P-Stranding under Sluicing and Interface Repair: Why Indonesian Is (Not) Special*

1. Introduction

This paper discusses the issue of syntax-phonology interface with a case study in P-stranding and sluicing in Indonesian. Drawing on the seminal work by Ross (1969), Merchant (2001) provides extensive arguments for the analysis of sluicing construction as the product of the syntactic movement of the *wh*-remnant followed by TP deletion at PF. One of the strong arguments for this analysis comes from what is now widely known as P-Stranding Generalization (PSG), which states that P-stranding under sluicing is possible only in those languages that allow this option independently under regular *wh*-movement. The first goal of this paper is to present evidence that Indonesian provides the first genuine counterexample to the PSG as a non-P-stranding language that nonetheless allows P-stranding under sluicing. The second goal of this paper is to propose a novel, parametric analysis of the typology of P-stranding that draws on independently motivated assumptions concerning the percolation of the [+wh] feature of the nominal complement of the P onto the PP (Chomsky (1972)) and the D-P coalescence (Law (1998); van Riemsdijk (1998)). The core idea behind this analysis is that certain violations created by syntactic derivation such as minimality violations can be remedied by syntax-external operations such as deletion at the phonological component, an idea that goes back to Ross's (1969) global evaluation of the syntactic derivation and has been developed in

Lasnik (1999, 2001, 2005, 2007), Merchant (2001), Fox and Lasnik (2003), Boeckx and Lasnik (2006), and others. I show that the present analysis provides a straightforward explanation for the three-way contrast between English, Indonesian, and French with respect to P-stranding under *wh*-questions and sluicing. The proposed analysis is summarized in Table 1.

Table 1: The Parametric-Theory of P-Stranding at the Syntax-Phonology Interface

Parameters / Languages	[+wh] feature percolation	D-to-P Incorporation
English (P-stranding under *wh* & slucing)	OPTIONAL	NO
Indonesian (P-stranding only under sluicing)	OBLIGATORY	NO
French (no P-stranding under *wh* & sluicing)	OBLIGATORY	YES

The proposed analysis also makes a new prediction that not only deletion of TP but also deletion of smaller constituents than TP should ameliorate the P-stranding ban in Indonesian, but not in French. I show that this prediction is indeed borne out by the (non-) availability of P-stranding pseudogapping constructions in these two languages. One major consequence of the proposed analysis is that syntax is not entirely crash-proof; syntax-external components can

remedy certain mistakes committed by syntax but only within the range of options set by the combination of principles of syntax and language-particular parametric values.

2. Merchant's (2001) PF Deletion Analysis and the P-Stranding Generalization

Drawing on the data and analysis first presented in Ross (1969), Merchant (2001) analyzes sluicing constructions as in (1a) as the product of the syntactic movement of the *wh*-phrase *who* followed by deletion of the TP, as shown in (1b).

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

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

Merchant adduces a wide variety of syntactic and morphological effects such as case-matching, number agreement, and so on, many of them mentioned in Ross (1969), to support this movement + TP deletion analysis. One of the most convincing arguments comes from what he calls the PSG originally stated as in (2).

(2) Preposition-Stranding Generalization/PSG (Merchant 2001: 92)

A language *L* will allow preposition stranding under sluicing iff *L* allows preposition stranding under regular wh-movement.

This generalization states that, if a preposition can be omitted under sluicing in a particular language, that language should also independently allow P-stranding under regular *wh*-movement. The logic behind this generalization is clear. Under Merchant's analysis, sluicing is derived by regular *wh*-movement plus TP deletion. Therefore, the availability of P-stranding under sluicing means that the same option should be available under regular *wh*-movement. Merchant surveys the P-stranding pattern both under *wh*-movement and sluicing in 24 languages to show that this generalization is crosslinguistically robust. As is well-known, English allows P-stranding both under *wh*-movement and sluicing, as shown in (3a, c). Note that the preposition can also be pied-piped in English, as illustrated in (3b).

(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: 9)

On the other hand, Romance languages such as French are non-P-stranding languages, as shown by the contrast between (4a) and (4b). Thus, French prohibits allow omission of the preposition under sluicing, as in (4c). ((4a, c) are from Merchant 2001: 98.)

(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-te-ell 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 not to whom
'Anne has offered it to someone, but I don't know (to) whom.'

The type of languages not predicted by Merchant's generalization is, then, languages that disallow P-stranding under regular *wh*-movement, but allow P-stranding/omission under sluicing. As first discovered by Fortin (2007), Indonesian is one language of precisely this type, as shown in (5a-c). [1]

(5) a. * Siapa yang kamu ber-danca dengan? 'Whom did you dance with?'
who that you Vz-dance with

b. Dengan siapa kamu ber-danca? 'With whom did you dance with?'
with who you Vz-dance

c. Saya ingat Hansan ber-danca dengan seseorang, tapi saya
I remember Hasan Vz-dance with someone but I
tidak tahu (dengan) siapa.
Neg know (with) who
'I remember Hasan danced with someone, but I don't know (with) whom.'

The contrast between (5a) and (5b) shows that Indonesian does not allow P-stranding under *wh*-questions, as in French. Surprisingly, however, the grammaticality of the preposition-less sluice in (5c) illustrates that the preposition can be deleted under sluicing. To the extent that the underlying syntactic source for sluices as in (5c) involves syntactic *wh*-movement, the pattern of P-stranding in (5a-c) presents a counterexample to the PSG.

Several other languages have been reported in the literature that superficially contradict the PSG but on a closer examination do not. Thus, Almeida and Yoshida (2007) argue that Brazilian Portuguese is another non-P-stranding language that allows P-stranding under sluicing. However, Rodriguez et al. (2007) provide extensive arguments that the underlying derivation of the P-less sluicing is a cleft construction that does not involve P-stranding in the first place. Szczegielniak (2006) also observes that the P-stranding pattern in Polish and German is more complicated than what the PSG: the P-less sluice is grammatical only with D-linked-*wh*-phrase and proposes a cleft analysis for this type of phrase that does not involve regular *wh*-movement. Wang (2006) observes that

Mandarin Chinese exhibits the same P-stranding pattern with Indonesian but it is not a genuine counterexample to the PSG because the P-less sluice uses the resumptive strategy rather than syntactic *wh*-movement. Malagasy also behaves similar to Indonesian in that it prohibits P-stranding under *wh*-questions but allows it under sluicing. Potsdam (2003, 2007), however, provides extensive arguments that *wh*-questions in this language are pseudocleft constructions. To the extent that this analysis holds, Malagasy is not a counterexample to the PSG. Most recently, Stepanović (2008) mentions Serbo-Croatian as another language that behaves like Indonesian but argues that the P-stranding pattern in this language does not undermine the PSG because the P-omission under sluicing is not due to the P-stranding (in the sense of the extraction of the nominal complement of the P out of the PP) but due to some post-syntactic phonological operations. Thus, it is reasonable to conclude that none of the languages mentioned here present a genuine counterexample to the PSG.

