

## RE-LABELING “ERGATIVE”: EVIDENCE FROM FORMOSAN\*

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This paper examines the distributional restrictions on two basic case markers in morphologically conservative Philippine-type languages: (i) the morphological marking on the pivot, conventionally labeled “absolutive”/“nominative”, and (ii) the morphological marking on non-pivot external arguments, conventionally labeled “ergative”/“genitive”, and demonstrates that they are better analyzed as a marker of informational structure status (topic) and the reflex of structural nominative Case, respectively. With novel data from Puyuma, Amis, and Seediq, we present a nominative-accusative analysis for Philippine-type Formosan languages with an A'-agreement analysis for Philippine-type voice affixes, and argue for the presence of an A/A'-distinction in Philippine-type voice system.

### 1. Introduction

There is a consensus in the Austronesian comparative literature that a Philippine-type four-way voice system can be traced back to Proto-Austronesian, which is reconstructed as having the four-way argument-marking distinction presented in (1) (Blust 2015, Ross 2009, 2006, Reid 1979).<sup>12</sup>

- (1) A four-way case distinction reconstructable to Proto-Austronesian
- (i) *Pivot*: the morphological marking on the sole phrase in a clause eligible for A'-extraction
  - (ii) *X*: the morphological marking on non-pivot external arguments
  - (iii) *Y*: the morphological marking on non-pivot internal arguments
  - (iv) *Z*: the morphological marking on locative phrases

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<sup>1</sup> To remain theory neutral, we refer to the case markers reconstructed as ‘nominative’, ‘genitive’, and ‘oblique’ in Blust (2015), Ross (2006), and Reid (1979) as pivot, X, and Y, throughout the paper.

<sup>2</sup> Aldridge (2016) makes a different proposal, claiming that the Philippine-type voice system did not emerge after the split off of Rukai, a Formosan language that exhibits only an active-passive contrast synchronically. It is nevertheless uncontroversial that the four-way case distinction in (1) can be traced back to the ancestor of all Philippine-type Austronesian languages.

The case distinction in (1) is preserved in the majority of Philippine-type Formosan languages. The shared case pattern among these languages is presented in (2).

(2) The distributions of pivot-, X-, Y-, and Z-marked phrases under each voice

	Actor voice	Patient voice	Locative voice	Circumstantial voice
External argument	Pivot	X	X	X
Internal argument	(Y) <sup>3</sup>	Pivot	(Y)	(Y)
Locative	(Z)	(Z)	Pivot	(Z)
Instrument/Benefactor	(Y)	(Y)	(Y)	Pivot

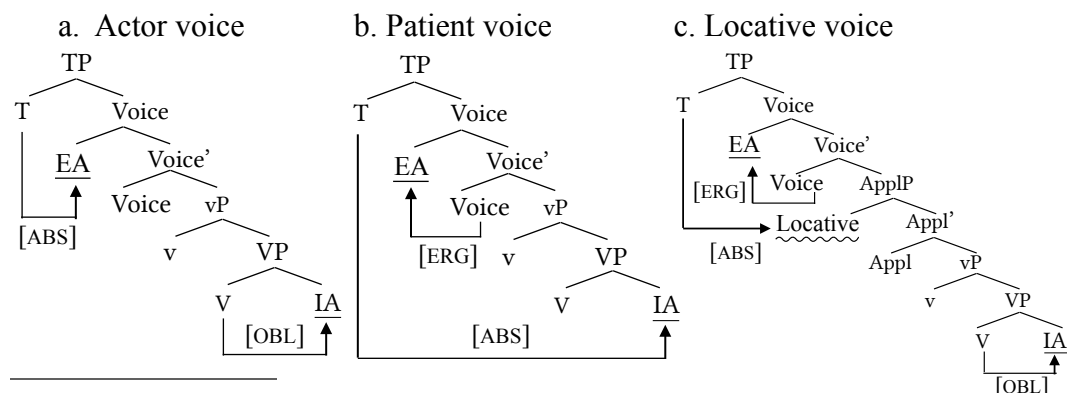
Whether the voice system morphologically encoded by such a case pattern exhibits an ergative, accusative, or typologically unique alignment has long been a core concern in Austronesian syntax. One well received analysis built on the ergative approach to these languages analyzes (2) in the following way (3):

(3) The ergative approach to Philippine-type languages (Aldridge 2004, to appear)

- a. X marks inherent Case from transitive Voice (ergative).
- b. Pivot marks structural absolutive Case from T/C (absolutive/nominative).
- c. Y marks lexical Case from the verb (oblique).

Under this analysis, the absence of X-marking in Actor voice is attributed to the assumption that Actor voice clauses are intransitive/antipassive constructions that have no ergative Case to assign to the external argument (4a), whereas all non-Actor voice clauses are transitives with a *transitive Voice*<sup>0</sup> assigning ergative Case to the external argument (4b). To account for how certain non-core arguments receive pivot-marking in Locative (LV) and Circumstantial (CV) voice clauses, it is additionally proposed that an LV/CV affix is the morphological reflex of a high applicative head, which licenses a non-core phrase as an applied object at [Spec ApplP], where the applied object is Case-licensed by absolutive Case as it is structurally the highest Caseless phrase in the clause (Aldridge 2004 et seq.) (4c).

