P-Stranding under Sluicing and Repair by Ellipsis: Why is Indonesian (Not) Special?

Yosuke Sato

Abstract This paper presents novel evidence that P-stranding in Indonesian contradicts Merchant's (2001) generalization that P-stranding under sluicing is possible only in those languages that allow this option under regular *wh*-movement. It is proposed that this apparently special pattern is accounted for by the recent idea of repair by ellipsis (Ross 1969; Merchant 2001; Lasnik 2001). Specifically, the failure of percolation of the *wh*-feature is repaired by PF deletion. P-stranding in French and German cannot be so repaired since the violation in question is a strictly computational violation caused by D-to-P incorporation. Our cross-linguistic examination of P-stranding suggests a bifurcated view of violations (Boeckx and Lasnik 2006); violations pertaining to the syntax-phonology interface in principle can be repaired whereas violations incurred within the syntactic computation cannot. This contrast in "reparability" naturally falls out from a minimalist archicture of the syntax-phonology interface. A broader implication of the present analysis is that syntax is itself not a crash-proof system in the sense of Frampton and Gutmann (1999, 2002); it could produce certain operational failures, but language-particular parameters afford a bit of leeway for PF to remedy them at the syntax-phonology interface.

Keywords P-stranding, sluicing, PF repair, feature percolation, D-to-P incorporation, syntax-phonology interface, Indonesian

1 Introduction

This paper has two goals. First, I discuss the syntax of P-stranding under *wh*-movement and sluicing in Indonesian. In favor of his movement plus deletion analysis of sluicing, Merchant (2001) established a

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generalization that P-stranding under sluicing is possible only in those languages that independently allow this option under regular *wh*-movement. I provide novel evidence that Indonesian presents a problem for this generalization since it disallows P-stranding under *wh*-movement but allows this option under sluicing. I show that potential alternative analyses resorting to clefts, resumption and PF P-drop, which have been proposed for other languages with the superficially identical P-stranding profile, including Brazilian Portuguese (Rodrigues et al. 2009; *pace* Almeida and Yoshida 2007), Spanish (Rodriguez et al. 2009; Vicente 2008), Polish (Szczegelniak 2006, 2008), French (Rodriguez et al. 2009), Mandarin Chinese (Wang 2006) and Serbo-Croatian (Stjepanović 2008), are not transportable to Indonesian P-less sluicing.

Second, I propose that this apparently peculiar P-stranding pattern in Indonesian receives a straightforward account under "repair by ellipsis" (Ross 1969; Merchant 2001; Boeckx and Lasnik 2006). Specifically, the representational violation at the PP level caused by the failure of the *wh*-feature percolation (Chomsky 1972; Lasnik 2005) is remedied at PF by deleting the offending constituent. This analysis receives independent empirical support from the new observation that the same repair effect is observed in P-stranding under pseudogapping in Indonesian, which I analyze as the movement of a focused constituent out of the VP, followed by VP deletion. I also discuss why P-stranding violations are not repaired in French and German. I argue, drawing on the analysis and evidence presented by Law (1998, 2006) and van Riemsdijk (1998), that these languages have overt D-to-P incorporation in the syntax, with the result that all potential derivations for P-less sluices incur some violation within the syntactic computation. As a result, TP deletion comes in too late to rescue the violation. I speculate that this contrast in "reparability" between French/German and Indonesian falls out from the minimalist architecture of the syntax-phonology interface. One major theoretical consequence of the proposed analysis is that syntactic computation is not entirely crash-proof (*pace* Frampton and Gutmann 1999, 2002). It may produce certain operational "mistakes", so to speak, but language-particular parametric values afford a bit of leeway for PF to remedy them at the syntax-phonology interface.

This paper is structured as follows. In section 2, I review Merchant's (2001) analysis of sluicing as *wh*-movement of the sluice followed by TP deletion at PF. I introduce one of his Form-Identity Generalizations

pertaining to P-stranding in favor of his analysis. In section 3, I discuss the internal syntax of P-less sluicing in Indonesian and consider whether this construction could be analyzed as an elliptical cleft. I apply the diagnostics developed by Merchant for English and by Fortin (2007) for Indonesian that could, in principle, distinguish between the sluice and the cleft. The results, however, are shown to be quite equivocal about whether or not P-less sluices in Indonesian are assimilated to clefts. Based on this consideration, I provide five novel arguments based on a) surface vs. deep anaphora (Hankamer and Sag 1976), b) sloppy identity (Ross 1969; Takahashi 1994), c) multiple antecedents, d) multiple sluicing, and e) P-stranding under pseudogapping, that P-less sluicing in Indonesian is not an elliptical cleft. I also critically examine two recent analyses proposed by Wang (2006) and Stjepanović (2008) that resort to resumption and PF P-drop for Mandarin Chinese and Serbo-Croatian, respectively, two languages that behave like Indonesian with regard to P-stranding. I show that these analyses cannot be transported to Indonesian. In section 4, I propose a PF repair analysis of Indonesian P-stranding. According to this analysis, the representational/interface violation at the PP level caused by the failure of the *wh*-feature percolation is remedied at PF by deletion. I provide independent evidence for this analysis from P-stranding under pseudogapping in this language. In section 5, I turn to (dialects of) French and German, which do not allow P-stranding under either *wh*-movement or sluicing. Drawing on the incorporation analysis for the D-P coalescence in these languages (Law 1998, 2006; van Riemsdijk 1998), I argue that P-stranding violations in these languages cannot be undone by deletion because all potential derivations for P-less sluicing cause some derivational/syntactic violation, e.g., the Empty Category Principle (Chomsky 1986) and the Linear Correspondence Axiom (Kayne 1994). As a result, PF deletion applies too late to repair such violation. Section 6 is the conclusion.[1]

[1] The following abbreviations are used in data in this paper: ACC, accusative; CL, classifier; COMP, complementizer; COP, copula; DAT, dative; FEM, feminine; FOC, focus; GEN, genitive; MASC, masculine; NEG, negation; PASS, passive; PROG, progressive; Q, question; RED, reduplication.

2 Merchant's (2001) Theory of Sluicing, P-Stranding Generalization and Indonesian

Drawing on the classical analysis presented by Ross (1969), Merchant (2001) argues that sluicing constructions, as illustrated in (1a) in English, are the product of syntactic *wh*-movement of an interrogative *wh*-phrase, followed by the deletion of TP at PF, as shown in (1b).

(1)a. Somebody just left. - Guess who.

b. Somebody just left. - Guess [$_{CP}$ who$_i$ [~~$_{TP}$ t$_i$ just left~~]]

Merchant had two central arguments: case-matching and P-stranding. His argument from P-stranding is based on what he calls the Form-Identity Generalization: P-Stranding, as stated in (2). Following Almeida and Yoshida (2007) and much recent work (e.g., Rodriguez et al. 2009; van Craenenbroeck 2010a, b), I refer to this generalization more succinctly as the P-Stranding Generalization/PSG in this paper.

(2) Preposition-Stranding Generalization/PSG

A language *L* will allow preposition stranding under sluicing iff *L* allows preposition stranding under regular *wh*-movement (Merchant 2001: 92, 107).

The logic behind PSG is clear. Under Merchant's analysis, sluicing is derived from regular *wh*-movement plus TP deletion. Thus, the ability to strand a preposition under sluicing means that the same option is independently available under regular *wh*-movement. Surveying the P-stranding pattern under *wh*-questions and sluicing constructions in 24 languages, Merchant argues that PSG is cross-linguistically robust. To illustrate, English allows P-stranding both under *wh*-movement and sluicing, as shown in (3a, c). Note that the preposition *with* can also be piped-piped along into [Spec, CP], as illustrated in (3b, c).

(3)a. Who was he talking with?

b. With whom was he talking?

c. Peter was talking with someone, but I don't know (with) who. (Merchant 2001: 92)

The P-less variant of the sluice in (3c) is grammatical because it is derived via TP deletion from the independently available P-stranding *wh*-question in (3a). Unlike English, French disallows P-stranding under *wh*-movement, as shown in (4a, b). Thus, French also disallows P-stranding under sluicing, as shown in (4c). (See section 5, though, for more detailed discussion on P-stranding in French.)

(4)a. * Qui est-ce qu' elle l'a offert à?
who Q she it-has offered to
'Whom has she offered it to?'

b. À qui l'a-t-elle offert?
to whom it-has-she offered
'To whom has she offered it?

c. Anne l'a offert à quelqu'un, mais je ne sais pas *(à) qui.
Anne it-has offered to someone but I NEG know NEG to whom
'Anne has offered it to someone, but I don't know (to) whom.'

((4a, c) from Merchant (2001: 98))

Merchant's theory, therefore, predicts that there are no languages which disallow P-stranding under regular *wh*-movement but allow P-stranding under sluicing. Yet, as first noted by Fortin (2007), Indonesian is precisely of this type, as shown in (5a-c), presenting a prima facie case against the PSG.[2, 3]

[2] A clarification is in order about the role of the complementizer *yang*. In Indonesian, left-peripheral nominal *wh*-phrases, such as *siapa* 'who', *apa* 'what' and *buku yang mana* 'which book', must be set off from the remainder of the clause by *yang*. On the other hand, left-peripheral non-nominal *wh*-phrases, such as *dari siapa* 'from whom', *ke mana* 'to where' and *kenapa* 'why', resist *yang*.

(5)a. * Siapa yang kamu berdansa dengan?
who COMP you dance with
'Who did you dance with?'

b. Dengan siapa kamu berdansa?
with who you dance
'With whom did you dance?'

c. Saya ingat Ali berdansa dengan seseorang, tapi saya tidak tahu (dengan) siapa.
I remember Ali dance with someone but I NEG know with who
'I remember Ali danced with someone, but I don't know (with) whom.'

The contrast between (5a) and (5b) shows that Indonesian disallows P-stranding under what looks like a *wh*-question in other languages like English. However, the availability of he P-less sluice in (5c) indicates that the preposition can be omitted under sluicing.

This stranding pattern is general; it holds for all other nominal *wh*-phrases (i.e., *apa* 'what' and *yang mana* 'which'), as shown in (6a-c) and (7a-c).

(6)a. * Apa yang kamu bicara tentang?
what COMP you talk about
'What did you talk about?'

b. Tentang apa kamu bicara?
about what you talk
'About what did you talk?'

[3] As an anonymous reviewer notes, there is a second type of language predicted not to exist by the PSG, namely, languages that allow P-stranding under regular *wh*-movement but disallow P-stranding under sluicing. I come back to this question in section 4.2.

c. Saya ingat Ali bicara tentang sesuatu, tapi saya tidak tahu (tentang) apa.
I remember Ali talk about something but I NEG know about what
'I remember Ali talked about someone, but I don't know (about) what.'

(7) a. * Pria yang mana kamu bicara tentang?
man which you talk about
'Which man did you talk about?'

b. Tentang pria yang man kamu bicara?
about man which you talk
'About which man did you talk?'

c. Saya ingat Ali bicara tentang seseorang, tapi saya tidak tahu (tentang)
I remember Ali talk about someone but I NEG know about
pria yang mana.
man which
'I remember Ali talked about someone, but I don't know (about) which man.'

It is premature to jump to the conclusion that Indonesian presents a problem for the PSG based on this superficial examination of the P-stranding pattern illustrated in (5-7). Only after showing that the syntactic source for the P-less sluice in (5c)/(6c)/(7c) involves *wh*-movement and thereby leaves the preposition behind in the syntax can we conclude that Indonesian indeed directly contracts the PSG. In the next section, I provide evidence for this position. In so doing, I reject potential alternative analyses in the literature which would otherwise make the P-stranding pattern in Indonesian consistent with the PSG.

3 The Internal Syntax of P-Stranding Sluices in Indonesian

In this section, I investigate the internal syntax of P-less sluicing in Indonesian. The central question here is whether the underlying source for such constructions is a regular *wh*-question or a cleft construction.