It is against this background that the P-stranding pattern under *wh*-questions and sluicing in Indonesian as illustrated in (5a-c) becomes important. In the next section, I provide syntactic and morphological arguments, some of them mentioned by Fortin (2007), to establish that Indonesian is **the first genuine counterexample** to the PSG, rejecting alternative analyses of *wh*-questions as clefts (Cheng (1991)) or headless relative clauses (Cole et al.(to appear)). I also show that analyses proposed by Rodriguez et al. (2007), Szczegielniak (2006), Wang (2006), Potsdam (2003, 2007), and Stepanović (2008) for the languages mentioned above that would keep Indonesian consistent with the PSG is not transportable to this language.

3. The Syntax of Sluicing in Indonesian

This section examines the syntax of sluicing in Indonesian. I start by reviewing Fortin's (2007) results concerning Indonesian sluicing with respect to operational tests that Merchant (2001) developed to distinguish genuine sluicing and pseudoslucing. Though the overall result does indicate that Indonesian sluicing is derived by *wh*-movement, it is not conclusive, as the tests were developed primarily based on English and there is no reason to expect that the tests diagnose the syntax of sluicing in Indonesian. I turn to Indonesian-internal arguments based on the distribution of the question morpheme *-kah* discovered by Fortin (2007) and the lack of the complementizer *yang* in questions with non-nominal *wh*-phrases that slucing with PP remnants is derived via syntactic movement of the wh-remnant followed by TP deletion as in English. I also reject two alternative analyses of *wh*-questions in Indonesian as reduced clefts (Cheng 1991) and headless relative clauses (Cole et al. to appear). This result confirms that the P-stranding pattern in Indonesian presents the first genuine challenge to the PSG.

3.1. *Indonesian Sluicing = Pseudosluicing?*

Merchant (2001) argues that there are two types of sluicing. The genuine sluicing is derived by the *wh*-movement of a remnant in syntax followed by TP deletion. The pseudosluicing is derived by clefting of the *wh*-pivot (that does not involve *wh*-movement) followed by deletion of the copula. These two types of constructions are illustrated in the derivations in (6a, b).

(6) a. Pat was speaking to someone, but I don't know [$_{CP}$ who ~~Pat was talking to who~~].

b. Pat was speaking to someone, but I don't know [$_{CP}$ who ~~it was~~].

Merchant emphasizes the importance of the distinction between genuine sluicing and pseudo sluicing as recent work on in-situ languages such as Japanese presents a growing body of evidence that sluicing constructions in these languages are elliptical clefts: see Nishiyama et al. (1996), Kizu (2005), and works cited there. Merchant argues that English does have genuine sluices derived by regular *wh*-movement by developing 10 operational tests to distinguish between pseudosluicing and genuine sluicing. The purpose of this section is to review Fortin's (2007) discussion in this regard. As we will see below, the overall result reported by Fortin is indicative that Indonesian sluicing shares more properties with English genuine sluicing rather than with *it*-clefts. However, I conclude that this result is not conclusive since the relevant operational tests were developed primarily based on English-type languages and some of them are not directly applicable to Indonesian to yield the intended results.

As mentioned above, Merchant develops a total of 10 diagnostics to differentiate genuine sluicing from clefts. Fortin (2007: ch.3) applies those tests that are applicable to Indonesian cleft and *wh*-questions and concludes that "the totality of the data appears to indicate that Indonesian sluices are elliptical *wh*-questions, and not elliptical clefts." (pp. 198-199). Her reported results are given in Table 2.

Table 2: Pseudosluicing Diagnostics in Indonesian

Diagnostics	Attested in sluices?		Attested in *wh*-clefts ?		Attested in in *wh*-questions ?	
	English	Indonesian	English	Indonesian	English	Indonesian
adjuncts	√	√	X	X	√	√
implicit arguments	√	√	X	X	√	√
'mention-some'	√	√	X	X	√	√
'mention-all'	X	X	√	X	√	√
'else'	√	X	X	X	√	√
attributive adjs	√	√	X	X	X	√

(Fortin 2007: 206)

The first diagnostic concerns the distribution of adjuncts. Merchant (pp. 120-121) observes that an adjunct cannot be the pivot of a cleft, but can be the remnant of a sluice, as illustrated by the contrast between (7a) and (7b). The non-elliptical *wh*-question patterns with the sluice in this regard, as shown in (7c).

(7) a. * Pat is crying, but I don't know why it is.

b. Pat is crying, but I don't know why.

c. Pat is crying, but I don't know why Pat is crying. (Fortin 2007: 199)

Fortin points out that Indonesian clefts are not possible with a wh-adjunct but the corresponding sluices are grammatical, as shown by the contrast between (8a) and (8b). The grammaticality of (8c) also shows that the non-elliptical wh-question patterns with (8b), indicating that sluicing in Indonesian is based on *wh*-questions, as in English.

(8) a.* Ali memperbaiki sepada + nya, tapi saya tidak tahu bagaimana(kah) itu.
Ali AV-fix bike+3sg but I Neg know how-Q that
'Ali fixed his bike, but I don't know how it was.'

b. Ali memperbaiki sepada + nya, tapi saya tidak tahu bagaimana (kah).
Ali Av-fix bike + 3sg but I Neg know how-Q
'Ali fixed his bike, but I don't know how.'

c. Ali memperbaiki sepada + nya, tapi saya tidak tahu bagaimana
Ali Av-fix bike + 3sg but I Neg know how
dia memperbaik+nya.
3sg Av-fix-3sg
'Ali fixed his bike, but I don't know how he fixed it.' (Fortin 2007: 199, 200)

The second diagnostic concerns the distribution of sprouted implicit arguments. Chung et al. (1995) propose that there are two types of sluicing constructions in English. The

first one, exemplified in (9a), has an overt correlate in the antecedent clause that corresponds to the *wh*-remnant in the sluice. The second one, exemplified in (9b), illustrates the sluicing construction in which the *wh*-remnant is licensed in the sluice without any overt correlate in the antecedent clause based on the argument structure of the verb in the antecedent clause. Chung et al. (1995) argue for the operation of "sprouting" to accommodate this second pattern of sluicing whereby the extra empty category can be constructed at LF within the TP recycled from the antecedent TP.

(9) a. She bought something the other day, but I don't remember what.

b. She bought something the other day, but I don't remember when.

Merchant (pp. 120-121) observes that sprouted implicit arguments are fine in sluicing or *wh*-questions but not in clefts, as the contrast between (10a) and (10b, c) shows.

(10)a. * Robin was reading, but I don't know what it was.

b. Robin was reading, but I don't know what.

c. Robin was reading, but I don't know what. (Fortin 2007: 200)

Fortin shows that this pattern is replicated in Indonesian, as shown in (11a-c). This is another indication that sluicing in Indonesian is based on *wh*-questions, not *wh*-clefts.

(11)a. *Ali sedang memasak, tapi saya tidak tahu masakan apa(kah) itu.
Ali Prog Av-cook but I Neg know dish what(-Q) that
'Ali is cooking, but I don't know what dish it is.'

b. Alisedang memasak,tapi saya tidak tahu masakan apa.
AliProg Av-cook but I Neg know dish what
'Ali is cooking, but I don't know what dish.'

c. Ali sedang memasak, tapi saya tidak tahu masakan apa(kah)
Ali Prog Av-cook but I Neg know dish what-Q
yang Ali masak.
that Ali cook
'Ali is cooking, but I don't know what dish he is cooking.' (Fortin 2007: 201)

The next three tests concern three different types of modification. The first of these is a 'mention-some' modification, such as *for example*. Merchant observes that this modification is possible with sluices and non-elliptical *wh*-questions, but impossible

with *wh*-clefts, as the contrast between (12a) and (12b, c) shows. Fortin observes that Indonesian patterns with English in this regard, as in (13a-c).

