

When “passives” involve no A-movement: Rethinking Indonesian-type passives via East Javanese

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A passive-like construction in Javanese (Austronesian) highlights how an object topicalization construction can be formally indistinguishable from a passive in languages lacking morphological case. While the so-called passive construction in East Javanese is morphologically identical to the true passive in Indonesian, it involves neither agent demotion nor promotion of the theme to subject position, but instead features \bar{A} -movement of an accusative object or adjunct to a left-peripheral topic position. East Javanese therefore contrasts with many other Indonesian-type Austronesian languages in lacking a true passive and in exhibiting an \bar{A} -oriented, two-way voice alternation that indexes topicalization rather than promotion to subject. The coexistence of this construction with a formally identical *di*-marked passive in closely related languages suggests a developmental pathway whereby topicalization is reanalyzed as passivization through the grammaticalization of topic into subject (Comrie 1988; Shibatani 2011). The Javanese pseudo-passive thus reveals an understudied locus of variation within the so-called Indonesian-type passives and underscores the importance of fine-grained diagnostics in the analysis of closely related languages with similar morphological profiles.

Keywords: Indonesian-type voice, passive, topicalization, Austronesian-type voice, syntactic variation

1 Introduction

Javanese (ISO 639-3 *jav*), an Austronesian language of Java, Indonesia, exhibits a *di*-marked construction traditionally described as a passive (Wedhawati and Arifin 2006; Robson 2014; Krauß 2017). This construction (1a) is characterized by an optional agent *by*-phrase and a theme argument in preverbal position—a position restricted to the syntactically prominent phrase in the clause. It also involves dedicated morphological marking (*di*-), which is absent in its active counterpart (1b), as is typical of passive constructions cross-linguistically (Shibatani 1985).

- (1) a. **Joko** wis **di**-gèndong (ambè' Bambang).
Joko already **PASS**-carry (by Bambang)
'Joko was carried (by Bambang).' (Javanese)
- b. **Bambang** wis **ng**-gèndong Joko.
Bambang already **AV**-carry Joko
'Bambang has already carried Joko.'

This construction shares key typological properties with passive constructions in neighboring Austronesian languages, such as Indonesian (ISO 639-3 *ind*) and Balinese (ISO 639-3 *ban*). Both are widely analyzed as exhibiting true passives involving A-movement of the theme to subject position (Wechsler and Arka 1998; Aldridge 2008; Arka 2008; Cole et al. 2008; Kroeger 2014; inter alia). The Indonesian passive (2) features the same verbal affix *di*- as the Javanese construction in (1); the Balinese passive (3) employs a different affix, but displays the same word order pattern.¹

- (2) Kue ini **di**-makan (oleh Arna).
cake this **PASS**-eat (by Arna)
'This cake was eaten (by Arna).' (Cole et al. 2008: 1509) (Standard Indonesian)
- (3) Nasi-ne ajeng-**a** (teken anak-e ento).
rice-DEF eat-**PASS** (by person-DEF that)
'The rice was eaten by that person.' (Artawa 1998: 10) (Balinese)

While these observations suggest that the Javanese *di*-construction is a typical Indonesian-type passive, new data from East Javanese, a lesser-studied dialect of eastern Java (including the major cities of Surabaya and Malang; Ras 1994; Krauß 2017), reveal a puzzling asymmetry that calls this analysis into question. In East Javanese actor voice clauses, a numeral quantifier (e.g. *rolas* 'twelve') can freely dislocate from its clause-initial host and intervene between the host and an aspectual auxiliary, such as the future auxiliary *até* in (4).

- (4) [____i; Konco-ku] **rolas**_i até mangan tahu.
[___ friend-1SG] **twelve** FUT AV.eat tofu
'My twelve friends will eat tofu.' (actor voice)

When a clause is marked in the so-called passive voice, quantifier float in the same pre-auxiliary field becomes unacceptable. This is shown in (5), where dislocating the same numeral quantifier *rolas* 'twelve' between the sentence-initial theme (e.g. 'the tofu') and the future auxiliary *até* yields semantic and grammatical consequences.

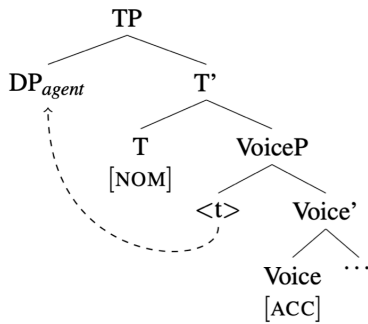
¹We return to the syntactic status of these verbal prefixes in Sections 4 and 5.

- (5) * $[__i$ Tahu-né] **rolas**_i **até** **di-pangan** (ambè' konco-ku).
 [$__$ tofu-DEF] **twelve** **FUT** 3/PASS-eat (by friend-1SG)
 (intended: 'The twelve pieces of tofu will be eaten (by my friend).') (passive voice)

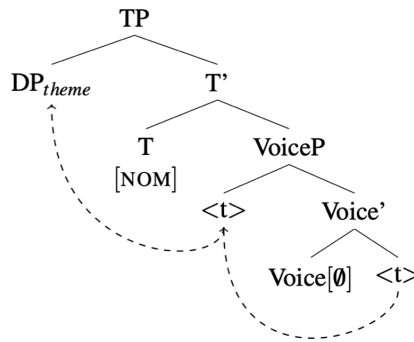
This voice-based asymmetry is unexpected if the *di*-construction (5) is a true passive. Under a widely adopted formal approach to Indonesian-type Austronesian languages (e.g. Aldridge 2008; Cole et al. 2008; Legate 2014; inter alia), actor voice (AV) exhibits nominative-accusative alignment, with T assigning nominative case to the highest caseless DP, as illustrated in (6a). The passive is analyzed as a subtype of AV, in which the theme A-moves to [Spec TP] to receive nominative case (6b), parallel to the external argument in transitive AV clauses (6a).

- (6) The traditional A-approach to Indonesian-type AV-passive alternation²

a. Actor Voice



b. Passive Voice



If this analysis holds for East Javanese, no asymmetry in quantifier float is expected between AV and the passive, as both involve the same A-movement step from the VoiceP phase edge to the subject position [Spec TP]. The availability of the pre-auxiliary landing site in AV but not in the passive, as indicated by the quantifier float asymmetry between (4) and (5), therefore remains unaccounted for under this analysis.

Building on this voice-based asymmetry, this paper pursues three goals. First, it demonstrates that the East Javanese *di*-construction is distinct from Indonesian-type passives (e.g. (2)–(3)) and involves no A-movement of the theme to the grammatical subject position. Second, it argues that this pseudo-passive construction should be unified with the object voice (OV) construction (7), which alternates with actor voice and together forms what is commonly referred to as an Indonesian-type voice system. Like the *di*-construction, the OV construction features a preverbal theme argument that is disallowed in actor voice, as shown below in (7).

- (7) East Javanese object voice

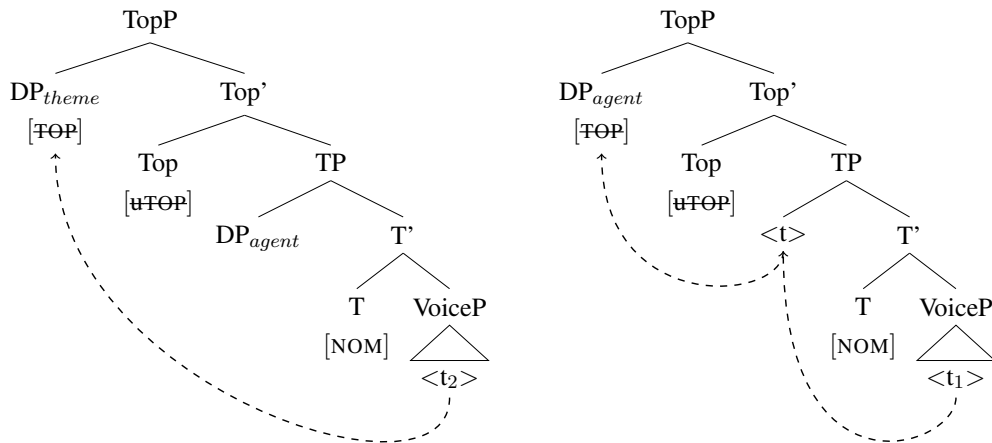
Arè' iku wis ta'=∅-rangkul.
child DEM PERF 1SG=OV-hug

²Following recent work on Indonesian-type languages (Indonesian: Sukarno 2003; Acehnese: Ko 2009; Legate 2014; Sundanese: Kurniawan 2013; Balinese: Natarina 2018; Javanese: Patrianto & Chen 2023b; Cui & Rabinovitch 2024), we adopt the Voice/vP distinction throughout this paper and refer to verbal projections as VoicePs. We assume that an active Voice head introduces an external argument and assigns accusative case, whereas passive constructions involve a defective Voice head that is unable to license object case (Pylkkänen 1999; Harley 2013). In this sense, the VoiceP adopted here corresponds to the vP of earlier work (e.g. Aldridge 2008; Cole et al. 2008). This framework provides a more transparent basis for analyzing the passive-like construction examined here.

'I hugged that child.'

Drawing on six diagnostics, we present novel evidence that the East Javanese OV construction, of which the *di*-construction is a subtype, is best analyzed as an object topicalization construction. On this view, the preverbal theme in (7) is a topic phrase occupying an \bar{A} -position, as schematized in (8a). We then show that the East Javanese AV construction contrasts with OV in involving subject topicalization, as illustrated in (8b): the highest caseless DP first moves to the grammatical subject position ([Spec TP] in (8b)) and subsequently undergoes \bar{A} -movement to a left-peripheral topic position. On this analysis, the contrast between the *di*-construction (i.e. an object topicalization construction) and AV in disallowing quantifier float in the same pre-auxiliary field (i.e. the presumed subject position, [Spec TP]) (4) follows straightforwardly.

