

THE TYPOLOGY OF NOMINAL LICENSING IN AUSTRONESIAN VOICE SYSTEM LANGUAGES*

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We propose that much of the variation amongst Austronesian voice system languages in post-verbal word order and the marking of non-pivot arguments can be productively understood by considering differences in the strategies of nominal licensing (Case). We propose two parameters: (i) the accusative parameter: the language does or does not have structural accusative case; (ii) the last-resort licensing parameter: DPs without structural Case-licensing may be licensed either under adjacency with the verb or by insertion of a case marker (genitive). Toba Batak, Balinese, Nanwang Puyuma, and Katipul/Ulivelivek Puyuma exemplify the four language types predicted by these parameters. We also discuss extensions of this approach to Tagalog, Malagasy, and Malay/Indonesian.

1. Introduction

The Austronesian language family is not only one of the geographically most dispersed language families, but also exhibits a wide range of surface typological diversity. To begin, consider the behavior of Tagalog and Toba Batak. Tagalog has pre-nominal case markers, and significant freedom in post-verbal word order, as exemplified in (1).¹

(1) *Tagalog: case markers and free word order*

- a. Nag-bigay ng libro sa babae ang lalaki.

AV-gave GEN book DAT woman NOM man

‘The man gave the woman a book.’

- b. Nagbigay ng libro ang lalaki sa babae.

- c. Nagbigay sa babae ng libro ang lalaki.

- d. Nagbigay sa babae ang lalaki ng libro.

- e. Nagbigay ang lalaki sa babae ng libro.

- f. Nagbigay ang lalaki ng libro sa babae.

(Schachter and Otnes 1972: 83)

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¹We use the following abbreviations in glosses: AV = Actor Voice, LV = Locative Voice, PV = Patient Voice. NOM = nominative, GEN = genitive, ACC = accusative, DAT = dative; PN = proper name marker (Toba Batak); RP = recent perfective (Tagalog).

Toba Batak has no case markers, with restricted post-verbal word order. In the Actor Voice,² the theme must be immediately post-verbal. Post-verbal word order is however otherwise free, as reflected in the possible positions of ‘yesterday’ in (2):

- (2) *Toba Batak: No case markers and restricted word order*³
- a. Man-jaha {*nantoari} buku {nantoari} si Poltak {nantoari}.
AV-read *yesterday book yesterday PN Poltak yesterday
 - b. *Man-jaha {nantoari} si Poltak {nantoari} buku {nantoari}.
AV-read yesterday PN Poltak yesterday book yesterday
‘Poltak read a book yesterday.’ (based on Erlewine 2018: 677)

Despite such differences, the grammars of these languages have much in common. These are so-called “voice system” languages or also “symmetric voice” languages, where verbal morphology cross-references the choice of one argument of the clause as the pivot, with various syntactic processes privileging this pivot argument.⁴ We discuss the common properties of voice system languages and present a theoretical framework for their shared syntax in section 2 below.

The differences highlighted between Tagalog and Toba Batak could be thought of as just one example demonstrating the well-known tradeoff between case-marking and rigid word order, which both contribute to the function of encoding core argument relations (see e.g. Sinnemäki 2008; Fedzechkina et al. 2017). We note, however, that in Austronesian voice system languages without case markers, rigid word order restrictions do not apply equally to all arguments: for example, in the Toba Batak examples above in (2), the position of the theme is severely restricted, unlike the position of the agent. It is not simply a matter of languages having case markers or not, which then immediately leads to radically free or completely restricted word order.

How then do we understand the attested range of variation across these superficially very different types of Austronesian voice system languages? In this paper, we propose that much of the variation observed across Austronesian voice system languages can be attributed to two parameters of nominal (Case) licensing for non-pivot core arguments:

- (3) *Accusative parameter:*
The language does or does not have structural accusative case.
- (4) *Last-resort licensing parameter:*
If a DP lacks a source for structural licensing, it can be licensed...
- a. under linear adjacency with the verb, or
 - b. by insertion of a case marker (genitive).

²Toba Batak has only two voices, which have previously been called “active” and “passive.” For uniformity, here we refer to these voices as Actor Voice and Patient Voice respectively.

³(2b) does have the infelicitous reading ‘The/a book read Poltak yesterday.’