(12) A: You should talk to someone in the legal department about that.

a. B: * Can you tell me who it is, for example?

b. B: Can you tell me who, for example?

c. B: Can you tell me who I should talk to, for example?

((12a, b) from Merchant 2001: 122, (12c) from Fortin 2007: 201)

(13)A: Kamu harus makan lebih banyak sayur-mayur.
you should eat more many vegetable-Red
'You should eat more (different kinds of) vegetables.'

a. B. Misalnya apa-kah itu? 'for example, what is it?'
for example what-Q that

b. B: * Misalnya, apa? 'for example, what?'
for example what

c. B: Misalnya, apa yang harus saya makan?
for example what that should I eat
'For example, what should I eat?' (Fortin 2007: 202)

The second of the modification tests is a "mention-all" modification. Merchant observes that this modification is fine with a *wh*-pivot of the cleft but not with the sluice. This is because *wh*-clefts in English have the so-called exhaustivity requirement (Kiss (1998); Groenendijk and Stokhof (1997)). This is illustrated in (14a, b). However, this test actually indicates that the underlying syntactic structure for sluicing is a *wh*-cleft, as *all* **is** compatible with the non-elliptical *wh*-question (14c).

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

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

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

((a, b) from Merchant 2001: (c) from Fortin 2007: 203)

Indonesian facts are also not so clear in this regard. According to Fortin (p. 203), three of her four consultants report that *saja*, the Indonesian equivalent of *all*, can modify neither sluices or clefts, though it can modify *wh*-elements in a full-fledged *wh*-question, as in (15a-c).

(15) A: Ada banyak tamu yang mendatangi pesta+ku.
exist many guest that Av-come-Loc party+1sg

a. B: *Tolong kasih tahu siapa saja-kah itu.
help give know who all-Q that
'Please, tell me who all it was.'

b. B: * Tolong kasih tahu siapa saja.
help give know who all
'Please, tell me who all.'

c. B: Tolong kasih tahu siapa saja-kah mereka.
help give know who all-Q they
'Please, tell me who all they were.' (Fortin 2007: 203)

The contrast between (15c) and (15a, b) here may be amenable to a semantic analysis quite independently of the validity of the *all*-modification as a probe into the underlying syntax of sluicing in Indonesian. As Rodriguez et al. (2007:10) note for languages like Brazilian Portuguese, Indonesian clefts does not seem to exhibit the exhaustivity requirement as in their English counterparts due to some construction-specific bleached semantics in these languages. Evidence that the relevant requirement does not hold in Indonesian comes from the fact that clefts in Indonesian and Brazilian Portuguese allow negative quantifiers to serve as pivots of the cleft, a pattern that is impossible in English and Spanish due to the fact that such a

quantifier cannot satisfy the exhaustivity requirement active in these two languages. The contrast between Brazilian Portuguese/Indonesian and English/Spanish is illustrated in (16a-d).

(16)a. Não foi ninguém que bateu na porta. (Brazilian Portuguese)
not was nobody that knocked on.the door.
'It was nobody that knocked on the door.'

b. Tak ada orang yang mengetuk pintu. (Indonesian)
Neg exist person that Av-knock door
'It was nobody that knocked on the door.'

c.* No fue nadie que golpeó en la puerta. (Spanish)
not was nobody that knocked on the door
'It was nobody who knocked on the door.'

d. * It was nobody who knocked on the door. (English)

((16a, b, d) from Rodriguez et al. 2007: 10)

The contrast between (16a, b), on one hand, and (16c, d), on the other, therefore, indicates that the exhaustivity requirement is not a universal property of *wh*-cleft constructions. If this conclusion is tenable for Indonesian, then the unacceptability of (15a) then might follow from the independently motivated contradictory semantic requirements imposed

by *saja* and the now bleached semantics of clefts in Indonesian.. The acceptability of (15c), by contrast, is not surprising because the plural denotation of the subject of the embedded *wh*-question is compatible with the exhaustivity requirement.

The last of the three tests concerning modification is *else*-modification. Due to the exhaustivity requirement in English, expressions such as *else* cannot co-occur with the *wh*-cleft but can co-occur with sluicing and *wh*-questions in this language, as in (17a, b).

(17)a. * Harry was there, but I don't know who else it was.

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

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

((17a, b) from Merchant 2001: 122; (17c) from Fortin 2007: 204)

The Indonesian facts do not come out in the same way as in English. The word *lagi* 'again' receives an interpretation akin to English else when interpreted as modifying a *wh*-phrase. Fortin observes that *lagi* cannot modify the *wh*-pivot of a cleft as in English, as shown in (18a). However, it also cannot modify the *wh*-remnant of a sluice as in (18b), even though it can modify the *wh*-phrase in a full-fledged *wh*-question as in (18c).

(18) Ali datang ke pesta+ku

Ali come to party+1sg

a. … * tapi saya tidak ingat siapa lagi(kah) itu.

but I Neg remember who else that

'…but I don't remember who else it was.'

b. … * tapi saya tidak ingat siapa lagi.

but I Neg remember who else

'…but I don't remember who else.'

c. … tapi saya tidak ingat siapa lagi(kah) yang datang.

but I Neg remember who else-Q that come

'..but I don't remember who else came.' (Fortin 2007: 204)

Thus, the *lagi*-modification test does not serve as a good probe into the syntax of sluicing constructions in Indonesian as there is no difference between (18a) and (18b).

The final test concerns the attributive modification. Merchant observes that extraction of an attributive adjective in both *wh*-clefts and a non-elliptical *wh*-question gives rise to ungrammaticality, in contrast to the extraction, unlike sluicing, which allows such an extraction. This contrast is illustrated by examples in (19a-c) (cf. Merchant 2001: 127).

(19)a. * I heard that Pat met a nice guy, but I don't know how nice it is.

b. I heard that Pat met a nice guy, but I don't know how nice.

c.* I heard that pat met a nice guy, but I don't know how nice Pat met a guy.

(Fortin 2007: 205)

The same pattern characterizes the extraction of an attributive adjective in Indonesian, as shown by the contrast in grammaticality between (20a, c) and (20b).

(20)a.* Saya memdengar Siti menikah orang yang kaya, tapi saya
I Av-hear Siti Av-marry person that rich but I
tidak tahu [se-kaya apa itu].
Neg know one-rich what that
'I heard Siti married a rich man, but I don't know how rich it is.'

b. Saya memdengar Siti menikah orang yang kaya,
I Av-hear Siti Av-marry person that rich
tapi saya tidak tahu se-kaya apa.
but I Neg know one-rich what
'I heard Siti married a rich man, but I don't know how rich.'

c. Saya memdengar Siti menikah orang yang kaya, tapi saya
I Av-hear Siti Av-marry person that rich but I
tidak tahu se-berapa kaya-kah itu sehingga dia orang.
Neg know one-how rich-Q that far she person
'I heard that Siti married a rich man, but I don't know how rich she married a man'

((20a, b) from Fortin 2007: 206)

However, my language consultants all report that the example in (20c) is bad independently of what the test is supposed to diagnose because "the topic of the subject in the second clause is a human and a human cannot be addressed by *itu*." Thus, this test is not a reliable diagnostic to identify the syntactic source for sluicing in Indonesian.

