

P-drop across languages of Java: A field report

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This paper documents prepositions in Madurese and Javanese that are optionally null or unpronounced, following previous work on similar prepositions in Indonesian. Novel data from Madurese and Javanese demonstrate that in passive clauses with a PP by-phrase or PP with-phrase, the preposition may be either overt or null. This pattern of Preposition-dropping, or P-drop, depends on several linguistic conditions, including a canonical passive clause, an Initiator argument, and linear adjacency to the verb. Initiator P-drop is observed to be an optional, yet robust, pattern across both familiar and polite speech, among speakers of different dialects in these languages.

1. Initial observations and data¹

This paper examines prepositions in Madurese, Javanese and Indonesian, three of the major languages spoken on the island of Java, Indonesia. Among the many types of prepositions in these languages, the analysis here is primarily concerned with adjunct PPs in passive clauses, in which P introduces an Agent, Experiencer or Causer in a by-phrase, or an Instrument in a with-phrase. A cross-linguistic comparison across Madurese, Javanese and Indonesian demonstrates that the preposition in by-phrases and with-phrases can be null in certain linguistic environments. Speakers of these languages accept both the overt P and the null P, with no consequence to semantic interpretation, indicating that it is an optional alternation.

For Indonesian, this alternation between overt P and null P in passive clauses is discussed in Jeoung & Biggs (2017): the null P is analyzed as a type of optional preposition-dropping, or P-drop, when the PP embeds an Initiator (cf. Ramchand 2008). The present paper extends the data set to two related languages, Madurese and Javanese. The primary aims of this paper are to document patterns in P-drop across the three languages, and to demonstrate that the syntactic requirements and constraints are similar across these three languages of Java.

1.1 Methodology

Madurese, Javanese and Indonesian are well-known to have multiple dialects, including standard, colloquial and under-documented varieties (Errington 1998; Davies 2010; Sneddon et al. 2012). The data in this paper were elicited from consultants living in various parts of Java, but primarily from Jakarta and cities in East Java. All consultants have some level of university education and speak both Standard Indonesian and a regional variety of colloquial Indonesian. The Madurese data are primarily in a western

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Madurese dialect, associated with Bangkalan or Surabaya. The variety of Javanese described here is spoken in East Java, particularly Surabaya and its surroundings. The speakers consulted for the Indonesian data come from various cities in Java including Jakarta, Jember, Malang and Surabaya. After initial data collection with these consultants, the examples in this paper were further verified with additional speakers from Jakarta and East Java.

While the data in this paper do not encompass the full range of Madurese, Javanese and Indonesian dialects, it is worth noting that the pattern appears consistent across speakers of different varieties in each language. While speakers from various regions of Java noted lexical variation and differences in formality and register, I did not find any disagreement with the patterns of P-drop described here.

1.2 The basic pattern

The optional P-drop pattern in Madurese, Javanese and Indonesian occurs in canonical passive clauses, where the verb is marked with a passive prefix (Madurese *e-*, Javanese *di-* and Indonesian *di-*).² (1)–(2) illustrate passive clauses in the familiar speech level of Madurese, and (3)–(4) illustrate similar examples from the familiar speech level of Javanese.

- (1) *Ale' e-kekke' (bi' embi' rowa).* Madurese
 younger.sib PASS-bite by goat that
 'Little brother was bitten by the goat.'
- (2) *Maleng rowa e-tangkep (moso polisi).*
 thief that PASS-catch by police
 'The thief was caught by police.' (modified from Davies 2010:256, ex. 19–22)
- (3) *Adik di-cokot (karo wedus iku).* Javanese
 younger.sib PASS-bite by goat that
 'Little brother was bitten by the goat.'
- (4) *Maling iku di-tangkep (karo polisi).*
 thief that PASS-catch by police
 'The thief was caught by police.'

In these passive clauses, the thematic Agent of the verb is embedded within a PP. There is some variation in the form of the preposition: *bi'* and *moso* are used interchangeably in some Madurese dialects, although some dialects use only one form; *moso* can also appear in truncated form as *so*. In Javanese, the prepositions *karo*, *dening* and *mbek* can appear in the relevant PPs (Connors 2008; Malihah 2018). *Karo* and *dening* may be truncated as *ro* and *ing*, respectively.