⁴In other work, what we call the “pivot” here has also been called “subject,” “focus,” “topic,” or “trigger.” See Blust 2002, Ross and Teng 2005, and Blust 2013 section 7.1 for discussion.

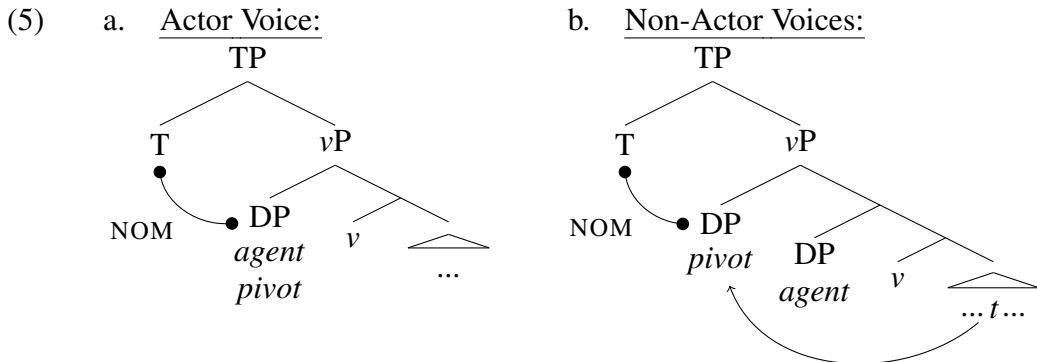
These two binary parameters predict a four-way typology of Austronesian voice systems, with different case marking and word order behaviors. We will show in this paper that this predicted typological space is indeed attested.

We begin in section 2 with background on the theory of Austronesian voice system syntax. In section 3, we present our proposal and show that the predicted typology is attested. We conclude with discussion and extensions in section 4.

2. Background Theory of Voice Systems

We begin in this section by presenting a core theory for the syntax of Austronesian voice system languages, based on our previous work in Erlewine, Levin, and Van Urk 2015, 2017.

Every clause in an Austronesian voice system language identifies one nominal argument for a set of exceptional behaviors including a particular case (nominative) and \bar{A} -extraction. We propose following Aldridge 2004, Rackowski and Richards 2005, and many others, that this privileged argument, which we call the *pivot*, is uniformly the highest DP argument in the lower phase of the clause (vP). In Actor Voice clauses, the pivot is the thematic agent, base-generated at the edge of the phase, as illustrated in (5a). In Non-Actor Voice clauses, the pivot DP argument has moved to an outer specifier of vP above the external argument, as in (5b).



The structures in (5) crucially represent hierarchical structures. We propose that constituents inside vP are generally subject to post-verbal scrambling. Here we will implement this by considering all possible linearizations of the vP with the verb ($v+V$) as the leftmost constituent, as in Erlewine 2018: 673 and Erlewine and Lim 2019. See also references there for further discussion of post-verbal scrambling in previous literature. Note however that some of these word orders will be filtered out due to considerations of nominal licensing, below.

Probing for a DP from above will necessarily target the pivot argument. We propose that a higher functional head — labeled T in (5) — will probe for D and assign nominative case to the pivot. Furthermore, if we adopt the view that \bar{A} -extraction of DPs in these languages utilizes a D probe (Aldridge 2004; a.o.), we derive the

famed “pivot-only” extraction restriction, illustrated in Tagalog and Toba Batak below.^{5,6} The pivot DP can thus be described as a “mixed” argument associated with both A- and \bar{A} -properties, as we claimed in Erlewine, Levin, and Van Urk 2015; see also Van Urk 2015.