(4) Case-licensing in a Philippine-type voice system under the ergative analysis



<sup>3</sup> Parentheses in (2) indicate that the presence of the phrase is optional.

In this paper, we examine the ergative approach to Philippine-type languages in (3) by investigating the distributions of X-marking and pivot-marking in three Philippine-type Formosan languages, Puyuma, Amis, and Seediq, each of which belongs to a different Austronesian primary-level branch and exhibits a pivot-only constraint in A'-extraction and an elaborate case distinction presented in (2). With novel data from the three languages, we argue against an absolutive and ergative Case analysis for pivot and X, respectively, and put forward the following analysis:

- (5) Main claim of the paper
- a. Philippine-type languages are nominative-accusative, rather than ergative.
  - b. X realizes structural nominative Case assigned by finite T.
  - c. Pivot is a topic marker that overrides morphological case.
  - d. Philippine-type languages employ an obligatory A'-agree relation between an A'-head (Topic<sup>0</sup>) and a specific phrase that bears a [topic] feature. A phrase with a [topic] feature carries pivot-marking regardless of its Case status.
  - e. Following (b)-(d), Philippine-type languages exhibit an A/A'-distinction, with [Spec TP] as the subject position and promotion-to-pivot as an A'-phenomenon.

The remainder of the paper is organized as follows. We first describe the distributional restrictions of X-marking in Puyuma, Amis, and Seediq, and show that they are incompatible with an inherent ergative Case analysis for X (§2). We then investigate the nature of the pivot-marking with novel binding data from the three languages, which argue against a structural absolutive Case analysis for pivot-marking (§3). Following sections 3 and 4, we present a nominative-accusative analysis for the three languages, with the proposal that pivot is a topic marker, rather than the reflex of nominative/absolutive Case (§4). We then discuss the shared binding facts in Philippine-type languages, which lend further supports to the topic analysis for pivot-marking (§5). Section 6 concludes.

## **2. The distribution of X-marking**

Under the ergative approach to Philippine-type languages, X-marking realizes an inherent ergative Case assigned by transitive Voice<sup>0</sup> (3a). Therefore, its presence is predicted to be associated with the presence of *transitive Voice<sup>0</sup>* and restricted to *external argument position*. In this section, we begin with the case pattern in a specific construction shared by Puyuma, Amis, and Seediq, where X-marking departs from the external argument position and the presence of transitive Voice<sup>0</sup>.

### **2.1. Puzzle 1: X-marking on unaccusative subjects**

Across Puyuma, Amis, and Seediq, when an LV/CV clause contains an intransitive verb, the sole argument of the verb is obligatorily X-marked regardless of its argument status, as illustrated in (6)-(8).

- (6) Puyuma: X-marking on intransitive subject<sup>4</sup>
- a. tu=unkun-ay na kalikali. [unergative]  
 3.X=jump-LV DF.PIVOT ditch  
 'He/she jumped across the ditch.'
- b. tu<sub>i</sub>=atel-ay (kandri na balasa)<sub>i</sub> na ruma'. [unaccusative]  
 3.X=fall-LV (X.this LK stone) DF.PIVOT house  
 'It/this stone fell on the house.'
- (7) Amis: X-marking on intransitive subject
- a. ka-keru-an<sup>5</sup> aku ku luma' aku. [unergative]  
 dance-LV 1SG.X PIVOT house 1SG.POSS  
 'I danced in my house.'
- b. ka-tulu'-an aku kuna lalan. [unaccusative]  
 slip-LV 1SG.X PIVOT.that road  
 'I slipped on that road.'
- (8) Seediq: X-marking on intransitive subject
- a. p-puyas-an na laqi ka sapah=mu. [unergative]  
 IRR-sing-LV X child PIVOT house=1SG.POSS  
 'The children will sing in my house.'
- b. h-huqil-an na riso nii ka paran. [unaccusative]  
 IRR-die-LV X young.man this PIVOT Paran  
 'This young man will die in Paran.'

If unaccusativity (Perlmutter 1978, Burzio 1986) holds for intransitive verbs in all three languages, the data above suggest that X-marking is insensitive to the external/internal distinction among intransitive subjects, as it appears on both external arguments selected by unergative verbs (e.g. 'sing', 'dance', 'run') and internal arguments selected by unaccusative verbs (e.g. 'fall', 'slip', 'die'), therefore contradicting the inherent ergative Case analysis of X-marking (3a).

That unaccusativity is present in all three languages is evidenced by three independent pieces of evidence. First, across the three languages, putative unaccusative verbs take an AV affix distinct from that for putative unergative and transitive verbs (9).

<sup>4</sup> Unlike Amis and Seediq, Puyuma does not productively employ Locative voice to license intransitive roots, and prefers to express them under Actor voice. Nevertheless, a limited number of intransitive roots, both unergative and unaccusative, can still be combined with an LV affix.

<sup>5</sup> In Amis, Locative voice is expressed by the circumfix *ka- ...-an* or *pi- ...-an*, conditioned by the transitivity of the root. When an LV affix is combined with an intransitive root, *ka- ...-an* is obligatorily used. Thus, the prefix *ka-* in (7a-b) is not an additional morpheme (e.g. irrealis marker) attached to the verb, but a part of the LV circumfix *ka- ...-an*. A relevant description of Amis LV affixes can be found in Wu (2006).