Crucially, in (1)–(4) the entire PP is always optional in these clauses, as expected of the adjunct by-phrase containing the Agent of a canonical passive verb (Haspelmath 2001). When the PP does occur immediately after the verb, the P is furthermore optional (5)–(8).

² For the purposes of this paper I treat Javanese *di-* as a general passive marker, although it has been reported to be compatible with only 3 person (Robson 2002); only 3 person examples are given in the data here. Madurese *e-* and Indonesian *di-* can occur with 1, 2, and 3 person arguments.

This results in the passive verb being immediately followed by the Agent, e.g., ‘the goat’ or ‘police.’

- (5) *Ale’ e-kekke’ (bi’) embi’ rowa.* Madurese
 younger.sib PASS-bite by goat that
 ‘Little brother was bitten by the goat.’
- (6) *Maleng rowa e-tangkep (moso) polisi.*
 thief that PASS-catch by police
 ‘The thief was caught by police.’ (modified from Davies 2010:256, ex. 19–22)
- (7) *Adik di-cokot (karo) wedus iku.* Javanese
 younger.sib PASS-bite by goat that
 ‘Little brother was bitten by the goat.’
- (8) *Maling iku di-tangkep (karo) polisi.*
 thief that PASS-catch by police
 ‘The thief was caught by police.’

For Madurese, Davies (2010) notes that the prepositions *bi’* and *moso* are sometimes optional in passive sentences. Jeoung (2017) also briefly discusses examples such as (5)–(6) in which a preposition does not follow the passive verb. For Javanese, passive clauses without P, such as (7)–(8), are discussed in Connors (2008), as well as Malihah (2018). In her quantitative study of *di-* passives in the Kudus dialect of Javanese, Malihah uses the term “abbreviated passive” for a *di-* passive immediately followed by the Agent (without a preposition). Malihah shows that when an overt Agent is present, clauses without P are more frequent than clauses with P.

In Indonesian, several authors have noted a similar pattern for the preposition *oleh* (Macdonald & Dardjowidjojo 1967; Dardjowidjojo 1978; Arka & Manning 2008; Sneddon et al. 2012). Jeoung & Biggs (2017) show that both *oleh* and *sama* can be omitted following a passive verb, as in (9). The Agent PP *sama guru-ku* ‘by my teacher’ is not required; when it does occur immediately following the verb, the preposition *sama* may be null.

- (9) *Aku kaget di-tegur (sama) guru-ku.* Indonesian
 1SG shocked PASS-scold by teacher-1SG
 ‘I was shocked to be scolded by my teacher.’ (Jeoung & Biggs 2017:83 ex. 2)

1.3 The organization of this paper

In an analysis of optional prepositions in passive clauses in Indonesian, Jeoung and Biggs (2017) identify the pattern as Preposition-drop or P-drop. In this paper I present novel data from fieldwork in Madurese and Javanese, to document a similar pattern across two other languages of Java. That is, in passive clauses where a PP by-phrase or PP with-phrase occurs, the P may be dropped immediately following a verb.

In Section 2 I examine the conditions that allow P-drop. I show that P-drop in Madurese and Javanese is sensitive to syntactic environment, linear adjacency and the thematic role of the argument introduced by P, similar to the conditions required for Indonesian P-drop. Section 3 lays out future directions for research in optional P-drop in these languages.

2. Characteristics of P-drop across Madurese, Javanese and Indonesian

2.1 P-drop occurs across speech levels

The omission of the preposition in a by-phrase or with-phrase is common in speech; my consultants report that an overt preposition is preferred in formal language, especially when writing Standard Indonesian. However, formality and politeness do not rule out P-drop; a null P may occur in both the familiar and polite speech levels. The polite preposition in Madurese is *sareng*, while the polite preposition in Javanese is *kalean*:

- (10) *Kaka' e-kekke' (sareng) embi' ka'dissah.* Madurese
 older.sib PASS-bite by goat that

'Big brother was bitten by the goat.'