- (8) The proposed \bar{A} -approach to the East Javanese voice system
 a. OV/"passive" (object topicalization construction) b. AV (subject topicalization construction)



The final goal of this paper is to examine how the East Javanese pseudo-passive sheds light on the developmental pathways of Indonesian-type passive constructions and, more broadly, on the evolution of syntax in Western Austronesian languages. Specifically, the coexistence of the Javanese pseudo-passive with morphologically identical *di*-marked passives in neighboring languages points to a plausible pathway whereby topicalization is reanalyzed as passivization through the grammaticalization of topics into subjects, in line with observations from other language families (e.g. Comrie 1988; Shibatani 2011). This account further addresses a longstanding question in Austronesian syntax concerning how true passive constructions emerged from symmetrical voice systems.

The remainder of the paper is structured as follows. Section 2 introduces the key properties of the East Javanese voice system. Section 3 presents evidence from six diagnostics that both the *di*-construction and the so-called object voice are best analyzed as instances of object topicalization. Section 4 compares the East Javanese system with those found in other Javanese dialects and Indonesian-type Austronesian languages, highlighting its relative conservatism, an underexplored dimension of syntactic variation among passive-like constructions, and the likely directionality of change. Section 5 concludes.

Unless otherwise noted, the data presented in this paper are drawn from primary fieldwork conducted between 2021 and 2025, comprising grammaticality judgment tasks and elicitation. Five native

speakers of East Javanese were consulted, in addition to the first author’s native intuitions. All were born and raised in Surabaya and speak Indonesian as a second language; no discrepancies were observed in their judgments. The comparative data discussed in Section 4 are based on fieldwork with three monolingual Indonesian speakers born and residing in Jakarta, as well as three speakers of the North Aceh dialect of Acehese.

2 East Javanese voice basics

Traditionally described as Indonesian-type, Javanese exhibits a three-way voice system (e.g. Suhandano 1994; Ogloblin 2005; Nurhayani 2014; Robson 2014; inter alia). The actor voice (9) is characterized by a homorganic nasal prefix (*N-*) and SVO word order. The preverbal field is occupied by a DP corresponding to the grammatical subject in accusative languages—i.e. the external argument in unergatives and transitives, or the internal argument in unaccusatives and passives. This DP follows any aboutness topic and precedes the aspectual auxiliary, while transitive themes remain postverbal.

- (9) **Joko** wis **ng-gèᅇᅇᅇᅇᅇ** **ᅇᅇ’-ᅇ**.
Joko already AV-carry young.sibling-3.POSS
‘Joko has carried his little brother.’ (actor voice)

The object voice (10) features a bare verb, flexible word order, and a strict person restriction on the agent. The theme DP may appear either in the pre-auxiliary field or postverbally, as indicated by the two triangle brackets in the examples. The agent is expressed as a person proclitic attached to the verb and is restricted to first or second person; third-person agents are ungrammatical in OV, as shown below.

- (10) <**ᅇᅇ’-ᅇ**> wis ta’/mbo’/*ᅇᅇ=ᅇ-gèᅇᅇᅇᅇ <**ᅇᅇ’-ᅇ**>.
<young.sibling-3.POSS> already 1SG/2SG/*3=OV-carry <young.sibling-3.POSS>
‘I/you/*s/he carried his little brother.’ (object voice)

The alleged passive construction (11) carries the prefix *di-*, traditionally described as a passive marker (Bintoro 1980; Badib 1980; Wedhawati and Arifin 2006; Robson 2014; Krauᅇe 2017; inter alia; see also van den Berg 2004 and Nurhayani 2014 for discussions of the etymology and diachronic development of *di-*), and cognate with the passive affix *di-* in Indonesian. We gloss this affix as ‘3/PASS’, as it has also been analyzed as a third-person marker (e.g. Ramelan 1983; Suhandano 1994). Like OV, this construction is highly productive with dynamic bivalent verbs, displays word order flexibility, and allows the theme to surface either preverbally or postverbally, as in (11).

- (11) <**ᅇᅇ’-ᅇ**> wis **ᅇᅇ**-gèᅇᅇᅇᅇᅇ <**ᅇᅇ’-ᅇ**> ((ambᅇᅇ’) Joko).
<young.sibling-3.POSS> already 3/PASS-carry <young.sibling-3.POSS> (by Joko)
‘S/he/Joko carried his little brother.’ (passive voice)

However, unlike the OV construction, the *di-* construction permits only third-person agents, as in (12a). The prefix *di-* likewise cannot function as a general passive marker co-occurring with first- or second-person agent morphology, as shown in (12b). This restriction is not unique to East Javanese; it has also been noted for Javanese more broadly (e.g. Ramelan 1983; Sofwan 2001), although some dialects do not exhibit it. See Section 4 for further discussion.

- (12) a. Montor-é wis **di-umbah** (ambè' Guntur/*aku/*koen).
 car-DEF PERF **3/PASS**-wash (by Guntur/*1SG/2SG)
 'The car has been washed (by Guntur/*me/*you).'
- b. * Montor-é wis **di-(ta'mbo')**-umbah (ambè' aku/koen).
 car-DEF PERF **3/PASS-(1SG/2SG)**wash (by 1SG/2SG)
 (Intended: 'The car has been washed (by *me/*you).')

In addition to the third-person prefix *di-*, the agent may also be optionally expressed as a prepositional phrase (PP). When the PP is adjacent to the verb, the preposition *ambe'* may be omitted, as in (13).

- (13) Montor-é wis **di-umbah** ((ambè') Guntur).
 car-DEF PERF **3/PASS**-wash ((by) Guntur/*1SG/2SG)
 'The car has been washed (by Guntur/*me/*you).'

In short, both the passive and the OV construction employ an agent-indexing morpheme attached to the right edge of the verb stem, but they exhibit complementary person constraints, as summarized in (14). The labels “OV” and “passive” are used here in quotation marks, as we argue that the two are best analyzed as a single construction.

- (14) Basic traits of East Javanese voices

	AV	OV	Passive
voice morphology	homorganic nasal prefix	∅	(<i>di</i> -)
agent/initiator	preverbal	1st/2nd person proclitic	3rd person verbal prefix
theme	postverbal	preverbal or postverbal	preverbal or postverbal

For clarity, we use the term ‘pivot’ throughout the remainder of the paper to refer to the phrase eligible for the preverbal position in each voice—namely, the boldfaced agent in AV (9) and the boldfaced theme in OV and the passive (10)(11).

3 The topic vs. subject status of East Javanese pivots: A re-examination

The syntactic status of the pivot—i.e. the syntactically prominent phrase eligible to appear in specific linear positions and participate in relativization—has long been a central question in the western Austronesian literature (e.g. Schachter 1976; Kroeger 1993; Shibatani 1988; Richards 2000; Pearson 2005; Chen 2025; see also Davies 1993 for a focused discussion of Javanese). Recent work further suggests that the answer may be language-specific (e.g. Pearson 2005; Legate 2014; Patrianto and Chen 2023a, b; Lohninger and Katochoritis 2025). In this section, we present new data supporting the view that pivots in East Javanese are topics (\bar{A} -elements) rather than grammatical subjects (derived A-elements). On this view, the pivot of the *di*-construction is an object topic rather than a promoted theme subject. Evidence for this claim comes from six diagnostics, which jointly show that the theme in this construction behaves as an \bar{A} -element with topic properties, while the agent retains its role as the binder of the theme pivot.

This view is not novel for Javanese. Cole et al. (2002), for example, posit that Javanese “subjects” (i.e. pivots) are \bar{A} -topics that cannot remain in subject position, citing their definiteness constraint and the fact that *wh*-subjects, like ordinary pivots, must raise to a higher position rather than remain in the

grammatical subject position. See also Poedjosoedarmo (1977), Suharno (1982), Davies (1993), Ewing (2005), Sato (2015), and Vander Klok (2019) for similar observations that Javanese pivots exhibit topic-like behavior.³ By contrast, Connors (2008) and Nurhayani (2014) analyzed pivots in Tengger Javanese and Yogyakarta Javanese as grammatical subjects. Despite these competing analyses, the literature to date lacks a unified set of diagnostics for a holistic assessment of the pivots syntactic status and its A-versus \bar{A} -properties—a gap that this paper aims to address.

3.1 Definiteness/specificity constraints on pivots

Empirical support for the topic analysis of pivots comes first from their strict definiteness constraint: in East Javanese, a pivot phrase must be definite or specific, and its absence results in ungrammaticality. This constraint holds regardless of the pivots linear position and does not extend to non-pivot phrases, irrespective of their grammatical function or thematic role, as illustrated in (15a–c). See also Poedjosoedarmo (1977), Davies (1993), Cole et al. (2002), and Vander Klok (2019) for the same observation. This systematic association between pivothood and definiteness aligns with well-established links between topicality and givenness or definiteness in the literature (Prince 1981; Lambrecht 1994; Rizzi 1997).

- (15) a. **Wong-*(é)** ng-guwa' tas-(é).
person-*(DEF) AV-throw.away bag-DEF
 ‘{The/*a} man threw {a/the} bag away.’ (AV with an agent pivot)
- b. **Lawuh-*(é)** di-pangan (**kucing (iku)**).
side.dish-*(DEF) 3/PASS-eat (**cat (DEM)**)
 ‘{The/*a} sidedish was eaten by {that/a} cat.’ (passive with a theme pivot)
- c. **Tas-*(é)** ta'/mbo'=Ø-guwa' (**tas-*(é)**).
bag-*(DEF) 1SG/2SG=OV-throw (**bag-*(DEF)**)
 ‘I/you have thrown away {the/*a} bag.’ (OV with a theme pivot)

Crucially, this constraint applies uniquely per clause, even in constructions where more than one phrase is eligible (e.g. phrases bearing the same grammatical relation). To our knowledge, the link between pivothood and definiteness has received relatively little attention in the literature on Indonesian-type Austronesian languages (see, however, Wechsler & Arka 1998 and Erlewine et al. 2019 for brief discussion, and Davies 1993 for the same extraction constraint in Javanese). In passive ditransitives, only the object that surfaces preverbally—that is, the pivot—must satisfy the definiteness requirement. This is illustrated in (16ab): while the preverbal object is obligatorily definite, all postverbal phrases remain indefinite. This previously underexplored pattern highlights the link between pivothood, preverbal position, and definiteness—the key indicators of topicality.