(9) Morphological distinction in the AV voice affix

	Unaccusative verb	Unergative/transitive verb
Puyuma	<i>mu-</i>	< <i>em</i> >
Amis	<i>ma-</i>	< <i>um</i> > (unergative), <i>mi-</i> (transitive)
Seediq	<i>m-</i>	< <i>m</i> >

Second, across the three languages, putative unaccusative verbs like ‘fall’ can form lexical causatives by adding a Causee to the clause without employing causative morphology on the verb. Putative unergative verbs like ‘sing’ cannot form lexical causatives, and require causative morphology to form syntactic causatives, as exemplified in Puyuma examples (10a-b).

(10) Asymmetry in lexical causative licensing

- a. *mu-atel la na ladru* ✓(dra balri). [Unaccusative]  
 AV<sub>1</sub>-fall PRF DF.PIVOT mango (ID.Y wind)  
 ‘The mango fell/Wind made the mango fall.’
- b. *s<em>enay na walak* (\*kana sinisi). [Unergative]  
 <AV<sub>2</sub>>sing DF.PIVOT chid ( DF.Y teacher)  
 ‘The child sang/\*The teacher made the child sing.’

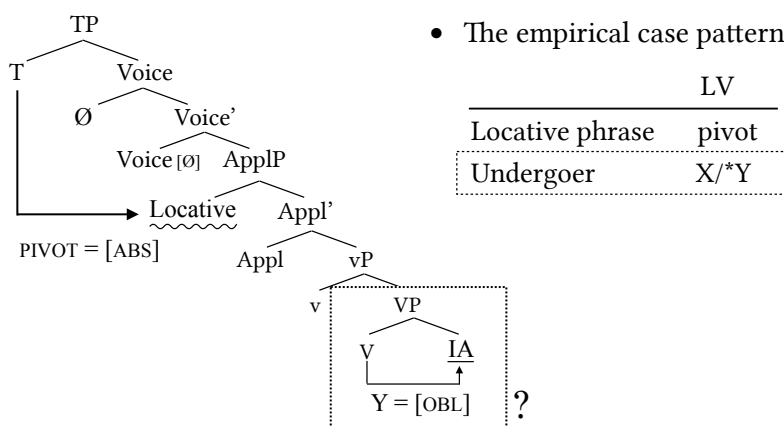
Third, in all three languages, putative unergative verbs allow the licensing of a Y-marked cognate object that shares the same morphological form with the verb stem (e.g. ‘sing’, ‘dance’, ‘dream’), while putative unaccusative verbs do not, as shown in Seediq examples (11a-b).

(11) Asymmetry in cognate object licensing

- a. *k<m><n>eeki=ku* ✓(Ø kingal *keeki*). [Unergative]  
 <AV><PRF>dance=1SG.PIVOT (Y one dance)  
 ‘I danced (a dance).’
- b. *m<n>-takur=ku* (\*Ø kingal *takur*). [Unaccusative]  
 AV<PRF>fall=1SG.PIVOT ( Y one fall)  
 ‘I fell (\*a fall).’

Given the evidence above, we conclude that unaccusativity is manifested in all three languages, and that the X-marked Patient-like phrases in the LV clauses (6b), (7b), and (8b) are licensed as internal arguments. The observation that X-marking appears on internal arguments (i.e. unaccusative subjects) suggests that an inherent ergative Case analysis for X is untenable. Moreover, it reveals an argument-marking pattern difficult to account for under the ergative approach to Philippine-type languages: under the ergative analysis, an internal argument in unaccusative LV clauses (e.g (6b), (7b) and (8b)) is predicted to be Case-licensed by lexical Case from the verb in the same way an internal argument gets Case-licensed under Actor voice (i.e. Y=oblique (3c)), as illustrated in (13).

(13) LV clauses with unaccusative verbs under the ergative analysis (3)



However, as already shown in (6)-(8), the internal arguments in unaccusative LV clauses are not Y-marked, and must bear X-marking.<sup>6</sup>

Importantly, the case pattern in the intransitive clauses under discussion further reveals a mismatch between X-marking and transitive Voice<sup>0</sup>, which is unexpected under the ergative analysis. It is commonly assumed in the Formosan literature that all non-Actor voice clauses are *transitive*, with the X-marking presented in such clauses assigned by the transitive Voice head. However, given that the LV clauses in (6b), (7b), and (8b) involve an unaccusative verb, the assumption that they contain a *transitive Voice<sup>0</sup>* is difficult to maintain.

To conclude, the structure and argument-marking pattern in unaccusative LV clauses from the three languages reveal that X does not behave like an inherent Case.<sup>7</sup> In what follows, we turn to another distributional restriction of X-marking, which provides further evidence against the inherent Case analysis for X-marking.

## 2.2. Puzzle 2: distributional restriction of X in productive causatives

Under the inherent ergative Case analysis of X, the number of X-marked phrases present in a sentence is predicted to correlate with the number of transitive Voice<sup>0</sup> available in it. Therefore, multiple X-marking within a single CP is expected to be possible, if the CP involves more than one VoiceP.

