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Against the Agreement Approach to Philippine-type Voice

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This paper argues against an agreement approach of voice markers in Philippine-type languages in favor of a direct analysis in which these markers have syntactic functions. In particular, I show how these markers relate to argument and event structure. The "patient voice" clause type is a basic transitive clause with a definite and affected theme/patient argument. Consequently, the events expressed by this clause type are typically bounded. In contrast, the "actor voice" generally has an indefinite, less affected theme, thus expressing unbounded events. The "locative voice" is a locative applicative construction. This clause type can also be used to express an unbounded event if the applied object is a theme, which receives a partitive interpretation. Finally, the second applicative construction ("circumstantial voice") selects a moved theme, instrument, beneficiary, or similar pseudo-argument which serves to initiate the event.

Austronesian voice, agreement, ergativity, feature inheritance, applicative, aspect, telicity

1. Introduction

It is commonly noted that verbal morphology in most Philippine and Formosan languages identifies which argument in the clause has nominative case. In the Formosan language Paiwan, the infix <*em*> indicates that the highest argument in the argument structure (i.e. the subject) is the nominative DP, regardless of whether the clause is intransitive, as in (1a), or transitive, as in (1b). When an internal argument has nominative case, perfective aspect is marked by <*in*>, as in (1c-e). If no additional marking appears, then the theme or patient DP has nominative case, as in (1c). When the locative applicative *-an* is added, a location or goal argument is the nominative DP, as in (1d). The other applicative *si-* indicates that an instrument, a moved theme, or a beneficiary is the nominative DP, as in (1e). Because the alternations in verb morphology correlate with the appearance of nominative case on different arguments, this pattern is generally referred to as a "voice" system, the voices illustrated in (1) being "actor" voice (AV) in (1a, b), "patient" voice (PV) in (1c), "locative" voice (LV) in (1d), and "circumstantial" voice (CV) in (1e). The term "circumstantial" refers to the fact that the argument selected by this applicative is peripheral to the event and often not a core argument of the verb.

(1) a. Southern Paiwan[1]
g<**em**>uregoh a vatu.
<AV>bark NOM.CN dog
'The Dog is barking.'

[1] Unless given a specific citation, examples in this paper are taken from my field notes.

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b. t<**em**>alem ti ina ta qarizang.
<AV>plant NOM.PN mother OBL.CN bean
'Mother plants beans.'

c. s<**in**>aqis a u-itong ni ina.
<NAV.PFV>make NOM.CN 1SG.GEN-clothing GEN.PN mother
'Mother made my clothes.'

d. p<**in**>avay-**an** ni ama ta tjakit.
<NAV.PFV>give-LV GEN.PN father OBL.CN knife
a kakedrian
NOM.CN child
'Father gave the child a knife.'

e. **s<in>i**-veli na tama a aljak ta tapau.
CV<NAV.PFV>-buy GEN.CN father NOM.CN child OBL.CN car
'The father bought the child a car.'

The most common approach to this pattern within Generative linguistics is to assume that the verbal morphology signals a type of agreement (Georgopoulos 1985, Chung 1994, Pearson 2001, Rackowski 2002, Rackowski & Richards 2005, Chen 2017). Typically, the voice markers are taken to indicate agreement with the grammatical function of the nominative DP – subject, object, location, etc. – as shown in (2). On this approach, what I gloss as nominative case is not analyzed as a case marker but rather as flagging the agreeing nominal. This paper uses Chen (2017, to appear) for illustration of the agreement approach. The voice morphemes shown in (2) are those found in Paiwan, though the markers in most Philippine and Formosan languages are cognate and similar in shape.

(2)	**Agree approach** (Chen 2017, to appear)	(AV) $\underline{AGR_{SUBJ}}$ <*em*>V	(PV) $\underline{AGR_{OBJ}}$ <*in*>V	(LV) $\underline{AGR_{LOC}}$ V-*an*	(CV) $\underline{AGR_{Other}}$ *si*-V

In this paper, I argue against the agreement approach in favor of a direct approach in which the voice markers have syntactic functions related to argument and event structure. The nominal markers also directly reflect case licensing: nominative, genitive, and oblique. This leads to an analysis of alignment in Philippine and Formosan languages as split-ergative, also referred to as "symmetrical voice" (Himmelmann 2005 and others). The AV is a type of nominative-accusative clause type, while the non-AV (NAV) are all ergative clauses. PV is a basic ergative clause type, having an ergative subject with genitive case and an absolutive object with nominative case.[2] The LV and CV are applicative constructions with genitive subjects and nominative applied objects, e.g. locative, benefactive, instrument, etc. I consider the argument selected by the CV applicative to participate in initiating the event, so I label it 'init'.

(3)	**Direct approach:**	(AV) $\underline{ACC}$ <*em*>V	(PV) $\underline{ERG}$ <*in*>V	(LV) $\underline{APPL_{LOC}}$ V-*an*	(CV) $\underline{APPL_{INIT}}$ *si*-V

[2] Note that genitive being used for ergative case is found in a large number of ergative languages, e.g. those in the Inuit and Mayan families. There are also many ergative languages in which absolutive case is equivalent to nominative (Bok-Bennema 1991; Bittner and Hale 1996; Woolford 1997; Ura 2000; Alexiadou 2001, and others).

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One other fact that needs to be mentioned is that only the nominative DP can undergo A'-extraction. The direct object extracts in a PV clause, as in (4a), but the object cannot move in an AV clause, as in (4b).

Northern Paiwan

(4) a. [c<**in**>akaw nua kakediyan] a zidusiya
<NAV.PFV>steal GEN.DEM child LK car
'the car that the children stole'

b. *[na-c<**em**>akaw a kakediyan] a nemanemanga
PFV-<AV>steal NOM.CN child LK thing
'the thing that the child stole'

In this paper, I show that the agreement approach suffers from theoretical and empirical problems and argue instead for the direct approach. The following section first summarizes the agreement approach and points out many of the problems it suffers from. Section 3 presents the direct approach, arguing for the syntactic functions of the voice morphemes. I also point out some additional problems for the agreement approach.

2. Chen (2017, to appear) Agreement Approach

In this section, I first present Chen's (2017, to appear) analysis of each voice type. Following this, I point out some problems suffered by her approach.

2.1. Chen (2017, to appear) agreement approach

One starting assumption of all agreement approaches to voice in Philippine and Formosan languages is that nominal marking does not necessarily reflect case licensing. Consequently, these languages are not viewed as ergative or split-ergative but rather as accusative, with nominative and accusative cases licensed in the syntax in the same way as in English. The nominal marking is then analyzed at least in part as a consequence of agreement rather than licensing. For the analysis of voice markers, Chen (2017, to appear) treats these as spelling out combinations of Agree relations. Chen (to appear) implements this analysis using the notion of Parallel Chain Formation (Chomsky 2008, Kandybowicz 2008, Aboh & Dyakonova 2009, and others), by which two separate chains can be related if they have different heads but share their tails. On Chen's approach, the two chains consist first of a φ-feature Agree relation with a case-licensing head and a second Agree relation with a topic feature on C. Like Pearson (2001), Chen assumes that one DP in every clause will carry a topic feature.[3] This interpretable topic feature undergoes Agree with an uninterpretable counterpart on C. If the topic DP has also undergone φ-agreement with T in order to value nominative case, then AV morphology is spelled out on the verb. PV is spelled out if the topic has undergone Agree with Voice in order to value accusative case. And LV is the result of Agree with a locative preposition. As for CV, because circumstantial voice marking is associated with a wide range of thematic relations, e.g. moved themes, instruments, beneficiaries, causes, and others, CV morphology is treated as a default that appears when the topic DP has not agreed with any case licensing head. Agree with C is also what allows the topic to undergo movement to [Spec, CP].

[3] The notion that the agreeing (nominative) DP is a topic is not new, having been proposed by Schachter (1976), Richards (2000), and others. At least part of the evidence for the topic status of this DP is the fact that it is typically definite.

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Spell-out of voice morphemes

(5) AV: spell-out of Parallel Chain A: Agree with $T_{[u\varphi]}$ and with $C_{[u\text{TOP}]}$
PV: spell-out of Parallel Chain B: Agree with $\text{Voice}_{[u\varphi]}$ and with $C_{[u\text{TOP}]}$
LV: spell-out of Parallel Chain C: Agree with $P_{[u\varphi]}$ and with $C_{[u\text{TOP}]}$
(based on Chen, to appear)

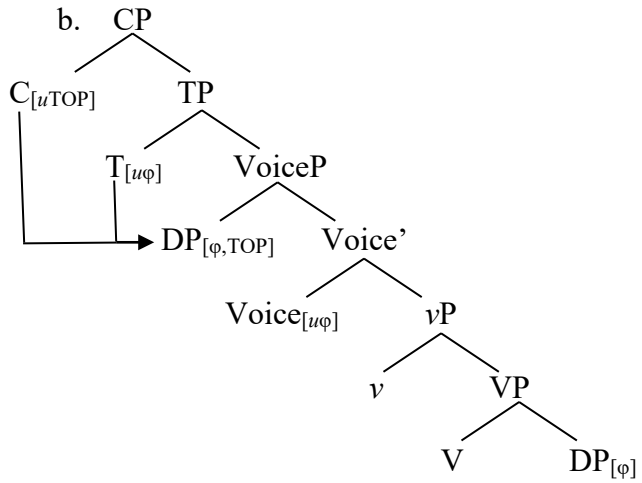
In the remainder of this subsection, I illustrate how Chen's agreement approach accounts for voice marking. First, AV spells out a parallel chain consisting of Agree between $T_{[u\varphi]}$ and the subject DP and Agree between the topic features on C and the subject DP. In other words, AV marking obtains when the subject carries the topic feature. Voice also undergoes Agree with the object in order to assign it accusative case. In the remainder of this paper, I show the glosses for both the direct approach (DA) and Chen's agreement approach (AA). Note that what I gloss as 'nominative' is glossed as 'pivot' by Chen. This marker indicates the nominal which has undergone topic agreement. The pivot marking overrides the original case valued by this nominal, but Chen assumes that the other nominal markers indicate case relations.