- (16) a. Nang taman, **arè' *(iku)** di-kè'-i ðui'-(é).
 PREP park **child (DEM)** 3/PASS-give-APPL money-(DEF)
 ‘In {the/a} park, s/he gave {that/*a} child {the/some} money.’ (passive)

³Note that the notion of *pivot*, as commonly adopted in more recent Austronesian literature, is often referred to as subject or focused phrase in earlier work on Javanese, such as Cole et al. (2002) and Davies (1993). These terms refer to the same underlying notion, as evidenced by the data and analyses presented in these works, including classic studies on Western Austronesian pivothood such as Schachter (1976) and De Guzman (1986).

- b. Nang taman, **ɖui'**-*(**é**) ɖi-kè'-no arè' (iku).
 PREP park **money**-(DEF) 3/PASS-give-APPL child (DEM)
 'In {the/a} park, s/he gave {that/a} child {the/*some} money.' (passive)

The same constraint appears in the object voice: only the object designated as the pivot must bear definite marking, while the non-pivot object may freely remain indefinite. Consider (17).

- (17) a. Nang taman, **arè'** *(**iku**) {ta'/mbo'}=Ø-kè'-i ɖui'-(**é**).
 PREP park **child** (DEM) {1SG/2SG}=OV-give-APPL money-(DEF)
 'In {the/a} park, I/you gave {that/*a} child {the/some} money.' (OV)
- b. Nang taman, **ɖui'**-*(**é**) {ta'/mbo'}=Ø-kè'-no arè' (iku).
 PREP park **money**-(DEF) {1SG/2SG}=OV-give-APPL child (DEM)
 'In {the/a} park, I/you gave {that/a} child {the/*some} money.' (OV)

Notably, this constraint is also found across a range of languages with topic-indicating verbal morphology, including Tagalog (Philippine-type Austronesian), Malagasy, and the Western Nilotic languages Kurmuk and Dinka. In all such languages, each finite clause permits only a single topic-/pivot-marked phrase. See Richards (2000), Pearson (2005), Anderson (2015), and van Urk (2015) for details.

3.2 Binding parameter

Further support for analyzing East Javanese pivots as topics (\bar{A} -elements) comes from binding diagnostics. If pivots occupied the grammatical subject position—as traditionally assumed for Indonesian-type voice systems—we would expect the theme pivot in passive constructions to function as a binder and serve as a new antecedent for anaphors (Legate 2012; van Urk 2015). Such a pattern is well attested cross-linguistically: in many languages, including English as well as the western Indonesian languages Acehnese and Indonesian, the promoted theme in a passive behaves as a new binder in the derived A-position (e.g. Arka and Manning 2008; Legate 2014). This can be tested using standard diagnostics, including quantifier-variable binding and reflexive binding. Both show that the theme pivot in all three languages behaves as a new binder and can bind a pronoun within the *by*-phrase, as in (18)–(20). Underlining in the translations indicates the pivot phrase.⁴

- (18) **Medusa_i** was poisoned by herself_i. (theme subject binds the agent)

- (19) Acehnese

- a. Quantifier-variable binding: theme pivot binds the agent

Tiep-tiep aneuk geu-lindong **le mak droe-jih**.
every child 3POL-protect LE **mother self-3FAM**
 'Every child_i is protected by their_i mother.' (Legate 2014:15)

- b. Reflexive binding: theme pivot binds the agent

Si Rina ji-poh **le droekeudroe-jih**.
 ART Rina 3FAM-hit by self-3FAM
 'Rina was hit/hurt by herself.'

⁴Examples (19b) and (20a–b) come from primary fieldwork on Acehnese and Indonesian. The Indonesian data were collected from three monolingual speakers who do not speak other languages of Indonesia. See Arka and Manning (2008) for the same observation.

(20) Indonesian

- a. Quantifier-variable binding: theme pivot binds the agent

Setiap anak di-sayang-i **oleh ibu-nya.**
every child PASS-love-APP **by mother-3.POSS**
'Every child was loved by their mother.'

- b. Reflexive binding: theme pivot binds the agent

Dia/Rina di-sakit-i **oleh diri-nya sendiri.**
3SG/Rina PASS-pain-APPL **by body-3SG self**
'She/Rina was hurt by herself.'

Conversely, in the East Javanese *di*-construction, the theme pivot cannot serve as an antecedent binding into a *by*-phrase, as shown in (21).⁵

(21) East Javanese

- a. Quantifier-variable binding: theme pivot unable to bind the agent

***Sa'ben arè'** ði-opèn-i ambè' ema'-é.
every child 3/PASS-take.care.of-APPL **by mother-3.POSS**
(Intended: 'Every child_j is taken care of by their_j mother.')

(*di*-construction)

- b. Reflexive binding: theme pivot unable to bind the agent

***{Joko / ðè'é}**_i ði-lara-ni (ambè' awa'-é ðéwé).
{Joko / 3SG} 3/PASS-pain-APPL (by body-3.POSS self)
(Intended: 'Joko/s/he was hurt by himself/herself.')

(*di*-construction)

Furthermore, in the East Javanese *di*-construction, the theme pivot may instead surface as a reflexive bound by a third-person agent, as in (22), a pattern not attested in Indonesian or Acehnese.

(22) East Javanese

- a. Quantifier-variable binding: theme pivot bound by the agent

Omah-omah-é_{i/j} ði-cet ambè' sa'ben wong_i.
house-RED-3.POSS 3/PASS-paint by every person
'Their_{i/j} houses were painted by every person_i.'

(*di*-construction)

- b. Reflexive binding: theme pivot bound by the agent

[**Awa'-é ðéwé**]_i ði-lara-ni (ambè' Joko).
[body-3.POSS self] 3/PASS-pain/sick-APPL (by Joko)
Lit: 'Herself/himself was hurt by Joko/him/her.'

(*di*-construction)

This pattern indicates that the theme pivot is not the grammatical subject of the *di*-construction—contrary to recent analyses of theme arguments in Acehnese and Indonesian passives (19)–(20)—but instead behaves as an \bar{A} -element, exhibiting reconstruction effects and being interpreted in its θ -position. This conclusion is consistent with the observation in Section 3.1 that the theme pivot patterns as a topic.

The same pattern is observed in the East Javanese OV construction: the theme pivot cannot function as a binder (23a) but may instead surface as a reflexive (23b), exactly as in the *di*-construction (21)–(22).

⁵There is clear evidence that the reflexive *awa'-é ðéwé* 'himself/herself' and its first- and second-person counterparts are genuine anaphors in East Javanese. Unlike pronouns and logophoric reflexives, they must be bound by a local antecedent.

- (23) a. Reflexive binding: theme pivot unable to bind the agent
 ***Aku/koen** ta'/mbo'=Ø-lara-ni.
 1SG/2SG 1SG/2SG=OV-hurt-APPL
 (Intended: 'I/you were hurt by me/you.') (object voice)
- b. Reflexive binding: agent binds theme pivot
Awa'-ku/-mu **déwé** ta'/mbo'=Ø-lara-ni.
body-1SG/2SG self 1SG/2SG=OV-hurt-APPL
 'I/you hurt myself/yourself.' (object voice)

The East Javanese AV construction shows the same pattern: the agent asymmetrically binds the theme, as in (24a–b).

- (24) a. Reflexive binding: agent pivot binds the theme
 Aku nulung **awa'-ku** **déwé**.
 1SG AV.help **body-1SG self**
 'I helped myself.' (actor voice)
- b. Reflexive binding: theme unable to bind agent pivot
 *Awa'-ku **déwé** nulung **aku**.
 body-1SG self AV.help **1SG**
 (Intended: 'Myself helped me.' (actor voice)

This observation indicates that voice alternation in East Javanese does not affect binding relations across the three voice constructions. This invariant pattern supports our analysis that pivots function as \bar{A} -elements (topics), whose promotion is not expected to introduce new binding antecedents.⁶ It also aligns with the fact that pivots are subject to the definiteness constraint commonly associated with topics, as discussed earlier in Section 2.2.

3.3 Prepositional phrases' eligibility to constitute the pivot

The third diagnostic for assessing the syntactic status of pivots concerns their compatibility with prepositional phrases (PPs). If pivots are probed by [uD] and occupy a derived A-position as grammatical subjects—as proposed for Indonesian and Acehnese (e.g. Aldridge 2008; Cole et al. 2008; Legate 2012)—PPs should not be able to serve as pivots.

If, however, pivots are probed by an \bar{A} -probe (i.e. [uTOP], as we propose) and thus occupy an \bar{A} -position, a PP bearing a topic feature should also be eligible for pivot status (Miyagawa 2010; van Urk 2015). Recall that under our \bar{A} -based analysis of East Javanese voice, actor voice involves subject topicalization, whereas the *di*-construction and object voice involve object topicalization (8). The resulting prediction is that PPs should not receive pivot status in AV (subject topicalization), but should be eligible to do so in the *di*-construction and object voice, which involve object topicalization.

This prediction is borne out. In the East Javanese *di*-construction, a definite PP can surface preverbally and satisfy the definiteness constraint associated with pivothood (Section 3.1). Crucially, when such a PP occupies the preverbal position, any theme DP must remain postverbal and need not be definite-marked, as illustrated in (25). This pattern indicates that the PP—not the postverbal theme—is the true pivot, given that pivothood in East Javanese is strictly conditioned by definiteness and specificity.

⁶We set aside Weak Crossover effects (Lasnik & Stowell 1991), which are not attested in our East Javanese data.

- (25) [**nang kebun *(iku)**] até ði-tandur pirang-pirang kembang.
 [PREP garden (that)] FUT 3/PASS-plant several-RED flower
 ‘In *(that) garden she/he is going to plant several flowers.’ (di-construction)

There is independent evidence that the clause-initial PP is a true pivot rather than an aboutness topic or a preposed adjunct. In East Javanese, each clause permits at most one aboutness topic, which must appear to the left of the pivot (Davies 1993).⁷ Unlike pivots, aboutness topics are not subject to the definiteness constraint, as shown in (26). The abbreviation ATOP denotes ‘aboutness topic’.