- (6) Tagalog agent extraction \Rightarrow AV: (7) Tagalog patient extraction \Rightarrow PV:
 a. *Sino ang b<um>ili ng damit?* a. **Ano ang b<um>ili ang tao?*
 who NOM AV-buy GEN dress what NOM AV-buy NOM man
 b. **Sino ang b<in>ili ang damit?* b. *Ano ang b<in>ili ng tao?*
 who NOM PV-buy NOM dress what NOM PV-buy GEN man
 ‘Who bought the dress?’ ‘What did the man buy?’
 (based on Guilfoyle, Hung, and Travis 1992: 385–386)

- (8) T.B. agent extraction \Rightarrow AV: (9) T.B. patient extraction \Rightarrow PV:
*Ise mang/*di-allang babi?* *Aha *maN/di-tuhor si Poltak?*
 who AV/*PV-eat pork what *AV/PV-buy PN Poltak
 ‘Who ate pork?’ ‘What did Poltak buy?’
 (Erlewine 2018: 665)

A crucial assumption for deriving the attested range of typological behaviors is the well-established idea that all nominals require licensing, e.g. Case (Vergnaud 1977/2008; Chomsky 1980, 1981). Note that “licensing” is distinct from the determination of morphological case values (Marantz 1991). Licensing of nominals is required both in languages with and without overt morphological case distinctions. Following the basic proposal above, in every clause, the pivot DP will receive structural nominative case from a higher functional head (T), but other, non-pivot arguments must be licensed in another fashion.

A language may choose to regularly move the pivot to a pre-verbal position, e.g. Spec,TP. This may yield descriptively SVO word order as in a number of Malay/Indonesian type languages. This may also result in fixed pivot-final word order, if followed by movement of the predicate and its arguments (e.g. ν P) to the left, as has been proposed for Malagasy, Seediq, Atayal, Tsou, and Pazeh (see Pearson 2001, Aldridge 2002, 2004, Chen 2017: 181ff). This constitutes another point of cross-linguistic variation, which we will abstract away from here.

⁵Voice system languages also allow \bar{A} -extraction of some non-DPs, without interaction with voice morphology. See for example discussion of Tagalog adjunct fronting in Kroeger 1991/1993: 43ff and Toba Batak non-DP extraction in Erlewine 2018.

⁶The functional head which assigns nominative case to the pivot (here, T) and which probes for \bar{A} -extractions (e.g. C) may potentially be the same head, as Erlewine 2018 proposes for certain clause types in Toba Batak.

3. A Typology of Voice Systems Through Nominal Licensing

We propose that the key to understanding the attested range of variation across Austronesian voice system languages is the consideration of how non-pivot arguments can be licensed in different languages. Our core theory for voice system syntax in section 2 predicts that the pivot argument in every clause will receive structural nominative but underspecifies the source of licensing for non-pivot arguments. Following Marantz 1991 and subsequent work, we take nominals to have a range of different possible licensing mechanisms available to them, subject to cross-linguistic variation. These include structural case-licensing by Agree, under a particular structural configuration; licensing by adjacency, under linear adjacency with the verb (Baker 1988, 2014; Levin 2015; Branagan to appear); and prepositional/oblique case-insertion as a rescue strategy (Stowell 1981; Halpert 2012; Imanishi 2014; Van Urk 2015).

We propose that Austronesian voice system languages vary according to two parameters of Case-licensing, repeated from (3–4) above:

- (10) *Accusative parameter:*
The language does or does not have structural accusative case.
(Technically: *v* can or cannot assign accusative case downward.)
- (11) *Last-resort licensing parameter:*
If a DP lacks a source for structural licensing, it can be licensed...
a. under linear adjacency with the verb, or
b. by insertion of a case marker (genitive).

Here we will concentrate on the licensing of DP core arguments: agents and themes. In every transitive clause, at most one core argument (the pivot) will receive structural nominative from a higher functional head, leaving at least one other core argument to be licensed through the strategies in (10) and (11) available in the language. The two binary parameters in (10–11) predict a four-way typology of voice system languages:

- (12) *Typology predicted by (10) and (11):*

| –ACC | | +ACC | |
|-----------------|----------------|------|---------------------|
| Adjacency: | Toba Batak | §3.1 | Balinese §3.2 |
| Case-insertion: | Nanwang Puyuma | §3.3 | Katipul Puyuma §3.4 |

In the remainder of this section, we will demonstrate how each of these parametric combinations predicts the behavior of an attested class of Austronesian voice system languages. We then conclude by extending this typology to account for the behavior of Tagalog and Malagasy in section 4.

3.1. No Accusative + Adjacency = Toba Batak (following Erlewine 2018)

We first consider the possibility of a language with no structural accusative case and last-resort licensing by adjacency. In such a language, each non-pivot argument will be required to be immediately adjacent to the verb. This requirement will hold equally of non-pivot agents and non-pivot themes. An example of such a language is Toba Batak, which has two voices, Actor Voice and Patient Voice (see footnote 2). In (13) and below, pivot DPs are italicized and relevant non-pivot DPs are underlined.