An ideal environment to examine this prediction is productive causative. Productive causatives in Puyuma, Amis, and Seediq are bi-eventive in structure and

<sup>6</sup> Besides the three Formosan languages discussed here, X-marked undergoers in unaccusative LV clauses are also attested in Tagalog (Kaufman p.c.).

<sup>7</sup> A parallel case pattern is also attested in CV clauses with an intransitive verb, as exemplified in the following data from Seediq (12a-b).

- (12) a. s-osa=mu qduriq hori ka dakis.    b. s-knarux na robo ka knrudan=na.  
 CV-go=[ISG.X]escape Puli PIVOT Dakis    CV-be.sick[X Robo] PIVOT age=3SG.POSS  
 'I fled to Puli because of Dakis.'    'Robo got sick because of age.'

involve an agentive Causee and an independent VoiceP that licenses the caused event, as evidenced by the fact that (i) the Causee can be modified by agent-oriented adverbs (14a), (ii) the Causee can bind into the Causand in variable and anaphora binding (14b), and (iii) the caused event can be independently modified by an adverb of frequency (14c), as exemplified in the CV-causative data below.

(14) a. A Causee may be modified by agent-oriented adverbs in CV-causatives

ku=pa-pukpuk-anay kan sawagu pakirep na suwan. [Puyuma]  
 1SG.X=CAU-beat-CV SG.Y Sawagu severely DF.PIVOT dog  
 ‘I made Sawagu<✓> beat the dog severely<✓>.’

b. A Causee may bind into a Causand in CV-causatives

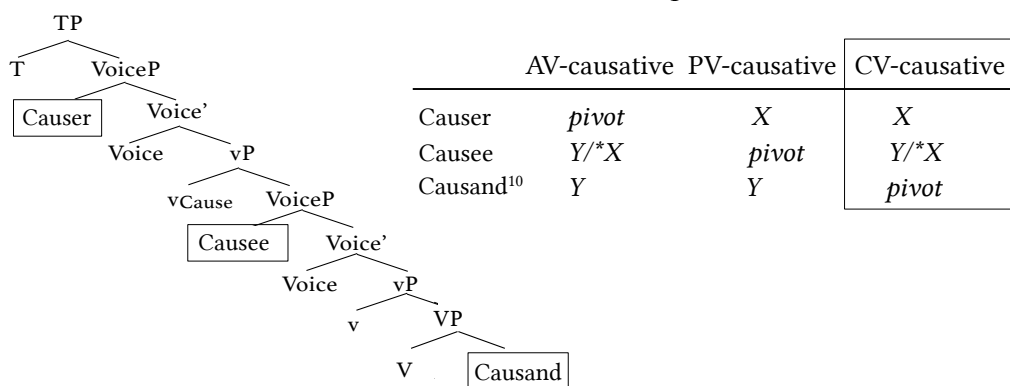
sa-pa-pi-nengneng aku ci-aki-an cingra \*(tu) i dadingu. [Amis]  
 CV-CAU-PI-see 1SG.X PN-aki-Y 3SG.PIVOT REF LOC mirror  
 ‘I made Aki<ι> look at himself<ι> in the mirror.’

c. The caused event may be independently modified by adverb of frequency

s-p-pahu=mu Ø temi dungan ka lukus nii. [Seediq]  
 CV-CAU-wash=1SG.X Y Temi again PIVOT clothes this  
 ‘I made Temi<✓> wash the clothes again<✓>.’ (Temi did it again)

Given (i)-(iii), we propose that CV-causatives across the three languages involve two independent VoicePs, with the Causee licensed as an external argument at the embedded [Spec VoiceP], as in (15a).<sup>8</sup> The shared case pattern in CV-causatives across the three languages is presented in (15b).

(15) a. The structure of causative b. The shared case pattern<sup>9</sup>

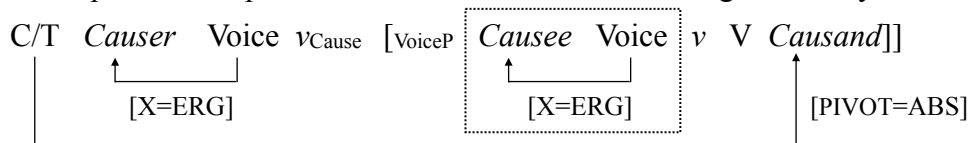


Given that the Causee in CV-causatives is licensed as an external argument, X-marking is predicted to be available to the Causee, if X realizes an inherent ergative Case, since the embedded Voice<sup>0</sup> is an available ergative Case licensor, as illustrated in (16).

<sup>8</sup> See Chen (same volume) for a more detailed discussion of Formosan causatives.

<sup>9</sup> For the sake of simplicity, we refer to the Theme of the caused event as *Causand* in this paper.

(16) An expected case pattern in CV-causatives under the ergative analysis for X



However, while ergative-marked Causee has been reported in typologically diverse range of ergative languages, including Macushi (Cabrid), Trumai (isolate), Kabardian (Kabardians), Qiang (Tibeto-Burman), and Agul (Caucasian) (Abbott 1991, Abitov et al. 1957, Guirardello 1999, LaPolla 1996), in Puyuma, Amis, and Seediq, only a *Causer* is eligible for X-marking (15b). A non-pivot-marked Causee in AV- and CV-causatives can only receive Y-marking, as shown in the following CV-causative data (17a)-(c). To the best of our knowledge, the same case-marking restriction is attested across Philippine-type languages, namely, that X-marking is available only to the highest argument within a CP.