Let us summarize here what the results reported in Table 2 tell us about Indonesian sluicing. Some of the tests (i.e. adjunct and implicit remnants) are suggestive that Indonesian sluicing is based on the corresponding non-elliptical *wh*-question, as in English. Some other tests (i.e. *some/all/else*-modification) do not yield clear results in Indonesian, unlike English, because there is independent confound related to the bleached semantics of Indonesian *wh*-clefts such that they don't impose the exhaustivity requirement on the pivot, as in English, which is a pre-condition for all these test to apply. The last test concerning extraction of the attributive adjective also is

not reliable as there is discourse-related incompatibility between *itu* 'that' and the topic of the sluice. Therefore, the reasonable conclusion here is that the results here are far from conclusive as to the question of what is the underlying syntax of sluicing constructions in Indonesian. This result is hardly surprising, however, since all the tests developed by Merchant (2001) are based on the syntax and semantics of *wh*-questions, sluicing, and *wh*-clefts, which does not necessarily hold for Indonesian.

For this reason, I turn in the next section to syntactic and morphological arguments internal to Indonesian that conclusively determine whether Indonesian sluices are products of elliptical clefting or regular *wh*-movement plus TP deletion. The arguments are based on the distribution of the question marker *-kah* discovered by Fortin (2007) and the obligatory absence of the complementizer *yang* in *wh*-questions with PPs. I also use these arguments to reject recent analyses of *wh*-questions in Indonesian as reduced cleft (Cheng (1991)) or headless relative clauses (Cole et al. (to appear)) cannot accommodate these two facts.

3.2. *The Distribution of* -kah *and the Lack of* yang *in Wh-Questions with PPs*

Cheng (1991) proposes the Clausal-Typing Hypothesis, namely, that the interrogative force of a statement can be marked either as a Q-particle or the movement of a *wh*-operator into the specifier of CP. This hypothesis, when combined with the Economy of Derivation (Chomsky 1995), that there is no language that has optional *wh*-

movement. Indonesian has three ways to form *wh*-questions: movement into the matrix, scopal [Spec, CP], partial movement of the intermediate, non-scopal [Spec, CP], and in-situ. As a consequence of the Clausal-Typing Hypothesis, Cheng argues that wh-questions in Indonesian are reduced clefts. Thus, the structure of (21a) is in (21b).

(21)a. Apa$_i$ yang kamu beli t_i ? 'What did you buy?'
what that you buy

b. [$_{CP1}$ apa$_i$ [$_{CP2}$ Opi yang [$_{TP}$ kamu beli t_i]]

In the structure in (21b), the *wh*-phrase *apa* 'what' is base-generated in the specifier of CP1. The null operator undergoes TP-internal movement from the object of the verb into the specifier of CP2. If this analysis is tenable, the Indonesian P-stranding pattern won't be a counterexample to the P-Stranding Generalization. However, there is evidence presented by Fortin (2007) that the derivation of sluicing involves the *wh*-question, not the elliptical cleft. Fortin observes that the question particle *-kah* can co-occur with the *wh*-pivot of the cleft construction but not with the *wh*-remnant of the sluicing construction. This is illustrated by the contrast in acceptability between (22a) and (22b).

(22) Ada seseorang yang menelpon tadi …

exist someone that AV-phone just now

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

try guess who-Q Dem

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

try guess who

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

try guess who that AV-phone just now

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

If (22b) were derived from (22a), (22b) should be able to allow the question marker *-kah* to occur with the *wh*-phrase *siapa* 'who'. The fact that (22b) does not pattern with (22a) but with (22c) in this regard, therefore, provides strong evidence that the sluicing construction in Indonesian is based on *wh*-questions.

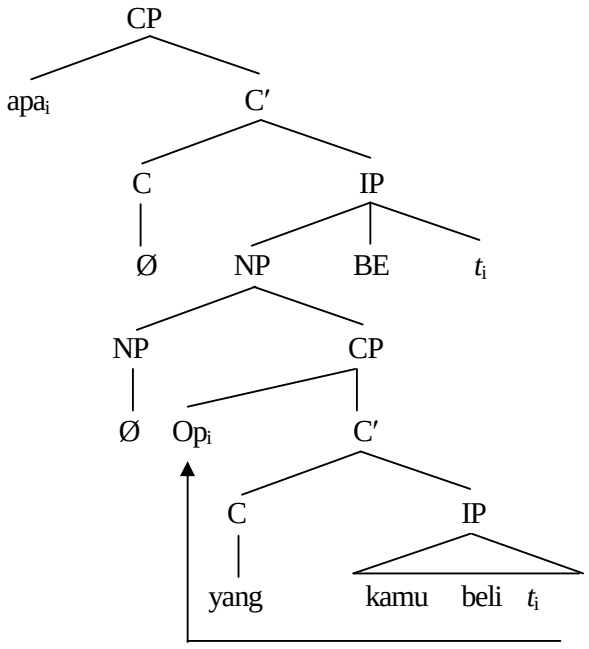
Cole et al. (to appear) argue for a different analysis of *wh*-questions in Malay (and Indonesian, by extension). They propose that *wh*-questions with the complementizer *yang* and those without have two different syntactic derivations: the former types of questions involve short focus movement of the *wh*-phrase from the post-copula position to the specifier of the matrix CP while the latter type of questions successive cyclic

movement of the *wh*-phrase from its base position to the specifier of CP as in English *wh*-questions. Consider (23a) and its derivation in (23b) under their analysis.

(23)a. Apa$_i$ yang kamu beli t_i ? 'What did you buy?'

what that you buy

b.



(modified from Cole et al. to appear: 4)

In this derivation, there is TP-internal movement of the null interrogative operator from the TP internal position to the specifier of the embedded CP. The *wh*-phrase *apa* 'what' undergoes focus movement from the position following the null copula (BE) to the specifier of the matrix CP. One of their arguments for this headless relative clause

analysis of *wh*-questions with *yang* comes from the categorical restriction on interrogative elements that be fronted in this type of question. Consider (24a-e) and (25a-e).