- (13) *Non-pivots must be immediately post-verbal:*
- a. Man-jaha {**nantoari*} buku {*nantoari*} *si* Poltak {*nantoari*}.
AV-read yesterday book yesterday PN Poltak yesterday
 - b. Di-jaha {**nantoari*} *si* Poltak {*nantoari*} buku {*nantoari*}.
PV-read yesterday PN Poltak yesterday book yesterday
'Poltak read a book yesterday.' (Erlewine 2018: 677)

Post-verbal word order in Toba Batak is free with the exception of a strict requirement that the non-pivot argument be immediately post-verbal. In the AV clause (13a), the non-pivot argument is the theme 'book' whereas in the PV clause in (13b), the non-pivot clause is the agent 'Poltak'. See also Schachter 1984 and Erlewine 2018 for additional data establishing this word order restriction.

Following Erlewine 2018, we take this word order restriction to be the result of licensing by adjacency (Baker 2014; Levin 2015; Branam to appear).⁷ Licensing by adjacency requires head-head adjacency between the verb and the highest head of the nominal, imposing a directionality restriction. All nominals in Toba Batak are DPs and D heads are pre-nominal — exemplified by the *si* marker for personal names — so licensing by adjacency requires the DP to be immediately post-verbal. Licensing by adjacency can also have phonological effects: in Toba Batak, the verb and post-verbal non-pivot form a phonological or intonational unit for the purposes of main stress placement (Emmorey 1984).

Each clause will have one argument licensed by structural nominative case from a higher functional head, and up to one additional argument licensed by adjacency with the verb. In the absence of additional licensing heads, this entails that it is not possible to have more than two non-oblique DPs in a clause in Toba Batak. This prediction is borne out, as noted in Erlewine 2018. For our speakers, there are no ditransitive clauses with three DP arguments, only ditransitives which take an oblique (PP) goal. See further discussion in Erlewine 2018: 678.

⁷See also Van Urk to appear for a licensing by adjacency effect in Fijian, an Austronesian language without a voice system. Like accusative assignment then, this method of licensing is independent of the voice system.

3.2. Accusative + Adjacency = Balinese (following Levin 2015)

Next we turn to a language which similarly employs licensing by adjacency as its last-resort licensing strategy, but which additionally has structural accusative case-licensing. This language is Balinese. Again, pivot arguments will consistently receive structural nominative, so the question is how non-pivot arguments are licensed. Non-pivot themes can receive structural accusative and therefore have a freer surface distribution, whereas non-pivot agents have no source of structural licensing, and therefore must be immediately post-verbal. This contrast is observed in the examples in (14).

- (14) *Asymmetric adjacency restriction on non-pivots:*
 a. *Cicing* ng-uber (ke jalan-e) siap-e.
 dog AV-chase into street-DEF chicken-DEF
 b. *Siap-e* ∅-uber (*ke jalan-e) cicing.
 chicken-DEF PV-chase into street-DEF dog
 ‘A dog chased the chicken (into the street).’
 (from Artawa 1994: 30, reproduced in Wechsler and Arka 1998: 405)

In Balinese, the pivot (again italicized) is by default in a pre-verbal position, which we described as Spec,TP in section 2. Post-verbal word order is relatively free but with one exception: non-pivot agents must be immediately post-verbal, as in (14b). Non-pivot themes are not subject to this restriction as in (14a).

This analysis of the asymmetric post-verbal word order restriction on non-pivots in Balinese follows the analysis of this licensing mechanism in Levin 2015. In particular, Levin (2015) proposes that licensing under adjacency requires linear adjacency between the highest head of the nominal projection and the verbal complex. The effects of linear adjacency are observed within the nominal as well. Consider the contrast in (15). According to Levin (2015), nominals in Balinese can be bare NPs or DPs, but with D heads being post-nominal: for example, the definite D head is the enclitic =e. This explains the ungrammaticality of (15) with ‘the/that dog,’ where the noun itself *cicing* interrupts the adjacency of the D head =e and the verb.

