODFL)

According to previous descriptions, the *mu-N<sub>locative</sub>* construction is attested in at least seven higher-order Austronesian languages: Thao, Rukai, Puyuma, Bunun, Saaroa, Siraya, and Cebuano.<sup>19</sup> Under either Blust’s (1999) or Ross’s (2009) subgrouping, these languages represent the majority of Austronesian primary branches, indicating that the *mu-N<sub>locative</sub>* construction is uncontroversially reconstructable to Proto-Austronesian, as has been argued in previous work (Starosta 1995; Blust 2003, 2013; Liao 2011). Examples of this construction are presented in (48)-(54). The subgrouping affiliation of each languages under Blust (1999)’s subgrouping is indicated in the parenthesis.

- (48) *Thao* (Western Plains)  
*mu-buhat* ‘go to the field’ < *buhat* ‘field’ (ODFL)  
*mu-pruq* ‘descend, go down’ < *pruq* ‘earth, down’ (ACD)  
*mu-sazum* ‘enter the water’ < *sazum* ‘water’ (ACD)
- (49) *Puyuma* (Puyuma)  
*mu-ruma* ‘go home’ < *ruma* ‘home’ (primary data)  
*mu-ami* ‘go to the north’ < *ami* ‘north’ (primary data)  
*mu-enay* ‘go to the water’ < *enay* ‘water’ (primary data)

<sup>19</sup>Sources: Blust 2001, 2013; Lin 2001; Teng 2008; Li 2014; Adelaar 2012; ACD; ODFL; .



- (50) *Bunun* (Bunun)  
*mu-lumah* ‘go home’ < *lumah* ‘house’ (ODFL)  
*mu-aisku* ‘approach’ < *aisku* ‘vicinity’ (ODFL)  
*mu-nata* ‘go out’ < *nata* ‘outside’ (ODFL)
- (51) *Saaroa* (Tsouic)  
*mu-sakesakelahle* ‘walk along the river’ < *sakesakelahle* ‘river’ (ODFL)  
*mu-a-tapiras* ‘walk through a cliff’ < *tapiras* ‘cliff’ (ODFL)  
*mu-siparu* ‘go to the opposite bank’ < *siparu* ‘the opposite bank’ (ODFL)
- (52) *Rukai* (Rukai)  
*u-lebe* ‘go down to a lower position’ < *lebe* ‘lower position’ (ODFL)  
*u-lataadre* ‘’ < *lataadre* ‘outside’ (ODFL)  
*u-ulringedele* ‘go to toilet’ < *ulringedele* ‘toilet’ (ODFL)
- (53) *Siraya* (East Formosan)  
*mu-buhat* ‘go to the field’ < *buhat* ‘field’ (ODFL)  
*mu-pruq* ‘descend, go down’ < *pruq* ‘earth, down’ (ACD)  
*mu-taipai* ‘go to Taipei’ < *taipai* ‘Taipei’ (ACD)
- (54) *Cebuano* (Malayo-Polynesian)  
*mu-grahi* ‘go to/toward the garage’ < *grahi* ‘garage’ (Blust 2013:379)  
*mu-lawud* ‘move to/toward the sea’ < *lawud* ‘sea’ (Blust 2013:379)

The homophony of  $mu-N_{\text{locative}}$  and  $m-u-V_{\text{bivalent}}$  raises an important question: is  $mu-N_{\text{locative}}$  bimorphemic, as is  $m-u-V_{\text{bivalent}}$ ? A number of researchers have argued that it is indeed bimorphemic (Proto-Austronesian: Starosta 1995; Blust 2003; Thao: Blust 2003, Liao 2011; Puyuma: Teng 2008; Saaroa: Li 2009; Siraya: Adelaar 2011, 2014). I adopt this same position here with two specific pieces of evidence. The first argument follows from two interrelated points presented in section 3.1: first, analyzing the *mu-* as a monomorphemic motion prefix would make the *mu-N* construction an exception to an otherwise well-attested generalization, that every clause in Philippine-type languages must bear voice morphology; second, given the allomorphic rule presented in (22) AV morphology is predicted to surface exactly as a prefix *m-* in the  $mu-N_{\text{locative}}$  construction.