- (11) *Mas di-cokot (kalean) menda meniko.* Javanese
 brother PASS-bite by goat that

'Brother was bitten by the goat.'

(10)–(11) show that in both Madurese and Javanese, the P may be null in the polite register. Indonesian does not have formal speech levels but the preposition *oleh* is considered formal; *oleh* is also optionally null following the passive verb:

- (12) *Saya kaget di-tegur (oleh) guru saya.* Indonesian
 1SG shocked PASS-scold by teacher 1SG

'I was shocked to be scolded by my teacher.' (Jeoung & Biggs 2017:83 ex. 2)

Furthermore, even in formal, written Standard Indonesian, it is not difficult to find clauses in which a passive verb is followed by a thematic Agent without an overt P. In (13)–(14), both taken from the same newspaper article, the P is overt in the headline but omitted in the body of the article.

- (13) *Men-derita Gizi Buruk, Ber-tahun-tahun Juliana di-obati oleh*
 ACTV-suffer nutrient bad INTRANS-year-RED Juliana PASS-treat by

Dukun
 traditional.healer

'Suffering from Malnutrition, For Years Juliana was Treated by a Traditional Healer'
 [headline]

- (14) *Sehingga semenjak ber-usia tiga tahun, Juliana hanya di-obati*
 so.that since INTRANS-age three year Juliana only PASS-treat

dukun.
 traditional.healer

'So that since the age of three years, Juliana was only treated by a traditional healer.'
 ('Menderita Gizi Buruk, Bertahun-tahun Juliana Diobati oleh Dukun.' 29 July 2016, Kompas Online)

The null preposition, then, occurs in both familiar and polite speech, and occurs in formal writing as well. My consultants' observation is that the absence of the preposition in these examples is completely unremarkable, and unlikely to be noticed in these languages; when P is null they did not judge the clause to be associated with prescriptive correctness, or characteristic of certain groups of speakers. I conclude that P-drop is independent of formality and register (see Jeoung & Biggs 2017 for discussion about conditions such as formality that may affect the frequency, but not the availability, of the phenomenon).

2.2 P-drop only possible in canonical passive clauses

PPs with embedded Agents, Experiencers and Causers do not occur in active voice or object voice (since this argument already occurs as a core argument), so clauses in active voice or object voice cannot be tested for P-drop.³ However, Instrument PPs do occur in active clauses such as (15)–(17); note that these are the same prepositions that participate in P-drop:

- (15) *Amina a-tari *(bi') taleh plastik.* Madurese
 Amina ACTV-dance with string plastic
 ‘Amina danced with a plastic cord.’
- (16) *Amina nari *(karo) tali plastik.* Javanese
 Amina ACTV.dance with string plastic
 ‘Amina danced with a plastic cord.’
- (17) *Amina me-nari *(sama) tali plastik.* Indonesian
 Amina ACTV-dance with string plastic
 ‘Amina danced with a plastic cord.’

P-drop is not available with these active verbs; in each case the preposition must be overt.

Additionally, Indonesian has involitive (accidental) verbs, which can occur with a PP embedding an inanimate Causer. In (18), *angin besar* ‘strong wind’ can occur as subject of the active verb *membuka* ‘open.’ The involitive counterpart in (19) requires *oleh* to be overt.

- (18) *Tiba-tiba angin besar mem-buka pintu.* Indonesian
 suddenly wind large ACTV-open door
 ‘Suddenly a strong wind opened the door.’
- (19) *Pintu itu ter-buka *(oleh) angin besar.*
 door that INVOL-open by wind large
 ‘The door was opened by a strong wind.’

The prepositions that may be null immediately following a passive verb do occur in active voice (and with involitive verbs), but P-drop is not possible. P-drop requires a canonical passive in which the verb is marked with the passive prefix (Madurese *e-*, Javanese *di-* and Indonesian *di-*).

2.3 P-drop occurs with Initiators

P-drop is also sensitive to the thematic role of the argument embedded in the PP. Jeoung and Biggs (2017) show that in Indonesian, P-drop requires an Initiator, “an entity whose properties/behaviour are responsible for the eventuality coming into existence” (Ramchand 2008:31). This category not only includes volitional entities, but also entities responsible for initiation or causation more generally.