- (17) a. (\*tu=)ku=pa-saletra'-anay kan sawagu i senten. [Puyuma]  
 (\*3.X=)1SG.X=CAU-slap-CV SG.Y Sawagu SG.PIVOT Senten  
 'I asked Sawagu to slap Senten.'
- b. Ø ci-ofad ku sa-pa-pi-kalat aku tu/\*nu wacu. [Amis]  
 NEU PN-Ofad PIVOT CV-CAU-PI-bite 1SG.X Y/\*X dog  
 'Ofad is the one that I made the dog bite.'
- c. s-p-tinun=mu Ø/\*na robo ka lukus. [Seediq]  
 CV-CAU-weave=1SG.X Y/\*X Robo PIVOT clothes  
 'I asked Robo to weave the clothes.'

In sum, given the presence of an embedded Voice<sup>0</sup> in productive causatives, the fact that X-marking is available only to the *Causer* remains unexplained under the ergative Case analysis of X. The observed mismatch between X-marking and external theta role/transitive Voice<sup>0</sup>, as well as the unexpected restriction on the distribution of X-marking in productive causatives, calls for a reconsideration of the inherent Case analysis of X.

### 3. Pivot does not mark absolutive/nominative Case

In the discussion so far, we have presented evidence against an inherent Case analysis of X-marking. In what follows, we move on to present our argument against the absolutive Case analysis for pivot-marking (3b) by examining its predictions regarding the structure of LV/CV clauses in Philippine-type languages.

As discussed in section 1, an important implication of the absolutive Case analysis for pivot-marking is that LV/CV clauses must involve *argument structure alternation* that allows arguments with different thematic roles to be accessible to absolutive Case. Under this analysis, a pivot-marked phrase in LV/CV clauses is

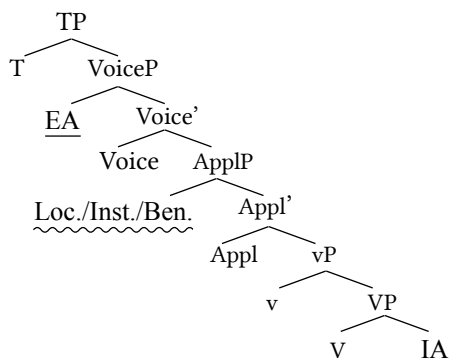


analyzed as an applied object base-generated in the specifier of a high applicative head, which is structurally higher than internal arguments (18a).

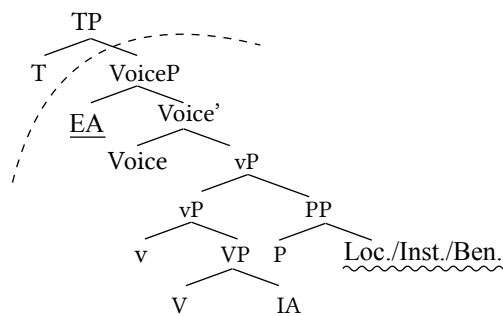
On the other hand, if pivot-marking does *not* realize absolutive Case, as we argue to be the case, the assumption that LV/CV clauses involve argument structure alternation is unnecessary. According to this proposal, a pivot-marked Locative/Instrument/Benefactor phrase may remain an adjunct PP adjoined to the verb phrase, as illustrated in (18b).

The two analyses make different predictions with respect to the binding relations among arguments in LV/CV clauses. Under the ergative analysis, an internal argument in LV/CV clauses is predicted to be unable to bind into the pivot phrase, as the pivot is analyzed as an applied argument at [Spec, High ApplP] that c-commands the internal argument (18a). Under the second analysis, however, an internal argument is predicted to be able to bind into the pivot phrase, i.e. a PP adjunct, if the PP is right-adjoined to the verb phrase (Bruening 2014), as in (18b).<sup>10</sup>

(18) a. Pivot = absolutive Case



b. Pivot ≠ absolutive Case



Binding diagnostics applied to LV/CV clauses suggest that the second proposal (18b) makes the correct prediction. Across Puyuma, Amis, and Seediq, an internal argument can bind into a pivot-marked Locative, Instrument, or Benefactor phrase in an LV/CV clause, as evidenced by the bound variable reading obtained with the pivot-marked pronominal bound by the quantifier internal argument (19a-c).

(19) Binding relations between the pivot and the Theme in CV clauses

- a. ku=deru-anay [tu=si'uy] [kantu=bu'ir kana taynaynayan driya].  
 1SG.X=cook-CV [3.POSS.PIVOT=pot] [3.POSS.Y=taro LK mothers every]  
 'I cooked every mother's<i>ϕ</i> taro with her<i>ϕ</i> pot.' (✓ bound variable reading) [Puy]
- b. sa-pi-tangtang aku [tu futing nu cimacima a tamdaw] [ku si'uy nangra].  
 CV-PI-cook 1SG.X [Y fish POSS every LK person] [PIVOT pot 3PL.POSS]  
 'I cooked every mother's<i>ϕ</i> fish with her<i>ϕ</i> pot.' (✓ bound variable reading) [Amis]

<sup>10</sup> According to Bruening's (2014) proposal of precede-and-phase-command, when a PP is right-adjoined to a VoiceP, it may be bound by the internal argument, as long as (i) the internal argument precedes the PP in linear order, and (ii) both are under the same phase (i.e. VoiceP).