The second argument for the bimorphemic analysis of  $mu-N_{\text{locative}}$  comes from language-specific evidence. In Puyuma, the *m-* component of  $mu-N$  follows the same aspect-conditioned morphological alternation observed with normal AV affixes, revealing that it is an AV allomorph independent of *u-*. As seen in (55)-(56), the prefix *m-* alternates with zero between the perfective and the future imperfective:

- (55) Aspect-conditioned morphological alternation of  $mu_{\text{locative}}$  in Puyuma
- |    |   |        |                |                       |
|----|---|--------|----------------|-----------------------|
| a. | M-u-ruma=ku   | la.    | [perfective]   |                       |
|    | [AV]-U-house=1SG.PIVOT PRF.                             |        |                |                       |
|    | ‘I got home already.’                                   |        |                |                       |
| b. | An milanang na  | birai, | ∅-u-a-ruma=ku. | [future imperfective] |
|    | when be.yellow DEF.PIVOT leaf TOP [AV.IRR]-U-IMPF-house |        |                |                       |
|    | ‘When the leaves turn yellow, I will be back home.’     |        |                |                       |
- (56) Aspect-conditioned morphological alternation of  $mu_{\text{locative}}$  in Puyuma
- |    |                                     |         |              |
|----|-------------------------------------|---------|--------------|
| a. | M-u-uma la i                        | Atrung. | [perfective] |
|    | [AV]-U-field PRF SG.PIVOT Atrung.   |         |              |
|    | ‘Atrung already went to the field.’ |         |              |

- b. Ø-u-a-uma=ku. [future imperfective]  
 [AV.IRR]-U-IMPf-field=1SG.PIVOT  
 'I will go to the field.'

Rukai and Thao provide parallel evidence for this claim. Consider the non-indicative examples (57a-b), where AV morphology is zero-marked while *u-* remains as an overt motion prefix.<sup>20</sup>

- (57) a. Rukai  
 Lri u-dradha numi kay ki lregelrege.  
 FUT U-upper.location 2PL.PIVOT this ACC mountain  
 'You will climb this mountain.' (ODFL)
- b. Thao  
 U-fafaw ihu k<m>ufulh sa tafuq.  
 U-upper.location 2SG.PIVOT <AV>build ACC roof  
 'You climb to the upper location to build the roof.' (ODFL)

I conclude accordingly that *u-N<sub>locative</sub>* is an independent affix, as is *u<sub>DETR.</sub>*

#### 4.2 The diachronic source of the detransitivizer \*u-

Given the discussion above, *u-* bears at least two functions: a detransitivizer (when attached to bivalent verbs) and a motion prefix (when attached to locative nouns). This raises an important question: is the homophony of the two *u-* merely a coincidence?

The evolutionary pathway of valency-decreasing affixes deriving from motion-denoting verbs such as GO, COME, and FALL has been attested in multiple language families. Sanso & Ramat (2016), for example, report a derivational pathway observed in multiple Indo-European languages, where the motion verb 'go' was grammaticalized as a detransitivizing affix that eliminates the agent of the clause. Consider the examples below from Italian, Hindi, Vedic Sanskrit, and Marathi.

- (58) Examples of a passive morpheme derived from a GO-verb
- a. *Italian* (Italic)  
 La domanda va presentata su carta libera.  
 ART application [GO.PRS.3SG]~>PASS present.PFV.PTCP ON paper free.PRS.PTCP  
 'The application must be done on simple paper.' (Sanso & Ramat 2016:114)
- b. *Hindi* (Western Hindi, Indo-Iranian)  
 Kitabẽ pəṭhĩ gəĩ.  
 book.F.PL read.PFV.PTCP-F [GO.PFV.F.PL]~>PASS  
 'The books were read.' (Kachru 2006:93)
- c. *Vedic Sanskrit* (Indo-Iranian)  
 Asura-rakṣaṣaāni mṛdyamtānina yanti.  
 Asuras.and.Rakshas.N.PL crush.MID.PTCP.N.PL [GO.PRS.3PL]~>PASS  
 'The Asuras and Rakshases are being continually crushed.' (*Satapatha-brahmana* 1.1.4.14; Monier-Williams 1889, s.v. *i-* 'go')
- d. *Marathi* (Marathi-Konkani, Indo-Iranian)  
 Rām-kaḍūn pustak wātsla gela nāhi.  
 Ram-by book.N read.PFV.PTCP.3SG.N [go.PST.3SG.N]~>PASS NEG  
 'The book was not read by Ram.' (Pandharipande 1997:396)

<sup>20</sup>See Adelaar (2014:114) for a similar diagnostic on the Siraya motion prefix *u-*.