For P-drop, the category of Initiator is useful because it defines the set of thematic arguments that occur with null P: Agents, Experiencers, Causers and Instrument-causers.

³ Object voice occurs in Indonesian (Cole et al. 2008 *inter alia*), in the polite register of Madurese (Jeoung 2017), and many varieties of Javanese (Connors 2008).

The P-drop examples thus far have included PPs with Agents; below I demonstrate that other thematic roles are also possible, such as a Causer, ‘a great wind’ (20)–(22) or an Experiencer, ‘humans’ (23)–(25). These arguments are compatible with null P, similar to the Agent arguments we have already seen.

- (20) *Bhungka juah e-pa-robbhu (bi') angen rajah.* Madurese
 tree that PASS-CAUS-topple by wind large
 ‘The tree was toppled by a great wind.’
- (21) *Uwit iku di-roboh-no (karo) angen gede.* Javanese
 tree that PASS-fall-APPL by wind large
 ‘The tree was toppled by a great wind.’
- (22) *Pohon itu di-jatuh-kan (sama) angin besar.* Indonesian
 tree that PASS-fall-APPL by wind large
 ‘The tree was toppled by a great wind.’
- (23) *monyeh se bisa e-keding (bi') manossah* Madurese
 sound REL can PASS-hear by human
 ‘a sound that can be heard by humans’
- (24) *muni sing iso di-rungoke (karo) menungso* Javanese
 sound REL can PASS-hear by human
 ‘a sound that can be heard by humans’
- (25) *bunyi yang bisa di-dengar (oleh) manusia* Indonesian
 sound REL can PASS-hear by human
 ‘a sound that can be heard by humans’

(20)–(22) demonstrate that the nominal complement of P is not required to be human, nor even animate. Whether the argument is definite (1), (3), (5), indefinite (20)–(22) or generic (23)–(25), optional P-drop is available. The Agent, Causer or Experiencer may also be a question word:

- (26) *Cinta Rahasia e-toles (bi') sapah?* Madurese
 Cinta Rahasia PASS-write by who
 ‘Cinta Rahasia was written by whom?’
- (27) *Cinta Rahasia di-tulis (karo) sopo?* Javanese
 Cinta Rahasia PASS-write by who
 ‘Cinta Rahasia was written by whom?’
- (28) *Cinta Rahasia di-tulis (oleh) siapa?* Indonesian
 Cinta Rahasia PASS-write by who
 ‘Cinta Rahasia was written by whom?’

P-drop is possible with Instruments. Recall that in examples (15)–(17) the Instrument PPs in active clauses did not allow null P; but in a passive clause, P-drop is possible with an Instrument:

- (29) *Tangan-nya di-ikat (dengan) tali plastik.* Indonesian
 hand-DEF PASS-tie with string plastic
 ‘His hands were bound with plastic cord.’ (Jeoung & Biggs 2017:84, ex. 10, modified from Sneddon et al. 2012, ex. 3.37)

Within the thematic category of Instruments, Jeoung & Biggs (2017:84) note a relevant split between Pure Instruments and Instrument-causers (a distinction from Kamp & Rossdeutscher 1994). An Instrument-causer acts on its own (after being introduced by an agentive entity), such as *tali plastik* ‘plastic cord’ in (29). In contrast, a Pure Instrument brings about an event but it is peripheral to it, and does not continue to act on its own. The Instrument *sendok* ‘spoon’ is a Pure Instrument in (30). Whereas the Instrument-causer *tali plastik* may occur as the subject of a corresponding active clause (i.e., ‘The string bound his hands’), the Pure Instrument cannot (*‘A spoon fed by child’).

Crucially, the two types of Instruments behave differently with respect to P-drop. While null P is allowed with the Instrument-causer in (29), the Pure Instrument in (30) disallows null P.

