On Phonologically Unrealized Prepositions: The Syntax and Morphology of Indonesian P-drop

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INTRODUCTION. A closed class of prepositions can undergo preposition-drop (P-drop) in colloquial Indonesian, including oleh and sama, which mark the Passive Voice agent in a by-phrase (1a), and dengan and sama, which mark instrument-causers (Levin and Rappaport Hovav 2005, Alexiadou et al 2006) in a with-phrase (1b) (nb. sama is the informal variant of oleh/dengan). This has been noted in Indonesian grammars (Dardjowidjojo 1978, Sneddon 1996) but has not been investigated formally.

1) a. Buku ini di-baca [pp (oleh) adik].
   book this pv-read by younger.sibling
   ‘This book was read by little brother.’
   b. Tangan-nya di-ikat [pp (dengan) tali plastic].
   hand-POSS pv-tie with string plastic
   ‘His hands were bound with plastic cord.’

(1) stands out amidst recent cross-linguistic work on P-drop (Collins 2007, Ioannidou & den Dikken 2009, Terzi 2010, Myler 2013, Gehrke & Lekakou 2013, Nchare & Terzi 2014) because Indonesian P-drop involves non-spatial adpositions.

PROPOSAL. In contrast to past work, we formalise P-drop as competition amongst vocabulary items at PF, rather than as a reflex of syntactic relations. This paper examines what conditions this allomorphy.

CONDITIONS ON P-DROP. We show first that overt and null P structures in Indonesian are truth-conditionally and semantically indistinguishable. Both overt P and null P take a nominal complement which: (a) may be marked for definiteness and number; (b) is not necessarily interpreted as indefinite, non-specific, or non-referential etc.; (c) can be modified by adjectives or possessors; (d) may be complex (e.g. embed a relative clause); (e) is unrestricted by syntactic or semantic class of verb. (1) is therefore not a case of (pseudo-) incorporation (i.e. Indonesian is consistent with the ban on incorporation of agents (Baker 1988, Massam 2001; contra Myhill 1988).

Indonesian P-drop is nonetheless sensitive to clausal configuration: it is possible in immediately post-verbal position but not elsewhere in the clause (compare (1a), (2a), and oleh in (2b)). However, linear adjacency to the verbal root is neither a necessary nor a sufficient condition on allomorphy: in (2b) P-drop is possible where an applicative morpheme intervenes between instr-causer P and V; in (2c) P-drop is possible following a de-verbal noun/nominalizing morpheme:

   by younger.sibling book this pv-read
   ‘By little brother this book was read.’
   b. Kantor Monitor di-lempar-i [pp (dengan) batu][pp *(oleh) sekelompok mahasiswa].
   office Monitor pv-throw-APPL.LOC with stone by group univ.student
   ‘The Monitor office was pelted with stones by a group of students.
   c. Pem-bunuh-an [pp (oleh) pemilik toko.]”
   actor-kill-NOMLZ by owner store
   ‘The killing by the store owner’

Neither does an argument/adjunct distinction affect the availability of P-drop: all PPs are adjuncts in (1) and (2), even where P is null. In the Active Voice in (3a) the quantifier in a
subject binds the object in its c-command domain. In contrast, in the Passive Voice in (3b), the agent does not bind into the raised object, whether the P sama is overt or null. Therefore whether P is overt or null, the Agent is not a core argument of VP.

3) a. Semua anak₁ kelas tiga mem-baca buku-buku mereka₁ */₂.
   all child class three AV-read book-RED 3PL
   ‘All third grade children₁ read their₁ */₂ books.’

   b. Buku-buku mereka₁/₂ di-baca [pp (sama) semua anak₁ kelas tiga].
      book-RED 3PL PV-read by all child class three
      ‘Their₁/₂ books were read (by) all third grade children₁.’

**ANALYSIS.** We propose that allomorphy is conditioned by features accrued by P in the course of the syntactic derivation. We adopt a Distributed Morphology (DM)-style analysis in which syntax operates on bundles of abstract features, feeding vocabulary insertion; the following (subset of) features mediate competition between vocabulary items post-syntactically:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Informal Only</th>
<th>Immediate Post-verbal Only</th>
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</thead>
<tbody>
<tr>
<td>oleh ⇔ [cause] [initiator] [focus] sama ⇔ [cause]</td>
<td>(informal only)</td>
<td></td>
</tr>
<tr>
<td>dengan ⇔ [cause] [instrument] [focus] ∅ ⇔ [cause]</td>
<td>(immed. post-verbal only)</td>
<td></td>
</tr>
</tbody>
</table>

For instance, the features [initiator] and [instrument] determine vocabulary insertion of oleh or dengan; in informal environments, a variable impoverishment rule can result in the insertion of underspecified sama for either an initiator or instrument. In contrast, the competition between overt and null items is limited to when PP is in its externally merged position (i.e. immediate post-verbal position (1a)). In non-canonical clause-initial position (2a), we argue that the PP is focused, supported by e.g. the availability of question-answer pairs. In (2a) only oleh, sama can be inserted; a null exponent (i.e. P-drop) is ungrammatical in focused environments.

**DISCUSSION & IMPLICATIONS.** Competition between formal and informal allomorphs (oleh–sama, dengan–sama) is subject to pragmatic and discourse factors involving register and formality. Competition between null and overt allomorphs (e.g. ∅–oleh; ∅– sama) is predicted in our analysis to be subject to PF factors that are known to affect allomorphy at PF, for example: speech rate, phonological weight, extra-grammatical factors such as frequency, and inter-speaker variation.

P allomorphy at PF also has wider application: allomorphy is shown to also account for the distribution of P-drop of other Indonesian PPs, including manner adverbial PPs (which are transparently adpositional in Indonesian) and locative PPs. The analysis also extends to P-drop in several related languages of Indonesia.