- (15) *Non-pivot agent common noun cannot be definite:*
I Wayan ∅-gugut {cicing / *cicing-e (ento)}.
 ART Wayan PV-bite dog dog-DEF (**that**)
 ‘A/*the dog bit Wayan.’ (Wechsler and Arka 1998: 441)

It is important to note that, unlike in pseudo-noun incorporation as in Niuean (Massam 2001), this is not a general ban on DPs licensed by adjacency or against definite nominals in this position, as evidenced by the availability of PV non-pivot agents which are pronouns or proper names.

- (16) *Pronouns and proper names can be non-pivot agents:*
Be-e \emptyset -daar {ida / Nyoman}.
 fish-DEF PV-eat 3SG Nyoman
 ‘(S)he/Nyoman ate the fish.’ (Levin 2015: 77)

The availability of licensing by adjacency in (16) is explained if pronouns and proper names themselves occupy the D head (e.g. Postal 1966; Longobardi 1994; Elbourne 2001), satisfying head-head adjacency between the highest nominal head (D) and the verb.

The linear adjacency requirement is also observed within bare NP agents. Certain modifiers such as the quantifier *many* in Balinese can be in pre-nominal or post-nominal position as we see with the pivot *many dogs* in (17). However when the same nominal is a non-pivot agent in a PV clause — and thus necessarily licensed by adjacency with the verb — only the post-nominal position for *many* is available, as in (18). The pre-nominal position would lead to interrupting the linear adjacency between the highest nominal head (here, N) and the verb.

- (17) *Pre- and post-nominal positions for liu ‘many’:*
 {Liu} cicing {liu} ng-ugut Nyoman.
 many dog many AV-bite Nyoman
 ‘Many dogs bit Nyoman.’ (ibid: 76)
- (18) *Head-head adjacency of non-pivot agent restricts modifier position:*
 Nyoman \emptyset -gugut {*liu} cicing {liu} .
 Nyoman PV-bite many dog many
 ‘Many dogs bit Nyoman.’ (ibid: 76)

There is no parallel restriction on the form of non-pivot themes, which as we saw above in (14), are not required to be adjacent to the verb.

- (19) *No parallel restriction on non-pivot themes:*
 Cicing-e ng-ugut {liu} anak cerik {liu} .
 dog-DEF AV-bite many person small many
 ‘The dog bit many children.’ (ibid: 76)

The asymmetric word order restriction in Balinese requiring that non-pivot agents be immediately post-verbal with head-head adjacency, but without a similar restriction on non-pivot themes, is explained by the availability of structural accusative case. Accusative case from *v* can target themes under *c*-command, without a need for linear adjacency, but not agents (10). When structural accusative is unavailable, as in Toba Batak, the adjacency requirement applies to both non-pivot agents and non-pivot themes.

3.3. No Accusative + Case-insertion = Nanwang Puyuma

Next we turn to languages where the strategy for last-resort Case licensing is the insertion of an oblique case marker, rather than licensing by adjacency. Our first such language will be Nanwang Puyuma. This language has no source of structural licensing for non-pivot arguments — just as in Toba Batak — and instead licenses all non-pivot core arguments using the last-resort insertion of a preposition/oblique case (Stowell 1981; Halpert 2012; Imanishi 2014; Van Urk 2015). First consider the examples in (20). These are two ways of expressing the proposition “Siber stole the car,” with (20a) in Patient Voice and (20b) in Actor Voice. The pivots ‘car’ in (20a) and ‘Siber’ in (20b) are in nominative case, and the non-pivot agent in (20a) and non-pivot theme in (20b) are both in genitive case.

- (20) *Non-pivots are all marked with the same case series:*⁸
- a. Tu=trakaw-aw na palridring **kan** Siber.
 GEN.3=steal-PV NOM.DEF car GEN.SG Siber
- b. Trakaw i Siber **kana** palridring.
 AV-steal NOM.SG Siber GEN.DEF car
 ‘Siber stole the car.’
- (Victoria Chen p.c.)