Southern Paiwan

(6)	a.	t<**em**>alem	**ti**	**ina**	ta	qarizang.
DA:		<AV>plant	NOM.PN	mother	OBL.CN	bean
AA:		<AV>plant	PIVOT.PN	mother	ACC.CN	bean

'Mother plants beans.'

b.



PV morphology spells out the combination of topic agreement with C and φ-feature agreement with Voice in order to value accusative case.

Southern Paiwan

(7)	a.	s<**in**>aqis	**a**	**u-itong**	ni	ina.
DA:		<NAV.PFV>make	NOM.CN	1SG.GEN-clothing	GEN.PN	mother
AA:		<NAV.PFV>make	PIVOT.CN	1SG.GEN-clothing	NOM.PN	mother

'Mother made my clothes.'

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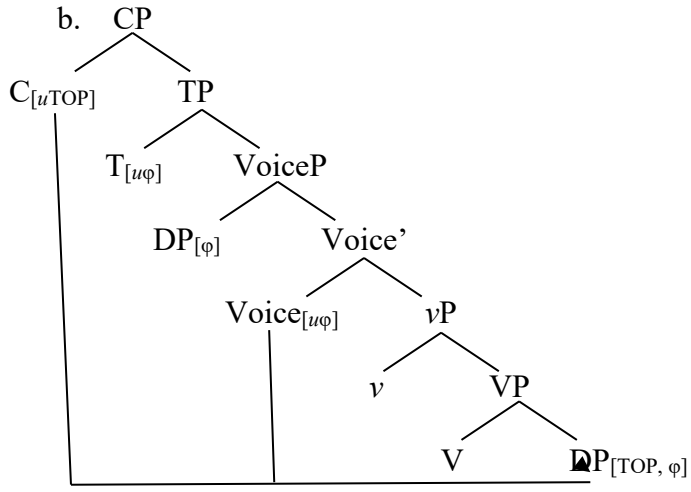
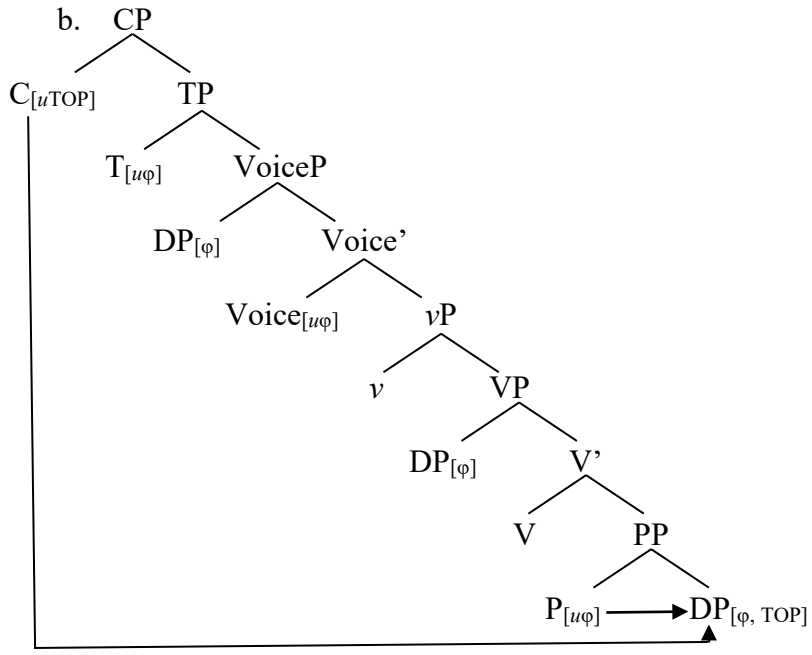


In LV clauses, $C_{[u\text{TOP}]}$ agrees with a DP selected by a locative preposition. The first Agree relation is between the preposition and its complement.

		Southern Paiwan				
(8)	a.	p<in>avay-**an**	ni	ama	ta	tjakit.
DA:		<NAV.PFV>give-LV	GEN.PN	father	OBL.CN	knife
AA:		<NAV.PFV>give-LV	NOM.PN	father	ACC.CN	knife
		a	**kakedrian**.			
DA:		NOM.CN	child			
AA:		PIVOT.CN	child			
		'Father gave the child a knife.'				



Chen treats CV morphology simply as agreement between the topic features on C and DP. In other words, she assumes that the pivot DP in CV clauses does not undergo Agree with any case licensing head, so CV morphology is spelled out when the topic is not associated with another Agree chain. The topic constituent can be either an adjunct PP or a DP. The pivot in (9) is presumably a PP, since this topic is a beneficiary.

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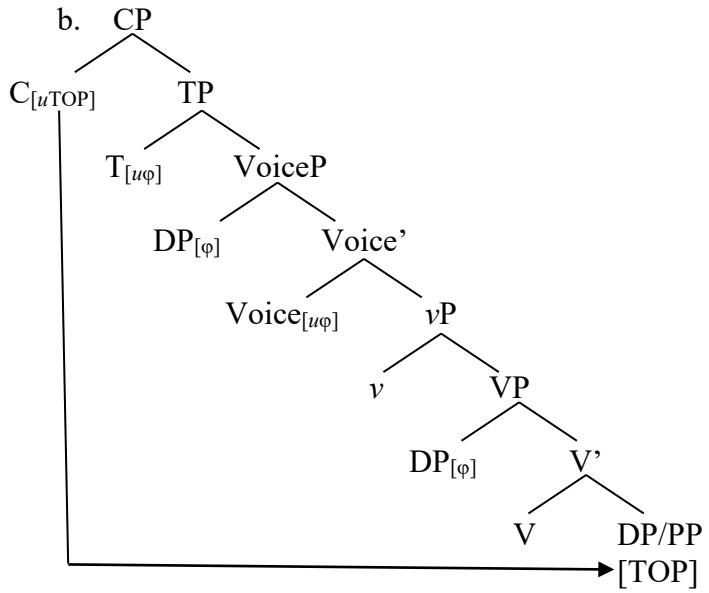
Southern Paiwan

(9)	a.	**s<in>i**-veli	na	tama	**a**	**aljak**	ta	tapau.
DA:		CV<NAV.PFV>-buy	GEN.CN	father	NOM.CN	child	OBL.CN	car
AA:		CV<NAV.PFV>-buy	NOM.CN	father	PIVOT.CN	child	ACC.CN	car

'The father bought the child a car.'

b.



When the CV topic is a DP, it is generally a moved theme, as in (10).

Southern Paiwan

(10)	**s<in>i**-pavay	**a**	**tjakit**	na	kakedrian	tjay	ama.
DA:	CV<NAV.PFV>-give	NOM.CN	knife	GEN.CN	child	OBL.PN	father
AA:	CV<NAV.PFV>-give	PIVOT.CN	knife	NOM.CN	child	P	father

'The child gave Father the knife.'

2.2. Problems for the agreement approach

In this subsection, I point out some theoretical and empirical problems faced by Chen's (2017, to appear) agreement approach. The first problem concerns how the voice morphology is actually spelled out. First, Chen assumes that the voice morphemes are located in the left periphery, but it is not clear from her spell-out commands (repeated in 11) which functional head this should be. A more serious issue is the fact that she does not identify a specific feature that can be replaced with a voice form. In other words, it is not clear what is spelled out where.

Spell-out of voice morphemes

(11) AV: spell-out of Parallel Chain A: Agree with $T_{[u\varphi]}$ and with $C_{[u\text{TOP}]}$
PV: spell-out of Parallel Chain B: Agree with $\text{Voice}_{[u\varphi]}$ and with $C_{[u\text{TOP}]}$
LV: spell-out of Parallel Chain C: Agree with $P_{[u\varphi]}$ and with $C_{[u\text{TOP}]}$
(based on Chen, to appear)

In other applications of parallel chains, the two heads of the parallel chain are spelled out, leading to the repetition of a constituent, as in predicate clefts in Nupe. On Kandybowicz'

(2008) approach, the verb undergoes two movements and is spelled out in both landing sites, one in a focus position in the left periphery and the other inside the clause in *v*.

Nupe (Kandybowicz 2008:109)

(12) Bi-**ba** Musa **ba** nakàn o.
RED-cut Musa cut meat FOC
'It was CUTTING that Musa did to the meat.'

However, Chen's analysis does not offer any concrete forms or features which can be spelled out.

This leads to a second problem, which is that some languages do not in fact spell out voice morphemes in the left periphery but rather in a lower position inside the clause. For example, Tsou finite clauses are all introduced by an auxiliary verb. The auxiliary shows concord with the voice of the main verb in terms of AV, as in (13a, b), and NAV, as in (13c, d) (see Chang 2014, 2017 for details on voice concord). But the specific voice markers surface on the main verb, which is clearest in the NAV clauses, (13c) showing PV *-a* and (13d) showing LV *-i*.

Tsou

(13) a. **m**i-ta **m**-ongsi 'e pasuya.
DA: AV-3SG AV-cry NOM Pasuya
AA: AV-3SG AV-cry PIVOT Pasuya
'Pasuya is crying.' (Chang 2011:281)

b. **m**o **m**o-si ta pangka to emi 'o amo.
DA: AV.3SG AV-put OBL table OBL wine NOM father
AA: AV.3SG AV-put OBL table ACC wine PIVOT father
'Father put wine on the table.' (Chang 2011:285)

c. **i**-ta teaph-**a** to kexpx ta pasuya.
DA: NAV-3SG put.into-PV OBL backpack OBL Pasuya
AA: NAV-3SG put.into-PV OBL backpack NOM Pasuya
'e cxyx.
DA: NOM lunch.box
AA: PIVOT lunch.box
'Pasuya put the lunch box into his backpack.' (Chang 2011:282)

d. **i**-si si-**i** ta amo ta emi *'e pangka*.
DA: NAV-3SG put-LV OBL father OBL wine NOM table
AA: NAV-3SG put-LV NOM father ACC wine PIVOT table
'Father put wine on the table.' (Chang 2011:285)

Auxiliaries also frequently appear in the Atayalic language Seediq, which does not even have voice concord, so all indications of voice appear inside the clause and not in the left periphery. The following examples show PV marking with *-i* in negated clauses and with *-un* in affirmative clauses. I will have more to say about this alternation in section 3 and point out an additional problem for the agreement approach.