In all four languages, the lexical verb ‘go’ functions as a valency-decreasing affix whose presence correlates with the absence of the agent/cause, demonstrating a striking parallel to the *mu-* construction in Austronesian. The same grammaticalization process has also been attested in Equadorian Quechua (Haspelmath 1990:39), where the verb *ri* ‘go’ was grammaticalized into a passive suffix. A similar grammaticalization pathway is reported in Korean (Koreanic) (Haspelmath 1990:39), Tamil (Dravidian) (Asher 1985:151), and Boondei (Bantu) (Torrend 1891:272, 275), where the motion verb FALL was evolved into a passive affix. The fact that the change of ‘GO > passive affix’ is observed not only across language families but also in at least two subbranches of Indo-European (Latin and Indo-Iranian) (57a-d) reinforces that the directionality of a motion verb (‘GO’) developing into a valency-decreasing morpheme is not rare.

I propose accordingly that  $u$ -V<sub>bivalent</sub> is likely to have developed from  $u$ -N<sub>locative</sub>, similar to the cases noted above. This proposed directionality of  $u$ <sub>MOTION</sub>- >  $u$ <sub>DETR</sub>- is illustrated with the Puyuma examples below:

- (59) Puyuma
- a. M-u-ruma la i Senten. [ $m$ - $u$ <sub>MOTION</sub>-construction]  
 $\overline{\text{AV-}} \overline{\text{GO}} \overline{\text{-house}}$  PRF SG.PIVOT Senten.  
 ‘Senten has gone home.’
- b. M-u-də?də? na tralrun. [ $m$ - $u$ <sub>DETR</sub>-construction]  
 $\overline{\text{AV-}} \overline{\text{GO}} \overline{\rightsquigarrow \text{DETR}} \overline{\text{-trample}}$  DF.PIVOT grass.  
 ‘The grass was trampled.’ (Cauquelin 2015:126) (Lit. The grass has gone trampled.)’

Finally, it is noteworthy that the morpheme  $u$  is used as a lexical verb ‘go’ in Puyuma and Rukai, two single-member Austronesian primary branches under either Blust’s or Ross’s subgrouping. Assuming that this verb is a retention from Proto-Austronesian, it lends additional support to a possible derivational pathway of ‘GO (lexical verb) > motion prefix > detransitivizing affix’ for  $*u$ .<sup>21</sup>

- (60) a. Puyuma  
 U-a i takesian.  
 $\text{go}$ -PROJ LOC school  
 ‘Go to school.’ (ODFL)
- b. Rukai  
 lu  $\text{m-u}$  latadra.  
 walk AV-U outside  
 ‘Go to the outside.’ (ODFL)

### 4.3 The chronology of the detransitivizing affix $u$ -

A subsequent question of the current analysis is the chronology of the proposed grammaticalization of  $u$ <sub>MOTION</sub>- >  $u$ <sub>DETR</sub>-. In what follows, I entertain three possible scenarios in (61a-c) and argue that the process had completed prior to the split of Proto-Austronesian.

- (61) a. Only  $u$ -N<sub>locative</sub> and not  $u$ -V<sub>bivalent</sub> existed in Proto-Austronesian. The wide distribution of the latter in higher-order Austronesian languages is a result of independent innovations and/or borrowing.
- b. Neither function existed in Proto-Austronesian. The wide distribution of both is a result of independent innovations and/or borrowing.
- c. Both functions existed in Proto-Austronesian.