(24)a. ***Apa*** yang di-baiki Ali? 'What was fixed by Ali?'
what that Pass-fix Ali

b. ***Siapa*** yang nampak kau? 'Who saw you?'
who that see you

c.??***Di mana*** yang kau tinggal? 'Where do you live?'
at where that you live

d.??***Bagaimana*** yang Ali baiki kereta itu? 'How did Ali fix that car?'
how that Ali fix car that

e.??***Kenapa*** yang Ali di-pecat? 'Why is it that Ali was fired?'
why that Ali Pass-fire (Cole et al. to appear: 6, 7)

(25)a.?? Yang aku tinggal (ialah) ***di K.L***.
that I stay is at K.L.
'The place that I live is in K.L.'

b.?? Yang Ali baiki kereta itu (ialah) ***dengan alat-nya***.
that Ali fix car that is with tool-his
'The way that Ali fixed that car is with his tool.'

c.?? Yang Ali di-pecat (ialah) ***kerana dia cuai***.

that Ali Pass-fire is because he careless

'Why Ali was fired is because he was careless.'

d. Yang aku makan ***nasi goring*** (-lah).

that I eat rice fried-focus

'Fried rice is what I am eating.'

e. Yang kau nampak ***Siti***(-lah).

that you see Siti-focus

'Siti is what you see.' (Cole et al. to appear: 9)

It is clear from (24a-e) that, when *wh*-questions are formed with *yang*, only questions with nominal *wh*-phrases such as *apa* 'what' and *siapa* 'who' are well-formed. This categorical restriction would remain mysterious under the common analysis of wh-questions as fronting of an interrogative phrase into the specifier of the matrix CP as no such restrictions would be imposed on the kind of elements to be fronted. This observation, by contrast, directly follows if the underlying structure of *yang*-questions is cleft, because the same restriction is independently observed in cleft constructions, as shown by (5a-e). Their analysis, thus, indicates that the underlying syntax of slucing would be a headless relative clause, an idea that has also been argued for by Potsdam (2003, 2007) for Malagasy sluicing. What is important

to note for the purposes of this chapter, however, is that the headless relative clause analysis would only work for sluicing examples with nominal *wh*-phrases, as clearly indicated by Cole et al.'s (p.26) conclusion that "questions without *yang* involve potentially long distance movement of the WH word itself.' Consider examples in (26a, b).

(26)a. Bila$_i$ Maryam fikir [yang Ali akan datang ke sini t_i]?
when Maryam think that Ali will come to here
'When does Miriam think that Ali will come here?'

b. Kenapa$_i$ Siti kata [yang Fatimah beli ikan itu t_i]?
why Siti say that Fatimah buy fish that
'Why did Siti say that Fatimah bought that fish?' (Cole et al. to appear: 27)

(26a, b) show that *wh*-questions with non-nominal *wh*-elements such as *bila* 'when' and *kenapa* 'why'. For Cole, Hermon, and Aman (to appear), the lack of *yang* means that the questions are derived by regular *wh*-movement of an interrogative phrase into the specifier of CP. Then, the obligatory absence of *yang* in (24c) indicates that this example cannot be analyzed as the headless relative clause because there is an independent restriction that the nominal head of such a clause must be nominal *wh*-phrases (i.e. *apa* 'what' and *siapa* 'who').

Let us finally briefly consider whether several analyses proposed for other languages revised in section 2 can be extended to Indonesian. First, results achieved in this section show that Rodrigues et al's (to appear) cleft analysis for Brazilian Portuguese cannot be extend to Indonesian because sluicing with PP remnants in Indonesian cannot have the cleft source. Second, there are several reasons to think that Szczegielniak's analysis cannot be applied to Indonesian. Evidence provided here based on the lack of *yang* in wh-questions with PPs shows that the syntactic source of the sluice with the PP is *wh*-movement. Furthermore, Indonesian is different from Polish in that the preposition can be freely omitted with sluicing with all types of *wh*-phrases, whether they are D-linked or not, indicating that the source of the P-stranding is different in Indonesian from that in Polish. Third, if Wang's analysis were extendable to Indonesian, we predict that this language also should make use of the resumptive pronoun strategy as in Mandarin Chinese. This prediction is clearly incorrect, since Indonesian does not use resumptive pronouns even under contexts where they would ameliorate island violations, as noted by Fortin (2007: 71). Fourth, Potsdam's (200, 2007) analysis of Malagasy sluicing as derived from pseudoclefts for the reasons mentioned above. Finally, Stepanović's (2008) argued that the P-stranding in Serbo-Croatian does not constitute a genuine counterexample to Merchant's Generalization. However, this PF P-omission analysis won't work for Indonesian. It is indeed true known that Indonesian has the P-drop

option for certain prepositions such as tentang 'about'. However, my language consultants all report that this option is not available for all prepositions including *dengang* 'with' in (5a-c).

3.3. *Indonesian Sluicing ≠ Pseudoslucing*

In this section, I have presented evidence based on the distribution of the question particle *-kah* and the obligatory absence of *yang* in *wh*-questions in Malay/Indonesian that the derivational source for sluicing in Indonesian (with PP remnants) cannot be clefting as in Cheng (1991) or headless relative clause as in Cole, Hermon, and Aman (to appear). The argument made by Fortin (2007) from the question particle shows that the slucing construction patterns with a *wh*-question but not with a cleft counterpart. The argument from the lack of *yang* shows that the derivation of sluicing with the PP remnant involves regular *wh*-movement of the PP. This result, therefore, suggests that the Indonesian sluicing with the PP remnant is derived by regular *wh*-movement.

With this observation in place, consider again (5a-c). As we saw in section 2, other languages that behave superficially similar to the pattern of P-stranding illustrated in (27a-c) are **not** counterexamples to the PSG. I showed here, however, that (at least) the Indonesian slucing that involves PP remnants is derived by *wh*-movement followed by TP deletion, as in English. Therefore, I conclude that the P-stranding pattern in Indonesian presents **the first genuine counterexample** to the PSG.

4. P-Stranding under Sluicing and Repair at the Syntax-Phonology Interface

In this section, I propose a novel analysis of the (un-)availability of the P-stranding across languages that draws on independently motivated assumptions. I show that the proposed analysis provides a straightforward explanation for the three-way contrast between English, French, and Indonesian with respect to the P-stranding under *wh*-questions and sluicing. The core idea behind this analysis is that certain imperfections created by the syntactic derivation can be ameliorated by syntax-external operations such as deleting the offending part of the derivation. This idea of "salvation by deletion" goes back to Ross's (1969) seminar analysis of the ameliorating effect of deletion on subjacency-violating movements and has been resurrected in recent research on the syntax-phonology interface as in Merchant (2001), Lasnik (1999, 2001, 2005, 2007), and Boeckx and Lasnik (2006). The proposed analysis thus further substantiates the claim that syntax-external components conduct a handful of domain-specific operations to remedy an otherwise illicit syntactic object within the narrow range of options permitted by the interaction of universal principles and parametrically defined options in a particular language.

4.1. *Feature Percolation and D-to-P Coalescence*

The analysis proposed here draws on two assumptions that have been independently motivated in the literature. First, I assume that there is a parameter concerning the percolation of the [+wh] feature of the interrogative phrase onto its dominating PP. This idea was first

proposed by Chomsky (1972) to answer the criticism raised by Postal (1972). Postal observes that, if movement is successive cyclic in the sense defined in chapter 2 of this dissertation, it would predict that the preposition should be able to be stranded in any one of the specifiers of intermediate CPs. The examples in (27d, e), however, indicate that this prediction is incorrect.

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

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

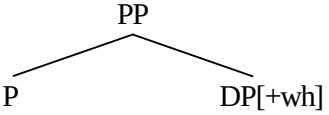
c. ***To whom*** do you believe Mary thinks Joan talked?

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)

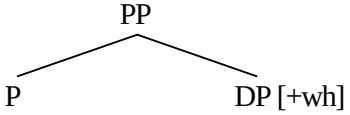
The relevant generalization here is that prepositions in English must either be stranded in situ or be pied-pied into the specifier of the matrix CP. Chomsky argues that this generalization naturally falls out if we assume that the [+wh] feature of the *wh*-expression **can** percolate onto its dominating PP in English, in seen in (28a, b).