Seediq

(14) a. ini=mu burig-**i** kanna.
DA: NEG=1SG.GEN buy-PV.IRR all
AA: NEG=1SG buy-PV.IRR all
'I didn't buy all of them.'

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	b. wada=mu	burig-**un**	ka	patis-ni.	
DA:	PFV=1SG.GEN	buy-PV.REAL	NOM	book-DEF	
AA:	ASP=1SG.GEN	buy-PV.REAL	PIVOT	book-DEF	
	'I bought the book.'				

Furthermore, Chen's analysis concentrates only on specific voice markers and does not offer an analysis of the AV/NAV distinction like the one shown on Tsou auxiliaries in (13). The perfective aspect marker <*in*> in Paiwan presents a similar problem, since it appears on all NAV verbs and co-occurs with the LV and CV applicatives. It is unclear how Chen's approach can account for the appearance of this infix on all NAV verbs but not on AV verbs.

A fourth problem relates to Chen's analysis of LV clauses. Chen assumes that the topic DP is the complement of a null preposition. However, there is no overt evidence that the goal argument in LV clauses like (8a) is a PP and not a DP, since no preposition appears in this clause.[4]

A fifth problem for Chen (2017, to appear) is her analysis of CV morphology. As stated above, CV morphology is treated as a default that appears when the topic DP has not agreed with any case licensing head. However, this is extremely problematic when the argument in question is a DP. Specifically, Chen has to assume that the moved theme in a ditransitive clause like (15) is not case licensed.

	Southern Paiwan						
(15)	**s<in>i**-pavay	**a**	**tjakit**	na	kakedrian	tjay	ama.
DA:	CV<NAV.PFV>-give	NOM.CN	knife	GEN.CN	child	OBL.PN	father
AA:	CV<NAV.PFV>-give	PIVOT.CN	knife	NOM.CN	child	P	father
	'The child gave Father the knife.'						

Interestingly, if the theme in a ditransitive is not the topic argument, then it receives a case which Chen glosses as 'accusative'. However, if this DP were to receive accusative case in the derivation of (15), then the voice morphology would become PV instead of CV.

	Southern Paiwan				
(16)	p<in>avay-**an**	ni	ama	ta	tjakit
DA:	<NAV.PFV>give-LV	GEN.PN	father	OBL.CN	knife
AA:	<NAV.PFV>give-LV	NOM.PN	father	ACC.CN	knife
	a	**kakedrian**.			
DA:	NOM.CN	child			
AA:	PIVOT.CN	child			
	'Father gave the child a knife.'				

In section 3, I show that CV constructions are applicative constructions, in which the applied objects (e.g. beneficiary, instrument, movement theme) form a natural class that can be found in other languages that have this type of applicative. This discussion will also make it clear that CV should not be treated as a morphological default.

There is also a problem with Chen's assumption that every clause must contain exactly one topic. Chen (2017, to appear) presents evidence that the pivot DP is a discourse topic. However, it has been pointed out repeatedly in the literature that the agent can be at least as topical as the object in a PV clause and that the determining factor in the choice between AV

[4] Chen (2017: 168) offers one example in which a preposition occurs in the pivot phrase. However, this PP is not the pivot itself but rather a modifier of the pivot. In other words, Chen (2017) offers no examples in which the pivot itself is marked with a preposition.

and PV is the definiteness or specificity of the direct object, not its topicality (Foley 1976, Shibatani 1988, Payne 1994, Rackowski 2002, Collins 2017, and others). In other words, it need not be – and frequently is not – the case that the object is more topical than the subject/agent in PV clauses. Since the subject/agent is generally just as topical as the object, locality should ensure that all clauses with topical agents should be AV, contra fact.

In section 3, I present the direct approach and also point out additional empirical problems with the agreement approach.

3. Direct Approach

This section proposes an analysis that accounts for the basic nature of the voice system in a direct way, by analyzing voice morphemes as functional heads on the clausal spine. On this approach, voice morphology is not just a surface phenomenon for flagging a definite DP and allowing it to undergo A'-movement. I show instead that the voice morphemes, especially the NAV affixes, have syntactic functions. PV morphology is closely tied to event structure, always creating telic transitive events with affected direct objects. The LV locative applicative selects a goal or location. It can also select a theme, in which case this object receives a partitive interpretation in an atelic event. The CV applicative also has a connection to event structure, selecting an argument (e.g. moved theme, instrument, beneficiary) which plays a role in the initiation of the event but does not signal the endpoint. In this section I present arguments for and analyses of these functions and also show how these functions pose challenges for the agreement approach.

The analysis I assume in this paper builds on Aldridge (2022), which views NAV clauses as ergative clause types. As such, both nominative and genitive cases are valued in the higher phase and not inside *v*P.[5] The reason for this is obvious in the case of nominative. Since genitive surfaces on external arguments in NAV (ergative) clauses, it is reasonable for it to also originate from the C/T phase head. This analysis thus takes the ergative case to be structural, valued by T, departing from approaches like Mahajan (1989), Woolford (1997, 2006), Legate (2003, 2008), Aldridge (2004, 2008) and others that treat ergative (genitive) case as inherent case assigned by transitive *v* to its specifier. I present evidence for the structural case approach later in this section.

Aldridge (2022) assumes the C-T Inheritance framework of Chomsky (2008), specifically the implementation by Fortuny (2008), Legate (2011, 2014), Gallego (2014), Erlewine (2016, 2018), Aldridge (2018, 2019), Martinović (2023), and others, who assume that C and T are not necessarily divided into separate projections if only one goal undergoes Agree with all of the features present thereon. In AV clauses, C/T enters the derivation with a nominative case feature. I assume with Aldridge (2022) that if only one constituent enters into Agree with C/T, there is no need for Inheritance to take place, and C and T remain bundled together. The subject values nominative case with C/T, which also allows it to undergo movement to [Spec, C/TP].

[5] A reviewer suggests that this analysis can account for the fact that there are second position clitic pronouns for genitive agents and nominative arguments in Philippine and Formosan languages but not for oblique objects. In other words, it is exactly these elements which can be second position clitics because these cases are both valued in the higher phase, while oblique is valued in the lower phase. The reader is also referred to Erlewine and Levin (2021) for a formal analysis of second position clitics in Philippine languages.

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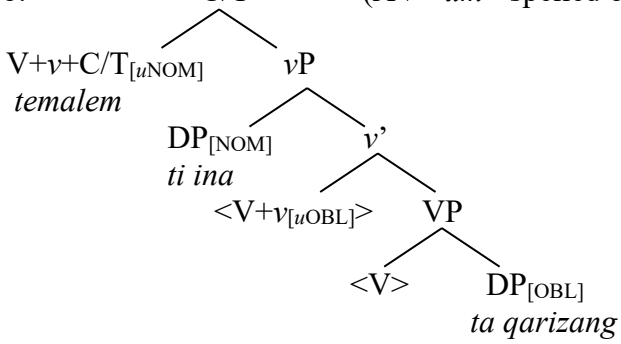
Southern Paiwan

(17) a. t<**em**>alem **ti** **ina** ta qarizang.
DA: <AV>plant NOM.PN mother OBL.CN bean
AA: <AV>plant PIVOT.PN mother ACC.CN bean
'Mother plants beans.'

b. (AV <*um*> spelled out as undivided C/T)



Although transitive AV clauses appear to be nominative-accusative on the surface, I follow the tradition in Formosan linguistics and gloss the case on the object as 'oblique'.[6] This case is valued by *v* with the object in transitive AV clauses.

The AV/NAV distinction is also accounted for on my approach. The verb moves to C/T in order to check aspectual features on T and also derive verb-initial word order. I follow Aldridge (2022) in assuming that the AV affix, e.g. Paiwan <*em*>, is spelled out on the amalgamated C/T head, since it is only in AV clauses that C and T do not divide. As I discuss below, C and T must divide in NAV clauses.

In NAV clauses, both nominative and genitive cases enter the derivation on C/T. Because these cases will be valued with separate goals, C-T Inheritance must take place, and C and T will then occupy different positions in the structure. The subject will value case first, since it is the higher of the two arguments to undergo Agree with C or T. The case it values will be genitive case, while nominative is retained on the C head to be valued with the object.[7] It may be wondered why nominative case is valued by C rather than T. One piece of evidence is the nominative extraction restriction, i.e. the fact that only the DP with nominative case can move to [Spec, CP]. This can be accounted for by locating nominative case on C. In other words, the DP can undergo movement to [Spec, CP] as a reflex of nominative case valuation.

In NAV clauses, perfective aspect is spelled out as <*in*>, which never appears in AV contexts. I attribute the spell-out of <*in*> to C-T Inheritance, <*in*> being spelled out for perfective aspect on T which has separated from C. Consequently, the AV/NAV distinction in the infixes is accounted for straightforwardly, solving the conceptual problem noted for the agreement approach in accounting for why <*in*> marks perfective aspect in all and only NAV clauses. The AV/NAV distinction also indirectly supports the structural view of genitive case, since placing this case on T so that it forces inheritance is what accounts for this distinction.