We reproduce the inventory of case markers in Nanwang Puyuma in (21) below:

(21) *Case markers in Nanwang Puyuma (Teng 2009: 827):*

| | Personal name | | Common noun | |
|-----------------|---------------|-------------|-------------|------------|
| | singular | plural | definite | indefinite |
| Pivot | <i>i</i> | <i>na</i> | <i>na</i> | <i>a</i> |
| Non-pivot agent | <i>kan</i> | <i>kana</i> | <i>kana</i> | <i>dra</i> |
| Non-pivot theme | <i>kan</i> | <i>kana</i> | <i>kana</i> | <i>dra</i> |

Notice that the pre-nominal case marker forms for non-pivot agents and non-pivot themes are identical. Here, we will refer to this case as *genitive* as it is the same form that appears on possessors, as in (22) below.⁹

- (22) *Genitive case for possessors:*
- tu=tilrin **kana** sin*si*
 GEN.3=book GEN.DEF teacher
 ‘the teacher’s book’
- (Teng 2009: 828)

⁸However, a salient difference is that non-pivot agents but not non-pivot themes are obligatorily clitic-doubled on the verb, as seen in (20). See Erlewine and Levin to appear for explanatory discussion.

⁹Note, however, that possessor and non-pivot bound pronominal series differ. See Teng 2008, 2009 for details. Teng glosses this as *oblique*.

Nanwang Puyuma has additional Non-Actor Voices, where otherwise oblique arguments may be the pivot. In such clauses with two core arguments, both non-pivot core arguments will receive genitive case. This is exemplified in (23) below.

- (23) *Multiple genitives for core arguments in Locative Voice:*
 Tu=trakaw-ay=ku **dra** paisu **kan** isaw.
 GEN.3=steal-LV=NOM.1SG GEN.INDEF money GEN.SG Isaw
 ‘Isaw stole money from me.’ (Teng 2008: 147)

Genitive case from last-resort case-insertion predicts the availability of multiple genitives as in (23). Unlike licensing by adjacency above, case insertion can in principle apply to multiple nominals in a clause. This pattern could potentially be derived through separate sources for the two genitive case markers in (23), but such an analysis would then need to treat the identity for surface forms for non-pivot agents, non-pivot themes, and possessors as a case of accidental syncretism. Under our approach, last-resort genitive insertion is the uniform source for all of these surface-identical genitive forms.

Because Nanwang Puyuma does not employ licensing by adjacency, its post-verbal word order is free (Teng 2008: 148, Chen 2017: 18). Last-resort case-insertion does not require the nominal to be in any particular linear position, unlike licensing by adjacency.

3.4. Accusative + Case-insertion = Katipul and Ulivelivek Puyuma

Finally, we turn to two other, more conservative dialects of Puyuma — Katipul and Ulivelivek — which will fill out our predicted typology. Katipul and Ulivelivek utilize last-resort genitive case-insertion, just as its sister dialect Nanyang Puyuma does. But unlike Nanwang Puyuma, Katipul and Ulivelivek additionally employ structural accusative licensing. Structural accusative applies to non-pivot themes but not to non-pivot agents, leading to an asymmetry in case forms. The inventory of case markers in Katipul Puyuma is reproduced here in (24) below:

- (24) *Case markers in Katipul Puyuma (Teng 2009: 827):*

| | Personal name | | Common noun | |
|-----------------|--------------------|-------------|--------------------|------------|
| | singular | plural | definite | indefinite |
| Pivot | <i>i</i> | N/A | <i>na</i> | <i>a</i> |
| Non-pivot agent | <i>ni</i> | N/A | <i>nina</i> | <i>za</i> |
| Non-pivot theme | <i>kani</i> | <i>kana</i> | <i>kana</i> | <i>za</i> |

Notice that the case marker forms for non-pivot agents and non-pivot themes differ, unlike in Nanwang Puyuma above. The case marker series for non-pivot

agents is again equivalent to that for possessors.¹⁰ We therefore describe non-pivot agents as receiving last-resort genitive case. Non-pivot themes instead realise a different case by receiving structural accusative.

3.5. Summary

The four different types of languages identified and highlighted here look on the surface to be quite typologically distinct. For example the Puyuma varieties have case markers, whereas Toba Batak and Balinese do not. Balinese and Toba Batak both have restrictions on post-verbal word order, but they affect different arguments: Balinese requires non-pivot agents alone to be immediately post-verbal, whereas Toba Batak requires both non-pivot agents and non-pivot themes to be immediately post-verbal. The different Puyuma dialects vary in the number of distinct case marking series.