The table in (62) summarizes the distribution of  $u$ -N<sub>locative</sub> and  $u$ -V<sub>bivalent</sub> in higher-order Austronesian languages. As seen below, both functions are attested in at least six Austronesian primary branches under Blust’s (1999) subgrouping—or three out of four primary branches under Ross’s (2009) subgrouping.<sup>22</sup> The subgrouping trees of Blust (1999) and Ross (2009) are presented in (63).

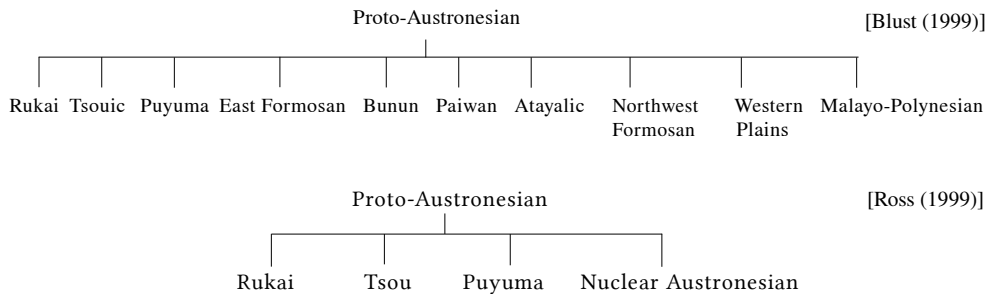
<sup>21</sup>Atalay exhibits a similar lexical verb *uwah* ‘go/come’ (ODFL), which might be etymologically related to  $u$  ‘go’ in Puyuma and Rukai.

<sup>22</sup>The Siraya texts discussed in Adelaar (2011) contain a few examples of  $u$ <sub>DETR</sub>-, which bear passive semantics and combine

(62) The distribution of  $u$ -N<sub>location</sub> and  $u$ -V<sub>bivalent</sub> in higher-order Austronesian languages

		$u$ -N <sub>location</sub> motion prefix	$u$ -V <sub>bivalent</sub> detransitivizer	Subgrouping affiliation	
				Blust (1999)	Ross (2009)
a	Rukai	✓	✓	Rukai	Rukai
b	Puyuma	✓	✓	Puyuma	Puyuma
c	Thao	✓	✓	Western Plains	Nuclear Austronesian
d	Bunun	✓	✓	Bunun	Nuclear Austronesian
e	Atayal		✓	Atayalic	Nuclear Austronesian
f	Seediq		✓	Atayalic	Nuclear Austronesian
g	Saaroa	✓	✓	Tsouic	Nuclear Austronesian
h	Siraya	✓	(✓)	East Formosan	Nuclear Austronesian
i	Yami		(?)	Malayo-Polynesian	Nuclear Austronesian
j	Cebuano	✓		Malayo-Polynesian	Nuclear Austronesian

(63) Austronesian primary-level subgrouping: Blust (1999) vs. Ross (2009)



Given this distribution,  $u$ -V<sub>bivalent</sub> is best analyzed as a retention from Proto-Austronesian, as is  $u$ -N<sub>locative</sub>. Analyzing the proposed grammaticalization process as a post-Proto-Austronesian development (61a) is dispreferred, as that proposal entails a non-economic assumption that the change of ‘GO > valency-decreasing affix’ emerged in more than half a dozen of Austronesian primary branches as independent drifts. The proposal in (61b) is also disfavored for the same economy reasons stated above. Importantly, the fact that only  $u$ <sub>DETR</sub>- (and not  $u$ <sub>MOTION</sub>-) is attested in Atayalic and that the affix is syntactically present but morphologically opaque in the  $m$ -construction introduced in section 1 reinforces the scenario that Proto-Atayalic inherited the  $m$ - $u$ <sub>DETR</sub> construction from Proto-Austronesian, prior to the vowel deletion process in Proto-Atayalic.

Finally, the fact that  $u$ -V<sub>bivalent</sub> shows different degrees of productivity among the languages in (62), and that verbs combining with this affix vary across languages with few cognates attested, strongly favors a retention analysis (61c) over a borrowing analysis (61a-b). The geographic distribution of the languages summarized in (62) further demonstrates that a borrowing scenario is difficult to maintain, as some languages that possess  $u$ <sub>DETR</sub>- have not been reported to have historical contact with one another, for instance, Atayalic and Puyuma/Rukai.