- c. s-beebu=mu [Ø knkingal laqi] [ka qreti=daha]. [Seediq]  
CV-beat=1SG.X [Y every child] [PIVOT stick=3PL.POSS]  
'I beat every child<sub><i>j</i></sub> with his<sub><i>j</i></sub> stick.' (✓ bound variable reading)

That an internal argument can bind into the pivot-marked phrase in an LV/CV clause is compatible with the prediction of the non-applicative approach to LV/CV clauses (18b), while it poses a serious challenge to the ergative/applicative approach to LV/CV clauses (18a), as it fails to predict the binding relation between the pivot and the internal argument attested in (19).

#### **4. An accusative analysis of Philippine-type Formosan languages**

We argue that what remains unexplained under the ergative approach to X (§2) and pivot (§3) can be straightforwardly accounted for under the following analysis (20).

- (20) a. X marks structural nominative Case assigned by finite T.  
b. Pivot is a topic marker that is independent of Case and overrides morphological case.

In what follows, we show how the present analysis correctly predicts the case patterns and binding facts discussed in the previous sections.

##### **4.1. X = structural nominative Case from T**

As shown in section 2, across Puyuma, Amis, and Seediq, X-marking is insensitive to the external/internal argument position among intransitive subjects, but is restricted to the structurally highest argument in productive causatives. Such a distributional restriction follows directly from a structural nominative Case analysis for X, which predicts that X-marking (i) is assigned only to the structurally highest argument in a clause, (ii) can Case-license both unergative and unaccusative subjects, and (iii) is unique in a CP. This analysis correctly predicts the appearance of X-marking on both unergative and unaccusative subjects, as well as its restriction to the Causer in productive causatives.

##### **4.2. Pivot = topic marker**

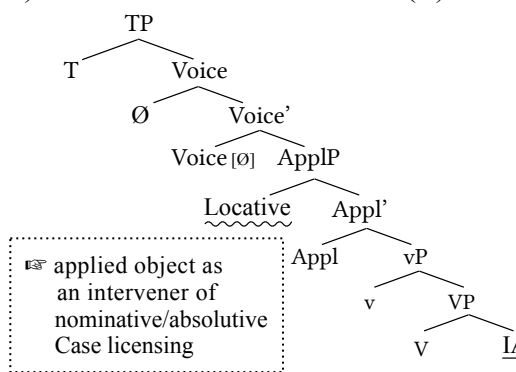
Given that an absolutive Case analysis for pivot fails to account for the binding facts in LV/CV clauses (§3), we argue that pivot is better analyzed as a marker of information structure status (topic) that is independent of Case and overrides morphological case.<sup>11</sup> Under this analysis, a phrase that bears a [topic] feature always carries pivot-marking regardless of its Case status.

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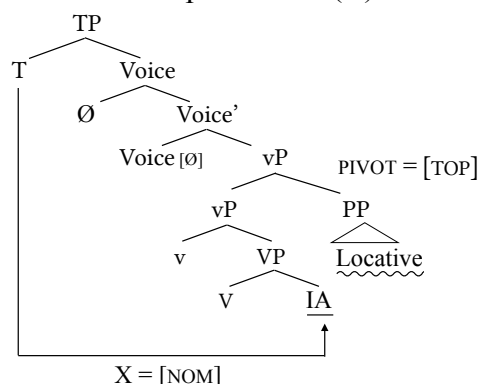
<sup>11</sup> See Chen (same volume) for independent evidence from Formosan causatives and ditransitives against the absolutive Case analysis for pivot-marking.

The topic analysis of pivot-marking correctly predicts the case-marking pattern in unaccusative LV clauses. In section 4.1, we argue that the X-marking of the undergoer in an unaccusative LV clause follows directly from a nominative Case analysis of X. However, such an analysis is incongruent with the assumption that LV/CV clauses involve a pivot licensed as a high applicative phrase, as is a necessarily assumed under the absolutive Case analysis for pivot-marking. This is shown in (21a): under the high applicative analysis of LV/CV clauses, the applied argument in [Spec, High ApplP] would intervene between T and the internal argument, wrongly ruling out such sentences. On the other hand, under the topic analysis of pivot-marking, nominative Case and pivot-marking are independent of each other. A pivot-marked locative adjunct does not compete with the internal argument for nominative Case, and thus correctly predicts a nominative-marked (X-marked) undergoer in unaccusative LV clauses (21b).

(21) a. Pivot = absolutive Case (✗)



b. Pivot = topic marker (✓)



### 4.3. Philippine-type voice affix = A'-agreement marker

Following the topic analysis of pivot-marking, we argue that Philippine-type languages employ an obligatory A'-agree relation between an A'-head (Topic) and a specific phrase within a CP that bears a [topic] feature, with the Agree relation morphologically encoded as voice morphology on the verb. Under the present proposal, the interaction between Case-licensing, voice marking, and the argument-marking pattern in a Philippine-type language that bears a four-way case distinction in (2) is accounted for under the analysis summarized below.