We propose that the two parameters for non-pivot nominal licensing in (10) and (11) above help us productively understand and relate these superficially distinct classes of Austronesian voice system languages. For example, the fact that Nanwang Puyuma and Toba Batak both treat all non-pivot core arguments in a symmetric fashion can be attributed to a lack of structural accusative in these two languages, despite the fact that these two languages look quite different at first glance.

4. Extensions

The two proposed parameters on non-pivot nominal licensing successfully describe the key behaviors of a range of different Austronesian voice system languages. By way of conclusion, here we discuss three possible extensions to this basic framework: the addition of specificity-linked DOM to the Nanwang Puyuma parameterization resulting in the behavior of Tagalog, the addition of overt linker morphology to the Balinese parameterization resulting in the behavior of Malagasy, and the availability of both licensing by adjacency and case-insertion in Malay and Indonesian.

We begin by considering the well-studied behavior of non-pivot arguments in Tagalog. Like in Nanwang Puyuma, non-pivot agents and themes in Tagalog may bear the same genitive case marking in many cases:

(25) *Non-pivot agents and themes in genitive case:*

- a. B<um>ili ang babae ng tela.
AV-bought NOM woman GEN cloth
'The woman bought some/*the cloth.'
- b. B<in>ili ng babae ang tela.
PV-bought GEN woman NOM cloth
'A/The woman bought the cloth.'

(Schachter 1996)

¹⁰There is, however, a distinction reported for definite common noun possessors vs non-pivot agents for Ulivlivek but not Katipul; see Teng 2009: 827.

In other voices, we see that multiple nominals can receive genitive simultaneously. For example, in the Locative Voice example (26), the benefactive ‘child’ is the pivot and receives nominative, leaving both core arguments without structural licensing. We see that both the non-pivot agent and non-pivot theme can be in genitive case, just as we also saw in the Nanwang Puyuma Locative Voice in (23) above.

- (26) *Multiple genitives for core arguments in Locative Voice:*
B<in>ili-han **ng** babae **ng** tela ang *bata*.
buy-LV GEN woman GEN cloth NOM child
‘A/the woman bought some cloth for the child.’ (Henrison Hsieh, p.c.)

The same is observed in the recent perfective aspect, where no argument functions as the pivot and receives nominative case. Again, last-resort genitive insertion applies to both the non-pivot core arguments.

- (27) *Multiple genitives for core arguments in recent perfective:*
Kabi-bigay lang **ng** maestra **ng** libro sa *bata*.
RP-give just GEN teacher GEN book OBL child
‘The teacher just gave a book to the child.’ (Schachter 1996)

As noted by many previous authors, however, the voice alternation in Tagalog appears to correlate with the theme’s specificity: the genitive non-pivot theme in the previous examples is necessarily interpreted as non-specific.¹¹ Specific non-pivot themes may instead be realized in a dative oblique case, as in (28) (Schachter and Otanes 1972; McFarland 1978; Latrouite 2011; Sabbagh 2016; a.o.).

- (28) *Dative case for specific non-pivot theme:*
Sino ang b<um>aril **sa** ibon?
who NOM AV-shot OBL bird
‘Who shot the bird?’ (McFarland 1978: 149)

At first glance, Tagalog can be described as exhibiting a kind of mixed behavior in our typology: with non-specific themes, Tagalog resembles Nanwang Puyuma, where all non-pivot core arguments receive the same, genitive case via last-resort case insertion; but with specific themes, Tagalog resembles Katipul and Ulivelivek

¹¹The unavailability of the specific theme interpretation in (25a) could be attributed to the availability of the competing form in (25b). When the PV form is blocked, for example by the extraction restriction, a specific theme interpretation becomes available:

- (i) Sino ang b<um>aril ng ibon?
who NOM AV-shot GEN bird
‘Who shot a/the bird?’ (McFarland 1978: 149)

Puyuma, where non-pivot themes receive a distinct case. But this behavior can be straightforwardly modeled in our proposal as well. We propose that Tagalog is a –ACC language with last-resort genitive case insertion — just as we proposed for Nanwang Puyuma above — but with an additional oblique case which applies exclusively to specific non-pivot themes. When a non-pivot theme receives DOM dative case, it no longer requires last-resort genitive case.