I conclude accordingly that the proposed grammaticalization process of ‘GO > valency-decreasing affix’ is best analyzed as completed prior to the primary-level split of the Austronesian family. If this analysis is on the right track, Proto-Austronesian \* $u$ - may have already been a bi-functional affix, with the bifunctionality inherited by the majority of Austronesian primary branches.

with a verbal rather than nominal stem. For instance:  $m$ -aring ‘to throw’ vs.  $m$ - $u$ -aring ‘to fall (into)’ (possibly: ‘be thrown into’) (Adelaar 2011:131),  $m$ - $u$ -kiap ‘to be astonished’ (Adelaar 2011:131), and  $pa$ - $u$ -tari-en ‘to be poured out’ (CAUS-DETR-pour-PV) (Adelaar 2014:107). In his (2014) paper, Adelaar discusses three cases of AV/ $m$ - $u$ -conditioned argument structure alternation formed with a bivalent verb (2014:111, (28)), although he does not analyze the affix  $u$ - as a valency-decreasing affix and describes it as a motion prefix: “verbs sometimes have different derivations contrasting the affixation of an Actor Voice prefixes and a motion prefix” (2014:111). Yami (Malayo-Polynesian) appears to exhibit some remnant forms of  $u$ <sub>DETR</sub>- (realized as  $o$ - in the language). Consider the following forms reported in ODFL:  $m$ - $o$ -zim-ozib ‘disappear (one-place) vs.  $om$ -ozib (AV-hide) ‘to hide’ (two-place). Whether or not this alternation is attested with more bivalent verbs in Yami awaits future investigation.

## 5 Implications

In this section, I investigate how the existence of a *mu*-construction in multiple Philippine-type Austronesian languages enables a better understanding of synchronic Philippine-type syntax and early Austronesian morphology. In 5.1, I discuss a word-formation strategy associated with the *mu*-construction that has received scant attention in the literature. In 5.2, I revisit a longstanding debate on the transitivity of two-place AV constructions in Philippine-type Formosan languages, and argue that the *mu*-construction provides new evidence for a transitive analysis.

### 5.1 Detransitivization as a strategy for forming unaccusative verbs

As revealed in the data presented in the preceding sections, Formosan languages commonly employ the detransitivizer *u-* for forming unaccusative semantics (e.g. ‘fall,’ ‘slip,’ ‘break down,’ ‘break,’ ‘collapse,’ ‘crush,’ ‘sink,’ ‘extinguish’), as a number of crosslinguistically prototypical unaccusative verbs allow a two-place construction in these languages, where the cause/agent of the event is obligatorily present. This pattern is illustrated with the examples in (64)–(68).

(64) Puyuma

- a. M-u-kuwatis na palriding. [AV-*u-*: unaccusative]  
AV-DETR-break.down DF.PIVOT car  
 ‘The car broke down.’
- b. K<em>uwatis i Siber kanku=palriding. [AV: 2-place clause]  
<AV>break.down SG.PIVOT Siber 1SG.POSS.ACC=car  
 ‘Siber made my car break down (*lit.* ‘The child breaks down my car.’)’

(65) Atayal

- a. Cyux m-[Ø]-qlwi qu balung qhuniq. [*m*-(*<\**m-*u-*): unaccusative]  
 PROG AV-DETR-make.float PIVOT big.tree wood  
 ‘The wood floats on the water.’ (ODFL)
- b. Nyux=sami q<m>lwi Ø qqparung. [AV: 2-place clause]  
 PROG=1SG.PL.EXCL <AV>make.float ACC China.Fir  
 ‘We are making the China Fir float (on water).’ (ODFL)

(66) Seediq (Tgdaya)

- a. Ma wada m-[Ø]-cilaq (ka) cida na cakus nii di?  
 how.come PRF AV-DETR-break.off (PIVOT) branch POSS Comphor.tree this PART  
 ‘How come the branch of this Comphor tree broke off?’ (ODFL)[unaccusative]
- b. Hwaun=su c<m>ilaq Ø cida na brkawe kii Awi?  
 Why=2SG.PIVOT <AV->break.off ACC branch POSS plum.tree that Awi  
 ‘Why did you break off the branch of the plum tree, Awi?’ (ODFL) [AV: 2-place clause]