[6] Aldridge (2022) treats this case as defective in the sense of Richards (2008). This is because the DP marked with this case is typically indefinite. This leads to an analysis which treats Philippine and Formosan languages as being fully ergative, since AV constructions with objects are analyzed as antipassives. The question of whether AV clauses can be fully transitive or are antipassives is beyond the scope of this paper, so I analyze oblique case in these languages as being analogous to accusative in more familiar languages.

[7] Note that this Agree relation involves probing into the *v*P phase. However, this is analogous to nominative case assignment to objects in experiencer constructions, which must be allowed. See Chomsky (2008: 143) for discussion.

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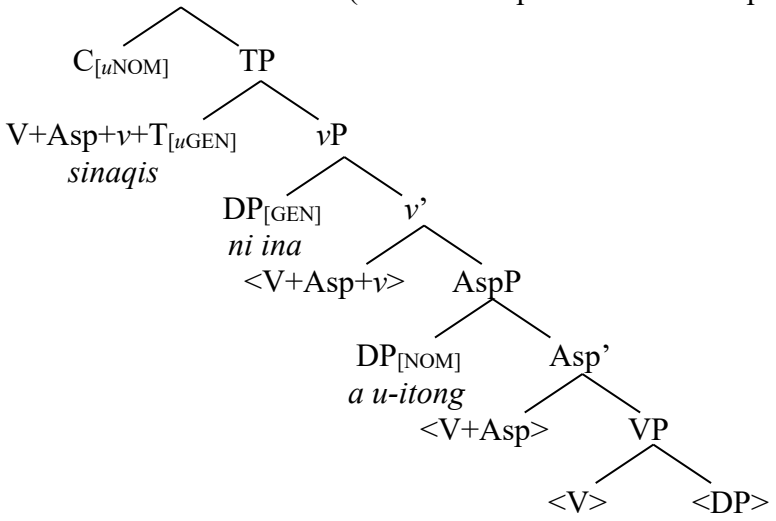
Southern Paiwan

(18)	a.	s<**in**>aqis	**a**	**u-itong**	ni	ina.
DA:		<NAV.PFV>make	NOM.CN	1SG.GEN-clothing	GEN.PN	mother
AA:		<NAV.PFV>make	PIVOT.CN	1SG.GEN-clothing	NOM.PN	mother

'Mother made my clothes.'

b. CP (NAV <*in*> spelled out on independent T)



As stated above, nominative case will later be valued by C with the object. The object is base merged in VP and then moves to the specifier of an inner aspect projection. Note that the object is able to scramble to a position between the verb and the agent, a word order alternation which I will not discuss in this paper. PV morphology is what projects AspP. I provide evidence for the projection of inner aspect in PV clauses below. Within the feature inheritance framework, all features that drive the derivation enter on phase heads. Consequently, the PV feature is merged on *v* – or more specifically, on a combined *v*/Asp head. Inheritance then takes place, and Asp is separated from *v*. I propose that the oblique case feature is not merged when Asp is. Consequently, the object is dependent on the nominative case feature valued by C for licensing.

The proposal that AV and NAV are spelled out on bundled or divided C/T, respectively, also accounts for the voice concord phenomenon observed for Tsou. In AV clauses like (19a), the auxiliary will be spelled out on the undivided C/T head, while in PV clauses like (19b), the auxiliary will occupy an independent T. In both clause types, the main verb remains inside TP, though I assume it moves to a functional head above *v*P, since it precedes all arguments in this phase.[8] In PV clauses like (19b), the PV marker originates in the inner aspect position. I assume that the verb moves to *v* and then to a higher position above *v*P, carrying the PV affix with it. The PV marker is the spell-out of the Asp head on the complex verb. The AV marking on the main verb in (19a) results when neither Asp nor an applicative head appears on the verbal complex, i.e. as a default voice marker.

Tsou

(19)	a.	**m**o	**m**o-si	ta	pangka	to	emi	'o	amo.
DA:		AV.3SG	AV-put	OBL	table	OBL	wine	NOM	father
AA:		AV.3SG	AV-put	OBL	table	ACC	wine	PIVOT	father

'Father put wine on the table.' (Chang 2011:285)

[8] The nature of this functional head is not relevant to this paper, so I do not pursue it here.

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b. **i**-ta teaph-**a** to kexpx ta pasuya.
DA: NAV-3SG put.into-PV OBL backpack OBL Pasuya
AA: NAV-3SG put.into-PV OBL backpack NOM Pasuya
'e cxyx.
DA: NOM lunch.box
AA: PIVOT lunch.box
'Pasuya put the lunch box into his backpack.' (Chang 2011:282)

My analysis also accounts for the voice concord, whereby AV and NAV cannot co-occur in a single clause. If AV appears on C/T, then only nominative case is available in the higher phase, and this nominative case will be valued by the subject. Consequently, if PV were merged in the lower phase, then the object would not be case licensed. This is because neither nominative nor oblique case would be available for it. Conversely, if both nominative and genitive are merged on C/T, then there must be an object in the lower phase to value the nominative case. Therefore, AV cannot appear in the lower phase, since this would make oblique case available for the object, and nominative would be left unvalued. I make the standard assumption that case features are uninterpretable and must be valued.

Furthermore, my analysis can accommodate the cross linguistic differences between Paiwan, Tsou, and Seediq. In Tsou, AV morphology appears on undivided C/T and also on the lexical verb that is not affixed by another voice morpheme. In Seediq, voice morphemes are spelled out only on the main verb.[9] The AV marker in (20a) spells out on the lexical verb in the absence of another voice marker, while the PV marker in (20b) spells out Asp.

Seediq
(20) a. wada **m**-ari hulama ka Ape.
DA: PFV AV-buy treat NOM Ape
AA: PFV AV-buy treat PIVOT Ape
'Ape bought a treat.'
b. Wada burig-**un**=na Ape ka patis.
DA: PFV buy-PV=3SG.GEN Ape NOM book
AA: PFV buy-PV=3SG.NOM Ape PIVOT book
'Ape bought the book.'

In Paiwan, voice morphology appears on the lexical verb, as in Seediq. If a tense/aspect auxiliary appears, then the verb is spelled out in its landing site above *v*P together with the appropriate voice marker, as in (21). There is no voice marking on the auxiliary.

Southern Paiwan
(21) a. mori k<**em**>an a'en.
DA: will <AV>eat 1SG.NOM
AA: will <AV>eat 1SG.PIVOT
'I am going to eat.'
b. anema mori-su veri-**en**?
DA: what will-2SG.GEN buy-PV
AA: what will-2SG.NOM buy-PV
'What will you buy?'

[9] In the absence of an auxiliary, verbs in Seediq move to C/T, and <*n*> (cognate with Paiwan <*in*>) spells out in the perfective aspect. However, <*n*> can also appear on perfective AV verbs; hence no distinction is made between AV and NAV at the C/T level in Seediq. For this reason, I do not discuss Seediq <*n*> in this paper.

Another key characteristic of PV clauses is the boundedness of the event and not simply the definiteness or specificity of the object. According to Peng (2016), activities in Mayrinax Atayal are commonly expressed by AV clauses, as in (22a). But in PV clauses like (22b), the theme DP receives nominative case and is interpreted as completely affected by the action expressed by the verb.

Mayrinax Atayal (Peng 2016)

(22)	a.	kia	'i'	r<**um**>uruwag	cu'	kulu'	'i'	tiwas.
DA:		PROG	LK	<AV>push	OBL.CN	car	NOM.PN	Tiwas
AA:		PROG	LK	<AV>push	ACC.CN	car	PIVOT.PN	Tiwas
		'Tiwas is pushing a car.'						(p. 109)
	b.	'al-**un**	kahabaag	ni'	tiwas	ku'	ringo.	
DA:		take-PV	all	GEN.PN	Tiwas	NOM.CN	apple	
AA:		take-PV	all	NOM.PN	Tiwas	PIVOT.CN	apple	
		'Tiwas takes all of the apples.'						(p. 110)

Many scholars have pointed out that PV clauses in Formosan and Philippine languages are typically telic, and their objects are generally definite (Zeitoun 1992, 1996 for Tsou; Wu 2006, 2007, Huang & Sung 2008, Kuo 2016 for Amis; Peng 2016, S. Chen 2016, 2018 for Mayrinax Atayal). On my analysis, this is accounted for by merger of the PV marker in Asp and movement of the object from VP to the specifier of AspP.[10] See also Borer (1994, 2005), Ritter & Rosen (2000), Ramchand (2008), Basilico (2008), Travis (2010), and others for proposals that direct objects reside in the specifier of an aspect-related functional head in telic events. Note further that, since objects in AV and PV clauses are treated identically in terms of licensing and structural position by Chen (2017, to appear), the agreement approach does not have an account for the difference in telicity between AV and PV.

Additional supporting evidence for the role of AspP in PV clauses comes from the fact that PV can introduce its own object into an event, as shown for Seediq by Chang (1997). (23) shows an intransitive verb that has been transitivized by the PV marker *-un* and appears with a direct object.

Seediq (Chang 1997:71)

(23)	luNis-**un**	na	pawan	ka	temi.
DA:	cry-PV	GEN	Pawan	NOM	Temi
AA:	cry-ACC	CASE	Pawan	ANG	Temi
	'Pawan will cry for Temi.'				

Since PV is merely an agreement marker on the agreement approach, this analysis would have to assume that an intransitive verb root is able to select an object. Accusative case must also be made available for this object, but it is not clear how the agreement approach can accomplish this. However, on the direct approach, the PV marker can directly select an object in [Spec, AspP], which also accounts for the fact that PV clauses are always transitive.

Another empirical problem for the agreement approach is the fact that voice affixes can add semantic information like intension (Tsukida 1993, Wu 2006). An Amis external argument must be a true volitional agent when the PV marker *-en attaches to the verb, as in (24b). Consequently, an inanimate object cannot be the external argument in a PV clause, as shown in (24c). (24a) shows that AV clauses are not subject to this constraint. (24c) is a problem for the agreement approach, since this approach treats the PV marker as simply

[10] The addition of AspP marks a departure from Aldridge's (2022) approach.

registering the direct object status of the topic and does not predict any thematic restrictions imposed on the external argument by this morpheme.