- (30) *Anak-ku di-suap-i *(dengan) sendok.* Indonesian
 child-1SG PASS-feed-LOC with spoon
 ‘My child was fed with a spoon.’ (Jeoung & Biggs 2017:84, ex. 11)

P-drop is therefore possible with Instrument-causers, but ruled out with Pure Instruments.⁴ To unite the set of arguments that allow P-drop, i.e., Agents, Experiencers, Causers and Instrument-Causers, to the exclusion of Pure Instruments, these are grouped under the umbrella of thematic Initiators. The particular type of P-drop under discussion here, then, is Initiator P-drop.

2.4 Moved PPs disallow P-drop

Initiator P-drop in Madurese, Javanese and Indonesian is sensitive to syntactic position. As already demonstrated, in immediately post-verbal position, the P may be omitted:

- (31) *Ale’ e-kekke’ (bi’) embi’ rowa.* Madurese
 younger.sib PASS-bite by goat that
 ‘Little brother was bitten by the goat.’
- (32) *Kelambi iku di-umbah (karo) emak.* Javanese
 clothing that PASS-wash by mother
 ‘The clothing was washed by mother.’
- (33) *Buku itu di-baca (sama) Rini.* Indonesian
 book that PASS-read by Rini
 ‘The book was read by Rini.’

I assume this post-verbal position is the base position for Initiator PPs in passive clauses. The PP can also occur in other positions, but when the PP is moved, optional P-drop is not available, and an overt P is required.

⁴ In these languages, the same preposition can occur with both Instrument-causers and Pure Instruments: the Indonesian preposition *sama*; the Madurese preposition *bi’* and the Javanese preposition *karo*. Interestingly, these prepositions also introduce adverbial modifiers, e.g., *sama cepat* ‘quickly.’ Adverbial PPs fall outside the scope of this paper, and are left to future research (see Section 3).

- (34) **(Bi') embi' rowa ale' e-kekke'.* Madurese
 by goat that younger.sib PASS-bite
 'By the goat, little brother was bitten.'
- (35) **(Karo) emak kelambi iku di-umbah.* Javanese
 by mother clothing that PASS-wash
 'By mother, the clothing was washed.'
- (36) **(Sama) Rini buku itu di-baca.* Indonesian
 by Rini book that PASS-read
 'By Rini, the book was read.'

2.5 Linear adjacency

In addition to the Initiator PP occurring in its base (post-verbal) position, the PP must also be linearly adjacent to the passive verb in order for P-drop to be possible. For example, when an adverb intervenes between the verb and PP, the preposition must be overt. Compare the unavailability of null P in (37)–(39) to the clauses in (2), (3), (29) where nothing intervenes between the verb and PP, allowing P-drop.

- (37) *Maleng rowa e-tangkep bari' *(so) polisi.* Madurese
 thief that PASS-catch yesterday by police
 'The thief was caught yesterday by police.' (modified from Davies 2010:256)
- (38) *Adik di-cokot wingi *(karo) wedus iku.* Javanese
 younger.sib PASS-bite yesterday by goat that
 'Little brother was bitten yesterday by the goat.'
- (39) *Tangan-nya di-ikat ketat *(dengan) tali plastik.* Indonesian
 hand-DEF PASS-tie tight with string plastic
 'His hands were bound tightly with plastic cord.'

The requirement of linear adjacency is also supported by passive clauses with ditransitive verbs. In (40)–(42), the verb 'sew' is affixed with an applicative suffix (Madurese *-aghih*, Javanese *-no* and Indonesian *-kan*) and takes a Beneficiary argument. When the Beneficiary occurs as subject and the Patient intervenes between the passive verb and the PP, P-drop is ruled out.

- (40) *Na'-kana' e-jhai'-aghih kalambhiah *(bi') bu Nur.* Madurese
 child-RED PASS-sew-APPL clothes by Ms Nur
 'The children were sewn clothes by Ms Nur.'
- (41) *Arek-arek di-jait-no kelambi *(karo) bu Nur.* Javanese
 child-RED PASS-sew-APPL clothes by Ms Nur
 'The children were sewn clothes by Ms Nur.'
- (42) *Semua anak di-jahit-kan baju *(oleh) Ibu Mindy.* Indonesian
 all child PASS-sew-APPL clothes by Ms Mindy
 'All the children were sewn clothes by Ms Mindy.' (Jeoung & Biggs 2017:86, ex. 23)

These patterns are consistent with the conclusion that P-drop is sensitive to overt material that intervenes between the PP and the verb. Thus, for P-drop to be possible, the PP is not

only required to remain in its post-verbal position as shown in Section 2.4, but additionally, no material can intervene linearly between the passive verb and Initiator PP.