This question is important for two reasons. First, if P-less sluicing in Indonesian is derived from a cleft source by clausal ellipsis, the P-stranding pattern observed in (5-7) is not a counterexample for the PSG. Second and more importantly, the cleft-analysis of P-less sluicing has been successfully applied to a number of seemingly PSG-violating languages, including Brazilian Portuguese (Rodriguez et al. 2009; *pace* Almeida and Yoshida 2007), Polish (Szczegelniak 2006, 2008) and Spanish (Rodriguez et al. 2009; Vicente 2008). However, I provide novel evidence here that this analysis cannot be applied to P-less sluicing in Indonesian, showing that Indonesian presents a genuine counterexample to the PSG.

Merchant (2001) considers two potential derivations for the English sluicing construction in (8a).One involves genuine sluicing, derived by regular *wh*-movement followed by TP deletion, as shown in (8b). The other derivation involves clausal ellipsis targeting the (short) cleft construction, as shown in (8c).[4]

(8)a. Ben danced with someone, but I don't remember who.

b. Ben danced with someone, but I don't remember [$_{CP}$ who$_i$ [~~$_{TP}$ Ben danced with t_i~~]].

c. Ben danced with someone, but I don't remember [$_{CP}$ who$_i$ [~~$_{TP}$ it was t_i~~]].

Merchant (2001: 120-127) argues against a cleft analysis of sluicing as illustrated in (8c) (see also note 4) based on divergent behavior of sluicing and cleft constructions with respect to ten diagnostics listed in (9a-j).

[4] As pointed out by an anonymous reviewer, the type of analysis illustrated in (8c) has been sometimes inaccurately called pseudosluicing. Technically speaking, however, the derivation in (8c) is not pseudosluicing, as it involves TP-ellipsis. Pseudosluicing instead is the output of a combination of pro-drop and copula deletion, as shown in (i).

(i) Ben danced with someone, but I don't remember [$_{CP}$ who$_i$ [$_{TP}$ ~~it was~~ t_i]].

See Merchant (1998, 2001: 115-120) and van Craenenbroeck (2010a: 79-81) for discussion.

(9) a. implicit arguments/adjuncts

b. prosody

c. aggressively non-D-linked *wh*-phrases

d. 'mention-*some'* modification

e. 'mention-*all'* modification

f. *else*-modification

g. swiping (**S**luiced **W**h-word **I**nversion with **P**repositions **I**n **N**orthern **G**ermanic)

h. languages with limited or no cleft strategies

i. case-marking of the remnant in sluices and clefts

j. left branch extraction

The point of these diagnostics is to show that the very existence of the differences between sluices and clefts with respect to a particular phenomenon makes the assimilation of the former to the latter untenable. In the first comprehensive study on Indonesian ellipsis, Fortin (2007) applies these diagnostics to sluicing in Indonesian. The purpose of the following subsection, however, is to apply them specifically to *P-less sluices* in Indonesian.

3.1 Is P-less Sluicing in Indonesian Elliptical Cleft?

Out of the ten diagnostics mentioned in (9a-j), the four tests c), g), h) and i) are not applicable to Indonesian. First of all, like Fortin (2007), I have been unsuccessful in identifying any homologue of aggressively non-D-linked *wh*-phrases such as *the hell* in English or *diabos* 'devils', *porra* 'fuck' in Brazilian Portuguese (Almeida and Yoshida 2007; Rodriguez et al. 2009) and *cojones* 'testicles' in Spanish (Rodriguez et al. 2009). Second, as the very name of the construction suggests, swiping is limited to the Northern Germanic subfamily and hence is not observed in Indonesian. Third, Indonesian does have cleft constructions as we will see shortly. Finally, Indonesian has no overt case marking that could tease part sluices and clefts. These preliminary considerations reduce the number of diagnostics applicable to Indonesian to six.

Furthermore, as an anonymous reviewer points out, of these 6 tests, tests a) and j) must also be omitted from the present discussion (see also Almeida and Yoshida (2007: 353) for relevant remarks). Test a) is not revealing since Chung (2006) provides convincing arguments from Danish, Norwegian and English that P-stranding in implicit arguments/adjuncts is independently controlled by a lexico-syntactic requirement to the effect that the items for the sluice be a subset of the items for the antecedent. A similar methodological remark applies for test j) for two reasons. First, left branch extraction involves movement from within DegP, not strictly from the complement of P. Second, left branch extraction is possible under sluicing (10a), but illicit in both clefts and non-elliptical *wh*-questions (10b, c).

(10) He married a rich woman –

a. sluicing: wait till you hear how rich!

b. cleft: * wait till you hear how rich it is!

c. *wh*: * wait till you hear how rich he married a woman! (van Craenenbroeck 2010: 1723)

Kennedy and Merchant (2000) and Merchant (2001: 163-183) argue that the absence of the Left Branch Condition effect in (10a) is due to elliptical repair. To the extent that this argument holds, we do not expect the test j) to give us significant results for our present purposes. These observations then reduce the number of tests applicable to four, as shown in (11a-d).

(11) a. prosody

b. 'mention-*some'* modification

c. 'mention-*all'* modification

d. *else*-modification

3.1.1 Prosody

Merchant (2001: 121) observes that in English, the greatest pitch accent falls on the *wh*-phrase in sluices but on the copula in clefts, as shown in (12a-c).

(12) Someone gave me a valentine, but

a. I don't know WHO.

b. I don't know who it WAS.

c. * I don't know WHO it was. (Merchant 2001: 121)

Applying this diagnostic to Indonesian, we get the following pattern.

(13) Ali berdansa dengan seseorang, tapi
Ali dance with someone but

a. Saya tidak tahu SIAPA.
I NEG know who
'I don't know who.'

b. * Saya tidak tahu siapa ITU.
I NEG know who that
'I don't know who it was.'

c. Saya tidak tahu SIAPA itu.
I neg know who that
'I don't know who it was.'

The highest pitch accent falls on the *wh*-phrase in both P-less sluices and clefts. This test, therefore, is equivocal at best about whether the former can be assimilated to the latter in Indonesian.

3.1.2 Exhaustivity Diagnostics

Tests (11b-d) are concerned with three different types of modification. Kiss (1998) and Groenendijk and Stokhof (1997: section 6.2.3) note that the pivot of a cleft in English entails exhaustivity, meaning that a felicitous answer to the cleft requires an exhaustive listing of all the contextually relevant members. Merchant (2001: 122) observes that the *wh*-pivot of a cleft is incompatible with modifiers such as *for example*, which force a non-exhaustive answer. Sluices, on the other hand, have no such requirement. This contrast is illustrated in (14Ba, b).

(14) 'Mention-*some'* modification

A: You should talk to somebody in the legal department for help with that.

B: a. Who, for example?

b. * Who is it, for example? (Merchant 2001: 122)

The modifier *else* serves the same function as *for example* in this regard, except that the correlate of a sluice in the former is not an indefinite but a focused phrase. Thus, we have the same contrast between sluices and clefts, as shown in (15a, b).

(15) *Else*-modification

a. Harry was there, but I don't know who else.

b. * Harry was there, but I don't know who else it was. (Merchant 2001: 122)

Now, the reverse argument holds if we replace these 'mention-*some'* modifiers with 'mention-*all'* modifiers such as *all*. As the contrast between (16a) and (16b) shows, *all*-modification causes sluices to be degraded, but it is perfectly compatible with clefts (see also note 6).

(16) 'Mention-*all'* modification

a. * A bunch of students were protesting, and the FBI is trying to find out who all.

b. A bunch of students were protesting, and the FBI is trying to find out who all it was.

(Merchant 2001: 122)

Applying these three tests to P-less sluices in Indonesian, we get the following results.[5]

(17) 'Mention-*some'* modification

A:	Kamu	harus	bicara	dengan	seseorang	tentang	masalah	ini.
	you	should	talk	with	someone	about	issue	this

'You should talk with someone about this issue.'

B: a.	Siapa,	misalnya?	
	who	for example	

'Who, for example?'

b. ?	Siapa	itu,	misalnya?
	who	that	for example

'*Who is it, for example?'

(18) *Else*-modification

Ali	berdansa	dengan	Fatimah	kemarin,	tapi …
Ali	dance	with	Fatimah	yesterday	but

'Ali danced with Fatimah yesterday but…'

[5] There is variation in grammaticality judgments here. Fortin (2007) thus reports that neither *else*-modification and 'mention-*all*' modification in sluicing examples such as (18a) and (19a) is acceptable for her Indonesian consultants.

a. Saya tidak ingat siapa lagi.
I NEG remember who else
'I don't remember who else.'

b. ? Saya tidak ingat siapa itu lagi.
I NEG remember who that else
'*I don't remember who else it was.'

(19) 'Mention-*all*' modification

Ali berdansa dengan banyak orang kemarin, tapi …
Ali dance with many people yesterday but
'Ali danced with many people yesterday, but…'

a. Saya tidak ingat siapa saja.
I NEG remember who all
'* I don't remember who all.'

b. ? Saya tidak ingat siapa saja itu.
I NEG remember who all that
'I don't remember who all it was.'

My consultant prefers the P-less sluice variant to the cleft variant in both (17) and (18). However, as far as I can see, this preference is simply due to stylistic factors: as the consultant puts it, "(17Ba) and (18a) sound more natural than (17Bb) and (18b), respectively, because the former are simpler". Aside from this, the consultant finds both variants fully acceptable. The effects of stylistic factors on the consultant's preference is also evidenced by the judgment reported in (19a, b). The P-less sluice sounds better than the cleft since the former is shorter. It is possible that the pattern here arises because clefts in Indonesian do not have an obligatory exhaustivity requirement that holds for clefts in English. Thus, the former are compatible with *misalnya* 'for example' and *lagi* 'else'. In fact, the lack of this requirement is a property

of Indonesian clefts in general. Thus, the acceptability of the discourse in (20) shows that the other type of cleft – long clefts – is also free from this requirement, just like the full-fledged *wh*-question (21).

(20)A: Siapa itu yang kamu lihat kemarin?
who that COMP you see yesterday
'Who was it that you saw yesterday?'
B: Ali.
Ali
'Ali.'
A: Siapa lagi?
who else
'Who else?'
B: Fatimah juga
Fatimah also
'Fatimah also'

(21)A: Siapa yang kamu lihat kemarin?
who COMP you see yesterday
'Who did you see yesterday?'
B: Ali.
Ali
'Ali.'
A: Siapa lagi?
who else
'Who else?'

B: Fatimah juga

Fatimah also

'Fatimah also'

In summary, it is clear that all the tests in (11a-d) developed by Merchant (2001) are inconclusive in Indonesian; they are as compatible with a *wh*-movement analysis as they are with a cleft analysis.

3.1.3 The Distribution of the Question Particle *–kah* in Indonesian

Fortin (2007) presents one language-internal argument that sluicing in Indonesian cannot be assimilated to an underlying cleft. Fortin observes that the question particle *–kah* can occur with the *wh*-pivot of a cleft (22a), but not with the *wh*-remnant of a sluice (22b). Fortin further notes that the particle is incompatible with a full-fledged *wh*-question, as shown in (22c). This judgment pattern indicates that the derivational source for (22b) is not a cleft but a *wh*-question.

(22) Ada seseorang yang menelpon tadi …

exist someone COMP phone just now

'Somebody just called…'

a. coba tebak siapa-(kah) itu!

try guess who-Q that

'Try to guess who it was!'

b. coba tebak siapa-(*kah)!

try guess who-Q

'Try to guess who!'

c. coba tebak siapa-(*kah) yang menelpon tadi!

try guess who-Q COMP phone just now

'Try to guess who just called now!' (Fortin 2007: 207, 208)

Now, if we apply this diagnostic specifically to P-less sluicing in Indonesian, we get the following results. Note that the example in (23c) is ill-formed for an independent reason: Indonesian disallows P-stranding under movement, as already shown in (5a), (6a) and (7a).