Coastal Amis (Wu 2006:174)

(24)	a.	**mi**-tuniq	ku	kuwaq	tu	ti'ti'.	
DA:		AV-soft	NOM.CN	papaya	OBL.CN	meat	
AA:		AV-soft	PIVOT.CN	papaya	ACC.CN	meat	
		'The papaya will tenderize the meat.'					
	b.	tuniq-**en**	aku	ku	ti'ti'	aca.	
DA:		soft-PV	1SG.GEN	NOM.CN	meat	a.little	
AA:		soft-PV	1.SG.CASE	PIVOT.CN	meat	a.little	
		'I will tenderize the meat a little.'					
	c.	*tuniq-**en**	nu	kuwaq	ku	ti'ti'	aca.
DA:		soft-PV	GEN.CN	papaya	NOM.CN	meat	a.little
AA:		soft-PV	NOM	papaya	PIVOT.CN	meat	a.little
		'The papaya will tenderize the meat a little.'					

On the other hand, this is not problematic for the direct approach. Since the PV marker *-en* moves together with the verb from Asp to *v*, it can influence the merger of the external argument.

Extraction of genitive agents is also a problem for the agreement approach. Guevara (2020) shows for Tagalog that, although the nominative DP can always undergo A'-extraction, speakers sometimes also accept extraction of the genitive agent in NAV clauses. In (25b), the agent is extracted in a cleft construction, while the nominative object is left inside the relative clause.

Tagalog (Guevara 2020:89)

(25)	a.	P<in>asan	ng	sundalo	ang	anak.	
DA:		<NAV.PFV>carry	GEN.CN	soldier	NOM.CN	child	
AA:		<NAV.PFV>carry	NOM.CN	soldier	PIVOT.CN	child	
		'The soldier carried his/her child.'					
	b.	Ang	sundalo	ang	p<in>asan	ang	anak.
DA:		NOM.CN	soldier	NOM.CN	<NAV.PFV>carry	NOM.CN	child
AA:		PIVOT.CN	soldier	PIVOT.CN	<NAV.PFV>carry	PIVOT.CN	child
		'It's the soldier who carried his/her child.'					

Since the agreement approach assumes that only the topic/pivot undergoes Agree with the topic feature on C, only the agreeing DP should be able to extract. The direct approach, however, does not have this problem. Because both the agent and the nominative DP undergo Agree with C/T, either can extract. I assume that agent extraction in NAV clauses is possible because the agent also enters into Agree with C/T. This relationship between the agent and C/T is another argument in favor of viewing genitive case on NAV subjects as structural case valued by T rather than as inherent case assigned by *v*.

Next, I analyze LV (locative applicative) constructions. The applied object is merged in the specifier of a high applicative phrase in the sense of Pylkkanen (2002). The reason that this is a high ApplP rather than a low ApplP is because *-an* can attach to intransitive verbs, which is a hallmark characteristic of high applicatives on Pylkkanen's analysis. This is shown for Tagalog in (26).

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Tagalog (Rackowski 2002:54)

(26)	<In>u-up-an	ng	mga	bata	ang	lamesa.
DA:	<NAV.PFV>RED-sit-LV	GEN.CN	PL	child	NOM.CN	table
AA:	<NAV.PFV>-RED-sit-LV	NOM.CN	PL	child	PIVOT.CN	table

'The children are sitting on the table.'

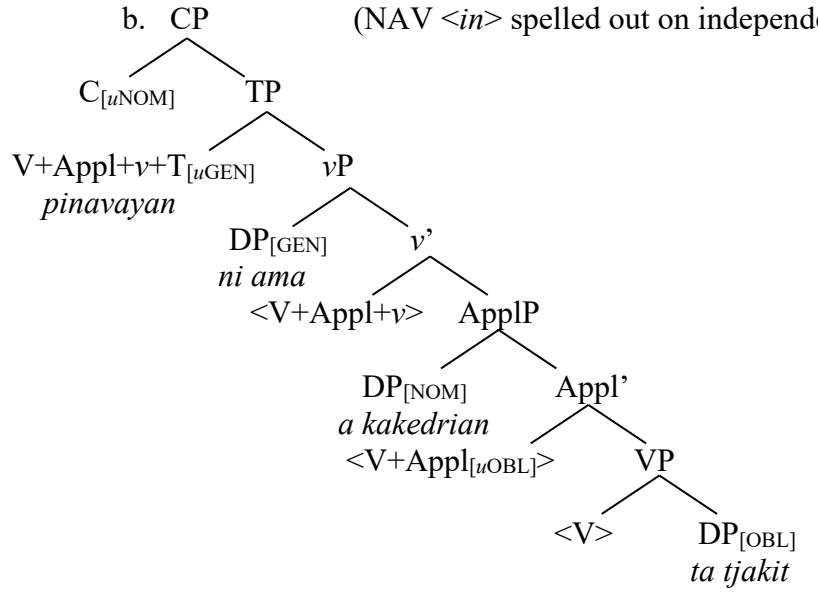
Returning to the derivation, I assume that the LV morpheme is merged on the lower phase head, which is a combined *v*/Appl head. The Appl head then divides from *v* and selects the applied object. Since LV clauses can potentially have direct objects, I assume that the oblique case feature can also be merged on *v*/Appl and be inherited by Appl. My proposal that the oblique feature is inherited by the Appl head accounts for the fact that it is valued on the direct object inside VP rather than on the applied object.[11]

Southern Paiwan

(27)	a.	p<in>avay-**an**	ni	ama	ta	tjakit
DA:		<NAV.PFV>give-LV	GEN.PN	father	OBL.CN	knife
AA:		<NAV.PFV>give-LV	NOM.PN	father	ACC.CN	knife
		a	**kakedrian**.			
DA:		NOM.CN	child			
AA:		PIVOT.CN	child			

'Father gave the child a knife.'

b. CP (NAV <*in*> spelled out on independent T)



Because both the subject and the applied object require structural licensing, both nominative and genitive case must enter the derivation on C/T, forcing these heads to split. After the verb has moved to T, perfective aspect will be spelled out as <*in*>. Consequently, my analysis can account for the co-occurrence of <*in*> with applicative voice markers. It also does not suffer from the problem that applied goal or locative arguments need to be packaged as PPs. They are DPs from the time they enter the derivation, and this is why they need to be case licensed.

In terms of event structure, replacing AspP with ApplP allows for LV clauses to be bounded or unbounded, depending on the nature of the DP selected by Appl. If this DP is a goal, then the event is bounded, but if it is a pure location, then it need not be. If the DP

[11] Inheritance of the oblique case feature marks a second departure from Aldridge (2022).

selected by Appl is a theme, then the event is not bounded, in contrast to a PV clause, in which the event is generally bounded.

Northern Amis (Bril 2022:46)

(28) a. Kaen-**en**=tu k-iya buting.
DA: eat-PV=PFV NOM-DEM fish
AA: eat-PV=PFV PIVOT-DEM fish
'The fish has been eaten up.' ("completely eaten")

b. Kaen-**an**=tu k-iya buting.
DA: eat-LV=PFV NOM-DEM fish
AA: eat-LV=PFV PIVOT-DEM fish
'The fish has been eaten.' ("may or may not be fully eaten")

Similar alternations between PV and LV with nominative themes can be observed in other related languages like Mayrinax Atayal (Peng 2016) and Tagalog (my field notes). I assume that the partitive interpretation is the result of selecting the object as a location, yielding a semantic difference akin to 'eat at' as opposed to 'eat (up)'.

The agreement approach should also be able to account for the partitive interpretation for direct objects in LV clauses by merging them in a locative PP. If this DP is the topic, then LV morphology will be spelled out since this DP has undergone Agree with the P. However, there is no independent evidence that an object receives a partitive interpretation when selected by a preposition. In AV clauses, partially affected themes are not marked by a preposition but with oblique case, which Chen (2017, to appear) glosses as 'accusative'.

Northern Amis (Bril 2022:33)

(29) Mi-taqmud cira **tu** **titi**.
DA: AV-swallow.whole 3SG.NOM OBL.CN meat
AA: AV-swallow.whole 3SG.PIVOT ACC.CN meat
'He's gobbling down the/some meat.'

Additional support for the event structure distinction between PV and LV clauses comes from the fact that many Formosan languages exhibit syncretisms between PV and LV in certain contexts, particularly negated clauses. (30) shows that Puyuma PV marking in realis and imperative clauses is *-u*, while LV marking is *-i*. In negated clauses, both PV and LV are marked with *-i*.

(30) Puyuma verbal inflection (adapted from Ross 2009:304)

	AV	PV	LV	CV
Realis (V)	<*em*>V	V-*a*-***u***	V-*a*-***i***	V-*anay*
Imperative (V)	V	V-***u***	V-***i***	V-*an*
Negative (V)	<*em*>V	V-***i***	V-***i***	V-*an*

This is accounted for straightforwardly on the direct approach, since negated events are homogeneous (Csirmaz 2005, 2012) and consequently resist telic PV marking. Chen (2017, to appear) would have to assume that objects in negated clauses are selected by locative prepositions, but there is no evidence for this.

Chen (2017:79) attempts to argue against an applicative analysis of LV clauses by claiming that the genitive subject and nominative object in these constructions are not necessarily base generated as external argument and applied object, respectively. The

evidence comes from her assertion that this construction can be unaccusative, and genitive case can appear on a theme subject.[12] Chen claims that the pronoun *niya* in (31) is a theme internal argument and as such is base generated within the VP, structurally lower than the applied locative DP *balon* 'well'. If true, this would be problematic for my analysis, since it would entail that a lower argument values genitive case over the intervening applied object.