2.6 Structural identity and phonological deletion

Silent morphemes are noted by Merchant (2001) to fall into three categories: elements specified as silent in the lexicon; copies and traces that are the result of movement; and elements that are deleted under specific circumstances. Let me briefly address the first two possibilities for null P, before arguing for an analysis of P deletion. Nothing suggests that null P is a silent copy or trace resulting from movement, as the P-drop pattern does not appear to arise from any type of displacement. The possibility of a lexically specified silent P is compatible with an analysis of structural identity, and such silent prepositions have been argued for in the literature on P-drop in other languages (e.g., Ioannidou & den Dikken 2009; Myler 2013). However, in these cases, the P is always silent, rather than optionally silent (note that the literature focuses on Spatial or Locative PP, not Initiator PP). For Madurese, Javanese and Indonesian, a lexically specified null P is a difficult analysis, as this P would be restricted to a single position (immediately after a passive verb). While such a restriction might be related to nominal licensing or case, I anticipate the discussion in section 3 by noting that these prepositions may also be null in adverbial phrases, where nominal licensing is not at issue.

In this field report, the data is consistent with the third type of silent element described by Merchant: the P is deleted under specific conditions, namely, in a canonical passive, when introducing an Initiator argument, and when there is linear adjacency to the verb. Under a deletion analysis (i.e., P-drop), the Initiator is embedded in a PP and is an oblique argument (adjunct), regardless of whether P is overt or null. I suggest that this is a reasonable view given the patterns described above, though further investigation is needed in all three languages to confirm the analysis.⁵ I also discuss an alternate possibility below, which is that when the post-verbal Initiator is not introduced by P, it is a core argument.

A P-drop analysis requires structural identity between a clause with overt P and a clause with null P; in both cases the Initiator is embedded in a PP. Several pieces of evidence tentatively support structural identity and P deletion. Cross-linguistically, the Agent is always optional in canonical passive clauses; when the Agent does occur, it is expressed as an oblique, not a core argument (Haspelmath 2001). This is true of the canonical passive in Madurese, Javanese and Indonesian (see examples (1)–(4)): the post-verbal Agent is never required in these clauses. Also consistent with structural identity is the fact that the presence or absence of the preposition does not affect truth-conditions of the clause; nor does it seem to have other semantic effects. For example, an Agent without an overt P is not interpreted as having more (or less) agency or volition. Caponigro & Pearl (2008) note that for silent prepositions (P that is always null in a particular language), the preposition is semantically “light,” with a minimal contribution to the meaning of the

⁵ In particular, binding data would be useful to distinguish whether an Agent that does not occur with P is an adjunct or a core argument. However, in my fieldwork to date, my consultants’ judgments are not consistent with basic binding facts documented in Arka & Manning (2008) for Indonesian (see Jeoung & Biggs 2017 for discussion), nor the binding facts presented in Davies (2010) for Madurese.

clause. A similar observation applies to P-drop; the P in an adjunct PPs is not required to be overt for semantic interpretation.⁶

An alternate analysis for the alternation between overt P and null P is to analyze the Initiator as a core argument, that is, not an adjunct PP (see Nomoto & Kartini 2014 for a related proposal in Malay). Let me discuss this possibility and its potential implications. The presence of both the post-verbal Initiator and the Patient/Theme (which occurs as grammatical subject) means that these are transitive clauses. Recall that in Madurese, Javanese and Indonesian, the Initiator may occur without P only when there is linear adjacency with the verb: this is compatible with an argument position, if the argument remains in its base-generated position, and cannot be moved. This is akin to the Agent in an object voice clause: it must occur immediately adjacent to the verb. However, the Initiator (Agent) in an object voice clause occurs in immediately pre-verbal position, and furthermore requires a bare verb (with no voice prefix). If the post-verbal Initiator is a core argument, then, this constitutes a new clause type: it is not active, nor a canonical passive (it is transitive, with two core arguments), nor an object voice clause.