(23) Saya bicara dengan seseorang tadi …
I talk with someone just now
'I just talked with someone …'

a. coba tebak siapa-(kah) itu!
try guess who-Q that
'Try to guess who it was!'

b. coba tebak siapa-(kah)!
try guess who-Q
'Try to guess who!'

c. * coba tebak siapa-(kah) yang saya bicara dengan tadi!
Try guess who-Q COMP I talk with just now
'Try to guess who I just talked with!'

My consultant reports no appreciable difference in acceptability or stylistics between (23a) and (23b). This indicates that the question particle diagnostic cannot distinguish between the *wh*-movement analysis and the cleft analysis. Comparing (22) and (23), an anonymous reviewer suggests an alternative interpretation of the results here: the only sluicing context in which *kah-* is allowed is a context in which a cleft might arguably underlie the ellipsis because the regular *wh*-question source is independently excluded. Thus, it seems that the paradigm in (23a-c) is compatible with the Invisible Last Resort scenario recently proposed by van Cranenbroeck (2010b) whereby clefts are only used as the derivational source for sluicing when the corresponding full *wh*-question is independently unavailable. However, the paradigm in (22a-c) shows that this is wrong. The scenario states that sluicing bears the same

grammaticality judgment as the cleft if the corresponding *wh*-question is ill-formed. Now, the *wh*-question in (22c) is ill-formed with the question particle. Then, the Invisible Last Resort Scenario predicts that the sluice in (22b) should have the same judgment as the cleft in (22a), contrary to facts. Thus, unless an alternative viewpoint is presented that accounts for the distribution of *-kah* in both (22a-c) and (23a-c), I maintain that the present test is inconclusive.

3.2 Indonesian-Internal Evidence for P-less Sluicing ≠ Elliptical Cleft

Having demonstrated that none of the diagnostics developed by Merchant and Fortin serves to clearly identify the syntactic source of P-less sluicing in Indonesian, an important question is whether there is any grammatical pattern, strictly internal to Indonesian, which unequivocally distinguishes sluice and cleft derivations for P-less sluicing. In this section, I provide five novel observations based on a) surface vs. deep anaphora (Hankamer and Sag 1976), b) sloppy identity, c) multiple antecedents, d) multiple sluicing, and e) P-stranding under pseudogapping, to bear on this question. These observations are used to argue that the derivational source of P-less sluices cannot be a cleft.

3.2.1 Surface Anaphora vs. Deep Anaphora

The first argument against the reduction of a P-less sluice to an elliptical cleft in Indonesian concerns the need for linguistic antecedents. Hankamer and Sag (1976) observe that sluicing requires a linguistic antecedent, on the basis of the contrast between (24) and (25).

(24) Hankamer: Someone's just been shot.
Sag: Yeah, I wonder who. (Hankamer and Sag 1976: 408)

(25) [Context: Hankamer produces a gun, points it off stage and fires, whereupon a scream is heard.]
Sag: # Jesus, I wonder who.

This dependence on a linguistic antecedent is also observed in P-less sluicing in Indonesian, as shown by the contrast between (26) and (27). Suppose here that Ali, Fatimah, and David are all college professors.

(26) Ali: David berteriak kepada salah satu mahasiswa-nya.
David yell to one.of student-his
'David is yelling at one of his students.'

a. Fatimah: Saya bertanya-tanya siapa hari ini.
I wonder-RED who day this
'I wonder who today.'

b. Fatimah: Saya bertanya-tanya siapa itu hari ini.
I wonder-RED who that day this
'I wonder who it is today.'

(27) [Context: Ali and Fatimah both hear David yelling at one of his students]

a. Fatimah: # Saya bertanya-tanya siapa hari ini.
I wonder-RED who day this
'I wonder who today.'

b. Fatimah: Saya bertanya-tanya siapa itu hari ini.
I wonder-RED who that day this
'I wonder who it is today.'

c. Fatimah: * Saya bertanya-tanya siapa yang David berteriak kepada hari ini.
I wonder-RED who COMP David yell to day this
'I wonder who David is yelling at today.'

When a linguistic antecedent is supplied, both P-less sluice and cleft replies are acceptable, as shown in (26a, b). The examples in (27a, b), on the other hand, show that behavior of the P-less sluice and cleft diverges when

no linguistic context is provided. That is, the two constructions differ with respect to whether they allow for pragmatic control. Now, if (27a) were indeed derived from (27b) simply by deletion of the expletive subject *itu* 'that', then we would expect no difference in pragmatic control between the two examples. An anonymous reviewer objects to this conclusion as follows. There are instances of ellipsis, such as VP Ellipsis (Hankamer and Sag 1976), which cannot be pragmatically controlled, but this fact itself does not tell us anything about their underlying derivation. Instead, the review continues, whether or not an elliptical construction can be pragmatically controlled is a question of recoverability, which is only indirectly related to the underlying derivation of the construction. I do not dispute this objection at all. However, the point here is not what the underlying syntactic source for P-less sluicing in Indonesian is a full-fledged *wh*-question, as the reviewer seems to take it, but whether the construction cannot result from an elliptical cleft. The result here shows that it cannot. Note that the logic used here is exactly the same as that Merchant used in his diagnostics; a particular phenomenon P is possible with sluicing but impossible with clefting and vice versa. Whenever the two constructions exhibit divergent results with respect to P, then sluicing cannot be derived from an underlying cleft. In the case at hand, P amounts to pragmatic control, with respect to which P-less sluices and clefts do differ. Thus, I maintain that the case can still be made from pragmatic control that P-less sluices are not the product of elliptical clefts in Indonesian.

3.2.2 Sloppy Identity Readings

The second argument against the cleft analysis of P-less sluices in Indonesian concerns sloppy identity readings under sluicing. Ross (1969) observes that sluicing in English allows both strict and sloppy readings, as shown in (28).

(28) I know how to say I'm sorry, and Bill knows how, too.

(Ross 1969, as cited in Takahashi (1994: 268))

The second conjunct in this example allows two readings: 1) Bill knows how to say I'm sorry (strict reading) and 2) Bill knows how to say Bill is sorry (sloppy reading). Now, the following examples show that P-less sluices, unlike clefts, allow sloppy reading, in Indonesian.

(29) Ali tidak ingat dengan siapa dia berdansa tapi David ingat siapa.
Ali NEG remember with who he dance but David remember who
'Ali doesn't remember with who he danced but David remembers who.'

(30) Ali tidak ingat dengan siapa dia berdansa tapi David ingat siapa itu.
Ali NEG remember with who he dance but David remember who that
'Ali doesn't remember with who he danced but David remembers who it was.'

The second conjunct in (29) allows both strict and sloppy readings: it can mean either that David remembers who Ali danced with (=strict reading) or that David remembers who David danced with (=sloppy reading). The second conjunct in (30), on the other hand, only allows the strict reading. Now, if the P-less sluice in (29) were derived from the cleft in (27), it would not be obvious how this difference comes about. An anonymous reviewer points out that this argument is complicated by the fact that sloppy identity reading is quite bad under sluicing in English. Thus, apart from Ross's example above, Merchant (2001: 8) mentions that "…it is very difficult to get the sloppy reading" in examples like (31a, b).

(31)a. Abby said she'd stop smoking tomorrow, but Beth wouldn't say when.
b. Alex said someone would visit him after Ben wondered who. (Merchant (2001: 8))

An anonymous reviewer takes this observation to indicate that the origin for the contrast between (29) and (30), and in particular the role played by the underlying structure, remains unclear. Again, I disagree. First, unlike English sluicing, my consultant's intuition as to the interpretive difference between (29) and

(30) is very strong; my consultant had no difficult whatsoever in getting the sloppy identity reading in (29) but rejected such a reading outright for (30). In fact, this relative ease with which sloppy reading obtains under sluicing is not an isolated quirk of Indonesian. Takahashi (1994) observes that sluicing in Japanese, which he argues to be the result of *wh*-movement followed by ellipsis, allows sloppy readings without any difficulty, unlike in English. For these reasons, I conclude that the interpretive contrast between (29) and (30) does speak against the cleft analysis of P-less sluicing in Indonesian.

3.2.3 Sluicing with Multiple Potential Antecedents

The third argument that P-less sluices do not have a cleft source in Indonesian comes from cases where the remnant *wh*-phrase has two potential antecedents. Consider examples (32a, b).

(32) Saya tahu seseorang dari Indonesia berdansa dengan seseorang dari Jepang tapi …
I know someone from Indonesia dance with someone from Japan but
'I know someone from Indonesia danced with someone from Japan, but …'

a. Saya tidak ingat siapa.
I NEG remember who
'I don't remember who.'

b. Saya tidak ingat siapa itu.
I NEG remember who that
'I don't remember who it was.'

The continuation in (32a) allows two readings. One reading is "I don't remember who the Indonesian dancing with someone from Japan was." The other reading is "I don't remember who the Japanese dancing with someone from Indonesia was." Crucially, this ambiguity does not obtain in the cleft-based continuation shown in (32b), which only allows the latter reading ("I don't remember who the Japanese dancing with someone from Indonesia was"). I am agnostic about the source for this contrast. However, the case can still

be made that any proposed attempt to reduce the P-less sluice entirely to a cleft is not tenable. Of course, as an anonymous reviewer points out, evidence here is perfectly compatible with the Last Resort Scenario discussed above. For the subject reading in (32a), there is a full *wh*-question source available, but for the object reading in (32b), there isn't (due to the ban on P-stranding), and that may well be when Indonesian resorts to an underlying cleft. However, the point here is that, if (32a) were derived from (32b) by simply deleting *itu* 'that', then (32a) should only have the object reading as (32b) has.

3.2.4 Multiple Sluicing

This and the next subsections provide two additional arguments, based on multiple sluicing and P-stranding in pseudogapping, that the syntactic source for P-less sluices in Indonesian is not a cleft but a full-fledged *wh*-question.[6]

One argument used in almost all of the literature (e.g., Rodriguez et al. 2009; Szczegielniak 2006, 2008; see also Van Craenenbroeck 2007) in favor of the cleft analysis of P-less sluicing concerns multiple sluicing. Many languages, including English (Bolinger 1978; Nishigauchi 1998; Lasnik 2006), Bulgarian (Richards1997) and Serbo-Croatian (Stjepanović 2003), allow multiple sluicing under a distributive interpretation. An example of multiple sluicing in English is shown in (33).

(33) I know that in each instance one of the girls got something from one of the boys. But which from which? (Bolinger 1978: 109)

Crucially, multiple sluicing is not available for P-less sluices in seemingly PSG-violating languages such as Spanish and Brazilian Portuguese, the reason being that clefts with multiple pivots tend to be uniformly excluded. For example, Spanish allow multiple sluicing with two nominal *wh*-remnants, as shown in (34).

[6] I am very grateful to an anonymous reviewer for suggesting this argument in defense of my position.

(34) Un estudiante ha leído un libro de Chomsky, pero no sé qué estudiante qué libro.
a student has read a book by Chomsky but NEG know what student what book
'A student has read a book by Chomsky but I don't know what student what book.'

(Rodriguez et al. 2009: 179)

However, multiple sluicing in Spanish does not tolerate P-stranding. The example in (35a) exemplifies the case where only one of the *wh*-remnants is a PP. The example in (35b) exemplifies the case where both *wh*-remnants are PPs. In both cases, no preposition can be omitted.

(35)a. Ella compró algo para alguien, pero no sé qué *(para) quién.
she bought something for someone but NEG know what for who
'She bought something for someone, but I don't know what for whom.'

b. Ella habló con alguien sobre algo, pero no sé *(con) quién *(sobre) qué.
she talked with someone about something but NEG know with who about what
'She talked with someone about something, but I don't know who about what.'

(Rodriguez et al. 2009: 179)

Rodriguez et al. argue that the impossibility of P-stranding is naturally expected under the cleft analysis of sluicing because pivots of clefts in Spanish cannot accommodate multiple constituents, as shown by the ungrammaticality of (36) (see Rodriguez et al. (2009: 180-183) for full details of the cleft analysis).