(67) Bunun<sup>23</sup>

- a. Utung hai, m-u-halhal aat panpataz. [AV-*u-*: unaccusative]  
 monkey TOP, AV-DETR-fall and.then die.AV  
 ‘(The) monkey fell and died.’
- b. Ma-halhal a uvaaza mas lapat. [AV: 2-place clause]  
AV-fall PIVOT child ACC guava  
 ‘The child made the guava fall (*lit.* ‘The child fell the guava.’) (ODFL)

<sup>23</sup>As discussed in fn.11, the prefix *ma-* is a typical AV affix in Bunun, although it is homophonous with the stative prefix *ma-* commonly found in higher-order Austronesian languages. That Bunun *ma-* is a typical AV affix is evidenced by the fact that the reflexes of a number of PAN-level AV verbs surfaces in *ma-* form in Bunun (e.g. Bunun *ma-un* vs. PAN \*k<um>aen ‘eat’; Bunun *m(a)-das* vs. PAN \*um-adaS ‘bring’; Bunun *ma-alak* vs. PAM \*alag ‘to fetch, get, take’ (ACD)). I assume that the change of the AV affix is a secondary innovation that took place after the split of Bunun from PAN. Therefore, it does not affect the allomorphic rule in (25).

- (68) Saaroa
- a. M-u-cacuhlu-a      kiu'u naka manganicu.      [AV-*u*-: unaccusative]  
 AV-DETR-burn-PROJ wood AUX be.dry  
 'Dry woods are easy to burn.' (ODFL)
- b. C<um>acuhlu a      tamalungaluna hliasaasapa.      [AV: 2-place]  
 burn<AV>      PIVOT uncle      field  
 'Uncle used fire to burn the field.'

As shown above, these semantically unaccusative-like roots denote a two-place construction by default, with the agent/cause of the event bearing subject case-marking. This reveals that the unmarked argument structure selected by these roots is transitive, rather than inchoative; to form a one-place clause, a detransitivization strategy must be used. This word-formation strategy is reminiscent of causative-inchoative alternation, but is not restricted to verbs that fall under the causative-inchoative subclass.<sup>24</sup> As this strategy is attested in various Formosan languages under different Austronesian primary branches, we can conclude that detransitivization may have been a productive word-formation strategy in early Austronesian morphosyntax, and was later inherited by multiple primary-level daughter languages.

## 5.2 The *m-u*-construction as evidence against the antipassive analysis of Philippine-type Actor Voice

Finally, it is important to note that the existence of a *mu*-construction in multiple Philippine-type Formosan languages sheds new light on a longstanding debate with regard to the transitivity of Philippine-type two-place Actor Voice constructions.

Over the past several decades, a widely-adopted analysis of Philippine-type Actor Voice has been to treat AV-marked two-place clauses as a derived intransitive construction that functions as the intransitive counterpart of Patient Voice constructions. Under this analysis, bivalent AV-clauses are antipassive constructions that contain a demoted non-core oblique object (e.g. De Guzman 1988; Payne 1982; Gerdtz 1988; Mithun 1994; Aldridge 2004, 2012; Liao 2004; Huang 2005; Chang 2011, a.o.). This analysis is illustrated with the data below from Seediq and Tagalog (69)-(70).

- (69) AV-PV alternation in Seediq
- a. S<m><n>eeliq      ∅      rodux ka Iwan.      [actor voice]  
 <AV><PRF>butcher "OBL" chicken PIVOT Iwan  
 'Iwan butchered the chicken.'
- b. S-seeliq-un      na Iwan ka rodux.      [patient voice]  
 RED-butcher<PV>GEN Iwan PIVOT chicken  
 'Iwan will butcher the chicken.'
- (70) AV-PV alternation in Tagalog
- a. P<um>atay si      Aya kay Maria.      [actor voice]  
 <AV>kill      PN.PIVOT Aya PN."OBL" Maria  
 'Aya killed Maria.'
- b. P<in>atay ni      Aya si Maria.      [patient voice]  
 <PV.PRF>kill PN.GEN Aya PN.PIVOT Maria  
 'Aya killed Maria.'