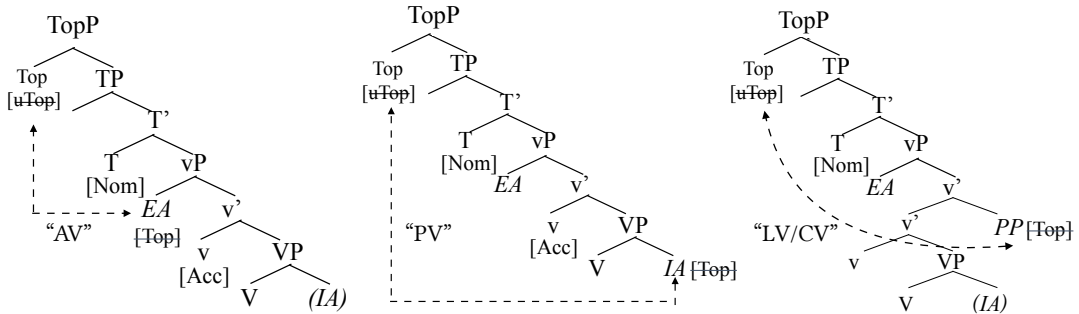
In a Philippine-type language, the structurally highest argument in a clause always receives nominative Case (i.e. X) from T, with the direct object (if any) Case-marked by accusative Case (i.e. Y) from Voice<sup>0,12</sup>. Locative adjuncts are marked with a specific preposition (i.e. Z), with other types of adjuncts Case-licensed by a preposition that shares the same morphological marking with

<sup>12</sup> See Chen (same volume) and Chen and Fukuda (2016) for independently motivated evidence from Formosan causatives, ditransitives, raising-to-object, and restructuring constructions for a structural accusative Case analysis for Y-marking.

accusative Case (i.e. Y). On top of this case-marking system, any phrase that bears a [topic] feature carries obligatory pivot-marking.

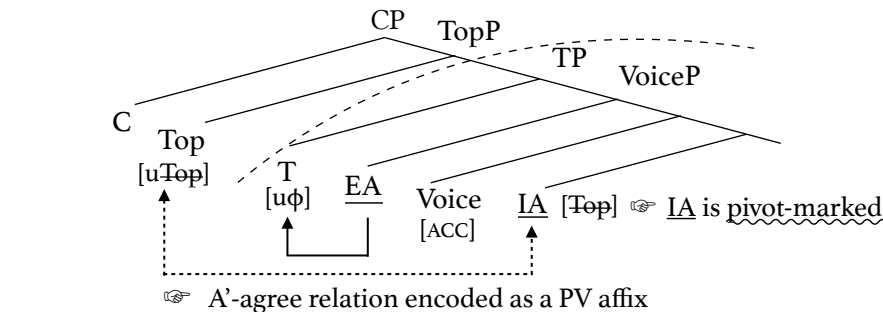
In an AV clause, the *subject* bears a [topic] feature and enters into an A'-agree relation with the Topic head (labeled Top in (22)). Therefore, the topic marker (i.e. pivot) overrides the nominative case (X) on the subject, with the internal argument carrying overt accusative case (Y). The Agree relation between *subject* and the Topic head is morphologically encoded as an AV affix on the verb, as illustrated in (22a). In a PV clause, the *direct object* bears a [topic] feature and enters into an A'-agree relation with Topic<sup>0</sup>, with the Agree relation morphologically encoded as a PV affix. Therefore, the direct object in a PV clause bears pivot-marking, with the external argument carrying overt nominative case (X) (22b). Finally, in an LV/CV clause, a specific temporal/spatial adjunct (LV) or indirect object/adjunct (CV) bears a [topic] feature and agrees with Topic<sup>0</sup>. Thus, a specific 'non-core' phrase bears pivot-marking, with the external and internal argument (if any) carrying nominative (X) and accusative (Y) case, respectively, as in (22c).<sup>13</sup>

(22) a. "AV-agreement" b. "PV-agreement" c. "LV/CV-agreement"



Under the proposed analysis, the design of a Philippine-type voice system is illustrated in (23), which presents the Case-marking and Agree relation within a PV clause as an example.

(23) Proposal: the design of a Philippine-type voice system



<sup>13</sup> See Chung (1994), Richards (2000), Pearson (2001), Rackowski (2002), and Erlewine et al. (to appear) for a family of agreement/extraction approaches to voice affixes in Chamorro, Tagalog, Malagasy, and Atayal.

Following the proposal of Feature-Inheritance (Richards 2007, Chomsky 2008), we propose that the complexity of a Philippine-type voice system derives from its employment of both a topic-probe and a  $\phi$ -probe. The  $\phi$ -probe is inherited by T, which attracts the highest phrase in a clause to [Spec TP] and checks nominative Case (X). Therefore, the subject position in a Philippine-type language is [Spec TP], and the binding relations within a clause are defined within TP, as illustrated in (23). On the other hand, a topic-probe, inherited by a separate head, must enter into an A'-agree relation with a phrase that bears a [topic] feature in the clause, with the Agree relation morphologically indexed as “voice” morphology.