- (26) [**Nang kebun-(é)**]_{ATOP} [**wong *(iku)**]_{PIVOT} nandur pirang-pirang kembang.
 [PREP garden-(DEF)] [man DEM] AV.plant several-RED flower
 ‘In {the/any} garden, {the/*a} man planted several flowers.’ (actor voice)

In the *di*-construction, a PP may intervene between an aboutness topic and an aspectual auxiliary (e.g. *ate*), as in (27). Crucially, like DP pivots, such PPs must be definiteness-marked, unlike aboutness topics (26). This rules out analyzing the obligatorily definite PP (‘in the garden’) as a second aboutness topic, thereby reinforcing the view that the preverbal PP is a genuine pivot rather than an aboutness topic or adjunct, since both aboutness topics and adjuncts are exempt from the definiteness constraint.

- (27) [Pirang-pirang kembang]_{ATOP} [**nang kebun *(iku)/(*ndi aé)**] até ði-tandur.
 [several-RED flower] [PREP garden (that)/(which AE)] FUT 3/PASS-plant
 ‘Several flowers, in {that/*any} garden, she/he is going to plant (them).’

Further support for analyzing such PPs as pivots comes from *di*-constructions that remain grammatical when the PP is the sole definite phrase in the clause, as in (28). This pattern confirms that the PP is the true pivot, consistent with the strict definiteness constraint on pivots in East Javanese.

- (28) [**Nang pinggir dalan**]_{ATOP} [**ambè’ lading iki**]_{PIVOT} iso meneng-meneng ði-keṭo’-i
 [PREP side road] [PREP knife DEM] MOD silent-RED 3/PASS-cut-APPL
 wong kabel listrik.
 person cable electricity
 ‘Near a roadside, one can silently cut an electric cable with this knife.’

Furthermore, PP pivots exhibit reconstruction effects, on a par with DP pivots, as shown in (29).

- (29) [Tèmbo’]_{ATOP} [**ambè’ foto-né awa’-’e déwé**]_{PIVOT} ði-tèmpèl-i Priska.
 [wall] [PREP photo-3.POSS body-3.POSS self] 3/PASS-stuck-APPL Priska
 ‘A wall, Priska_i covered (it) with a photo of herself_{i/k}.’

The OV construction likewise permits PP pivots, as illustrated in (30), where a PP pivot surfaces between an indefinite aboutness topic and an aspectual auxiliary and serves as the sole definite phrase in the clause.

⁷See also Davies (1993) for a detailed discussion of this construction. In that work, aboutness topics are represented as capitalized TOPIC, and their relationship to pivots is examined through evidence from possessor raising and extraction (relativization) constraints. The key point relevant here is that Javanese has two preverbal positions, both of which exhibit topic-like properties. Based on primary fieldwork and the first author’s native intuition, the higher topic is also associated with a distinct prosodic contour (including a pause), which does not apply to the pivot phrase. See Davies (1993) for further discussion of the interaction between these two positions.

- (30) [Pirang-pirang kembang]_{ATOP} [nang kebun *(iku)/(*ndi aé)] até
 [several-RED flower] [PREP garden (that)/(which AE)] FUT
 {ta'/mbo'}=Ø-tandur.
 {OV: 1SG/2SG}-OV-plant
 'Several flowers, in {that/*any} garden, I/you am/are going to plant (them).'

Conversely, the AV construction does not allow a PP to surface in the pivot position, as shown in (31). This follows from our analysis that AV involves subject topicalization, which is expected to exclude PP pivots, as PPs cannot satisfy [uD] and therefore cannot be promoted to subject.

- (31) *[Joko]_{ATOP} [nang omah-é]_{INTENDED PIVOT} até moco buku.
 [Joko] [PREP house-DEF] FUT AV.read book
 (Intended: 'As for Joko, in the house (he) will be reading a book.') (actor voice)

The availability of PP pivots in both the *di*- and OV constructions therefore supports the topic analysis of pivots and challenges traditional accounts of Javanese voice that treat pivots as grammatical subjects probed by [uD]. Notably, such PP pivots may embed a DP bearing a range of thematic roles, including instrument (32a), locative (32b), reason (32c), beneficiary (32d), and comitative (32e). This pattern closely parallels Locative and Circumstantial Voice constructions in Philippine-type languages, which likewise permit peripheral, non-selected phrases to be promoted to pivot status, including instruments, locatives, reasons, and other adjuncts also attested in the East Javanese OV construction. See Chen and McDonnell (2019) for an overview of such voice systems and Rackowski (2002) for a detailed discussion of Tagalog.

- (32) PP pivots in the East Javanese passive/object voice constructions
- Ambè' hapé-*(né)** {di-/ta'/mbo'}=jupu' sembarang gambar.
with cellphone-3.POSS {3/PASS-/OV: 1SG/2SG}=take any picture
 'I/you/s/he took a picture with her/his/*a cellphone.'
 - Nang omah-*(é)** {di-/ta'/mbo'}=kirim surat opo aé.
to house-3.POSS {3/PASS-/OV: 1SG/2SG}=send letter what AE
 'I/you/s/he sent any letter to her/his/*a house.'
 - Gara-gara utang-*(é)** {di-/ta'/mbo'}=jalu'-i ðui' sopo aé.
because debt-3.POSS {3/PASS-/OV: 1SG/2SG}=ask.for-APPL money who AE
 'I/you/s/he asked any person for money because of her/his/*some debt.'
 - Kanggo {Joko/arè'-*(é)}** {di-/ta'/mbo'}=buka'-no lawang ndi aé
for {Joko/child-3.POSS} {3/PASS-/OV: 1SG/2SG}=open-APPL door which AE
 'I/you/s/he opened any door for {Joko/the/*a boy}.'
 - Ambè' {Maria/arè'-*(é)}** {di-/ta'/mbo'}=resi'-i omah ndi aé.
with {Mary/child-3.POSS} {3/PASS-/OV: 1SG/2SG}=clean-APPL house which AE
 'I/you/s/he cleaned any house with {Mary/the/*a boy}.'

3.4 Flexibility in pivot selection

Additional support for the topic analysis of pivots comes from ditransitive constructions. In East Javanese, ditransitives exhibit flexible pivot selection when more than one object or PP is present. In both the *di*-construction and object voice, either an adjunct PP or one of the two objects may surface between

the aboutness topic and the aspectual auxiliary and serve as the pivot. As expected, such PPs must be definite and specific (33a–c), exhibiting a defining property of pivot phrases.

- (33) a. [Nang warung (iku)]_{ATOP} **wong wèdo'** *(iku) {ḍi-/ta'/mbo'}=kè'-i
 [PREP restaurant DEM] **person female DEM** {3/PASS-/OV:1SG/2SG}=give-APPL
 (wong wèdo' *(iku)) [ḍui'] [nang mèjo-(é)].
 (person female DEM) [money] [PREP table-DEF]
 'In {a/the} restaurant, I/you/s/he gave {the/*a} woman {some} money on {her/a} table.'
- b. [Nang warung]_{ATOP} **nang mèjo** *(iku) {ḍi-/ta'/mbo'}=kè'-i **ḍui'** (nang
 [PREP restaurant] **PREP table DEM** {3/PASS-/OV:1SG/2SG}=give-APPL money (PREP
 mèjo *(iku)) [pirang-pirang wong wèdo'].
 table DEM) several-RED person female
 'In {a/the} restaurant, I/you/s/he gave some women {some} money on {that/*a} table.'
- c. [Nang mèjo]_{ATOP} **nang warung** *(iku) {ḍi-/ta'/mbo'}=kè'-i **ḍui'**
 PREP table **(PREP restaurant DEM)** {3/PASS-/OV:1SG/2SG}=give-APPL money
 wong wèdo' ḍi aé (nang warung *(iku)).
 person female which AE (PREP restaurant DEM)
 'On {her/a} table, I/you/s/he gave {the/a} woman {some} money in {the/*a} restaurant.'

This flexibility in pivot selection reinforces the view that promotion to pivothood in East Javanese is not constrained by the locality requirements of [uD] and does not involve promotion to subject, which must respect locality. This nonlocality of pivot selection therefore further undermines traditional A-approaches to Javanese voice and supports a topicalization analysis, under which both non-subject DPs and PPs are eligible pivots.

4 Illusory “passive” as nonsubject topicalization

We now reconsider the structure of the *di*-construction (34), shown in Section 3 to involve \bar{A} -movement of a non-subject phrase.

- (34) Tahu-né wis ḍi-pangan (ambè' konco-ku).
 tofu-DEF already 3/PASS-eat (by friend-1SG.POSS)
 'S/he/my friend ate the tofu.'

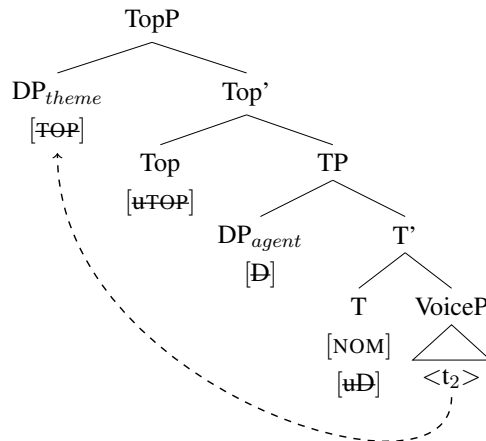
Recall that this construction shares three core properties with object voice: (i) both display a verbal affix indexing the person and number of the agent or initiator, (ii) both permit PP pivots, and (iii) in both, the pivot may appear either preverbally or postverbally. This shared configuration is schematized in (35).

- (35) (pivot) (auxiliary) prefix_{1/2/3}-V (pivot) nonpivot phrases (pivot)

We propose that both constructions involve a non-subject topic—either a DP or a PP—that \bar{A} -moves directly from its θ -position. In both cases, a non-subject phrase bears a [TOP] feature and enters into an Agree relation with [uTOP], triggering \bar{A} -movement to a left-peripheral topic position, as illustrated in (36). Following previous work on Javanese (Cole et al. 2002; Vander Kloek 2019), we assume this position to be above FocusP and above the derived A-position in East Javanese triggered by Agree with [uD].