<sup>24</sup>As Haspelmath (1993) shows, languages fall into three types in terms of their strategy in forming causative-inchoative verbs. The first type treats the causative verbs as the default and marks their inchoative counterparts as the derived; the second type, on the contrary, treats the inchoative verbs as the default. Yet a third type employs morphological marking for both groups. The four Formosan languages discussed in this paper employ a strategy similar to the first type. Instead of employing a separate verb form for a number of crosslinguistically typical unaccusative verbs, these forms are derived through detransitivizing a transitive root.

This analysis stands as the foundation of the ergative view of Philippine-type Austronesian languages. As seen below, by treating two-place AV constructions as syntactically intransitive, the alleged intransitive subject (S) patterns with the transitive object (O) in PV clauses in morphological marking, indicating that these languages manifest morphological ergativity.

(71) The ergative view of Philippine-type AV and PV clauses

	a. 1-place AV clauses	b. 2-place AV clauses	c. PV clauses
agent	<b>Pivot (S)</b>	<b>Pivot ("S")</b>	<b>GEN</b>
theme	--	"OBL"	<b>Pivot (O)</b>
<i>analysis</i>	intransitive	"antipassive"	transitive

An antipassive analysis of Formosan two-place AV constructions is nevertheless controversial, given two salient discrepancies between canonical antipassives and Philippine-type two-place AV constructions. First, canonical antipassive constructions allow their object to be freely omitted, as illustrated with the Kaqchikel and Chukchi examples in (70). Omission of the object of Formosan two-place AV constructions, however, yields ungrammaticality, as seen in (73).<sup>25</sup>

(72) Antipassives in Kaqchikel and Chukchi

- a. Pero rin y-i-tz'et-o (r-ichin). *Kaqchikel*  
 but 1SG INCOMPL-1SG.ABS-watch-AP (3SG-OBL)  
 'But I'm watching (him/it).' (Heaton 2017:351)
- b. ʔətt-ən ine-piri-ʔʔi (melotaly-tə). *Chukchi*  
 dog-ABS AP-catch-AOR.3SG (hare-DAT)  
 'The dog caught (a/the hare).' (Polinsky 2017:7)

(73) Philippine-type two-place AV clauses

- a. K<em>etket i Atrung \*(dra patraka). *Puyuma*  
<AV>cut SG.PIVOT Atrung \*(ID.ACC meat)  
 'Atrung cut \*(some meat).'
- b. Ga k<m>ayak \*(Ø siyang) ka Demu. *Seediq*  
 PROG <AV>cut \*(ACC pork) PIVOT Demu  
 'Demu is cutting \*(pork).'

Second, while antipassive constructions across languages are characterized by an overt valency-decreasing morpheme (Dixon 1979; Dryer 1990; Anderson 1976; Polinsky 2017; Heaton 2017, a.o.) (e.g. *-o* in Kaqchikel (72a) and *ine-* in Chukchi (72b)), Philippine-type two-place AV constructions do not bear any specific morphology that indexes the alleged object demotion. Rather, the putative antipassive bears exactly the same verbal morphology with monovalent intransitives (i.e. AV morphology), as seen in (74)-(75).

(74) Puyuma

- a. K<em>a-kawang na bulraybulrayan. [1-place]  
<AV>CA.RED-walk DF.PIVOT young.lady  
 'The young lady is walking.'
- b. Tr<em>ima dra pangudral na bulraybulrayan. [2-place]  
<AV>buy ID.CM<sub>1</sub> pineapple DF.PIVOT young.lady  
 'The young lady bought pineapples.'

<sup>25</sup>See Foley 1998, Paul & Travis 2006, and Riesberg 2014 for a similar critique for the ergative view of Philippine-type Austronesian languages.

- (75) Tagalog
- a. P<um>anaw ang babae. [1-place]  
 <AV>die CN.PIVOT woman  
 ‘The woman died.’
- b. K<um>ain ang babae ng kandi. [2-place]  
 <AV>eat CN.PIVOT woman ID.CM<sub>1</sub> candy  
 ‘The woman ate candy.’