(28)a.



(no percolation)

b.



(percolation)

Rephrasing Chomsky's analysis within the minimalist framework, when the [+wh] feature does not percolate as in (28a), the closet element from the perspective of the interrogative C is the DP. This option thus yields the stranded preposition structure as illustrated in (27b). When the [+wh] feature does percolate as in (28b), however, it is the PP now marked with that feature that is moved/attracted by the interrogative C. This option thus yields the pied-piping structure as illustrated in (28c). Notice that, under this feature-based analysis, there is no way in which the preposition can be stranded in intermediate sites because whether the relevant feature is percolated onto PP or not is made when the derivation constructs the PP shown in (28a, b): once it percolates, the shortest attract/movement requirement demands that the PP must move entirely as it is the closest interrogative element. If it doesn't, the same requirement demands that the *wh*-phrase itself must be carried onto the specifier of the matrix CP. Thus, the feature percolation operation receives independent empirical motivation.

As Lasnik (2005) observes, Chomsky's analysis also provides a natural account of the unavailability of the P-stranding in Romance languages. Let us suppose that there is a parameter with respect to the optionality of the feature percolation; the [+wh] feature a) can percolate in English but must percolate in Romance and other languages including Indonesian that do not allow P-stranding. Under this analysis, the latter type of languages do not allow P-stranding under *wh*-movement because the closest element to be attracted by the interrogative C is always the PP, hence the *wh*-phrase would never be attracted by

the same head on the ground of shortest movement. This parametric view of feature percolation also is in line with the standard assumption that the values of a parameter must be learnable from the properties of lexical items. This consideration, therefore, provides further independent motivation for the feature percolation analysis.

The second assumption concerns a parameter with respect to D-to-P incorporation. It is well-known that, in Romance languages, a preposition sometimes coalesces with the following determiner element into a suppletive form. Consider (29) from French and (30) from Italian (Law 1998: 226). Examples of D-P coalescence in these languages are also given.

(29) Jean a parlé du sujet le plus difficile. (French)
Jean have talked about-the subject the most difficult
'Jean talked about the most difficult subject.'
suppletive forms: du = de le, des = de les, duquel = de lequel, à les = aux,
à le = au, desquels = de lesquels 'of the', à lequel = auquel, à lesquels = auxquels 'to the'

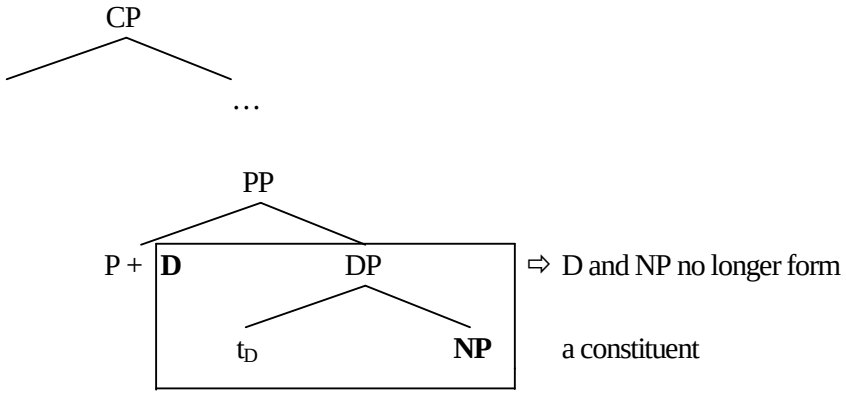
(30) Gianni ha parlato del soggetto più difficile. (Italian)
Gianni have talked about-the subject most difficult
'Gianni talked about the most difficult subject.'
suppletive forms: al = a il, alla = a la 'to the', sul = su il, sulla = su la 'on the',
nel = in il, nei = in i 'in the', del = di il, dello = di lo 'of the', col = con il 'with the'

In (29), the preposition *de* coalesces with its following determiner *le* to yield a suppletive form *du*. Similar observations characterize the D-P coalesce in (30) ((*di* + *il* = *del*). Law (1998) (also van Riemsdijk 1998: 639) proposes that there is a syntactic constraint on suppletion, as in (31), to account for the impossibility of P-stranding under *wh*-movement in Romance languages.

(31) Elements undergoing suppletive rules must form a syntactic unit X^0. (Law 1998: 227)

This constraint states that Ds must incorporate onto their governing Ps to be reanalyzed in the post-syntactic component as a suppletive element. This constraint provides a straightforward answer for why Romance does not allow P-stranding; once the D incorporates into the P head, the N and D no longer form a constituent. As a result, the movement of the D + N becomes impossible, as illustrated in a schematic derivation in (32).

(32)



Law's analysis predicts that the D-P coalescence should be impossible when independent syntactic conditions block D-to-P incorporation. This prediction is confirmed by the observation that the coalescence is impossible in shown in (33a, b) from French.

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

b. Nous sommes prêts [$_{CP}$ ***à le/*au*** faire] 'We are ready to do it.'
we are ready to it do (Law 1998: 227, 228)

(33a) illustrates that coalescence does not occur between the head of the embedded complementizer and its following clitic object. Similarly, (33b) illustrates that it also does not happen between the complementizer and the embedded clitic object. The impossibility of D-P coalescence is what is expected under the constraint in (31) because syntactic incorporation from the specifier/complement of an XP into the X position inevitably violates the Empty Category Principle or whatever grammatical properties derive such a principle. Law maintains that this constraint is a necessary condition that must be satisfied in the syntactic component for the D-P sequence to be reanalyzed as a suppletive form at the post-syntactic component. van Riemsdijk (1998) also shows, based on examples structurally similar but more complicated than examples such as (33a, b), that there are cases in where D-P coalescence are blocked even though D and P

are phonologically adjacent when certain syntactic configurations are not met. These observations, therefore, suggest that D-to-P coalescence has its source in the syntax, even though its morphophonolgogical effect is realized post-syntactically by suppletion.

4.2. *Towards an Etiology of P-Stranding Violations across Languages*

In this section, I propose a novel, parametric analysis of the typology of P-stranding under sluicing that draw on these independently motivated assumptions revised in the previous subsection. The proposed analysis is summarized in Table 1, repeated here.

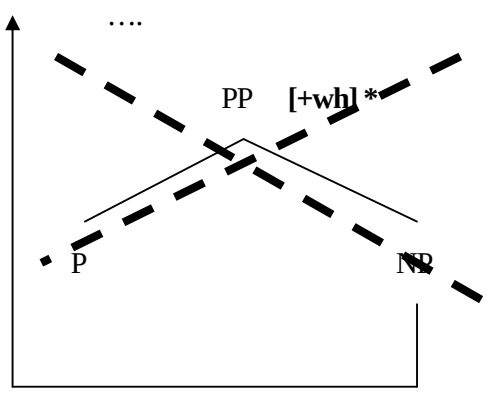
Table 3: The Parametric-Theory of P-Stranding at the Syntax-Phonology Interface

Parameters / Languages	[+wh] feature percolation	D-to-P Incorporation
English (P-stranding under *wh* & slucing)	OPTIONAL	NO
Indonesian (P-stranding only under sluicing)	OBLIGATORY	NO
French (no P-stranding under *wh* & sluicing)	OBLIGATORY	YES

Consider first why English allows P-stranding both under *wh*-movement and sluicing in conformity with the PSG. The answer is quite straightforward under the proposed parametric analysis of P-stranding summarized in Table 2. English allows P-stranding under *wh*-movement because this language has the option of not percolation the [+wh] feature of the nominal complement of P onto the PP. When this option is chosen, the interrogative C attracts the closest element, namely, the *wh*-phrase, onto its specifier, deriving the P-stranding configuration. This yields the example in (4a). When the relevant feature is percolated, then the pied-pied counterpart of (4a) results as in (4b). English also allows P-stranding under sluicing because the preposition left behind within the PP is elided by the deletion of the TP that contains this constituent. This yields (4c).