On this view, the *di*-construction is an object topicalization construction with a third-person agent, while what has traditionally been analyzed as object voice involves a first- or second-person agent. This analysis builds on earlier insights from Uhlenbeck (1975) and Poedjosoedarmo (1986), both of whom note that Javanese is a topic-oriented language in which discourse topic largely determines sentence structure.⁸ See also Asikin-Garmager (2017) and Khairunnisa (2020) for similar topic analyses of pivots in Sasak, Nagaya (2011) for Lamaholot, and Sirima (2025) for Mori Atas.

(36) Javanese OV/*di*-construction as involving nonsubject topicalization



The theoretical assumptions behind this analysis are as follows. We assume that all finite clauses in East Javanese bear an uninterpretable topic feature on an \bar{A} -head, which probes the closest phrase with a matching feature. Given Relativized Minimality (Rizzi 1990), this Agree relation skips any intervening DPs and PPs lacking a topic feature. A topic phrase therefore need not be the highest phrase in the clause to agree with [uTOP].

(37) Relativized Minimality

A syntactic relation R must involve the closest XP capable of entering into R.

Where the highest DP in a clause also bears a topic feature, it is first probed by [uD] on T and raises to the grammatical subject position, before undergoing \bar{A} -movement to [Spec TopP] following its Agree relation with [uTOP]. Following earlier work on Malagasy (Pearson 2005), we treat the AV affix *N-* as extraction morphology indexing the nominative case status of the subject topic.⁹

Where the topic of a clause is a non-subject phrase (either an object or a PP), that phrase enters into an Agree relation with [uTOP] and \bar{A} -moves to [Spec TopP], while the highest phrase in the clause agrees

⁸We note Vander Klok (2019), which suggests that the topic-like behavior of Javanese pivots may reflect a pragmatic preference rather than a strict syntactic requirement, allowing pivots to remain in situ under certain conditions. The proposal is currently available as a conference abstract. The acceptability judgments we obtained from two East Javanese speakers from Surabaya differ from those reported there, and instead support the view that East Javanese pivots obligatorily move to a topic position. It is possible that the observations in Vander Klok (2019) are based on a different Javanese variety that does not enforce a strict topic constraint on pivots. For these reasons, we do not pursue a detailed comparison with that analysis here.

⁹For analyses of the etymologically related actor-voice affix *N-* in Malay/Indonesian, see Saddy (1991), Soh (1998), Soh and Nomoto (2011), Aldridge (2008), and Erlewine and Sommerlot (2025). Note, however, that this line of analysis does not necessarily extend to East Javanese, as Malay/Indonesian has been reported to exhibit a subject-oriented voice system in which pivots behave as true grammatical subjects.

with [uD] and A-moves to the grammatical subject position, as illustrated in (36). We propose that no overt extraction morphology is associated with non-subject topicalization, since the phrase undergoing \bar{A} -movement does not bear nominative case.

The fact that the *di*-construction patterns with object voice in quantifier float—disallowing pre-auxiliary stranding, in contrast to actor voice—follows naturally from this analysis. This is shown in (38), which demonstrates a quantifier float asymmetry between AV (38a) and the two constructions under discussion (38b–c), paralleling the pattern described in Section 1.¹⁰

- (38) a. [____i Konco-ku] **telu**_i até ng-gawé layangan.
 [___ friend-1SG] **three** FUT AV-make kite
 ‘My three friends will make kites.’ (actor voice)
- b. *[____i Montor-é] **telu**_i até ta’=Ø-dandan-i.
 [___ car-DEF] **three** FUT 1SG=OV-fix-APPL
 (intended: ‘I will fix three of the cars.’) (object voice)
- c. *[____i Montor-é] **telu**_i até ði-dandan-i ((ambè’) konco-ku).
 [___ car-DEF] **three** FUT 3/PASS-fix-APPL by friend-1SG.POSS
 (intended: ‘Three cars will be fixed (by s/he/my friend).’) (passive)

A further asymmetry in East Javanese quantifier float supports our analysis: the OV construction and the *di*-construction—but not AV—permit quantifier stranding in postverbal position, as in (41a–c). This follows from our analysis: in AV, the external argument is base-generated in preverbal position and undergoes A-movement, leaving no postverbal position available for stranding.¹¹

- (41) a. [____i Tahu-né] wis ði-pangan **rolas**_i ((ambè’) konco-ku).
 [___ tofu-DEF PERF 3/PASS-eat **twelve** ((by) friend-1SG)
 ‘Twelve of the tofu were eaten (by my friend).’ (passive voice)
- b. [____i Tahu-né] wis ta’=Ø-pangan **rolas**_i.
 [___ tofu-DEF] PERF 1SG=OV-eat **twelve**
 ‘I have eaten twelve of the tofu.’ (object voice)
- c. *[____i Konco-né] até m-angan **rolas**_i tahu.
 [___ friend-3SG] FUT AV-eat **twelve** tofu
 (Intended: ‘Twelve of his/her friends will eat tofu.’) (actor voice)

¹⁰All five speakers consulted reported that the patterns in (38a–c) (each tested with five parallel sentences) were only marginally acceptable when pronounced with significantly raised intonation, yielding a focal reading and a partitive interpretation of the quantifier phrase. This contrasts with pre-auxiliary quantifier float in the AV sentence (4), which is judged more natural than its non-floating counterpart.

¹¹There is clear evidence that the default position of numeral quantifiers in East Javanese is pre-NP, as supported by noun phrase internal word order in aboutness topics, focus constructions, and NP modifiers, as shown in (32)–(33).

- (39) a. { **rong** buku / *buku **loro** }, ta’=Ø-kiro Joko wis nyimpen wingi.
 { two book / book two } 1SG=OV-think J already AV.keep/save yesterday
 ‘It was two books that I thought Joko kept yesterday.’
- (40) a. cerito-né { **telung/telu** biḍaḍari / *biḍaḍari **telu** }
 story-DEF { **three** female.angel / female.angel **three** }
 ‘the story of three angels’

There is independent evidence that the QF patterns discussed here represent genuine cases of quantifier stranding derived from \bar{A} -movement (e.g. Sportiche 1988; Miyagawa 1989; Fitzpatrick 2006). First, as shown in the examples in Section 1 and above, QF in Javanese yields a non-exhaustive (i.e. partitive) reading, a hallmark of \bar{A} -movement-derived quantifier stranding (Fitzpatrick 2006). Second, in postverbal positions across the three voices, the QF pattern follows the expected distribution: numeral quantifier stranding from the pivot is disallowed in AV but consistently permitted in OV and *di*-constructions. This pattern supports the presence of \bar{A} -movement from the θ -position of the pivot in these constructions.

An immediate implication of this analysis is that the complementary person constraint attributed to the so-called passive and object voice is best understood as a consequence of terminological convention rather than a genuine syntactic distinction. The first- and second-person affixes traditionally described as ergative proclitics in OV, and the affix labeled as passive in the *di*-construction, are in fact subject clitics (or subject agreement) attached to the verb, as in (42).

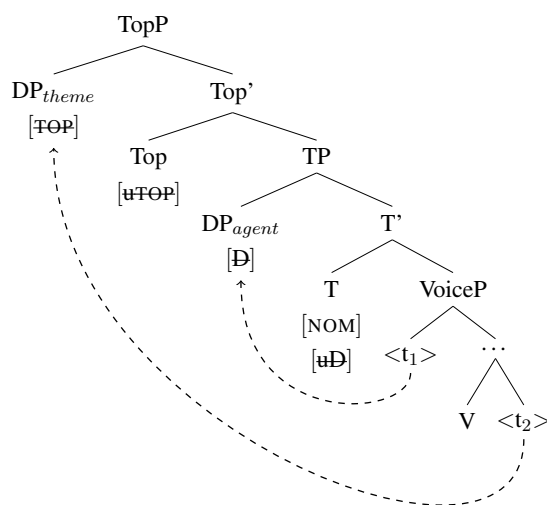
(42) \bar{A} -topic (auxiliary) subject-indexing affix_{1/2/3} -Verb . . .

Under (42), we assume that the alleged passive in East Javanese is a true transitive and involves no valency-decreasing operations. The fact that the agent/initiator in this construction consistently binds the theme, but not vice versa (section 3.2), follows from this analysis. In this view, *di*- is not a valency-decreasing affix but a third-person subject clitic encoding the nominative DP in [Spec TP]. This analysis is supported not only by existing descriptions of *di*- as a third-person affix, but also by the observation that (i) the *di*- construction is incompatible with first- and second-person agents, as in (43a), and (ii) in the absence of an overt DP/PP, all five native speakers we consulted interpret the construction as having a third-person subject, as in (43b).

- (43) a. *Klambi-né lagi **di**-pépé (ambè') **aku/koen**.
 shirt-DEF PROG **3/PASS**-hang.to.dry by **1SG/2SG**
 (Intended: 'The shirt is being hung to dry by me/you.')
- b. Tahu-ne wis **di**-pangan (ambè' **konco-ku**).
 tofu-DEF PERF **3/PASS**-eat by **friend-1SG**
 'S/he/my friend ate the tofu.'

We now turn to our proposal that East Javanese possesses an ordinary grammatical subject position, which is a derived A-position probed by [uD] and attracts the highest caseless DP along with nominative case assignment, as schematized earlier in (44) and repeated below. We assume that the prefixal person morpheme in the East Javanese OV construction (which comprises the *di*-construction) indexes the DP that A-moves to this position.