(36) * No recuerdo [qué chica] [qué restaurant] es la chica con la que ha cenado Juan.
NEG remember what girl what restaurant is the girl with the that has dined Juan
'I don't remember what girl in what restaurant Juan has dined with the girl.'

(Rodriguez et al. 2009: 179)

This ban against multiple P-stranding, thus, allows us to make one prediction for Indonesian P-less sluicing. If it is the cleft construction that underlies P-less sluicing in Indonesian, we predict that Indonesian should prohibit multiple P-stranding sluices, as in Spanish. If the full-fledged *wh*-question underlies the construction, then we predict that multiple sluicing should be fine with P-stranding. Consider examples (37-39).

(37) Saya sering sekali menyumbang barang-barang ke berbagai masjid di segala
I often very donate good-RED to various mosque in all

penjuru Amerika Serikat jadi saya tidak ingat apa, (ke) masjid yang mana.
corner America united so I NEG remember what to mosque which

'I very often donate goods to various mosques in all corners of the United States, so I don't remember what, (to) which mosque.'

(38)* Saya sering sekali menyumbang barang-barang ke berbagai masjid di segala
I often very donate good-RED to various mosque in all

penjuru Amerika Serikat jadi saya tidak ingat apa, (ke) masjid yang mana itu.
corner America united so I NEG remember what to mosque which that

'I very often donate goods to various mosques in all corners of the United States, so I don't remember what, (to) which mosque it is.'

The example in (37) illustrates the case where only one of the *wh*-phrases is a PP. This example shows that P-stranding is possible in Indonesian multiple sluicing. The example in (38) shows that a cleft

construction cannot accommodate more than one focused constituent, as in Spanish. The example in (39) illustrates the case where both *wh*-phrases are PPs. In this example, both prepositions can be omitted without any loss of grammaticality. Note that the cleft-based continuation with P-stranding is ungrammatical, as exemplified in (40).

(39) Saya sering sekali bicara dengan banyak orang-orang di berbagai masjid di segala
I often very talk with many person-RED in various mosque in all

penjuru America Serikat jadi saya tidak ingat (dengan) siapa, (di) masjid yang mana.
corner America united so I NEG remember with who in mosque which

'I very often talk with many people in various mosques in all corners of the United States, so I don't remember who in which mosque.'

(40)* Saya sering sekali bicara dengan banyak orang-orang di berbagai masjid di segala
I often very talk with many person-RED in various mosque in all

penjuru America Serikat jadi saya tidak ingat (dengan) siapa,(di) masjid yang mana itu.
corner America united so I NEG remember with who in mosque which that

'I very often talk with many people in various mosques in all corners of the United States, so I don't remember who in which mosque it is.'

The grammatical examples of multiple P-stranding under multiple sluicing in Indonesian thus constitutes evidence that the syntactic source for P-less sluicing in this language cannot be a cleft but a *wh*-question.

3.2.5 P-Stranding under Pseudogapping [7]

The fifth and final argument against the cleft-based analysis of P-less sluicing in Indonesian comes from P-stranding under pseudogapping (see section 4.4 for further discussion on this construction). Indonesian has rightward movement/extraposition of NPs and PPs, as shown in (41b) and (42b), respectively. The example in (43) illustrates that this rightward movement cannot strand a preposition.

(41)a. Fatimah harus mencium [$_{NP}$ seorang laki-laki yang kaya] hari ini.
Fatimah must kiss a man COMP rich day this
'Fatimah must kiss a rich man today.'

b. Fatimah harus mencium t_i hari ini [$_{NP}$ seorang laki-laki yang kaya]$_i$.
Fatimah must kiss day this a man COMP rich
'Fatimah must kiss today a rich man.'

(42)a. Fatimah harus berdansa [$_{PP}$ dengan seorang laki-laki yang kaya] hari ini.
Fatimah must dance with a man COMP rich day this
'Fatimah must dance with a rich man today.'

b. Fatimah harus berdansa t_i hari ini [$_{PP}$ dengan seorang laki-laki yang kaya]$_i$.
Fatimah must dance day this with a man COMP rich
'Fatimah must dance today with a rich man.'

(43) * Fatimah harus berdansa dengan t_i hari ini. [$_{NP}$ seorang laki-laki yang kaya]$_i$.
Fatimah must dance with day this a man COMP rich
'*Fatimah must dance with today a rich man.'

[7] I am very grateful to an anonymous reviewer for suggesting this argument in defense of my position.

Note that the example in (43) is compatible with the leftward movement analysis whereby the NP is moved out of the VP, followed by the remnant movement of the VP into a position higher than the landing site of the NP because leftward movement also cannot tolerate P-stranding, as we saw in (5a), (6a) and (7a). With this observation in mind, consider now how P-stranding plays out under pseudogapping in Indonesian. The grammaticality of (44) without the preposition *dengan* 'with' in the pseudogapped clause comes as a surprise since the rightward/leftward movement should not be able to strand a preposition.

(44)? Esti harus berdansa dengan Fernando tapi Fatimah bisa (dengan) Ali.
Esti must dance with Fernando but Fatimah can with Ali
'Esti must dance with Fernando, but Fatimah CAN (with) Ali.'

The argumentative import of this P-stranding is the following. Recall that the cleft analysis has been successfully applied to a number of ostensively PSG-violating languages such as Spanish and Brazilian Portuguese. However, this analysis is very much restricted to sluicing constructions and cannot be extended to pseudogapping, because it is not possible to construct a non-elliptical cleft-containing continuation of the example in (44). The *wh*-movement analysis, on the other hand, has an obvious advantage over the cleft analysis in that it can provide a unified account of P-stranding as applied to different types of ellipsis (sluicing and pseudogapping). I take this result as further argument against the cleft analysis of P-stranding sluices in Indonesian.

3.3 Other Potential Alternative Treatments of P-Stranding in Indonesian

In the previous section, I have presented arguments that P-less sluicing is not derived from a cleft in Indonesian. Does that lead us to the conclusion that Indonesian is a counterexample to the PSG? Not necessarily. We need to confirm that there is no other source for P-drop in P-less sluices in this language other than the extraction of the NP complement of a preposition via syntactic movement. Recent work has indeed presented two analyses resorting to resumption and PF P-drop. This is an important point because

these two analyses were proposed for Mandarin Chinese and Serbo-Croatian, languages which exhibit the same P-stranding profile as Indonesian, at least at a superficial level. Thus, in this section, I present evidence against these two analyses. Since these two options, together with the cleft analysis, exhaust all the analytical possibilities in the current literature concerning P-less sluicing that would save the PSG, I conclude that Indonesian presents a genuine problem for the PSG.

3.3.1 Resumption (Wang 2006)

Wang (2006) reports that Mandarin Chinese shows a P-omission pattern, as shown in (45a, b), which superficially contradicts the PSG.[8]

(45)a.* (shi) [na-ge ren]$_i$ Lisi gen t_i zai shuohua?
FOC/COP which-CL person Lisi with PROG talk
'Which one is Lisi talking with?'

b. Lisi gen mou-ge ren quwan, dan wo bu zhidao shi (gen) shei.
Lisi with certain-CL person go play but I NEG know FOC/COP with who
'Lisi has a trip with a certain person, but I don't know who.'

(Wang 2006: 9, 10)

Wang argues that the PSG can be maintained, even when faced with these examples, because P-omission under sluicing involves the generation of a resumptive pronoun, following *wh*-movement. This is evidenced by the availability of resumptive strategies in *wh*-questions and sluicing, as shown in (46a, b), respectively.

[8] It is not obvious whether Mandarin Chinese has *wh*-movement. The point here, however, is simply to illustrate Wang's analysis developed for this language and to see whether this can be applied to Indonesian P-stranding.

(46)a. [na-ge ren]$_i$ Lisi hen zihuan ta-t_i?
which- CL person Lisi very like him
'Which person does Lisi like (him) very much?'

b. keshi wo bu zhidao na-ge ren$_i$ <$_{TP}$Lisi gen ta-t_i qu kan dianying>
but I NEG know which- CL person Lisi with him go see movies
'..but I don't know which person (did) Lisi go to the movies with him.'

(Wang 2006: 10, 11)

This resumption analysis, however, cannot be transported to Indonesian since it would wrongly predict that Indonesian should also be able to make use of the resumptive pronoun strategy. Fortin (2007: 71) shows that Indonesian does not use resumptive pronouns, even under contexts where they have been generally considered to ameliorate island violations (Sells 1984). This point is illustrated in (47a-c).

(47)a. * Apa yang Ali jadi terlalu gemuk [$_{CP}$ karena dia makan *apa/pro*]?
what that Ali be too chubby because he/she eat what
'What$_i$ did Ali get fat because he ate t_i?'

b. * Apa yang Ali jadi terlalu gemuk [$_{CP}$ karena itu di-makan-*nya*]?
what that Ali be too chubby because it PASS-eat-he/she
'What$_i$ did Ali get fat because it$_i$ was eaten by him?'

c. * Apa yang Ali jadi terlalu gemuk [$_{CP}$ karena dia makan-*nya*]?
what that Ali be too chubby because he/she eat-it
'What$_i$ did Ali get fat because he ate it$_i$?'

(Fortin 2007: 71)

(47a) shows that *wh*-movement shows the adjunct island effect. (47b, c) are two failed attempts to insert a resumptive pronoun via the pronominal clitic *–nya* 'his, her, it'. The result here, therefore, suggests that the resumptive strategy cannot be the right approach to the P-stranding pattern in Indonesian.

3.3.2 P-Drop (Stjepanović 2008)

Stjepanović (2008) provides examples in (48a-c) to show that Serbo-Croatian presents a P-stranding pattern that ostensibly contradicts the PSG.[9]

(48)a. * Čega je Petar glasao protiv?
what.GEN is Petar voted against
'What did Petar vote against?'

b. Protiv čega je Petar glasao?
against what.GEN is Petar voted
'Against what did Petar vote?'

c. Petar je glasao protiv nečega, ali ne znam (protiv) čega.
Petar is voted against something but NEG I.know against what
'Petar voted against something, but I don't know what.'

(Stjepanović 2008: 181)

The contrast between (48a) and (48b) shows that the preposition *protiv* 'against' cannot be stranded under *wh*-movement but the grammaticality of the P-less sluice in (48c) indicates that Serbo-Croatian is problematic for the PSG. Stjepanović's main claim, however, is that this conclusion is not warranted

[9] See Stjepanović (pp.183-186) for convincing arguments against a cleft analysis of P-less sluices in Serbo-Croatian, which I will not review here.

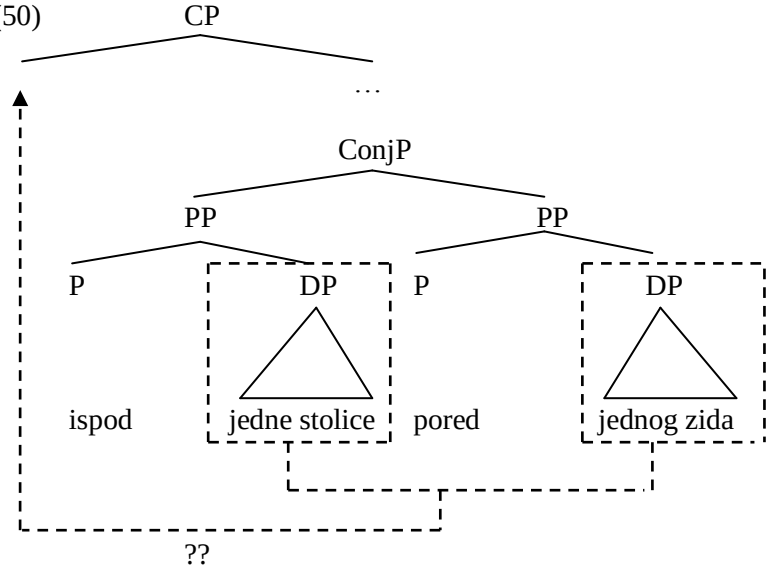
since there is independent evidence that P-omission under sluicing is not due to the movement of the complement DP of the preposition. To illustrate her claim, consider example (49).