Consider the Indonesian paradigm that contradicts the PSG. Indonesian does not allow P-stranding is simple; the [+wh] feature of the nominal complement of P must percolate onto the PP. As a result, the PP, which is closest to the interrogative C, must be attracted to its specifier. (3a) is thus deemed ungrammatical. The question is, then, why P-stranding does not yield ungrammatical under sluicing, as illustrated in (3c). It is at this point that the role of the syntax-external phonological system plays an important role in remedying imperfections created by syntactic computation because this idea gives rise to the derivation where the P-standing violation can be ameliorated by deletion at PF. Consider the derivation shown in (34) for (3c).

(34) C



→ feature percolation

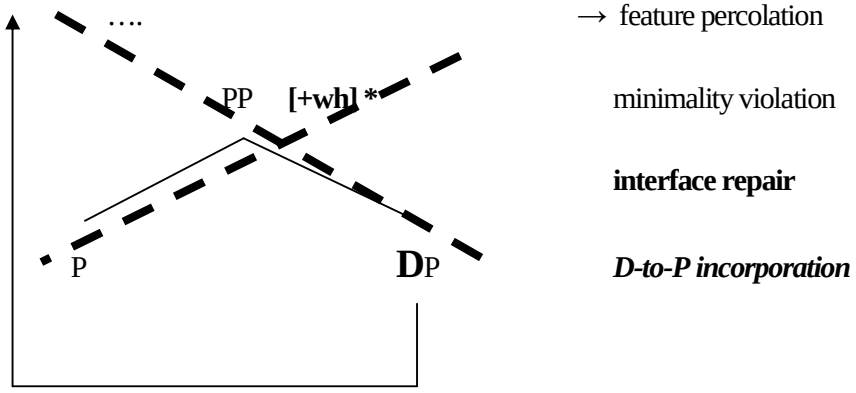
minimality violation

interface repair

In this derivation, the *wh*-phrase by itself undergoes movement into the specifier of the CP. If TP deletion doesn't occur, the violation remains within the constituent that records this violation, say, PPs.. I propose that this violation is nullified in sluicing because TP deletion eliminates this constituent at the syntax-external interpretive component. Note that this analysis is quite closer to Lasnik's (1999, 2001) analysis of pseudogapping that also draws on the "repair-by-deletion". His analysis attempts to derive the result that the overt V raising to *v* that is obligatory under non-elliptical contexts in English does not happen precisely because the constituent (namely, VP) that contains the violation is eliminated by PF deletion. Therefore, the present analysis provides a natural explanation for the apparently atypical P-stranding pattern under sluicing in Indonesian from the interaction of independently motivated assumptions concerning feature percolation and interface repair strategies.

Let us finally consider why French does not allow P-stranding under *wh*-movement or sluicing. French does not permit P-stranding under regular *wh*-movement like Indonesian as in (4a) because the [+wh] feature obligatorily percolates onto the PP that dominates the *wh*-phrase. As shown in (4c), French also does not allow the sluicing construction without the preposition under sluicing. What is crucial here, is, that languages like French have D-to-P syntactic incorporation. Consider the derivation given in (35) for the P-less sluice in (4c).

(35) C



(35) illustrates the one in which the D-to-P incorporation does not occur and the DP itself undergoes movement into [Spec, CP] in violation of the minimality constraint but this cannot be the source for the ungrammaticality of the P-less sluice because the TP deletion should make it grammatical, as we have seen in Indonesian. Importantly, however, this derivation crashes independently because when TP deletion occurs, the D can no longer

incorporate into the P. If the incorporation does happen before the *wh*-movement, still the derivation does not converge because the D and its nominal complement no longer form a constituent. The point is, therefore, that whatever derivation would yield the P-stranding sluice in French crashes because of the syntactic requirement on D-to-P incorporation. This pattern is different from the pattern in Indonesian because this language does not have the D-to-P incorporation ,as the lack of D-to-P coalescence shows.

It is clear, then, that the notion of interface repair by way of deletion plays a crucial role in our account of the three-way contrast between English, Indonesian, and French. The most important point of the proposed analysis is that the syntax-external phonological component can repair certain illicit configurations created in syntax by deleting them but not all configurations: it cannot undo mistakes concerning the D-to-P coalescence that are syntactically conditioned. The present analysis, therefore, provides powerful support for the idea that interface components can conduct domain-specific operations they avail of to repair certain syntactic imperfections but only within the parametrically defined curve set by syntax.

4.3. *New Predictions: Pseudogapping in Indonesian and French and Interface Repair*

The proposed analysis argues that the P-stranding is tolerated in Indonesian only under sluicing because the offending part of syntactic structure is removed by deleting it at the syntax-external phonological component. The proposed analysis, thus, makes a prediction that not only deletion of

TP but also deletion of smaller constituents than TP would also have the ameliorating effect. This prediction is confirmed by the P-stranding pattern in pseudogapping in Indonesian and French. Following the analysis of pseudogapping in English proposed by Lasnik (1999, 2001) (see also Merchant 2008), let us assume that the remnant undergoes movement into the specifier of a higher projection (such as AgroP in Lasnik's analysis) that dominates the VP: a pseduogapping construction arises when the VP gets elided at PF. The P-less sluice in (36a), therefore, indicates that the P-stranding ban can be ameliorated by deletion of constituents smaller than TP.

(36)a. Esti ber-danca dengan Fernando dan Hasan $[_{DP}$ Rifi$]_i$
Esti Vz-dance with Fernando and Hasan Rifi
$[_{VP}$ ~~ber-dancadengan~~ $t_i]$.
'Esti danced with Fernando, and Hasan (danced with) Rifi.'

b. Esti ber-danca dengan Fernando dan Hasan
Esti Vz-dance with Fernando and Hasan
$[_{PP}$ dengan Rifi$]_i$ $[_{VP}$ ~~ber-danca~~ $t_i]$.
with Rifi
'Esti danced with Fernando, and Hasan (danced) with Rifi.'

Conversely, the current analysis predicts that the P-less pseudogapping should be ungrammatical in French because it has the D-to-P syntactic incorporation that cannot be ameliorated by interface repair. This prediction is indeed borne out by the contrast between (37a) and (37b).

(37) a. * Jean a danse avec Marie et Robert $[_{DP}$ Suzanne$]_i$ $[_{VP}$ ~~danse avec~~ $t_i]$.

Jean has danced with Marie and Robert Suzanne

'Jean has danced with Marie, and Robert (danced with) Suzanne.'

b. Jean a danse avec Marie et Robert $[_{PP}$ avec Suzanne$]_i$ $[_{VP}$ ~~danse~~ $t_i]$.