(44) Proposed structure of the East Javanese OV/*di*-construction



This proposal differs from traditional analyses of Indonesian-type object voice, which analyze the agent proclitic as an ergative argument that remains in its base-generated position in [Spec VoiceP] (Cole et al. 2008; Aldridge 2008; Legate 2014). We instead argue for a subject analysis, motivated by both empirical and theoretical considerations. First, since promotion to pivohood in East Javanese is a purely \bar{A} -operation, the grammar must make available a derived A-position distinct from the pivot position. Second, the quantifier-floating facts discussed above indicate the availability of such a derived A-position in the actor voice; given that the AV and OV differ only in whether topicalization targets a subject or a nonsubject, there is no principled reason to deny the same position in the OV construction. Finally, binding diagnostics show that the non-pivot agent in OV systematically functions as a binder of the theme, indicating that it occupies a grammatical subject position. Together, these considerations necessitate the postulation of a grammatical subject position structurally lower than the pivot position.¹²

We now turn to a related question concerning the status of the *by*-phrase in the *di*-construction. Following recent analyses of comparable *by*-phrases in Balinese (Nomoto 2018), we propose that the agent *by*-phrase is best analyzed as an instance of clitic doubling or agreement doubling—a pattern disallowed for first- and second-person agents/initiators to avoid redundancy. This restriction reflects a broader person-based constraint in Western Austronesian languages, whereby transitive agents encoded through person-indexing on the verb cannot also be realised as full DPs when they are first or second person.¹³ Consider, for example, the same constraint in the Western Austronesian language Puyuma (45), as well as a parallel restriction in Standard Indonesian (46), where the *di*-construction disallows first- or second-person *by*-phrases.

¹²We remain agnostic regarding the precise syntactic status of the person morpheme, which may be analyzed either as pronominal subject clitics or as subject agreement with a nominative DP. This issue is orthogonal to the central claim advanced here—that the morpheme indexes a nominative subject rather than an ergative agent, contrary to split-ergative analyses of Indonesian-type languages reviewed earlier.

¹³We set aside the question of whether Javanese person-indexing affixes should be analyzed as pronominal clitics or agreement markers, as their status has not, to our knowledge, been comprehensively examined in the Austronesian literature. Crucially, the constraint observed in Javanese is not unique, but is better understood from a broader, pan-Austronesian perspective.

- (45) Puyuma: clitic doubling banned with 1st- and 2nd-person agent
- a. {**ku / nu**}=trakaw-aw na aputr ***(kanku/kanu)**.
 {**1SG.GEN / 2SG.GEN**}=steal-PV DEF.PIVOT flower ***(1SG/2SG.OBL)**
 ‘I/you stole the flowers.’ (clitic doubling banned for 1st/2nd-person agent)
- b. **tu**=trakaw-aw na aputr **(kan sawagu)**.
3.GEN=steal-PV DEF.PIVOT flower (**SG.OBL Sawagu**)
 ‘S/he/(Sawagu) stole the flowers.’ (clitic doubling with 3rd-person agent)
- (46) Standard Indonesian: Restriction on 1st- and 2nd-person agents in *by*-phrases¹⁴
- a. ***Buku itu di-baca oleh saya/kamu.**
 book DET PASS-read **by 1SG/2SG**
 (Intended: ‘The book was read by me/you.’)
- b. **Buku itu di-baca oleh Ali.**
 book DET PASS-read **by Ali**
 ‘The book was read by Ali.’

Old Javanese texts suggest that the *by*-phrase in Javanese was historically a full NP, with the synchronic agent-introducing preposition *ambè*’ developing from the case marker *ni* (Poedjosoedarmo 2002). This marker is a regular reflex of the Proto-Austronesian genitive case **ni* (Blust 2015) and has been shown to exhibit the distribution typically associated with structural nominative case in conservative Austronesian languages that retain it (Chen 2025; see also Rackowski 2002; Rackowski and Richards 2005 for earlier nominative analyses). This supports the present proposal that the East Javanese pronominal affix indexes the nominative argument, which was originally realized as a full DP and later reanalyzed as an optional *by*-phrase through the development of the preposition.¹⁵

Notably, similar diachronic developments—whereby a case-marked core NP is reanalyzed as an oblique—are attested in other Austronesian languages and are reflected in synchronic dialectal variation. Consider the data from two dialects of Puyuma below. In the more conservative Ulivelivek dialect (47a), non-pivot agents carry the genitive case marker *ni*; in the more innovative Nanwang dialect (47b), such agents instead bear the oblique marker *kan/kana*, which typically marks adjuncts, as illustrated in (47c) (Teng 2009). We suggest that the East Javanese *di*-construction may have undergone a similar development.

- (47) Puyuma: reanalysis of nonpivot agent marking into an oblique marker
- a. **taw_i**=pinatray-aw i tava [**ni takiyu**]_i
3.GEN=kill-PV SG.PIVOT Tava [**SG.GEN Takiyu**]
 ‘Takiyu killed Tava.’ (Teng 2009: 824; glosses ours) (Ulivelivek Puyuma)
- b. **tu_i**=padrek-aw i atrung [**kan senten / kana walak**]_i.
3.GEN=carry.on.back-PV SG.PIVOT Atrung [**SG.OBL Senten / DEF.OBL child**]
 ‘{Senten/the child} carried Atrung (on her/their back).’ (Nanwang Puyuma)

¹⁴See, for example, Sneddon et.al (2010: 258–259) for a discussion of the third-person agent constraint in formal Indonesian passive constructions. Note that this pattern is not attested in many other varieties of Indonesian and other Malayic languages (see Nomoto 2020 for discussion).

¹⁵It should be noted that we do not posit a direct derivational relationship between the Old Javanese case marker *ni* and Modern Javanese *ambè*; rather, *ambè* appears to have replaced *ni* in marking non-pivot agents. The key generalisation is that non-pivot agents evolve from full NPs marked by a core case marker to prepositional phrases.

- (49) a. **Se-buah buku** di-temu-kan di sampah.
one-CLF book PASS-find-APPL PREP garbage
 ‘A book was found in a rubbish bin.’ (Colloquial Indonesian)¹⁷
- b. (**Sa-boh**) **komputer** geu-pakek le guree nyan.
one-CLF computer 3SGPOL-use by teacher DEM
 ‘A computer was used by the teacher.’ (Acehnese)
- (50) a. ***Untuk Rina** kau-beli-kan sebuah sepeda motor.
 PREP Rina 2SG-buy-APPL a bicycle motor
 (Intended: ‘You bought a motorcycle for Rina.’) (Colloquial Indonesian)
- b. ***Ngen kamera** lon cok padumboh poto.
with camera 1SG take several/some photo
 ‘I took some photos with a camera.’ (Acehnese)

Turning to the second question, a comparative examination of other Javanese dialects suggests that the East Javanese pattern described here may be conservative. Data from Tengger Javanese indicate that the *di*-construction pivot is not subject to a definiteness constraint. Consider (51).

- (51) **Kucing** ði-cokot kirik.
cat PASS-bite dog
 ‘A cat was bitten by a/the dog.’ (Connors 2008: 1654, 1565) (Tengger Javanese)

In Yogyakarta Javanese, the theme pivot does not show reconstruction effects and cannot surface as a reflexive bound by the agent, as shown in (52). This contrasts with the binding pattern observed in East Javanese (53), and suggests that the dialect may possess a pattern parallel to Indonesian.

- (52) *[**Awak-e ðewe**]_i ora tau ði-pikir-ake dening Ani.
body-POSS self no ever PASS-think-APPL by Ani
 (Intended: ‘Ani never thinks about herself.’) (Nurhayani 2014: 124) (Yogyakarta Javanese)
- (53) [**Awa’-é ðéwé**]_i ði-jiwit-i (ambè’ Joko).
[body-3.POSS self] 3/PASS-pinch-APPL (by Joko)
 ‘Herself/himself was being pinched by Joko/him/her.’ (East Javanese)

A further locus of variation is observed in Surakarta Javanese, where the *di*-construction is reported to exhibit no restriction on first- or second-person agents, as in (54), again aligning with the Indonesian pattern. Pesisiran Javanese likewise shows a relaxed person constraint: recent data indicate that the prefix *di*- may cross-reference a first-person *by*-phrase, as in (55).

- (54) Surat-é **di**-tulis dening {**aku/kowe/aku sakloron**}.
 letter-DEF **DI**-write by {**1SG/2SG/1ST two**}
 ‘The letter was written by me/you/us two.’ (Cui & Rabinovitch 2023) (Surakarta Javanese)

¹⁷The Indonesian variety used by monolingual Indonesian speakers is conventionally termed “Colloquial Indonesian” (e.g. Englebretson 2000). Given the multilingual context of Indonesia, “Indonesian monolingual” here refers to individuals who grew up speaking only Indonesian without acquiring a local language. All three speakers we consulted confirmed Indonesian as their sole L1.

- (55) *Sego kuwi wis di-masak karo aku.*
 rice the PST PASS-cook by 1SG
 ‘The rice has been cooked by me.’ (Vander Klok 2008: 2) (Pesisiran Javanese)

To our knowledge, existing descriptions of these dialects do not address all the diagnostics discussed here, nor the quantifier float pattern; thus, whether the *di*-construction in these varieties is a true passive remains uncertain and warrants further investigation.

Nevertheless, the coexistence of A- and \bar{A} -oriented *di*-constructions in Javanese suggests a possible derivational relationship between the two, and there is strong evidence that the East Javanese voice system is conservative. There is broad consensus in the Austronesian literature that Indonesian-type voice systems are more innovative than Philippine-type systems (Himmelman 2002; McDonnell & Chen 2022), the latter of which can be traced back to Proto-Austronesian or a stage immediately following its split (Ross 2009). The binding pattern observed in East Javanese passive and OV constructions is consistent with patient voice constructions in Philippine-type languages such as Malagasy, Tagalog, and several Formosan languages. These languages feature a non-demoted agent and a theme pivot that exhibit the same binding behavior as the East Javanese passive/OV constructions (Malagasy: Pearson 2005; Tagalog: Rackowski 2002; Formosan languages: Chen 2017). The Tagalog examples in (56) illustrate this pattern: the pivot does not serve as a new antecedent for anaphors and is interpreted in its θ -position.