(49) Petar je sakrio igračku ispod jedne stolice i pored jednog zida,
Petar is hidden toy under one chair.GEN and beside one wall
ali ne znam (ispod) koje stolice i (pored) kojeg zida.
but NEG I.know under which chair.GEN and beside which wall.GEN
'Petar hid the toy under a chair and beside a wall, but I don't know which chair and which wall.'

(Stjepanović 2008: 183)

This sentence can be interpreted as involving only one place (one which is under a chair *and* beside a wall) where Petar hid the toy. This is evidenced by the fact that the sentence in (49) can be followed by sentences like "Eh, I'd really like to know where that place is!", which is only compatible with a single-place interpretation. Now, if the remnant involves coordination of CPs, then the only interpretation available should be one where the remnant denotes two different places. The structure for the second clause of (49) under the "one-place reading" then will be as in (50).

(50)



This derivation involves extraction of two different *wh*-phrases into a single specifier of CP but such a derivation is impossible under any current theory of extraction. The grammaticality of the P-less option in (49), thus, clearly suggests that there is a different way to delete the preposition other than via *wh*-movement and stranding. Now that we know this P-drop exists independently of *wh*-movement in Serbo-Croatian, P-omission under sluicing in (48c) may well be reanalyzed in the same way. Accordingly, as the argument goes, the P-drop pattern in (48a-c) does not directly undermine the PSG. Stjepanović (p. 188) speculates that P-stranding in this language is "a post-syntactic phenomenon, occurring possibly at PF".

It is important to see whether this PF P-drop analysis can be extended to the analogous P-omission pattern in Indonesian.[10] Consider the following example, the Indonesian analogue of the example in (49).

(51) Ali menyembunyikan mainan itu di bawah meja dan di samping sofa,
Ali hide toy that under desk and beside couch
tapi saya tidak ingat (di bawah) meja yang mana dan(disamping) sofa yang mana.
but I NEG remember under desk which and beside sofa which
'Ali hid that toy under a desk and beside a couch, but I don't remember (under) which desk and (beside) which couch.'

As shown in (51), P-omission is acceptable in both conjuncts. Crucially, however, the only reading available here is one where Ali hid his toy once under a desk and once beside a couch. Thus, this sentence cannot be followed by another sentence like "Eh, I really want to know where that place is!" This result, therefore, suggests that there is no independent evidence that P-omission under sluicing is due to PF-drop in Indonesian as it is in Serbo-Croatian.

[10] I thank an anonymous reviewer for directing my attention to this test.

Can we save this P-drop analysis by saying that it occurs within the syntax? The answer is negative since it would then be unclear why P-omission is blocked with the fronted *wh*-phrase in the derivation of (52) below, where the whole PP is fronted and the P undergoes subsequent deletion within the syntax.

(52) $[_{PP}$ * (Dengan) siapa]$_i$ kamu berdansa t_i? (cf. (5a, b))
with who you dance
'Whom did you dance?'

To the best of my knowledge, there is no other alternative treatment in the literature that could deal with P-omission other than the PF/syntactic P-drop and the resumption strategies discussed in this subsection. Therefore, unless other independent strategies are presented, it seems safe to conclude that P-stranding under sluicing in Indonesian is caused by the syntactic movement of a *wh*-phrase followed by TP deletion, as originally proposed by Merchant (2001).

4 P-Stranding under Sluicing in Indonesian and Repair by Ellipsis

In this section, I propose a novel analysis of the P-stranding pattern in Indonesian that draws on a few independently motivated assumptions. The most crucial idea pursued below is that certain imperfections created by the syntactic derivation can be ameliorated by deleting the offending part of the syntactic derivation. This idea of "repair by ellipsis" goes back to Ross' (1969) global-analysis of the ameliorating effect of deletion on subjacency-violating movements and has been resurrected in recent minimalist research on the syntax-phonology interface by Merchant (2001), Lasnik (1999a, 2001, 2005), Fox and Lasnik (2003) and Boeckx and Lasnik (2006). The proposed analysis indicates that the post-syntactic phonological component does whatever it can to save an otherwise illicit syntactic object within the narrow range of options permitted by the interaction of universal principles and parametrically defined options available in a particular language.

4.1 *Wh*-Feature Percolation Parameter

In answering a criticism raised by Postal (1972), Chomsky (1972) proposes that there is an optional percolation of the [+wh] feature of the interrogative element onto its dominating PP in English. Postal observes that, if movement is successive-cyclic, a preposition should be able to be stranded in any one of the specifiers of intermediate CPs. This prediction is wrong, as shown in (53d, e).

(53)a. I believe Mary thinks Joan talked to someone.

b. **Who** do you believe Mary thinks Joan talked **to**?

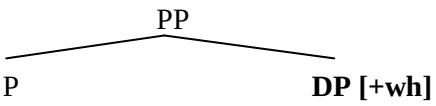
c. **To whom** do you believe Mary thinks Joan talked?

d. * **Who/Whom** do you believe **to** Mary thinks Joan talked?

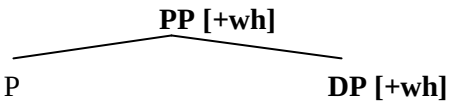
e. * **Who/Whom** do you believe Mary thinks **to** Joan talked? (Postal 1972: 213)

The generalization here is that prepositions in English must either be stranded in situ or pied-pied into the specifier of the matrix CP. Chomsky suggests that this generalization naturally falls out if the [+wh] feature of the interrogative DP *can* percolate onto its dominating PP in English. One way to implement Chomsky's suggestion is shown in (54a, b).

(54)a. No Percolation



b. Percolation as Copying



I assume that the percolation of the *wh*-feature is technically analyzed as copying as seen in (54b). When the [+wh] feature does not percolate as in (54a), the closest element with a *wh*-feature to the interrogative C is the DP. This derivation yields the P-stranding structure illustrated in (53b). When the feature does percolate as in (54b), it is now the PP that is closest to, and hence attracted by, the C. This derivation, thus, yields the pied-piping structure illustrated in (53c). Notice, crucially, that under this

percolation analysis, there is no way in which the preposition can be stranded in intermediate CPs because the decision as to whether the feature is percolated or not is made when the derivation constructs the PP in a bottom-up fashion. Once it percolates, the syntax automatically demands that the PP move as a whole. If it does not, the syntax demands that the *wh*-phrase itself be carried onto the specifier of the matrix CP. Under the "movement + TP deletion" analysis of sluicing laid out in Merchant, the P-less variant of (3c), for example, is derived when the derivation does not involve percolation of the *wh*-feature and undergoes TP deletion at PF. The pied-piped variant of (3c), on the other hand, results if percolation takes place, followed by TP deletion.

The notion of *optionality for percolation* needs some clarification. I am giving English the optional value for the *wh*-feature percolation to capture its general tendency for which the majority of (particular uses of) prepositions are strandable. It is well-known, however, that certain prepositions do resist P-stranding under *wh*-movement, at least in certain cases like the following.

(55) a. Under what circumstances will we use force?

b. * What circumstances will we use force under? (Chung et al. 1995: 273)

(56) a. In what sense is this theory right?

b. * What sense is this theory right in? (Chung et al. 1995: 273)

I assume that the possibility of percolation is an idiosyncratic property of each preposition that does not follow from any structural principle. Thus, prepositions such as *under* and *in* as used in (55, 56), as their lexical property, force percolation of the *wh*-feature of its complement NP whereas prepositions such as *with* in (3a-c) do not. That the factor governing the feature percolation is idiosyncratic is evidenced by the fact that, even for generally strandable items, there is variation among speakers of English I have polled with respect to P-stranding. I will come back to this issue and its significance for my analysis of P-less sluicing in section 4.3.

Now, the fact that Indonesian prohibits P-stranding under *wh*-movement as shown in (5a), (6a) and (7a) falls out straightforwardly. Lasnik (2005) proposes that the [+wh] feature percolation is prametrized, namely, that the *wh*-feature CAN/MUST percolate in a language. Suppose now that Indonesian selects the obligatory value for this parameter. Then, the closest element to be moved to C is always the PP, as shown in (54b). The movement of a *wh*-phrase, which strands the preposition, is impossible because it violates the A-over-A type/superiority constraint. The examples in (57a, b) shows that this constraint is active in Indonesian.

(57)a.	Saya	bertanya-tanya	siapa	yang	beli	apa	kemarin.
	I	wonder-RED	who	FOC	buy	what	yesterday
	'I wonder who bought what yesterday.'						
b. *	Saya	bertanya-tanya	apa	yang	siapa	beli.	
	I	wonder-RED	what	FOC	who	buy	
	'*I wonder what who bought.'						

The question, then, becomes why Indonesian allows P-stranding exceptionally under sluicing.

4.2 Failure of Percolation and Repair by Ellipsis

My analysis for the P-stranding under sluicing adopts the "repair by ellipsis" idea first proposed by Ross (1969). Ross observes that sluicing ameliorates island-violations that would otherwise yield ungrammatical sentences. Some examples from Ross are given in (58, 59) with his own judgments indicated.

(58) The Complex NP Constraint

a. * She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends she kissed a man who bit.

b. ? She kissed a man who bit one of his friends, but Tom doesn't realize which one of my friends.

(Ross 1969: 276)

(59) The Sentential Subject Constraint

a. * That he'll hire someone is possible, but I won't divulge who that he'll hire is possible.

b. ?? That he'll hire someone is possible, but I won't divulge who.

(Ross 1969: 277)

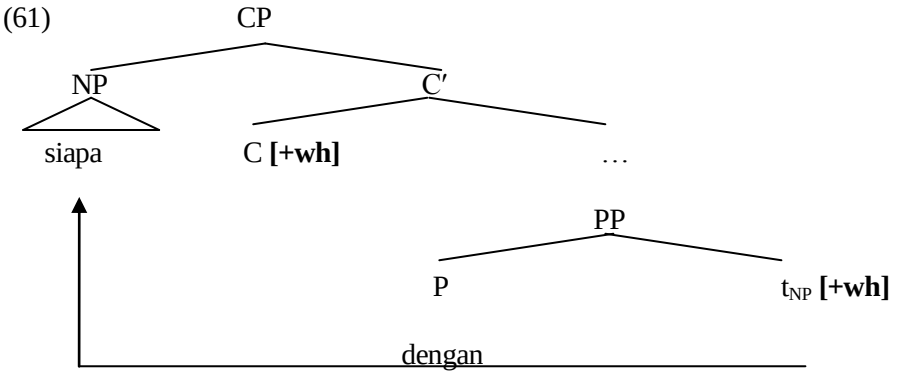
Based on this observation, Ross argues for the necessity of transderivational comparison, as stated in (60).

(60) If a node is moved out of its island, an ungrammatical sentence will result. If the island-forming node does not appear in surface structure, violations of lesser severity will (in general) result. (Ross 1969: 277)

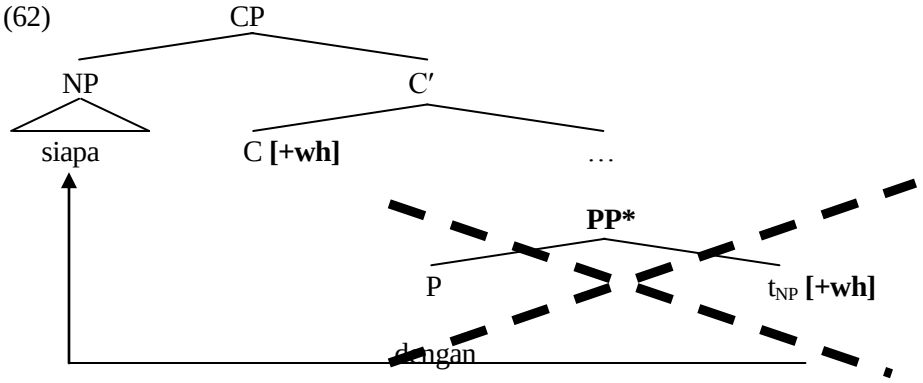
Recent research on sluicing (e.g. Lasnik 1999a, 2001, Fox and Lasnik 2003, Boeckx and Lasnik 2006) treat sluiced versions as in (58b) and (59b) as perfect rather than marginal. Following Chomsky (1972), Merchant (2001) updates Ross's proposal in PF terms. Specifically, TP deletion ameliorates certain island violations because they constitute PF islands; (58b) and (59b) become grammatical because the violation is nullified at PF by deleting the structure that encodes such a violation.