Although further investigation is needed, I suggest that the P deletion analysis accounts for the data without proposing another clause type (or “voice”) in Madurese, Javanese and Indonesian. A core argument analysis also has little to say about manner adverbial PP, in which the same prepositions alternate between overt and null (see Section 3.2 below).

If this analysis is on the right track, the mechanism for P deletion in Madurese and Javanese seems to be compatible with the variable deletion rule for Indonesian that is proposed in Jeoung & Biggs 2017: “When P introduces an argument interpreted as an Initiator, and PP is linearly adjacent to a passive verb complex, P deletes” (Jeoung & Biggs 2017:90). The null P occurs when the P is targeted by the deletion rule in the phonology, where linear string order is visible as a condition for P-drop. While the deleted element is that which occupies the position of the head of PP, since this deletion occurs post-syntax, when I assume syntactic objects have been linearized. Thus it is the phonological content of P that is deleted rather than a syntactic node or syntactic object. Note that this must be a variable rule (in the sense of Labov 1969), as P-drop is never required; the overt P is always acceptable wherever the PP occurs in a passive clause.

One further issue is worth noting here: could the Initiator argument be an incorporated (or pseudo-incorporated) nominal that forms a closer bond with the verb? That this argument must be linearly adjacent to the verb offers this possibility, since no other element may intervene. For several reasons, however, incorporation does not appear to be likely. First, the Initiator is not restricted semantically; it does not have to be generic or indefinite, nor does it combine with the verb to express habitual or conventionalized activities, as expected of incorporated nouns (Mithun 1984). The Initiator may also be syntactically complex and phonologically heavy:

(43) *Engko' e-sapah (bi') ca-kancah se a-katoh tang nyamah.* Madurese
 1SG PASS-greet by RED-friend REL ACTV-call 1SG.POSS name

‘I was greeted by friends who were calling my name.’

⁶ A reviewer notes that these facts may be explained by semantic identity alone, without the structural identity proposed here. While semantic identity does leave open other analyses, I only note that it does not adjudicate between a deletion analysis and the alternative (core argument) analysis.

- (44) *Aku di-sopo (karo) konco-konco sing nimbali jeneng-ku.* Javanese
 1SG PASS-greet by RED-friend REL call name-1SG
 ‘I was greeted by friends who were calling my name.’

These complex Initiators, which embed a relative clause, are uncharacteristic of incorporation, and also rule out the possibility of a close phonological bond between verb and Initiator (pseudo-incorporation).

2.7 Synopsis

The novel data from Madurese and Javanese presented here confirm a pattern of P-drop that is consistent with previously reported patterns in Indonesian. The P-drop pattern is summarized below.

(45) Initiator P-drop in Madurese, Javanese and Indonesian

- Null Initiator P is optional, not required
- Formal, written and polite registers allow P-drop
- The complement of P must be an Initiator
- The verb must be a canonical passive
- Linear adjacency between the verb and Initiator PP is required

3. Directions for future research

3.1 Initiator P-drop in cross-linguistic context

To my knowledge, Initiator P-drop has not been reported in languages outside of Indonesia. While it is common for languages to have passives with an Initiator embedded in an adjunct PP, it appears that the pattern of optionally null Initiator P is cross-linguistically unusual. This field report has documented these properties in Madurese and Javanese, adding these two languages to the previously reported data in Indonesian (Jeoung & Biggs 2017).