- (56) Tagalog
- a. hindi p<in>igil ni Rica ang sarili niya (na k<um>ain).
 NEG <PV.PFV>control PN.NOM Rica PIVOT self 3SG.POSS (LK eat<AV>)
 ‘Rica cannot stop himself (from eating).’ (patient voice)
- b. *sa-sampal-in ng kanyang sarili si Rica.
 CONT-slap-PV CN.NOM 3SG REFL PN.PIVOT Rica
 (Intended: Himself will slap Rica.) (patient voice)

Second, the third-person constraint observed in the East Javanese *di*-construction—complementary to the person constraint in object voice, which is indexed by first- and second-person prefixes—suggests an economy-driven pattern that is likely to reflect an earlier system. Similar analyses have been proposed for Balinese and Malay/Indonesian, where the passive marker is argued to have originated as a third-person agent affix that was subsequently reinterpreted as a general passive marker (Arka 2008; Artawa 2013; van den Berg 2004; Nomoto 2018; see also references therein).

Taken together, these observations suggest that many Javanese varieties may be shifting toward an Indonesian-style A-oriented voice system with a true passive, while East Javanese represents a more conservative variety that preserves Philippine-type syntax. East Javanese thus contributes to the growing literature on syntactic variation among Austronesian languages traditionally classified as Indonesian-type (see Ross 2002; Kaufman 2009; McDonnell and Chen 2022 for overviews showing that western Indonesian Austronesian languages do not form a coherent group, but instead exhibit recurrent patterns likely resulting from parallel innovations and language contact), and underscores that these voice systems should not be treated as a homogeneous group.

6 Conclusion

We have examined an understudied construction in East Javanese that has traditionally been analyzed as a passive, motivated by its optional *by*-phrase and typological similarities with true passives in neighboring Austronesian languages such as Indonesian and Acehnese (e.g. Cole et al. 2008; Kroeger 2014; Legate 2014). Six diagnostics instead show that the construction involves \bar{A} -movement of the theme to a left-peripheral topic position, rather than A-movement to subject position, with the agent remaining syntactically active as the grammatical subject in a derived A-position. Its structural parallels and complementary person constraints with object voice further support a unified object-topicalization analysis, revealing that East Javanese exhibits a two-way, \bar{A} -oriented voice system distinct from that of its neighboring languages. Together with the syntactic variation of the *di*-construction across Javanese dialects, these findings highlight the importance of distinguishing passivization from topicalization in languages without overt case marking and provide new evidence for a possible diachronic pathway linking Philippine-type and Indonesian-type voice systems.

The present analysis points to a potential diachronic pathway in which true passives develop from object topicalization through the reanalysis of *topic-into-subject* (Givón 1976; Comrie 1988; Shibatani 2011; inter alia). This grammaticalization pathway is attested in several language families (Indo-European, Pama-Nyungan, Japonic; see Shibatani 2011) and has recently been proposed for Western Austronesian languages (Patrianto and Chen 2023a; Lohninger and Katochoritis 2025). Further systematic investigation of the *di*-construction in other Javanese varieties and neighboring Austronesian languages, using the six diagnostics discussed in this paper (57), will help clarify this development.

(57) Six diagnostics for the \bar{A} vs. A-status of pivots in Indonesian-type passive constructions

No.	Diagnostic
1.	Are pivot phrases subject to a definiteness constraint?
2.	Can the pivot serve as a new antecedent for anaphors?
3.	Can a definite prepositional phrase (PP) constitute the pivot?
4.	Is the construction restricted to third-person agents?
5.	Does the construction allow flexibility in pivot selection among different objects and PPs?
6.	Does the construction exhibit an asymmetry in pre-auxiliary quantifier-floating patterns with the actor voice, provided that quantifier float independently instantiates quantifier stranding?

List of abbreviations

ACC	Accusative	MOD	Modal
APPL	Applicative	NEG	Negation
ATOP	Aboutness topic	NOM	Nominative
AV	Actor Voice	OBL	Oblique
CAUS	Causative	OV	Object Voice
CLF	Classifier	PASS	Passive
CM	Common marker	PERF	Perfect
CN	Common noun marker	PIVOT	Pivot
DEF	Definite	PL	Plural
DEM	Demonstrative	PN.CM	Proper noun common marker
FUT	Future	PN.PIVOT	Proper noun pivot
GEN	Genitive	PREP	Preposition
INDF	Indefinite	PROG	Progressive
LK	Linker	RED	Reduplication
		REFL	Reflexive

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References

- Aldridge, Edith. 2008. Phase-based account of extraction in Indonesian. *Lingua* 118. 1440–1469.
- Andersen, Torben. 2015. Syntacticized topics in Kurmuk: A ternary voice-like system in Nilotic. *Studies in Language* 39. 508–54.
- Arka, I Wayan. 2008. Voice and being core: Evidence from (eastern) Indonesian languages. In Austin, P. and S. Musgrave (eds.), *Voice and grammatical relations in Indonesian: A new perspective*. 183–227. Stanford: CSLI Publications.

- Arka, I Wayan and Christopher Manning. 2008. In Austin, P. and S. Musgrave (eds.), *Voice and grammatical relations in Indonesian: A new perspective*, 45–69. Stanford: CSLI Publications.
- Artawa, I Ketut. 1998. Ergativity and Balinese syntax. *Badan Penyelenggara Seri NUSA*, Universitas Katolik Indonesia Atma Jaya.
- Artawa, I Ketut. 2013. The basic verb construction in Balinese. Tokyo University of Foreign Studies dissertation.
- Asikin-Garmager, Eli. 2017. Sasak voice. University of Iowa dissertation.
- Badib, Abbas. 1980. Some major constructions in Javanese: a lexicase approach. Monash University dissertation.
- Baier, Nicholas. 2018. Anti-Agreement. UC Berkeley dissertation.
- Bintoro. 1980. *Javanese transitive verbs: a tagmemic grammar*. Jakarta: Badan Penyelenggara Seri NUSA, Universitas Atma Jaya.
- Blust, Robert. 2015. The case markers of Proto-Austronesian. *Oceanic Linguistics* 54(2). 436–91.
- Chen, Victoria. 2017. A reexamination of the Philippine-type voice system and its implications for Austronesian primary-level subgrouping. University of Hawai‘i at Mānoa dissertation.
- Chen, Victoria. 2025. The syntax of Philippine-type alignment: Insights from case-marking. *Natural Language & Linguistic Theory* 43. 1839–1898.
- Chen, Victoria and Bradley McDonnell. 2019. Western Austronesian voice. *Annual Review of Linguistics* 5(1). 173–195.
- Cole, Peter, Gabriella Hermon, Kozue Inoha, and Yassir Tjung. 2002. A constraint on wh in situ in Javanese. In Rackowski, A. and N. Richards (eds.), *Proceedings of AFLA 8*, 91–106. MIT Working Papers in Linguistics 44.
- Cole, Peter, Gabriella Hermon, and Yanti. 2008. Voice in Malay/Indonesian. *Lingua* 118. 1500–1553.
- Comrie, Bernard. 1988. Topics, Grammaticalized Topics, and Subjects. In Axmaker, S. et al. (eds.), *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society*. 265–279.
- Connors, Thomas. 2008. Tengger Javanese. Yale University dissertation.
- Cui, Jian and Jack Isaac Rabinovitch. 2024. Two voices calling out as one: A split voice analysis of Javanese passives. *Proceedings of the Linguistic Society of America* 9(1), 5680–5680.
- Davies, William. 1993. Javanese subjects and topics and psych verbs. *Linguistics* 31. 239–277.
- Durie, Mark. 1985. *A grammar of Acehnese on the basis of a dialect of North Aceh*. Dordrecht: Foris.
- Englebretson, Robert. 2000. Complementation in colloquial Indonesia conversation: A discourse-functional perspective. UC Santa Barbara dissertation.
- Erlwine, Michael Yoshitaka, and Carly Sommerlot. 2025. Voice and extraction in Malayic. *Language* 101(4). 700–750.
- Erlwine, Michael, Theodore Levin, and Coppe Van Urk. 2019. The typology of nominal licensing in Austronesian voice system languages. In Paul, I. (ed.) *Proceedings of the 26th Meeting of Austronesian Formal Linguistics Association*, 71–87.

- Ewing, Michael. 2005. *Grammar and inference in conversation: identifying clause structure in spoken Javanese*. Amsterdam: John Benjamins.
- Ewing, Michael. 2005. Hierarchical constituency in conversational language: The case of Cirebon Javanese. *Studies in Language* 29. 189–112.
- Fitzpatrick, Michael. 2006. The syntactic and semantic roots of floating quantification. MIT dissertation.
- Givón, Talmy. 1976. Topic, pronoun and grammatical agreement. In Li, C. (ed.), *Subject and Topic*, 151–188. New York: Academic Press
- Harley, Heidi. 2013. External arguments and the mirror principle: on the distinctness of Voice and *v*. *Lingua* 125. 34–57.
- Hemmings, Charlotte. 2015. Kelabit Voice: PhilippineType, IndonesianType or Something a Bit Different? *Transactions of the Philological Society* 113(3). 383–405.
- Hemmings, Charlotte. 2021. Subjects in Austronesian: Evidence from Kelabit. In I Wayan Arka et al. (eds.), *Modular Design of Grammar*, 160–180. Oxford: Oxford University Press.
- Himmelmann, Nikolaus. 2002. Voice in Western Austronesian: An update. In Wouk, F. & M. Ross (eds.), *The history and typology of Western Austronesian voice systems*, 7–15. Canberra: Pacific Linguistics.
- Himmelmann, Nikolaus. 2020. Grammaticisation processes and reanalyses in Sulawesi languages. In Malchukov, A. & W. Bisang (eds.), *Areal patterns of grammaticalization and cross-linguistic variation in grammaticalization scenarios* Band 2, 1043–1075. Berlin: de Gruyter.
- Kaufman, Daniel. 2009. Austronesian typology and the nominalist hypothesis. In Adelaar A. and A. Pawley (eds.), *Austronesian Historical Linguistics and Culture History: A Festschrift for Robert Blust*, 179–226. Canberra: Australian National University Press.
- Ko, Seongyeon. 2009. Two Types of anti causatives in Acehnese. In Chung, S. et al. (eds.), *The Proceedings of AFLA 16*, 93–107.
- Krauß, Daniel. 2017. A description of Surabayan Javanese: with special reference to its linguistic etiquette. Goethe University Master thesis.
- Kroeger, Paul. 1993. *Phrase Structure and Grammatical Relations in Tagalog*. Stanford, CA: Center for the Study of Language and Information, Stanford University.
- Kroeger, Paul. 2014. Passive agents in Malay: the binding properties and discourse functions of agentive =*nya*. In Chung S.-F. and H. Nomoto (eds.), *Current Trends in Malay Linguistics*, 5–29. Tokyo: Tokyo University Foreign Stud.
- Kurniawan, Eri. 2013. Sundanese Complementation. University of Iowa dissertation.
- Lambrecht, Knud. 1994. *Information structure and sentence form: Topic, focus, and the mental representations of discourse referents*. Cambridge University Press.
- Lasnik, Howard and Tim Stowell. 1991. Weakest crossover. *Linguistic Inquiry* 22(4). 687–720.
- Legate, Julie. 2012. Subjects in Acehnese and the nature of the passive. *Language* 88(3). 495–525.
- Legate, Julie. 2014. *Voice and v: Lessons from Achenese*. MIT Press.