With this idea of repair by ellipsis in mind, consider now why Indonesian allows P-stranding under sluicing. The schematic derivations for (5a) and (5c) are shown in (61) and (62), respectively.

(61)



(62)



Let us propose that what is repaired in the present case is *a failure of the [+wh] feature to percolate at the PP level* and that a representational PF constraint to verify the percolation will rule out the offending PP.[11] If the offending PP persists at PF, the constraint is violated, and the ungrammatical sentence in (5a) results. If the offending PP is deleted at the interface, on the other hand, the representational constraint has nothing to apply to. Thus, the failure of percolation is repaired, and the grammatical P-less sluice in (5c) results. As stated in note 3, there is a type of language predicted not to exist by Merchant's (2001) theory of sluicing as *wh*-movement + TP deletion, namely, languages that allow P-stranding under regular *wh*-movement but disallow this option under sluicing. I maintain that this type of language is systematically excluded as a grammatical option if TP-ellipsis is a universally available option unless otherwise blocked. Under my proposed analysis, the availability of P-stranding under *wh*-movement means that the [+wh] feature

[11] Many thanks to Heidi Harley for suggesting this analysis.

percolation/copying onto the PP is optional, as in English. If TP ellipsis (together with movement) is permitted as part of Universal Grammar, then it follows that languages with the optional percolation should also allow P-stranding under sluicing (non-percolation + movement + TP ellipsis).

4.3 Repair by Ellipsis in English

Recall now, from section 4.1, that there are certain (uses of) prepositions that resist P-stranding under regular *wh*-movement, even in English, as shown in (55a, b) and (56a, b). I analyzed this prohibition earlier by assuming that as their lexical property, they select the obligatory value for the feature percolation parameter. My proposed analysis, therefore, makes an interesting prediction in these cases, namely, that the prepositions which are not strandable under regular *wh*-movement should be able to be strandable under sluicing. This prediction is indeed borne out, as first observed by Rosen (1976). The examples in point are shown in (63a, b).

(63)a. We are willing to use force under certain circumstances, but we will not say in advance which ones.

b. This theory is surely right in some sense; it's just not clear which (what) exactly.

(Chung et al. 1995: 273)

For this pattern to be conclusive evidence for my analysis drawing on "repair by ellipsis", however, we need to show that the cleft analysis is not an option for English P-less sluices. Van Craenenbroeck (2004: 122; 2010a: 115-116) argues for such an analysis. Specifically, he argues that P-less sluices as in (64a, b) are not derived from *wh*-questions, but rather from an underlying cleft, as shown in (65a, b).

(64)a. Pat slept in a car in some city, but I don't know which city.

b. Terry got married against someone's wishes, but I don't know whose.

(Van Craenenbroeck 2007: 9)

(65)a. Pat slept in a car in some city, but I don't know which city < ~~it was~~>.

b. Terry got married against someone's wishes, but I don't know whose <~~it was~~>.

(Van Craenenbroeck 2007: 9)

Supporting evidence for the cleft analysis comes from his observation that piped-piping of certain prepositions under sluicing shows the same degradation as found in clefts. This is illustrated in (66-67). Note that such degradation is not observed with the corresponding full-fledged *wh*-questions, as shown in (68a, b).

(66)a. ?? Pat slept in a car in some city, but I don't know in which city.

b. ?* Terry got married against someone's wishes, but I don't know against whose wishes.

(Van Craenenbroeck 2007: 9)

(67)a. ?? Pat slept in a car in some city, but I don't know in which city it was.

b. ?* Terry got married against someone's wishes, but I don't know against whose wishes it was.

(Van Craenenbroeck 2007: 9)

(68)a. In which city did you sleep in a car?

b. Against whose wishes did he get married? (Van Craenenbroeck 2007: 9)

It is interesting to observe, however, that (66a, b) can be improved in a way that does *not* work for (67a, b).[12] If focal stress is put on the indefinite NP and then the *wh*-phrase in each conjunct, (66a, b) are deemed acceptable, as shown in (69a, b), just as (68a, b). The equivalent does not work, however, for (67a, b); the combination of focal stress and the 'it was' cleft part sounds very odd, as shown in (70a, b).

[12] I thank Heidi Harley (personal communication, January 2011) for this observation.

(69)a. Pat slept in a car in SOME city, but I don't know in WHICH city

b. Terry got married against SOMEONE's wishes, but I don't know against WHOSE wishes.

(70)a. ??*Pat slept in a car in SOME city, but I don't know in WHICH city it was.

b.?* Terry got married against SOMEONE's wishes, but I don't know against WHOSE wishes it was.

When the stress contour is set up in the way suggested here, then the sluicing with PPs patterns together with full *wh*-questions rather than clefts. Thus, the paradigm in (66-68) is inconclusive at best concerning the derivational source of sluicing with PPs.

In fact, when we apply three tests of Merchant's ten diagnostics to the construction in point, the results show that P-less sluices in English are not derived from cleft sources. Consider examples (71-73).[13]

(71) Prosody

a. Pat slept in a car in some city, but I don't know WHICH city.

b. Pat slept in a car in some city, but I don't know which CITY it WAS.

c. * Pat slept in a car in some city, but I don't know WHICH city it was.

(72) 'Mention-*some'* Modification

A. Pat slept in a car in several cities.

B. a. Which cities, for example?

b. * Which cities were they, for example?

(73) *Else*-Modification

a. Pat slept in a car in Boston, but I don't know where else.

[13] I thank David Medeiros (personal communication, January 2011) for the examples and judgments in (71-73).

b. * Pat slept in a car in Boston, but I don't know where else it was.

First of all, in (71a), the highest pitch accent falls on *which*. In (71b), the accent falls instead either on *city* or *was*, but not on *which* (71c). If the P-less sluice in (71a) were derived from the cleft source in (71b), the difference in the primary accent position would remain unaccounted for. Second, the contrast in (72Ba, b) shows that the P-less sluice is compatible with the non-exhaustive modifier *for example*, but the cleft is not. Third, the *else*-modification test gives the same results as the 'mention-*some'* modification test. These results, thus, show that the cleft analysis proposed by Van Craenenbroeck (2004: 2010a) is not the option for P-less sluicing in English. Accordingly, the possible stranding of otherwise unstrandable prepositions under sluicing as in (63a, b) provides further evidence for my analysis.

4.4 New Predictions: P-Stranding under Pseudogapping in Indonesian

My PF repair-based analysis makes an important prediction in a different arena than sluicing proper. If the P-stranding violation is repaired at PF by deleting the offending PP structure, the deletion of a constituent smaller than TP but larger than PP should also save the violation. Pseudogapping constructions provide a crucial testing ground for this prediction for the following reason; as is well-known, the presence of an auxiliary before the pseudogapping site is a signature property of this construction that distinguishes it from gapping (Levin 1979/1986). Recent work on this construction (Jayaseelan 1990; Lasnik 1999a; Takahashi 2004; Merchant 2008) has argued that the derivation of this construction involves ellipsis (specifically of VP or Voice P) at PF. Therefore, to the extent that the PF deletion analysis is correct, then the presence of an auxiliary indicates that the amount of structure elided in this construction is smaller than TP, the head of which is occupied by the auxiliary. In this section, I provide evidence that the prediction above is fulfilled by P-stranding under pseudogapping in Indonesian.

One could think of two lines of analysis for pseudogapping in Indonesian (cf., section 3.2.5) on the basis of the previous studies on equivalent constructions in more familiar languages like English, as in (74a). One line of analysis (Jayaseelan 1990) suggests that remnants/focused constituents in

pseudogapping undergo rightward movement out of the VP, followed by the ellipsis of the VP, as shown in (74b). Jayaseelan identifies the movement in question as *Heavy NP Shift*. The other line of analysis (Lasnik 1999a, b) suggests that the movement responsible for the remnant is Object Shift, a case of leftward movement, as shown in (74c).

(74)a. Mary will select George, and Sue will John.

b. $[_{VP}\ [_{VP}$ select $t_i]$ $John_i]]$ → $[_{VP}$ ~~$[_{VP}$ select $t_i]$~~ $John_i]]$ (rightward movement + VP ellipsis)

c. $[_{AgrOP}\ John_i\ [_{VP}$ select $t_i]]$ → $[_{AgrOP}\ John_i$ ~~$[_{VP}$ select $t_i]$~~$]$ (leftward movement + VP ellipsis)

As we saw in section 3.2.5, Indonesian has the rightward movement of NPs and PPs and P-stranding is not tolerated under this context. The relevant examples in (41-43) are repeated here as (75-77).

(75)a. Fatimah harus mencium $[_{NP}$ seorang laki-laki yang kaya] hari ini.
Fatimah must kiss a man COMP rich day this
'Fatimah must kiss a rich man today.'

b. Fatimah harus mencium hari ini $[_{NP}$ seorang laki-laki yang kaya].
Fatimah must kiss day this a man COMP rich
'Fatimah must kiss today a rich man.'

(76)a. Fatimah harus berdansa $[_{PP}$ dengan seorang laki-laki yang kaya] hari ini.
Fatimah must dance with a man COMP rich day this
'Fatimah must dance with a rich man today.'

b. Fatimah harus berdansa t_i hari ini $[_{PP}$ dengan seorang laki-laki yang $kaya]_i$.
Fatimah must dance day this with a man COMP rich
'Fatimah must dance today with a rich man.'

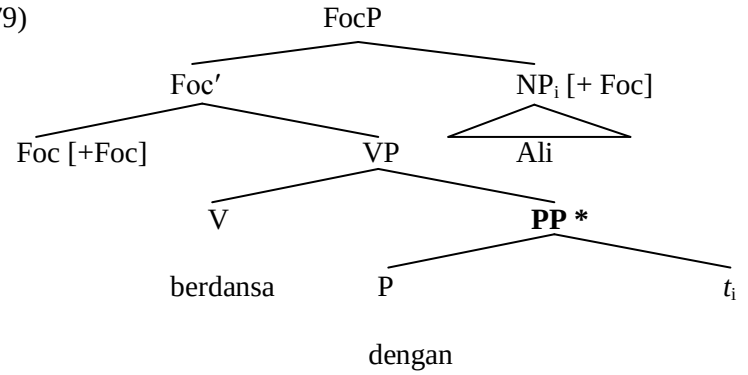
(77) * Fatimah harus berdansa dengan t_i hari ini. $[_{NP}$ seorang laki-laki yang kaya$]_i$.
Fatimah must dance with day this a man COMP rich
'*Fatimah must dance with today a rich man.'

Recall also that leftward movement also cannot leave a preposition behind, as illustrated earlier in (5a)/(6a)/(7a). Thus, in Indonesian, no overt movement, leftward or rightward, strands a preposition. Accordingly, the predictions of the two analyses are the same with respect to P-stranding under pseudogapping. In this paper, I adopt the Jayseelan-type rightward movement analysis for Indonesian pseudogapping simply for convenience's sake, though the Lasnik-type leftward movement analysis would also do. Now, let us revisit the grammaticality of (44), repeated here as (78). The P-stranding possibility here is unexpected because Indonesian prohibits P-stranding either under rightward or leftward movement.

(78)? Esti harus berdansa dengan Fernando tapi Fatimah bisa (dengan) Ali.
Esti must dance with Fernando but Fatimah can with Ali
'Esti must dance with Fernando but Fatimah can (with) Ali.'