	Tagalog			
(31)	H<in>ulug-an=niya	ang	balon.	
DA:	<NAV.PFV>fall-LV=3SG.GEN	NOM.CN	well	
AA:	<NAV.PFV>fall-LV=3SG.NOM	PIVOT.CN	well	
	'He/she fell into the well.'			(Chen 2017:79; unavailable reading)
	'He/she dropped (something) into the well.'			(available)

However, none of the native speakers I consulted accepted the interpretation in which the genitive argument is a theme. In fact, not all of the speakers I consulted even accepted this sentence as grammatical, but those who did said that the genitive pronoun can only be interpreted as an agent, yielding the second interpretation shown in (31). One of my consultants offered the following example. The genitive pronoun is the agent, a theme object is added in oblique case, and the location (i.e. the applied object) is nominative. Interestingly, the nominative location has to be something affected, though this fact is not relevant to the discussion at hand.

	Tagalog				
(32)	H<in>ulug-an=niya	nang	butiki	ang	ulo=ko.
DA:	<NAV.PFV>fall-LV=3SG.GEN	OBL.CN	gecko	NOM.CN	head=1SG.GEN
AA:	<NAV.PFV>fall-LV=3SG.NOM	ACC.CN	gecko	PIVOT.CN	head=1SG.GEN
	'He/she dropped a gecko on my head.'				

This confirms my analysis in which the genitive DP is base merged as the external argument.

Finally, I present the analysis of CV (circumstantial applicative) constructions. The structure is the same as for LV clauses, involving a high ApplP, where the applied object is merged. But the applicative in this case is the prefix *si-*. As in LV clauses, the CV morpheme enters the derivation on the *v*/Appl phase head and is inherited together with Appl and the oblique case feature for an object that might be merged in VP. (33) shows an example with a beneficiary.

		Southern Paiwan						
(33)	a.	**s<in>i**-veli	na	tama	**a**	**aljak**	ta	tapau.
DA:		CV<NAV.PFV>-buy	GEN.CN	father	NOM.CN	child	OBL.CN	car
AA:		CV<NAV.PFV>-buy	NOM.CN	father	PIVOT.CN	child	ACC.CN	car
		'The father bought the child a car.'						

[12] Chen (2017: 79) cites one additional example, but this one is an experiencer construction in which the genitive argument is the experiencer and consequently should be analyzed as the external argument. According to Wolff et al. (1991: 545), this construction is used with verbs that express personal feelings. The genitive argument is the participant in the event who has the feeling, and the nominative argument expresses the reason for this feeling.

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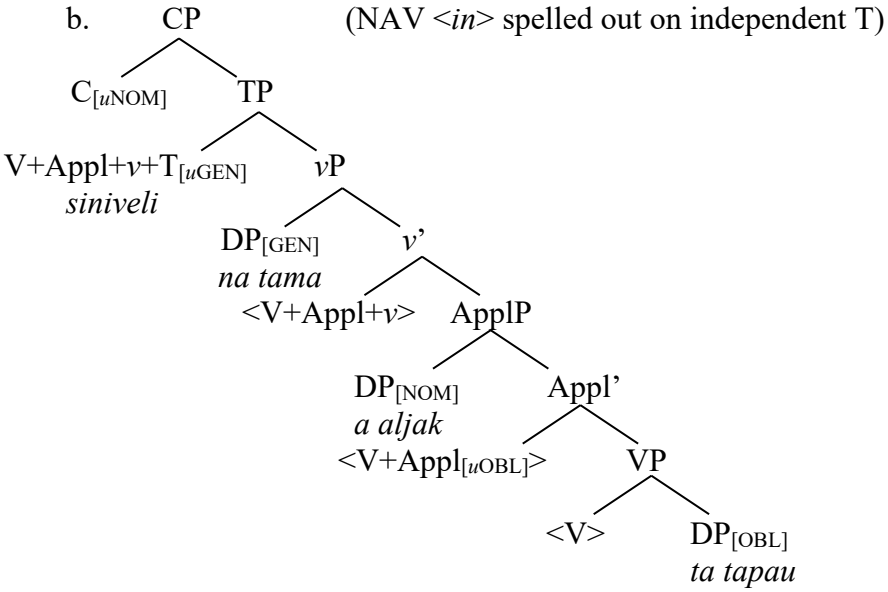

The agreement approach proposes that CV morphology is spelled out as a last resort when the topic DP has not undergone Agree with any case-licensing head. Consequently, a moved theme selected by a CV applicative cannot be case licensed. Note that the agreement approach cannot assume that the theme values accusative case with Voice, since this would result in the spell-out of PV morphology, contra fact.

Southern Paiwan

(34)	**s<in>i**-pavay	**a**	**tjakit**	na	kakedrian	tjay	ama.
DA:	CV<NAV.PFV>-give	NOM.CN	knife	GEN.CN	child	OBL.PN	father
AA:	CV<NAV.PFV>-give	PIVOT.CN	knife	NOM.CN	child	P	father

'The child gave Father the knife.'

The direct approach, however, does not suffer from this problem, since the applied object DP must and will value nominative case with C. There also is a principled reason that moved themes are applied objects. Paiwan CV *si-* derives historically from the verb *Si 'wear, carry' (Peterson 1997, 2007) and later grammaticalized into a light verb and subsequently an applicative that could select moved themes, instruments, beneficiaries, reasons, causes, etc. (see Chen 2017:103 for a complete list). Many languages have a similar functional category that developed from a verb 'carry, hold, take' and selects a similar range of arguments. For example, Many Niger-Congo languages of West Africa have a light verb selecting an object which grammaticalized from a lexical verb meaning 'hold/have/possess/own' in a serial verb construction (Lord 1982, 1993). (35) shows that this morpheme was historically a lexical verb.

Earlier Akan (Christaller 1881:68; cited in Lord 1982:279)

(35)	ɔnó	ná	ɔ̀-**de**	kùró	yi
	he	FOC	he-possess	town	this

'He is the possessor of this town.'

This verb later grammaticalized into a light verb that frequently selects moved themes, instruments, and comitative arguments (Lord 1982, 1993; Sebba 1987), as shown in the following examples.

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Akan (Lord 1993)

(36) a. o-**de** afoa ce boha-m
he-DE sword put scabbard-inside
'He put the sword into the scabbard.' (Lord 1993:66)

b. o-**de** enkrante tya duabasa
he-DE sword cut branch
'He cut off a branch with a sword.' (Riis 1854:168; cited in Lord 1982:281)

c. ɔ-**de** né nnípa fòro bépow
he-DE his men ascend mountain
'He ascends a mountain with his men.'
(Christaller 1875:117; cited in Lord 1982:281)

Other languages which have been cited as having a similar light verb or applicative are Tibeto-Burman languages (Matisoff 1991 and Peterson 2004, 2007), creole languages (Muysken & Veenstra 1994), the Mon-Khmer language Kammu (Holmer 2005), the Austronesian language Tetun Dili (Hajek 2006), the Afro-Asiatic language Wolaitta (Amba & Dimmendaal 2006), Late Archaic Chinese (Aldridge 2012), and the Papuan language Teiwa (Klamer 2011).

The analysis of *si-* as an applicative which grammaticalized from *Si 'wear, carry' also accounts for its status as a prefix rather than a suffix like the LV marker *-an*, since this type of applicative/light verb originates in a serial verb construction in which it surfaces outside the VP and consequently precedes the main verb. According to Peterson (1997, 2007), *Si grammaticalized into a prefix in relative clauses, when its object had been extracted. Adjacency to the verb allowed for its reanalysis as a prefix.

Kuo (2015:233) argues that all of the arguments selected by the CV applicative in Formosan languages can be analyzed as a "cause". For him, this is the first relation in a causal chain. Interpreting this analysis in a general way, moved themes and instruments are used to initiate events. Beneficiaries also can be viewed as causes, since they provide a reason or purpose for initiating the event.

Chen (2017:122-125) attempts to argue against the applicative analysis of CV constructions by showing that the nominative DP occupies the lowest argument position in the clause and consequently cannot be base generated in an applicative phrase. She attempts to show this on the basis of variable binding. However, in none of her examples does the quantifier c-command the intended variable. All of her examples have the same structure, which is exemplified by the Seediq example below. The problem is specifically that the quantifier *knkingal* 'every' is embedded inside a larger DP and does not c-command outside of this DP. Consequently, this example cannot be used to show that the goal c-commands the applied object.[13]

Seediq (Chen 2017:123)

(37) wada=mu s-paadis [bubu=na [knkingal laqi]]
DA: PFV=1SG.GEN CV-send mother=3SG.GEN every child
AA: PFV=1SG.NOM CV-send mother=3SG.GEN every child
[ka patis=daha].
DA: NOM book=3PL.GEN
AA: PIVOT book=3PL.GEN
'I sent [[every child's]$_i$ mother] his/her$_{i/j}$ book.'

[13] The reader may wonder how the bound variable interpretation is obtained in the absence of c-command. I refer such readers to Barker (2012) and references therein showing that variable binding does not require c-command. I am indebted to a reviewer for this suggestion.

The analysis presented in this section has argued that the voice morphemes in Philippine and most Formosan languages have distinct functions in the syntax and occupy their own functional heads. I have also presented additional arguments against the agreement approach advocated by Chen (2017, to appear).

4. Conclusion

This paper has argued against the agreement approach to voice morphology in Philippine and Formosan languages put forth by Chen (2017, to appear). I showed first that there is a theoretical problem accounting for how the voice morphemes are spelled out, since Chen's analysis depends on spelling out of abstract Agree relations rather than specific features or lexical items. This agreement approach also makes wrong predictions for the location of voice markers. Chen's analysis predicts that they should be found on a head in the left periphery, but in fact these markers occupy lower structural positions in many Formosan languages. The agreement approach focuses on the spell-out of specific voice markers but does not present an analysis of AV and NAV dichotomy, which is often found together with specific voice markers in Philippine and Formosan languages. The approach to LV marking also depends on positing null prepositions in the absence of evidence for their existence. Chen's agreement approach also requires that nominative (pivot) themes in CV constructions not be case licensed. Finally, the agreement approach relies heavily on the topichood of the pivot DP but ignores the fact that the non-pivot agent is often at least as topical as the pivot.