- Lohninger, Magdalena and Ioannis Katochoritis. 2025. Between topics and subjects: an \bar{A}/A typology of Austronesian pivots. In Akolkar, S. et al. (eds.) *Proceedings of WCCFL 42*, 224–231. Somerville, MA: Cascadilla Proceedings Project.
- McDonnell, Bradley and Victoria Chen. 2022. The evolution of syntax in Western Austronesian. In C. Shei & S. Li (eds.), *The Routledge handbook of Asian linguistics*, 11–32. Routledge.
- Miyagawa, Shigeru. 2010. *Why Agree? Why Move?* Cambridge, MA: MIT Press.
- Miyagawa, Shigeru. 1989. *Structure and Case marking in Japanese*. San Diego, CA: Academic Press.
- Nagaya, Naonori. 2012. The Lamaholot language of eastern Indonesia. Rice University dissertation.
- Natarina, Ari. 2018. Complementation in Balinese: Typological, syntactic, and cognitive perspectives. University of Iowa dissertation.
- Nomoto, Hiroki. 2018. The development of the English-type passive in Balinese. *Wacana, Journal of the Humanities of Indonesia* 19(1). Article 6.
- Nomoto, Hiroki. 2020. Bare passive agent hierarchy. In Hsieh, H. and K. New (eds.), *Proceedings of the Austronesian Formal Linguistics Association (AFLA) 27*, 57–70.
- Nurhayani, Ika. 2014. A unified account of the syntax of valence in Javanese. Cornell University dissertation.
- Ouhalla, Jamal. 1993. Subject-extraction, negation and the antiagreement effect. *Natural Language & Linguistic Theory* 11(3). 477–518.
- Ogloblin, Alexander. 2005. Javanese. In Adelaar, A. and N. Himmelmann (eds.), *The Austronesian languages of Asia and Madagascar*. London: Routledge.
- Patrianto, Hero and Victoria Chen. 2023a. A cline of Indonesian-type voice as in transition from \bar{A} - to A-syntax: Insights from four languages. Talk given at the 30th Annual Meeting of the Austronesian Formal Linguistic Association. Lund University: October 28–31.
- Patrianto, Hero, and Victoria Chen. 2023b. Rethinking Indonesian-type passives: Lessons from Javanese. In Lam, S.-Y and S. Ozaki (eds.), *Proceedings of the 53rd Annual Meeting of the North East Linguistic Society (NELS 53)*, 45–58. Amherst, MA: GSLA.
- Pearson, Matthew. 2005. The Malagasy subject/topic as an \bar{A} -element. *Natural Language and Linguistic Theory* 23. 381–457.
- Poedjosoedarmo, Gloria. 1977. Thematization and information structure in Javanese. In Halim, A. (ed.), *Miscellaneous studies in Indonesian and languages in Indonesia*, 34–43. Part II. Jakarta: Badan Penyelenggara Seri NUSA.
- Poedjosoedarmo, Gloria. 1986. *Role structure in Javanese*. Jakarta: Badan Penerbit NUSA, Universitas Katolik Indonesia Atmajaya.
- Poedjosoedarmo, Gloria. 2002. Changes in word order and noun phrase marking from Old to modern Javanese: implications for understanding developments in western Austronesian “focus” systems. In Wouk, F. and M. Ross (eds.), *The history and typology of western Austronesian voice systems*, 311–330. Canberra: Australian National University Press.

- Prince, Ellen. 1981. Topicalization, focus-movement, and Yiddish-movement: A pragmatic differentiation. *Proceedings of the Seventh Annual Meeting of the Berkeley Linguistics Society*, 249–264.
- Pylkkänen, Liina. 2002. *Introducing arguments*. MIT dissertation.
- Rackowski, Andrea. 2002. The structure of Tagalog: Specificity, voice, and the distribution of Arguments. MIT dissertation.
- Rackowski, Andrea and Norvin Richards. 2005. Phase edge and extraction: A Tagalog case study. *Linguistic Inquiry* 36(4). 565–599.
- Ramelan. 1983. Javanese indicative and imperative passives. In Halim, A. et al. (eds.), *Papers from the Third International Conference on Austronesian Linguistics Vol. 4: Thematic variation*, 199–214. Pacific Linguistics, The Australian National University.
- Ras, Johannes. 1994. History writing and the legitimacy of Javanese kingship. *Bijdragen tot de taal-, land- en volkenkunde* 150(3). 518–538.
- Richards, Norvin. 2000. Another look at Tagalog subjects. In Paul, I. et al. (eds.), *Formal issues in Austronesian linguistics*, 105–16. Dordrecht: Kluwer.
- Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, MA: MIT Press.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In Haegeman, L. (ed.), *Elements of Grammar*, 81–337. Kluwer, Berkeley.
- Robson, Stuart. 2014. *Javanese grammar for students*. Monash University Publishing.
- Ross, Malcolm. 2002. The history of western Austronesian voice and voice-marking. In Wouk, F. and M. Ross (eds.), *The History and Typology of Western Austronesian Voice Systems*, 17–62. Canberra: Pacific Linguistics.
- Saddy, Douglas. 1991. Wh-scope mechanisms in Bahasa Indonesia. In Cheng, L. and H. Demirdash (eds.), *MIT Working Papers in Linguistics 15: More papers on wh-movement*, 183–218.
- Sato, Yosuke. 2015. Argument ellipsis in Javanese and voice agreement. *Studia Linguistica* 69(1). 58–85.
- Schachter, Paul. 1976. The subject in Philippine languages: Topic, actor, actor-topic, or none of the above? In Li, C. (ed.), *Subject and topic*, 491–518.
- Shibatani, Masayoshi. 1985. Passives and related constructions: A prototype analysis. *Language* 61. 821–848.
- Shibatani, Masayoshi. 1988. Voice in Philippine languages. In Shibatani, M. (ed.), *Passive and voice*, 85–142. Amsterdam: John Benjamins.
- Shibatani, Masayoshi. 2011. Grammaticization of topic into subject. In Traugott, E. & B. Heine (eds.), *Approaches to grammaticalization*, 93–134. John Benjamins Publishing Company.
- Sirima, Aarin. 2025. *Voice in Transition: A Diachronic-Typological Study of Mori Atas*. The Australian National University dissertation.
- Sneddon, James, Alexander Adelaar, Dwi Noverini Djenar, and Michael C Ewing. 2010. *Indonesian reference grammar*. Second edition. Crows Nest, N.S.W.: Allen & Unwin.

- Sofwan, Ahmad. 2001. Javanese Passives, Ergatives and Adversatives. *La Trobe Papers in Linguistics* Vol 11, no. 8.
- Soh, Hooi Ling. 1998. Certain restrictions on A-bar movement in Malay. In Pearson, M. (ed.), *Proceedings of the Third and Fourth Meetings of Austronesian Linguistics Association 1996–1999*, 295–308.
- Soh, Hooi Ling and Hiroki Nomoto. 2011. The Malay verbal prefix *meN-* and the unergative/unaccusative distinction. *Journal of East Asian Linguistics* 20(1). 77–106.
- Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic inquiry* 19(3). 425–449.
- Suhandano, Ignatius. 1994. Grammatical relations in Javanese: A short description. Australian National University MA thesis.
- Suharno, Ignatius. 1982. *A descriptive study of Javanese*. Department of Linguistics, Research School of Pacific Studies, The Australian National University.
- Sukarno, Wahyono. 2003. Derivational Syntax: A Minimalist approach to affixation in Bahasa Indonesia predicates. Victoria University of Wellington dissertation.
- Teng, Stacy Fang-ching. 2009. Case syncretism in Puyuma. *Language and Linguistics* 10(4). 819–844.
- Uhlenbeck, E.M. 1975. Sentence segment and word group: Basic concepts of Javanese syntax. In J.W.M. Verhaar (ed.), *NUSA* 1, 6–10. Jakarta: NUSA.
- van Urk, Coppe. 2015. A uniform syntax for phrasal movement: A case study of Dinka Bor. MIT dissertation.
- Van den Berg, Rene. 2004. Some notes on the origin of Malay *di*. *Bijdragen tot de Taal-, Land-en Volkenkunde* 160(4). 532–554.
- Vander Klok. 2008. Javanese modals. In Jones, S. (ed.), *Proceedings of the 2008 Annual Conference of the Canadian Linguistic Association*, 1–15.
- Vander Klok. 2019. Distinguishing subjects and topics in Javanese. Talk given at the 26th Annual Meeting of the Austronesian Formal Linguistic Association. University of Western Ontario: May 24–26.
- Wechsler, Stephen and I. Wayan Arka. 1998. Syntactic ergativity in Balinese: An argument structure based theory. *Natural Language & Linguistic Theory* 16(2). 387–442.
- Wedhawati and Sjamsul Arifin. 2006. *Tata Bahasa Jawa Mutakhir*. Penerbit Kanisius: Yogyakarta.