This necessitates an undesirable assumption for the ergative view of Philippine-type Formosan languages, that antipassivization is not overtly marked, while the basic transitives bear a specific marker (i.e. PV morphology). Such an argument-marking pattern with marked basic transitives and unmarked derived intransitives, to the best of my knowledge, is crosslinguistically rare, if observed at all.

Now, the fact that the alleged antipassive construction (e.g. (76a)) is compatible with agent detransitivization (e.g. (76b)) provides additional evidence against the intransitive/antipassive view of two-place AV constructions.

- (76) Puyuma
- a. K<em>uwatis na walak kanku=palriding. [AV: 2-place clause]  
 <AV>break.down DF.PIVOT child 1SG.POSS.ACC=car  
 ‘The child breaks down my car.’
- b. M-u-kuwatis na palriding. [AV-*u*-: unaccusative]  
 AV-DETR-break.down DF.PIVOT car  
 ‘The car broke down.’

In principle, derived intransitives such as antipassives are incompatible with valency-decreasing operations, as it is crosslinguistically rare (if observed at all) for two valency-decreasing operations to co-occur in the same clause. Analyzing AV-marked two-place clauses as an antipassive would therefore place Philippine-type languages in a crosslinguistically unique class, where antipassivization and agent detransitivization may apply to the same bivalent clause, downgrading both the agent and the theme and yielding a construction with no core argument. Bivalent AV construction’s compatibility with the detransitivizer *u*- therefore reinforces the idea that prototypical two-place AV constructions are true transitives with two core arguments, rather than antipassives/derived intransitives.<sup>26</sup>

A final question to the current conclusion is whether the transitive analysis of two-place AV clauses is reconstructable to Proto-Austronesian. I suggest that the answer is affirmative. As the *mu*-construction is attested in six of the ten Austronesian primary branches (see (62)), it is best analyzed as a retention from Proto-Austronesian. This conclusion, at the same time, undermines the ergative view of prototypical Philippine-type languages, as that approach relies crucially on the intransitive/antipassive analysis of two-place AV constructions (see (71)). The current conclusion also casts doubt on a well-adopted view in the literature that the Actor Voice affix is an intransitive marker (e.g. Aldridge 2004 et seq.; Liao 2004; Huang 2005; Teng 2008; Chang 2011, 2013; Wu 2013, a.o.)—as AV morphology is compatible with both intransitives (e.g. (74a), (76b)) and true transitives (e.g. (76a)) under the current analysis, indicating that it is not a transitivity-indicating affix. This lends support to a families of accusative approaches to Philippine-type languages (Chung 1998; Richards 2000; Pearson 2005; Rackowski & Richards 2005; Chen 2017), according to which Actor Voice morphology is an agreement marker that may appear in both transitives and intransitives, whose presence indicates that the subject of the clause is simultaneously the topic.

<sup>26</sup>By “prototypical two-place AV constructions”, I refer to AV-constructions borne with a reflex of Proto-Austronesian \*<um>. Having said this, I remain agnostic about the possibility of AV constructions becoming more antipassive-like in lower-level Philippine-type languages due to secondary innovations. I also set aside the question of whether Actor Voice constructions in some Philippine-type languages may be “less transitive” than PV constructions under Hopper & Thompson’s (1980) criteria of semantic transitivity, as the focus here is about valency and syntactic transitivity.



## 6 Conclusion

This paper has investigated a valency-decreasing operation attested in multiple Philippine-type Formosan languages, which is commonly used for forming unaccusative/inchoative constructions. I demonstrated that the detransitivizer *u-* that marks this operation is likely to have derived from a homophonous motion prefix *\*u-* prior to the split of Proto-Austronesian. The fact that two-place Actor Voice constructions are compatible with this detransitivization operation in languages under six Austronesian primary branches, I argue, undermines the baseline assumption of the ergative approach to Philippine-type Austronesian languages, as it reveals that prototypical two-place AV constructions are true transitives eligible for detransitivization, rather than antipassives.

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