## 5. Supporting evidence

Under the proposed analysis, according to which (i) pivot is a topic marker independent of Case, and (ii) Philippine-type voice affixes morphologically encode A'-agree relation, a pivot-marked element is expected to show A'-properties under standard diagnostics (24a-c). In what follows, we demonstrate that this prediction is indeed observed across Philippine-type languages.

(24) A- and A'-properties (van Urk 2015:23)

	A-properties	A'-properties	
a. Reconstruction for Condition C	✗	✓	☞ findings in Puyuma, Amis, and Seediq
b. New antecedent for anaphor	✓	✗	
c. Weak Crossover	✗	✓	

First, promotion-to-pivot across Puyuma (25a), Amis (25b), and Seediq (25c) does not trigger a Condition C violation, as is also attested in Tagalog (Aldridge 2004:100), and Malagasy (Pearson 2001:102), suggesting that promotion-to-pivot does not create a new binder or affect the binding relations within a clause, as is expected under the topic analysis for pivot-marking.<sup>14</sup>

(25) a. ✓tu<sub>i</sub>=tusuk-aw taytaaw kan isaw<sub>i</sub>. b. ✓ma-palu ni aki cinga tu.  
 3.X=stab-PV 3SG.PIVOT.REF SG.X Isaw PV-beat X Aki 3SG.PIVOT REF  
 ‘Himself, Isaw gave an injection. [Puyuma] ‘Himself, Aki beat.’ [Amis]

Second, in Puyuma, Amis, and Seediq, promotion-to-pivot does not create a new antecedent for anaphor, as shown in (26a-b).

<sup>14</sup> Crucially, in the Nilotic language Dinka, which has been shown to lack an A/A'-distinction, the same construction triggers a Conditioned C violation (van Urk 2015:116). Compare (25c) with (25d).

(25) c. ✓spi-un na iwan ka heya nanaq. d. \*R'ot-dè à-nhéer Bôl.  
 dream-PV X Iwan PIVOT 3SG REF self-SG.3SG 3S-love.OV Bol.GEN  
 ‘Herself, Iwan dreamt of.’ [Seediq] (‘Himself, Bol loves.’) [Dinka]

- (26) a. \*tu<sub>i</sub>=tusuk-aw kantaaw<sub>i</sub> i isaw. b. \*ma-palu nira tu Ø ci-aki.  
3.X=stab-PV 3SG.X.REF SG.PIVOT Isaw PV-beat 3SG.X REF PIVOT PN-Aki  
(‘Isaw, himself gave an injection.’) [Puyuma] (‘Aki, herself beat.’) [Amis]

Finally, promotion-to-pivot in all three languages exhibits a Weak Crossover effect (Postal 1972, Lasnik & Stowell 1991), another typical A'-property. As exemplified in the Puyuma data (27), a pivot-marked quantifier Locative phrase cannot bind into a pronominal Theme which c-commands the base-position of the pivot phrase.

- (27) ku=pubini'-ay [kantu=dawa] [tu=uma' kana maidrangan driya].  
1SG.X=sow-LV [3.POSS.Y=millet] [3.POSS.PIVOT=field LK old.person every]  
'In every old person's<<sub>i</sub>> field, I sowed his<\*⊂>i/j> millet.' [Puyuma]

Given the observations above, we argue that a topic analysis of the pivot accurately accounts for the binding characteristics found in these three languages, and suggests that a pivot phrase occupies an A'-position.<sup>15,16</sup>

## 6. Conclusion

In this paper, we have investigated the properties of two basic types of morphological marking found in conservative Philippine-type languages: i) the marking on the pivot phrases (pivot), and ii) the marking on non-pivot external arguments (X). With novel data from Puyuma, Amis, and Seediq, we demonstrated that the distributions of pivot and X are incompatible with a structural absolutive and inherent ergative Case analysis. Rather, the observed distributional facts follow straightforwardly from the analysis that (i) pivot is a marker of information structure status (topic) that overrides morphological case, and (ii) X marks structural nominative Case from T. Pursing this analysis, we show that pivot phrases in Formosan languages exhibit A'-properties, as expected under a topic analysis of the pivot. The present proposals provide novel empirical support for a unitary accusative approach to Philippine-type voice systems, in line with previous analyses on other Philippine-type languages, Chamorro (Chung 1994), Tagalog (Richards 2000, Rackowski 2002), and Malagasy (Pearson 2001).

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<sup>15</sup> We remain agnostics in this paper as to whether agreeing with Topic<sup>0</sup> triggers A'-movement of the goal (i.e. the pivot). Note that the binding facts in (25)-(27) are compatible with both an A'-movement and an agreement-without-movement analysis of the pivot.

<sup>16</sup> Aldridge (to appear) argues for the lack of A/A'-distinction in Philippine-type languages, claiming that [Spec CP] is a Case position that must be filled, with all movements driven by a sole probe,  $\text{u}\phi$ . However, under this analysis, promotion-to-pivot is predicted to show A-properties, which is incompatible the observed binding facts in (24a)-(24c). See also footnote 14 for relevant data.

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