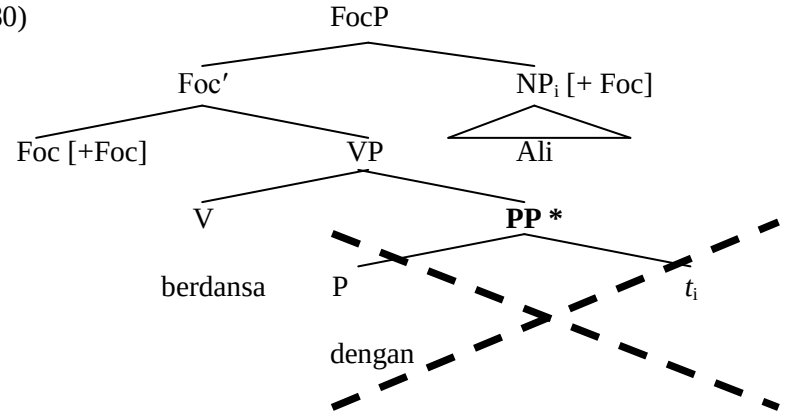
This apparently special P-stranding pattern, however, naturally falls into place under the idea of "repair by ellipsis". Suppose that the focused NP constituent under pseudogapping is marked with the [+Foc] feature and is moved to the specifier of the VP-peripheral focus projection and that this feature is obligatorily percolated onto the dominating PP in Indonesian, just like the [+wh] feature. Then, the derivation shown in (79) for (77) is filtered out at PF since the offending PP remains unaffected.

(79)



Now, compare this derivation with that shown in (80) for the P-less pseudogapping in (78).

(80)



In this derivation, the PP records the violation caused by the failure of the percolation of the [+Foc] feature. However, VP deletion at PF removes the offending configuration. This repair, thus, accounts for the otherwise mysterious behavior of the P-less pseudogapping. The contrast between (77) and (78), therefore, provides independent empirical support for my analysis based on "repair by ellipsis."

5 P-Stranding under Sluicing across Languages: A Case Study with French and German

In this section, I discuss P-stranding under *wh*-questions and sluicing in French and German. Merchant (2001: 94, 98) observes, based on the following examples, that neither French nor German allows P-stranding under *wh*-questions or sluicing.[14]

(81) a.* Qui est-ce qu' elle l'a offert à ? (= 4a)
who Q she it-has offered to
'Whom has she offered it to?'

b. À qui l'a-t-elle offert? (= 4b)
to whom it-has-she offered
'To whom has she offered it?

c. Anne l'a offert à quelqu'un, mais je ne sais pas *(à) qui. (= 4c)
Anne it-has offered to someone but I NEG know NEG to whom
'Anne has offered it to someone, but I don't know (to) whom.'

((81a, c) from Merchant (2001: 98))

(82)a.* Wem hat sie mit gesprochen?
Who has she with spoken
'Who has she spoken with?'

b. Mit wem hat sie gesprochen?
With who has she spoken
'With whom has she spoken?'

[14] Merchant (2001: 94, 98) notes that all the three speakers he polled rejected (81c) without the preposition whereas the judgment indicated for the German example in (82c) without the preposition was 'uniform across speakers and sessions.'

c. Anna hat mit jemandem gesprochen, aber ich weiß nicht, *(mit) wem.
Anna has with someone spoken but I know NEG with who
'Anna has spoken with someone, but I don't know with who.'

((72a, c) from Merchant (2001: 94))

As an anonymous reviewer points out, Rodriguez et al. (2009) report, contrary to Merchant (2001) (however, see Merchant (2001: 98, note 7)), that French does allow what on the surface looks like PSG-violations, as shown in (83a-c).

(83)a. * Qui tu as dansé avec?
who you have danced with
'Who have you danced with?'

b. Avec qui tu as dansé ?
with who you have danced
'With who have you danced?'

c. ? Jean a dansé avec quelqu'un, mais je ne sais pas qui.
Jean has danced with someone, but I NEG know NEG who
'Jean has danced with someone, but I don't know who.'

((83a, c) from Rodriguez et al. 2009: Appendix)

Rodriguez et al. suggest a cleft analysis whereby the P-less sluice comes from the underlying cleft that does not involve P-stranding. (84) shows that French independently has a cleft option for P-less sluices. The P-less sluice can then be derived from (84) by deleting the copula *c'était* 'it.was'.

(84) Jean a dansé avec une des filles, mais je ne sais pas laquelle ~~c'était.~~
Jean has danced with one of.the girls but I NEG know NEG which it.was
'Jean has danced with one of the girls, but I don't know which (it was).'

In this paper, I will be concerned only with the grammar of those French speakers who do not accept the P-stranding option in French, as originally reported by Merchant (2001), and leave aside a detailed examination of the cleft analysis for P-less sluices explored by Rodriguez et al.[15]

5.1 *D-P Coalescence, D-to-P Incorporation, and the Syntactic Head Movement*

It is well-known that, in French and German, a preposition sometimes coalesces with an article into a suppletive form. Consider the following examples from French and German.

[15] To the best of my knowledge, besides Indonesian, French, Brazilian Portuguese, Spanish, Mandarin Chinese, and Serbo-Croatian, several other languages have also been reported in the literature whose P-stranding patterns under *wh*-questions and sluicing (at least superficially) contradict the PSG. For example, Szczegielniak (2006) observes that the P-stranding pattern in Polish and Russian is more complicated than what the PSG predicts. He shows that the P-less sluice is grammatical only with D-linked *wh*-phrases and proposes a cleft analysis for this type of sluice. In his unpublished manuscript, Tanaka (2007) also discusses an important observation that the judgments reported by Merchant (2001) for P-stranding in Greek and Polish lack agreement among his native consultants of these languages. In fact, Merchant (2001: 98-102) himself has a detailed discussion of the cross-linguistic observation that languages with little or no morphological case marking tend to be problematic for the PSG and admits that a huge divergence exists even among his own consultants concerning the acceptability of P-less sluices in languages like Italian and Hebrew that uniformly prohibit P-stranding under *wh*-questions. Thus, it is only in 12 out of 18 non-P-stranding languages that Merchant reports the P-less sluice as totally ungrammatical. His reported judgments in the rest of the languages vary dramatically. This indicates that TP deletion may improve an otherwise illegal P-stranding violation at least to a certain degree. Discussing these intricacies about the data in the languages mentioned here is far beyond the scope of this paper, and I leave detailed examination of it to researchers specializing in the syntax of each language. I thank an anonymous reviewer for directing my attention to Tanaka (2007).

(85) a. Jean a parlé **du** sujet le plus difficile.

Jean has talked about-the subject the most difficult

'John talked about the most difficult subject.'

b. Suppletive forms:

au = à le, aux = à les, 'to the'; auquel = à lequel, auxquels = à lesquels 'to the which',du = de le, des = de les 'of the'; duquel = de lequel, desquels = de lesquels 'of the which'

(French: Law 2006: 646)

(86)a. Hans war **am** Schalter.

Hans was at-the counter

'Hans was by the counter.'

b. Suppletive forms:

am = an dem 'at/by the.MASC/Neuter.DAT'; ans = an das 'at/by the.Neuter.ACC'; aufs = auf das 'on the.Neuter.ACC'; auf'n = auf den 'on the.ACC'; auf'm = auf dem 'on the.DAT'; aus'm = aus dem 'out of the.DAT'; beim = be idem 'at the.DAT'; durchs = durch das 'through the.Neuter.ACC'; durch'n = durch den 'through the.MASC.ACC'; für'n = für den 'for the.MASC.ACC'; fürs = für das 'for the.Neuter.ACC'; im = in dem 'in the.DAT', ins = in das 'in the.Neuter.ACC'; mit'm = mit einem/dem 'with a/the.DAT'; seit'm = seit dem 'since the.DAT'; übers = über das 'about the.Neuter.ACC'; vom = von dem 'from the.DAT'; vorm = vor dem 'before the.DAT'; zur = zu der 'to the.FEM.DAT'; zum = zu dem 'to the.MASC/Neuter.DAT'.

(German: Law 2006: 646)

In (85a), the determiner *le* coalesces with its preceding preposition *de* into the suppletive *du*. Similarly, in (86a), the determiner *dem* coalesces with its preceding preposition *an* to yield the suppletive *am*.

Law (1998: 22; 2006: 647) and van Riemsdijk (1998: 651-667) propose that D-P coalescence is syntactically conditioned. Law's specific constraint to this effect is seen in (87).

(87) Syntactic Constraint on Suppletion (Law 1998: 22; Law 2006: 647)

Elements undergoing suppletive rules must form a syntactic unit X^0.

This constraint essentially states that determiners must incorporate in the syntax into their governing prepositions to be reanalyzed in the morphology as a suppletive element. As an anonymous reviewer points out, coalescence only holds true for the two prepositions *de* and *à* in French: the overwhelmingly vast majority of prepositions are free from following determiners. However, the condition in (87) does not mean that a suppletive form must exist in every case where a determiner incorporates into its preceding preposition. It is unlikely that general syntactic operations such as incorporation widespread across languages (Baker 1988) are constrained by this kind of language-specific gap. Furthermore, as shown in (86b), German has an extensive list of P-D combinations that undergo suppletion. For these reasons, I assume, following Law (2006: 647), that D-to-P incorporation occurs across the board in these two languages, irrespective of whether the effects of the incorporation are recognized transparently as in German (see van Riemsdijk 1998 for an extensive discussion on this point) or somewhat opaquely as in French. The effects are simply due to language-specific, syntax-external morphological idiosyncrasies.

Law and van Riemsdijk provide evidence that something like (87) is a necessary condition that must be satisfied in the syntax for coalescence to occur in the morphology. Consider (88) and (89a, b).

(88) Je lui ai demandé [$_{CP}$ **de le** **/*du** lire].
I him have asked to it/to-it read
'I asked him to read it.'

(89)a. **von** [$_{DP}$ [$_{D}$e] [$_{AP}$ **dem** König true ergeben] [$_{N}$ Dienern]]
of the.DAT king faithfully devoted servant
'of the servant that is faithfully devoted to the king'

b. *	**vom**	König	true	ergeben	Dienern
	of-the.DAT	king	faithfully	devoted	servant

'of the servant that is faithfully devoted to the king' (van Riemsdijk 1998: 655)

(88) illustrates that coalescence cannot occur between the prepositional-complementizer and the object clitic which is attached to the verb. The impossibility of coalescence here is what we expect under (87) because the incorporation of the clitic of the verb into the C head would constitute an instance of ex-corporation, which is generally considered to be impossible. On the other hand, if D-P coalescence were conditioned in purely phonological terms such as linear adjacency, it would be unclear why it is blocked in this example. The data in (89a, b) from German make the same case. In (89a), the preposition *von* 'of' selects the DP complement. Within this complement, the adjective *ergebenen* 'devoted' governs the dative DP complement *dem König* 'the king' to its left. If phonological adjacency were the only condition for D-P coalescence in German, we would predict that the contraction of *von* and *dem* would yield *vom*. This prediction, however, is incorrect, as shown in (89b). On the other hand, the failure of coalescence here naturally falls into place if we assume independently syntactic constraints such as Head Movement Constraint are in play. More specifically, the Head Movement Constraint correctly blocks the movement of the D from within the DP, crossing the AP that contains the DP and the DP that contains the AP. The examples in (88) and (89a, b), thus, support the view that D-P coalescence has its source in the syntax, even though its effects may be realized only in the morphology in the form of suppletion.

An anonymous reviewer suspects that all the data mentioned here may be accounted for within the framework of Distributed Morphology (Halle and Marantz 1993; Bobaljik 1995) without requiring the actual syntactic head movement. For example, Bobaljik (1995) argues that inflections under T undergo Morphological Merger with verbs in PF under weak adjacency. According to Bobaljik's analysis, the verb in (90a) is derived as shown in (90b) through the post-syntactic Merger of the tense inflection and the verb.