There is a robust body of literature on P-drop and silent P in a wide range of languages primarily focused on spatial PP (see Asbury et al. 2008; Cinque & Rizzi 2010; among others listed below). In spatial PP, a preposition (e.g., ‘at’, ‘on’, ‘in’, etc.) introduces a location, place or direction as its complement. Whereas I have argued in this paper for an analysis in which Initiator P is optionally deleted in the phonology, researchers analyze null P or P-drop in other languages as incorporation, alternations in syntactic structure, or a P specified as null in the syntax (see Collins 2007; Ioannidou & den Dikken 2009; Terzi 2010; Gehrke & Lekakou 2013; Myler 2013; Nchare & Terzi 2014; Biggs 2015; among others.) Initiator P-drop is distinct from these patterns, then, not only regarding the type of nominal embedded in PP (an Initiator), but also because there is structural identity between overt and null P.

3.2 Spatial PP and manner adverbial PP

Beyond passive clauses with Initiator PP, languages of Java also appear to have optional P-drop with other types of prepositions. Although a full investigation of other types of P are outside the scope of this paper, I briefly sketch these here in order to show the range of silent P in these languages.

One type of preposition that may be null is spatial P (Djenar 2007; Sneddon et al. 2012). For instance, in Indonesian, the preposition *di* ‘at, on’ may be silent only when followed by a nominal such as *atas* ‘top’ that indicates a Place (or AxialPart; see Svenonius 2006, 2010 and references therein).

- (45) *Dia taruh hp (di) atas meja.* Indonesian
 3SG put cell.phone LOC top table

‘She put the cell phone on the table.’

However, if the P is not accompanied by a Place nominal, P-drop is not possible (46). Furthermore, when the spatial P indicates a Path (*ke* ‘to’), it cannot be dropped, even if a Place nominal (*bawah* ‘bottom’) is also present (47).

- (46) *Dia taruh hp *(di) meja.* Indonesian
 3SG put cell.phone LOC table

‘She put the cell phone on the table.’

- (47) *Dia masuk *(ke) bawah tanah.*
 3SG enter to bottom ground

‘She went under the ground.’

This is clearly distinct from the patterns in Initiator P-drop, as the clauses are not passive, and linear adjacency between the verb and the PP is not required in (45); it remains an open question to what extent an analysis for Initiator P-drop will apply to spatial P in Indonesian. For other languages, the distinction between simple P (45) and complex P (*ke bawah* in (47)) has proven to be a rich area of study (alternately, this is also discussed as a distinction between lexical P and functional P). Complex spatial P has provided evidence for hierarchical structure within the PP domain (see Cinque & Rizzi 2010; Svenonius 2012).

Another type of PP that appears to undergo P-drop in Madurese, Javanese and Indonesian is manner adverbial PP, where P embeds an adjective.

- (48) *Hedah buruh (bi’) ghancang.* Madurese
 2SG run with quick

‘You ran quickly.’

- (49) *Lani m-oco (karo) alon-alon.* Javanese
 Lani ACTV-read with slow

‘Lani is reading slowly.’

- (50) *Dia ber-bicara (dengan) pelan-pelan.* Indonesian
 3SG INTRANS-speak with slow

‘She spoke quietly.’

These adverbial expressions have the surface structure of PPs, and include the same prepositions that introduce Initiators, e.g., Madurese *bi’*, Javanese *karo* and Indonesian *dengan*. Again, these do not require passive verbs, and the requirement of linear adjacency does not appear to apply to all adverbial PP. I leave a full account of possible P-drop in manner adverbial PP to future research; an analysis of P-drop in passive clauses will hopefully shed light on the adverbial P-drop patterns as well.

Finally, given that Initiator P-drop appears to be unusual in the world’s languages, it is an open question whether there are similar patterns in other Indonesian or Malay languages. To date it is not clear why the syntax or semantics of these three languages allows the preposition in a by-phrase or with-phrase to be deleted. The semantic “lightness” of P (as noted by Caponigro & Pearl 2008) holds for many languages, yet P-drop is not possible in similar constructions outside of the languages discussed here.

Given the number of closely related languages in Java and other areas of Indonesia and Malaysia, further cross-linguistic comparison may be fruitful in documenting the range of possible P-drop patterns and their constraints.

Abbreviations

1	first person
3	third person
ACTV	active
APPL	applicative
DEF	definite
INTRANS	intransitive
INVOL	involitive
LOC	locative
PASS	passive
POSS	possessive
RED	reduplication
REL	relative
SG	singular

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