I proposed instead to analyze Philippine and Formosan voice affixes as functional heads on the clausal spine with specific syntactic functions. The AV marker – <*em*> in Paiwan – is spelled out when T is bundled together with C, while the NAV perfective aspect marker <*in*> appears when T has separated from C. This accounts for the AV/NAV dichotomy.

For the other specific voice markers, the PV affix is merged in an inner aspect head and projects telic events with affected objects. As I demonstrated, PV clauses are typically telic, while AV is atelic. It bears noting that Chen (2017, to appear) does not have a principled account of this dichotomy and in fact predicts that AV and PV should both be potentially telic.

On my analysis, LV *-an* and CV *si-* also have their own functions and structural positions as applicatives. LV selects locative applied arguments and also partitive themes in unbounded events. LV thus contrasts with bounded PV clause types when the applied object is a theme. The CV applicative is associated with a broad range of arguments, but these also form a natural class of arguments which are cross linguistically selected by functional heads grammaticalizing from verbs meaning 'have, hold, take'. Chen's (2017, to appear) approach also offers no way to characterize this group of arguments as a natural class.

Most importantly, highlighting the syntactic functions of each of these voice morphemes makes it clear that they should not be analyzed merely as agreement markers. This is because they correlate with different argument and event structures.

References

Aboh, Enoch, and Marina Dyakonova. 2009. "Predicate Doubling and Parallel Chains." *Lingua* 119 (7): 1035–1065.

Aldridge, Edith. 2004. *Ergativity and Word Order in Austronesian Languages.* PhD diss., Cornell University, Ithaca, NY.

Aldridge, Edith. 2008. "Generative Approaches to Ergativity." *Language and Linguistics Compass: Syntax and Morphology* 2 (5): 966–995.

Aldridge, Edith. 2012. “PPs and Applicatives in Late Archaic Chinese.” *Studies in Chinese Linguistics* 33 (3): 139–164.
Aldridge, Edith. 2016. “Ergativity from Subjunctive in Austronesian Languages.” *Language and Linguistics* 17 (1): 27–62.
Aldridge, Edith. 2018. “C-T Inheritance and the Left Periphery in Old Japanese.” *Glossa* 3 (1): 1–22. http://doi.org/10.5334/gjgl.254.
Aldridge, Edith. 2019. “Subject/non-subject Movement Asymmetries in Late Archaic Chinese.” *Glossa* 4 (1): 1–38.
Aldridge, Edith. 2021. “Syntactic Conditions on Accusative to Ergative Alignment Change in Austronesian Languages.” *Journal of Historical Linguistics* 11 (2): 214–247.
Aldridge, Edith. 2022. “Two Dimensions of Austronesian Voice.” In *Proceedings of GLOW in Asia XIII*, ed. by Yuqiao Du, Zhuo Chen, Xiangyu Li, Zetao Xu, and Victor Junnan Pan, 17–29. http://ling.cuhk.edu.hk/glowxiii/index.php.
Aldridge, Edith. 2023. “Diachronic Development of the Nuclear Austronesian Locative and Patient Applicatives.” In *Applicatives in Austronesian Languages*, special issue of *NUSA: Linguistic Studies of Languages in and around Indonesia*, ed. by Jocelyn Aznar, Christian Döhler, and Jozina Vander Klok, 74: 5–39.
Alexiadou, Artemis. 2001. *Functional Structure in Nominals.* Amsterdam: John Benjamins.
Basilico, David. 2008. “The Syntactic Representation of Perfectivity.” *Lingua* 118 (11): 1716–1739.
Bittner, Maria, and Ken Hale. 1996. “The Structural Determination of Case and Agreement.” *Linguistic Inquiry* 27: 1–68.
Blust, Robert A. 1999. “Subgrouping, Circularity and Extinction: Some Issues in Austronesian Comparative Linguistics.” In *Selected Papers from the Eighth International Conference on Austronesian Linguistics (Symposium Series of the Institute of Linguistics)*, ed. by Elizabeth Zeitoun, and Paul Jen-kuei Li, 31–94. Taipei: Institute of Linguistics (Preparatory Office), Academia Sinica.
Blust, Robert, and Victoria Chen. 2017. “The Pitfalls of Negative Evidence: ‘Nuclear Austronesian’, ‘Ergative Austronesian’, and Their Progeny.” *Language and Linguistics* 18 (4): 577–621.
Bok-Bennema, Reineke. 1991. *Case and Agreement in Inuit.* Berlin: Foris Publications.
Borer, Hagit. 1994. “The Projection of Arguments.” In *Functional Projections*, ed. by E. Benedicto, and J. Runner, 19–47. University of Massachusetts Occasional Papers 17.
Borer, Hagit. 2005. *Structuring Sense, vol. II: The Normal Course of Events*. New York: Oxford University Press.
Bril, Isabelle. 2022. “Lexical Restrictions on Grammatical Relations in Voice Constructions (Northern Amis).” *STUF – Language Typology and Universals* 75 (1): 21–71.
Chang, Yung-li. 1997. *Voice, Case and Agreement in Seediq and Kavalan.* PhD diss., National Tsing Hua University, Hsinchu, Taiwan.
Chang, Henry Y. 2011. “Transitivity, Ergativity, and the Status of O in Tsou.” In *Language and Cognition: Festschrift in Honor of James H-Y. Tai on His 70th Birthday*, ed. by Jung-hsing Chang, 277–308. Taipei: Crane Publishing.
Chang, Henry Y. 2014. “Restructuring and Long Distance Transitivity Agreement in Tsou.” Paper presented at the 21st meeting of the Austronesian Formal Linguistics Association (AFLA), University of Hawai’i, Manoa.
Chang, Henry Y. 2017. “The AV-Only Restriction and Locality in Formosan Languages.” *Tsinghua Journal of Chinese Studies, New Series* 47 (2): 231–254.
Chen, Sihwei. 2016. “Lexical Aspect and Aspectually Unmarked Predicates in Atayal.” In *AFLA 23: The Proceedings of the 23rd Meeting of the Austronesian Formal Linguistics*

Association, ed. by Hiroki Nomoto, Takuya Miyauchi, and Asako Shiohara, 65–80. Canberra.
Chen, Sihwei. 2018. *Finding Semantic Building Blocks: Temporal and Modal Interpretation in Atayal.* PhD diss., University of British Columbia, Vancouver.
Chen, Tingchun. 2018. *Multiple Case Assignment: An Amis Case Study.* PhD diss., Massachusetts Institute of Technology.
Chen, Victoria. 2017. *A Reexamination of the Philippine-Type Voice System and Its Implications for Austronesian Primary-Level Subgrouping.* PhD diss., University of Hawaii.
Chen, Victoria. To appear. "Voice Morphology as the Spell-Out of Parallel Chains: Insights from Austronesian and Beyond." In *Move and Agree*, ed. by James Crippen, Rose-Marie Dechaine, and Hermann Keupdjio. Amsterdam & Philadelphia: John Benjamins.
Chomsky, Noam. 2008. "On Phases." In *Foundational Issues in Linguistic Theory: Essays in Honor of J-R. Vergnaud.* Cambridge, MA: MIT Press.
Chung, Sandra. 1994. "*Wh*-Agreement and Referentiality in Chamorro." *Linguistic Inquiry* 25 (1): 1–44.
Chung, Sandra. 1998. *The Design of Agreement*. Chicago: University of Chicago Press.
Collins, James. 2017. *Structure-Sensitive Interpretation: A Tagalog Case Study.* PhD diss., Stanford University.
Csirmaz, Aniko. 2005. *Semantics and Phonology in Syntax.* PhD diss., MIT, Cambridge, MA.
Csirmaz, Aniko. 2012. "The Case of the Divisible Phase: Licensing Partitive Case in Finnish." *Syntax* 15 (3): 215–252.
Erlewine, Michael Yoshitaka. 2016. "Multiple Extraction and Voice in Toba Batak." In *The Proceedings of the 23rd Meeting of the Austronesian Formal Linguistics Association*, ed. by Hiroki Nomoto, Takuya Miyauchi, and Asako Shiohara, 81–95. Canberra: Asia-Pacific Linguistics.
Erlewine, Michael Yoshitaka. 2018. "Extraction and Licensing in Toba Batak." *Language* 93 (4): 662–697.
Erlewine, Michael Yoshitaka, and Theodore Levin. 2021. "Philippine Clitic Pronouns and the Lower Phase Edge." *Linguistic Inquiry* 52: 408–425.
Foley, William. 1976. *Comparative Syntax in Austronesian.* PhD diss., University of California, Berkeley.
Fortuny, Jordi. 2008. *The Emergence of Order in Syntax*. Amsterdam & Philadelphia: John Benjamins.
Gallego, Angel J. 2014. "Deriving Feature Inheritance from the Copy Theory of Movement." *The Linguistic Review* 31 (1): 41–71.
Georgopoulos, Carol. 1985. "Variables in Palauan Syntax." *Natural Language and Linguistic Theory* 3: 59–94.
Georgopoulos, Carol. 1991. *Syntactic Variables*. Dordrecht: Kluwer Academic Publishers.
Guevarra, Jed Sam Pizarro. 2020. *When Human Universal Meets Language Specific.* PhD diss., University of California, Santa Cruz.
Hajek, John. 2006. "Serial Verbs in Tetun Dili." In *Serial Verb Constructions: A Cross-Linguistic Typology*, ed. by Alexandra Y. Aikhenvald, and R.M.W. Dixon, 239–253. Oxford: Oxford University Press.
Himmelmann, Nikolaus P. 2005. "The Austronesian Languages of Asia and Madagascar: Typological Characteristics." In *The Austronesian Languages of Asia and Madagascar*, ed. by Alexander Adelaar, and Nikolaus P. Himmelmann, 110–181. New York: Routledge.
Hoji, Hajime. 1985. *Logical Form Constraints and Configurational Structures in Japanese.* PhD diss., University of Washington.