The behavior of non-pivot arguments in Malagasy also at first glance presents a challenge for our proposal. In Malagasy, non-subject agents must be immediately post-verbal (29), unlike non-pivot themes, whose word order is less restricted.¹²

(29) *Non-pivot agents must be adjacent to the verb:*

- a. Nohanin' ny gidro haingana ny voankazo omaly.
PST.PV.eat DET lemur quickly DET fruit yesterday
'The lemur ate the fruit quickly yesterday.'
- b. *Nohanin(a) haingana ny gidro ny voankazo omaly.
- c. *Nohanin(a) omaly ny gidro haingana ny voankazo. (Pearson 2005: 392)

The post-verbal non-pivot agent forms a tight phonological unit with the verb — similar to what has been described of Toba Batak non-pivot agents and themes (Emmorey 1984) — with word-internal phonological processes applying. This process has been described as “N-bonding” by Keenan (2000).

(30) *Malagasy “N-bonding”:* (examples from Pearson 2005)

- a. Vonoiko [vono-in-**ny** -ko] amin'ny antsy ny akoho.
PV.kill.1S [kill-PV-LNK 1SG] with-DET knife DET chicken
'I am killing the chickens with the knife.'
- b. Vonoin-dRamatoa [vono-in-**ny** Ramatoa] amin'ny antsy ny akoho.
PV.kill-Ramatoa [kill-PV-LNK Ramatoa] with-DET knife DET chicken
'Ramatoa is killing the chickens with the knife.'

Notice, however, that in these cases of N-bonded post-verbal non-pivot agents, there is an additional linker morpheme (=ny) inserted between the verb and non-subject agent. At first glance, then, Malagasy may appear to be simultaneously utilizing licensing by adjacency and last-resort case-insertion, if =ny were to be described as a case marker. Under our analysis, in which last-resort genitive insertion and licensing by adjacency with the verb are two independent and equally effective strategies for nominal licensing, however, we would not expect these two strategies to simultaneously apply to a single nominal.

A possible solution to this puzzle is to think of the =ny marker as a realization of the nominal's D head when the DP is licensed under adjacency with the verb.

¹²As discussed by Rackowski (1998) and Pearson (1998), however, indefinite non-pivot themes also must be adjacent to the verb, although they do not undergo N-bonding, which we attribute to an independent restriction on indefinites (e.g. Diesing 1992).

Suppose that Malagasy D heads expect to be valued for a morphological case value specification. But in the absence of such a morphological specification, that head is realized overtly as =*ny*. This situation comes about when the nominal is licensed under adjacency with the verb. It is not unusual for the *absence* of feature specifications — or the most unmarked feature specification — to result in overt morphology; see for example the case of English third singular suffix -s.

Finally, we discuss one further extension: the behavior of non-pivot agents in Malay and Indonesian. In the Malay/Indonesian *di*-passive, glossed here as Patient Voice, an overt agent can be expressed either with the preposition *oleh* or bare, without any such marking. When bare, the agent is required to be immediately post-verbal. No such adjacency restriction holds of *oleh*-marked agents.

(31) *Standard Indonesian non-subject agents:*

- a. *Kue ini di-makan (oleh) Arna.*
cake this PV-eat by Arna
'This cake was eaten by Arna.'
- b. *Kami di-beri sebungkus coklat *(oleh) ibu-nya.*
1PL PV-give pack chocolate by mother-3
'We were given a pack of chocolate by his mother.'

(Cole, Hermon, and Yanti 2008: 1509)

This behavior of Malay and Indonesian can also be straightforwardly described in our system as well. Although in the languages discussed thus far, we have described the setting of the last-resort licensing parameter (11) as “either or,” we could also consider the possibility that a language has both strategies: licensing by adjacency as well as the last-resort insertion of a case marker or preposition for nominals which do not receive structural case. The behavior of Malay and Indonesian languages as exemplified in (31) attests to the possibility of precisely such a parameterization. The data here shows clearly that verb-adjacency and preposition-insertion satisfy the same formal requirement, further supporting our approach to similar cross-linguistic variation in terms of parameters of nominal licensing.

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