(90)a. John quickly bought the book.

b. [$_{TP}$ John T [$_{VP}$ quickly buy + PAST the book]

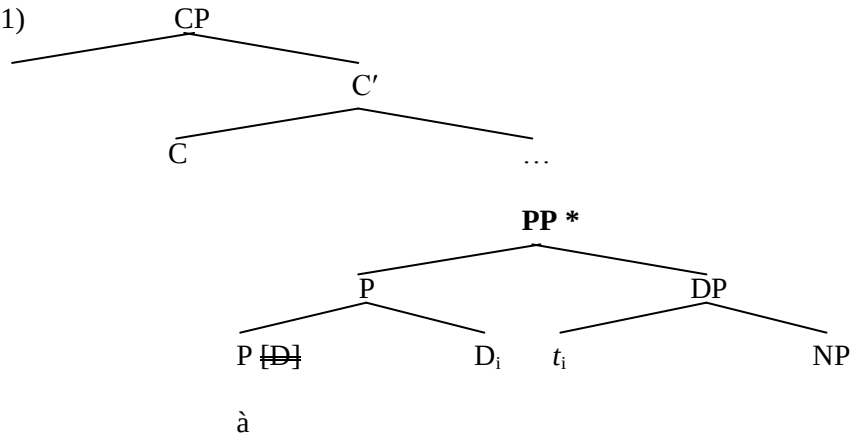
morphological merger/lowering

I do not adopt this PF merger analysis because it is not clear how the coalescence is blocked in (88) and (89a, b) if the morphological merger were conditioned only under adjacency: in these cases, the preposition is linearly adjacent with the determiner but the morphological merger is still blocked.

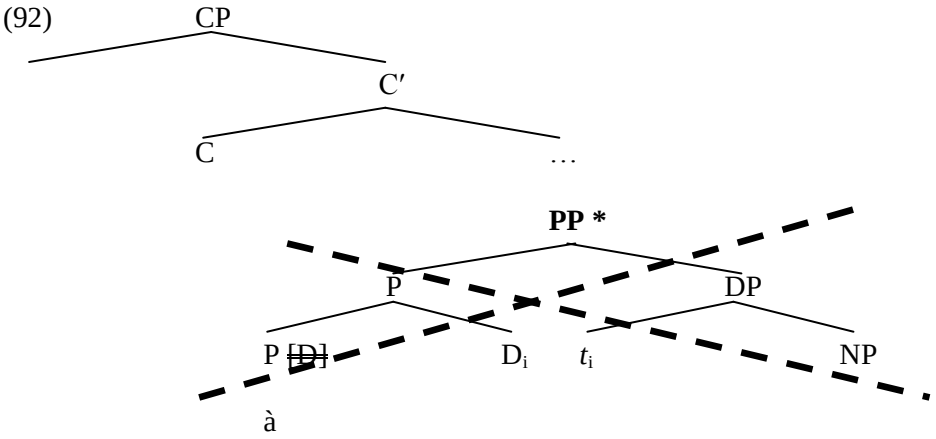
5.2 "*Irreparable" Computational Violations*

Let us now consider why P-stranding is not allowed under either *wh*-questions or sluicing in both French and German. The derivations for (81a) and the P-less version of (81c) are shown in (91) and (92), respectively.

(91)



(92)



(91) is a partial syntactic derivation for the P-stranding case under *wh*-movement. Let us assume that D-to-P incorporation is triggered by the strong D-feature of the attracting P head.[16] After this incorporation, the D and its erstwhile complement NP do not form a syntactic constituent. Thus, the extraction of the NP complement of P becomes impossible. Notice that the P-stranding pattern could potentially be derived if the incorporated D underwent excorporation to be attracted by the C head. However, this possibility is blocked; the excorporation would cause an Empty Category Principle-type violation (Chomsky 1986) because the trace of the excorporating element could not be licensed. An anonymous reviewer asks whether Law's theory can be captured under the more recent Copy Theory of Movement adopted in the current minimalist framework (Chomsky 1995). As is clear from the derivation in (92), Law's theory crucially depends on Trace Theory; as the moved head leaves a trace, the DP does not contain the D after incorporation. As a result, D and NP cannot move together, causing the P-stranding ban in French and German. Once the Copy Theory of Movement is adopted, however, it is not immediately obvious that this analysis is tenable since, at least in the syntax, the copy of D and NP do form a constituent which is accessible for movement. I propose that Law's analysis can be maintained essentially intact even under the Copy Theory of Movement. It is generally assumed that movement leaves a copy only in a position that c-commands its immediately lower copy due to the uniformly bottom-up nature of the

[16] I assume here that the D-feature on P is parameterized across languages in terms of presence rather strength.

syntactic derivation. If the DP moves into [Spec, CP] after the D-to-P incorporation in (92), the copy of the D within the P cannot c-command the lower copy of D within the DP. This configuration is correctly excluded if all but the highest copy of a non-trivial chain must be deleted for the purposes of the linearization based on Kayne's (1994) Linear Correspondence Axiom, as argued by Nunes (1995, 2004); if more than one copy were to remain, the derivation would crash at PF due to a contradictory linear ordering.[17]

The point illustrated by the derivations in (91) and (92) is the following: whatever derivation would possibly yield the P-stranding configuration in French crashes because of the interaction of independently motivated *syntactic* conditions on D-to-P incorporation. The question now becomes why "repair by ellipsis" does not obtain in French, as opposed to Indonesian. The question is immediately answered once we take the nature of the violation in (92) seriously. When the derivation in (92) reaches PF and undergoes TP deletion, it is simply too late to attempt to repair violations within the PP because the violations in question are *within the syntax*.

The present analysis, thus, is suggesting that there is another parameter regarding D-to-P incorporation in addition to the parameter concerning feature percolation. French and German have this incorporation as an obligatory process of the syntactic derivation while Indonesian and English do not. The well-formedness of P-less sluices as well as the total lack of D-P coalescence in English means that this language does not have D-to-P incorporation. Most importantly, Indonesian is sufficiently different from French and German in allowing room for repair by ellipsis at PF. As we saw above, this is precisely because this language does not have D-to-P incorporation, as the complete lack of suppletion attests. Alternatively, D-to-P incorporation is not even an option since Indonesian may well lack the determiner system entirely (cf. Chierchia 1998; Chung 2000).

The cross-classification of the two parameters predicts a fourth type of language where *wh*-feature percolation is optional as in English but D-to-P incorporation takes place as in French and

[17] I thank Paul Law (personal communication, November 2009) for useful discussions on the question raised here.

German. How would such a language look like? My analysis suggests that this hypothetical language should show the same P-stranding profile as French and German. Even though the non-percolation option would potentially allow the *wh*-phrase to be directly accessible to the interrogative C as in English, P-stranding would still be independently blocked by the D-to-P incorporation as in French and German. In other words, the only convergent derivations would have the feature percolation with the D-to-P incorporation. Thus, in practice, this hypothetical grammar would produce a P-stranding pattern indistinguishable from the French/German pattern.

5.3 *"Reparable" vs. "Irreparable" Violations and the Origin of the Distinction*

Let us now consider why it is that the failure of D-to-P incorporation, but not the failure of feature percolation, is so critical a violation that the resulting string is always ungrammatical.[18] Let us suppose, following Boeckx and Lasnik (2006), that there are two types of violations. One is a strictly syntactic/derivational "violation" that cannot be simply created in the syntactic computation. To take D-to-P incorporation, this operation is conducted in the syntax immediately once the preposition is introduced into the workspace and serves as a probe to attract the D head within its minimal search domain (its complement domain); whatever uninterpretable/unvalued feature of the P needs to be checked (e.g. the strong D-feature in languages with D-P coalescence) must be checked, since that is the sole driving force for purely mechanical computation. The failure of the D-to-P incorporation, therefore, is simply an impossible scenario in the minimalist vision of syntactic computation. Thus, there is no sense in which the failure of D-to-P incorporation could ever be repaired at the PF interface. The situation could be different with other types of violation such as representational/interface violation. Failure of [+wh] feature percolation is a representational violation whose severity for linguistic computation could vary from language to language. Therefore, it is possible, in principle, that

[18] I owe the exposition of the following answer to this question to the written suggestions provided by Heidi Harley (personal communication, May 2008) on an earlier draft of this paper, which I paraphrase here.

the failure of this percolation in languages with the obligatory value of this percolation mechanism, as in Indonesian, could be tolerated within syntax *per se* and instead be checked at the PF interface. Under this view, syntactic representations that contain failures of percolation could still have chances to converge at the interface, depending on what happens at this interface. If no PF repair occurs, then this type of illicit representation will persist at the PF interface: the representational constraint to verify the feature percolation, then, applies to this representation and rules it out as ungrammatical. That was seen to be the case with P-stranding under *wh*-movement in Indonesian (5a, 6a, 7a). On the other hand, if PF does conduct its domain-specific operation to the otherwise ill-formed object by deleting the offending part of the representation, then the representational constraint has nothing to apply to. As a result, the derivation can still continue to converge, yielding a grammatical output at the PF component, as was seen to be the case with P-stranding under sluicing (*wh*-movement + TP deletion) in Indonesian (5c).[19]

In summary, the notion of "repair by ellipsis" plays a crucial role in my proposed analysis of the distinction between Indonesian and French/German with respect to P-stranding. The most

[19] One could easily argue that an unchecked D-feature causes a problem at the PF-interface and that this violation can also be undone at that interface. Similarly, one might object, it is not clear why the lack of feature percolation should not lead to an immediate violation within the syntax. Within the Minimalist Program (Chomsky 1995, 2000, 2001, 2004), feature checking is the sole driving force for syntactic computation. Once a probe with an uninterpretable feature enters the syntactic workspace, it searches a matching probe with the corresponding feature to erase the uninterpretable feature. In the case of D-to-P coalescence, the probe P checks and erases the uninterpretable D-feature against the goal D, yielding the instance of head movement. Thus, there is no possible derivation in which this checking could be avoided. The DP-to-PP feature percolation, by contrast, is *not* a feature checking operation; it is not that some uninterpretable/unvalued feature within PP requires some interpretable feature within DP to be percolated. Thus, there is no reason that the lack of DP-to-PP percolation must lead to an immediate violation; this percolation could occur at any stage of the syntactic derivation or even after the narrow syntax. This freedom affords the kind of leeway needed for PF-repair to work at the syntax-phonology interface.

important claim of the analysis is that the syntax-external phonological component can repair *some, but not all*, illicit configurations created in the syntax by deleting them; it cannot undo mistakes concerning incorporation that are syntactically conditioned. The present analysis, therefore, provides powerful empirical support for the idea that the phonological interface can conduct domain-specific operations to repair certain syntactic imperfections but only within the parametrically defined curve set by a particular language.

6 Conclusions

In this paper, I have presented novel evidence that the P-stranding pattern in Indonesian presents a counterexample to Merchant's (2001) Preposition-Stranding Generalization as a language that disallows P-stranding under *wh*-questions but allows P-stranding under sluicing. I have also presented arguments against potential analyses based on clefts, resumption, and (PF) P-drop that would make the Indonesian pattern consistent with the generalization. I have argued that this apparently special pattern is naturally accounted for under the recent idea of repair by ellipsis. Specifically, I have proposed that the failure of percolation of the *wh*-feature is repaired by deletion in the PF, and provided independent evidence for this analysis from P-stranding under pseudogapping. I have also shown that P-stranding in French and German cannot be repaired since the violation in question is a strictly computational violation caused by incorporation. Our investigation suggests a bifurcated view of violations (Boeckx and Lasnik 2006): representational violations pertaining to the syntax-phonology interface can be repaired whereas derivational violations pertaining to the syntactic computation cannot. A much broader implication of my analysis is that syntax is not entirely crash-proof (Frampton and Gutmann 1999, 2002); syntax could make a variety of "mistakes", so to speak, whose severity for linguistic computation varies depending on the parametrically defined curve set by a particular language.

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