Holmer, Arthur. 1996. *A Parametric Grammar of Seediq*. Lund: Lund University Press.
Holmer, Arthur. 2005. "Verb Serialization in Kammu." *Lund University Department of Linguistics Working Papers* 51: 65–84.
Huang, Shuping, and Li-May Sung. 2008. "The Undergoer Focus ma- in Kavalan and Amis." *Oceanic Linguistics* 47 (1): 159–184.
Kandybowicz, Jason. 2008. *The Grammar of Repetition*. Amsterdam & Philadelphia: John Benjamins.
Klamer, Marian. 2011. "Ditransitive Constructions in Teiwa." In *Studies in Ditransitive Constructions: A Comparative Handbook*, ed. by Andrej Malchukov, and Martin Haspelmath, 1–30. Berlin: De Gruyter Mouton.
Kuo, Jonathan Cheng-Chuen. 2015. *Argument Alternation and Argument Structure in Symmetrical Voice Languages: A Case Study of Transfer Verbs in Amis, Puyuma, and Seediq.* PhD diss., University of Hawaii.
Kuo, Jonathan Cheng-Chuen. 2016. "The Event Structure of Amis Intransitive Manner/Result Verbs: A Lexicalist Analysis." In *AFLA 23: The Proceedings of the 23rd Meeting of the Austronesian Formal Linguistics Association*, ed. by Hiroki Nomoto, Takuya Miyauchi, and Asako Shiohara, 138–151. Canberra.
Legate, Julie. 2003. *Warlpiri: Theoretical Implications.* PhD diss., MIT, Cambridge, MA.
Legate, Julie. 2008. "Morphological and Abstract Case." *Linguistic Inquiry* 39: 55–101.
Legate, Julie. 2011. "Under-Inheritance." Paper presented at the 42nd Annual Meeting of the North East Linguistic Society (NELS-42), University of Toronto.
Legate, Julie. 2014. *Voice and* v*: Lessons from Acehnese*. Cambridge, MA: MIT Press.
Lord, Carol. 1982. "The Development of Object Markers in Serial Verb Languages." In *Syntax and Semantics 15: Studies in Transitivity*, ed. by Paul J. Hopper, and Sandra A. Thompson, 277–299. New York: Academic Press.
Lord, Carol. 1993. *Historical Change in Serial Verb Constructions*. Amsterdam & Philadelphia: John Benjamins.
Mahajan, Anoop. 1989. "Agreement and Agreement Projections." In *MIT Working Papers in Linguistics*, vol. 10, *Functional Heads and Clause Structure*, ed. by Itziar Laka, and Anoop Mahajan, 217–252. Cambridge, MA: MIT Working Papers in Linguistics.
Martinović, Martina. 2023. "Feature Geometry and Head Splitting in the Wolof Clausal Periphery." *Linguistic Inquiry* 54 (1): 79–116.
Matisoff, James. 1991. "Areal and Universal Dimensions of Grammaticalization in Lahu." In *Approaches to Grammaticalization*, ed. by E. Traugott, and B. Heine, 383–453. Amsterdam & Philadelphia: John Benjamins.
Muysken, Pieter. 2011. "Relative Clauses in Ecuadorian Quechua." In *Subordination in Native South-American Languages*, ed. by Rik van Gijn, Katharina Haude, and Pieter Muysken, 251–266. Amsterdam & Philadelphia: John Benjamins.
Muysken, Pieter, and Tonjes Veenstra. 1994. "Serial Verbs." In *Pidgins and Creoles*, ed. by Jacques Arends, Pieter Muysken, and Norval Smith, 289–301. Amsterdam & Philadelphia: John Benjamins.
Payne, Thomas E. 1994. "The Pragmatics of Voice in a Philippine Language: Actor-focus and Goal-focus in Cebuano Narrative." In *Voice and Inversion*, ed. by Talmy Givon, 317–363. Amsterdam & Philadelphia: John Benjamins.
Pearson, Matthew. 2001. *The Clause Structure of Malagasy: A Minimalist Approach.* PhD diss., UCLA.
Peng, Shu-fang. 2016. *A Study of Verbal Morphology in Mayrinax Atayal.* MA thesis, National Tsing Hua University, Hsinchu, Taiwan.
Peterson, David A. 1997. "The Evolution of Applicative Constructions and Proto-Austronesian Morphosyntax." *Berkeley Linguistics Society* 23: 278–289.

Peterson, David A. 2007. *Applicative Constructions*. Oxford & New York: Oxford University Press.
Rackowski, Andrea. 2002. *The Structure of Tagalog: Specificity, Voice, and the Distribution of Arguments.* PhD diss., MIT.
Rackowski, Andrea, and Norvin Richards. 2005. "Phase Edge and Extraction: A Tagalog Case Study." *Linguistic Inquiry* 36 (4): 565–599.
Ramchand, Gillian Catriona. 2008. *Verb Meaning and the Lexicon: A First-phase Syntax*. New York: Cambridge University Press.
Richards, Marc. 2008. "Quirky Expletives." In *Agreement Restrictions*, ed. by Artemis Alexiadou, and T. Alan Hall, 181–213. Berlin & New York: Mouton de Gruyter.
Richards, Norvin. 2000. "Another Look at Tagalog Subjects." In *Formal Issues in Austronesian Linguistics*, ed. by Ileana Paul, V. Phillips, and Lisa Travis, 105–116. Dordrecht: Kluwer Academic Publishers.
Ritter, Elizabeth, and Sara Rosen. 2000. "Event Structure and Ergativity." In *Events as Grammatical Objects*, ed. by C. Tenny, and J. Pustejovsky, 187–238. Stanford: Center for the Study of Language and Information.
Ross, Malcolm. 2009. "Proto Austronesian Verbal Morphology: A Reappraisal." In *Austronesian Historical Linguistics and Culture History: A Festschrift for Robert Blust*, ed. by Alexander Adelaar, and Andrew Pawley, 295–326. Canberra: Pacific Linguistics.
Ross, Malcolm. 2012. "In Defense of Nuclear Austronesian (and against Tsouic)." *Language and Linguistics* 13 (6): 1253–1300.
Runner, Jeffrey T. 1993. "Quantificational Objects and Agr-o." In *Papers from the Fifth Student Conference in Linguistics (SCIL-V)*, ed. by V. Lindblad, and M. Gamon, 209–224. Cambridge, MA: MIT Working Papers in Linguistics.
Schachter, Paul. 1976. "The Subject in Philippine Languages: Topic, Actor, Actor-Topic, or None of the Above." In *Subject and Topic*, ed. by Charles Li, 91–518. New York: Academic Press.
Sebba, Mark. 1987. *Syntax of Serial Verbs: An Investigation into Serialisation in Sranan and other Languages*. Amsterdam & Philadelphia: John Benjamins.
Shibatani, Masayoshi. 1988. "Voice in Philippine Languages." In *Passive and Voice*, ed. by Masayoshi Shibatani, 85–142. Amsterdam: John Benjamins.
Teng, Stacy Fang-ching. 2008. *A Reference Grammar of Puyuma*. Canberra: Pacific Linguistics.
Teng, Stacy Fang-ching. 2014. "Grammaticalization of Predicative Possession in Nanwang Puyuma and as a Basis for Reconstruction in PAn." *Oceanic Linguistics* 53 (1): 141–159.
Teng, Stacy F, and Elizabeth Zeitoun. 2016. "The Noun-verb Distinction in Kanakanavu and Saaroa: Evidence from Pronouns." *Oceanic Linguistics* 55 (1): 134–161.
Travis, Lisa deMena. 2010. *Inner Aspect*. Dordrecht: Springer.
Tsukida, Naomi. 1993. "The Use of *–en* Form in Fataan Amis." *Asian and African Linguistics* 22: 123–140.
Tsukida, Naomi. 2009. *Sedekkugo (Taiwan) Bunpo [Sedek grammar].* PhD diss., University of Tokyo.
Ura, Hiroyuki (2000). *Checking Theory and Grammatical Functions in Universal Grammar*. New York: Oxford University Press.
Voorst, Jan. van. 1988. *Event Structure*. Amsterdam: John Benjamins.
Wolff, John, Ma. Theresa C. Centeno, and Der-Hwa Rau. 1991. *Philipino through Self-instruction*. Ithaca, NY: Cornell University Southeast Asia Program.
Woolford, Ellen. 1997. "Four-way Case Systems: Ergative, Nominative, Objective, and Accusative." *Natural Language and Linguistic Theory* 11: 679–728.
Woolford, Ellen. 2006. "Lexical Case, Inherent Case, and Argument Structure." *Linguistic*

Inquiry 37 (1): 111–130.
Wu, Chun-ming. 2013. *The Syntax of Linking Constructions in Atayal and Paiwan.* PhD diss., National Tsing Hua University, Hsinchu, Taiwan.
Wu, Jing-lan Joy. 2006. *Verb Classification, Case Marking, and Grammatical Relations in Amis.* PhD diss., State University of New York at Buffalo.
Wu, Joy. 2007. "'Voice' Markers in Amis: A Role and Reference Grammar Analysis." *Language and Linguistics* 8 (1): 95–142.
Zeitoun, Elizabeth. 1992. A Syntactic and Semantic Study of Tsou Focus System. MA thesis, National Tsing Hua University, Hsinchu, Taiwan.
Zeitoun, Elizabeth. 1996. "The Tsou Temporal, Aspectual, and Modal System Revisited." *Bulletin of the Institute of History and Philology* 67 (3): 503–531.