Jean has danced with Marie and Robert with Suzanne

'Jean has danced with Marie, and Robert (danced) with Suzanne.'

Therefore, the contrast between (36a) and (37a) provides strong evidence that the effect of the interface repair strategy is real.

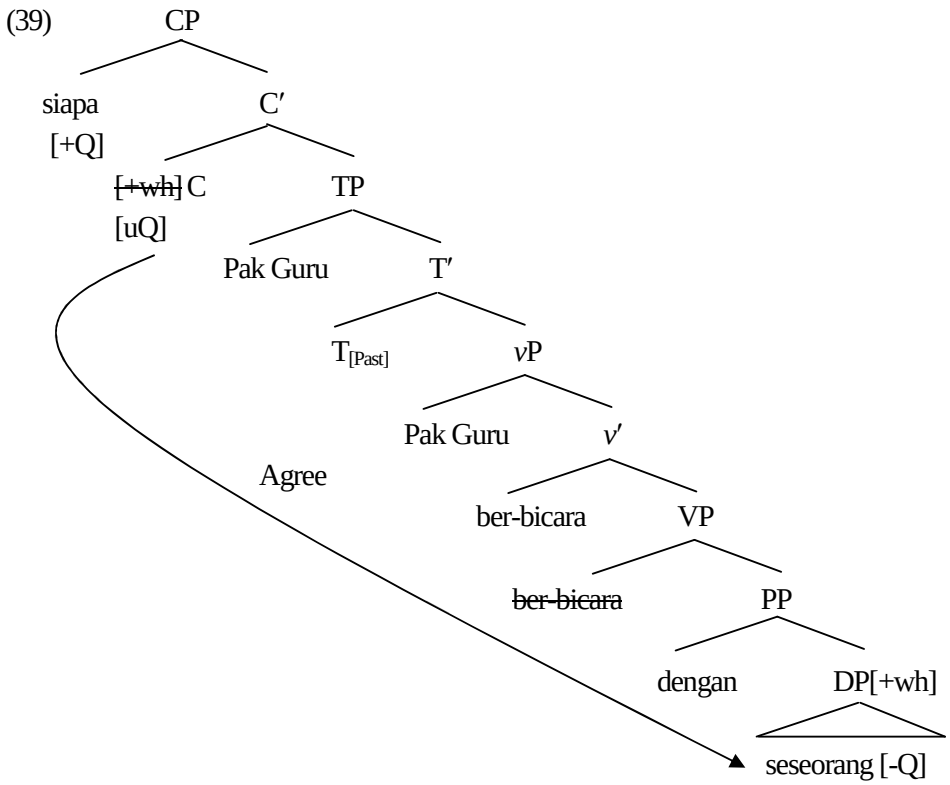
5. Fortin's (2007) LF Copy Analysis of P-Stranding under Sluicing in Indonesian

In this section, I compare the proposed analysis of the P-stranding pattern in Indonesian with the most recent alternative presented by Fortin (2007). As mentioned above, Fortin argues that the P-stranding pattern in Indonesian presents a genuine counterexample to

Merchant's P-Stranding Generalization. I show that there are several serious empirical shortcomings in her analysis that are successfully resolved under the present interface-based approach to P-stranding. Fortin (2007) follows the tradition of the LF Copy theory of sluicing as originally proposed by Chung et al. (1995) but presents a refinement of their original theory within the Minimalist Program. She argues that the sluice is a deficient syntactic structure with no TP. The *wh*-remnant is base-generated in the specifier of CP, with the sluiced clause being supplied semantic content by copying the antecedent TP into the TP part of the sluice via sideward movement in the sense of Nunes (2004). To illustrate the specifics of her analysis, consider the derivation of (38) that involves a DP-remnant in (39) (Fortin 2007: 326, 327).

(38) Pak Guru ber-bicara dengan seseorang, tapi saya tidak tahu **siapa**.
Mr.teacher Vz-speak with someone but I Neg know who
'Pak Guru spoke to someone, but I don't know who.' (Fortin 2007: 326)

(39)



In this derivation, the *wh*-phrase *siapa* 'who' is base-generated in the specifier of the CP. The TP is reconstructed by copying the antecedent TP into the derivation. The probe C then agrees with the NP *seseorang* 'someone'. Fortin assumes that there is a three-way matching relation between the *wh*-phrase in [Spec, CP], the interrogative Q, and the indefinite NP such that that the syntactic category of the *wh*-phrase delimits the syntactic category of the goal NP that C agrees with. In the derivation above, the syntactic category of the indefinite matches with the *wh*-phrase in [Spec, CP] because the [+wh] feature does not percolate onto PP. The example thus can be naturally accommodated under her analysis. Consider now the derivation of the sluice with the PP remnant in (39) in (40).

(39) Pak Guru ber-bicara[$_{PP}$ dengan seseorang], tapi saya tidak tahu

Mr. teacher Vz-talk with someone but I Neg know

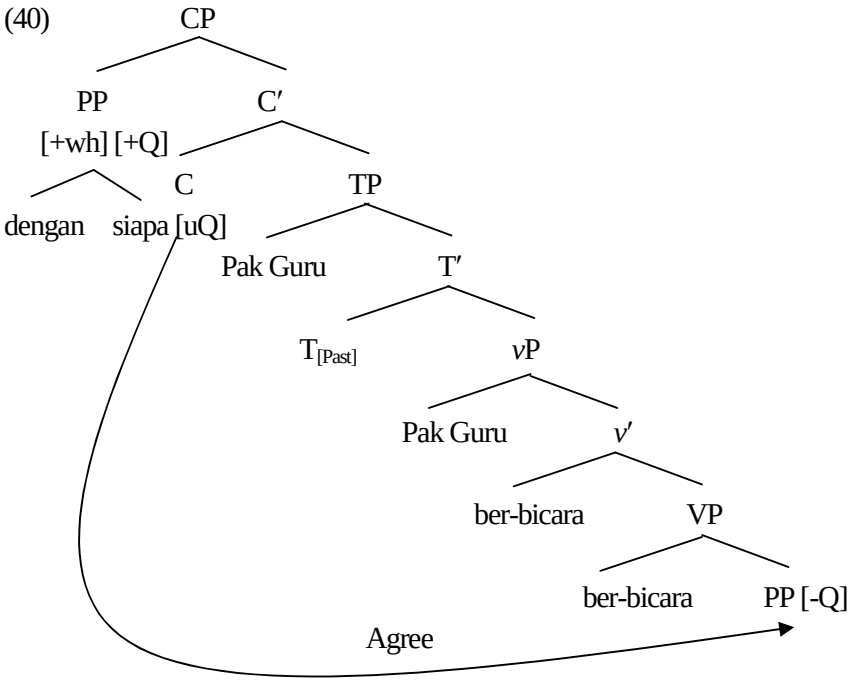
dengan siapa.

with who

'Pak Guru spoke to someone, but I don't know with who.'

(slightly modified from Fortin 2007: 327)

(40)



Here, *dengan siapa* 'with whom' is base-generated in the specifier of the CP with the empty TP being refilled by copying the antecedent TP. Again, the three-way matching requirement between the interrogative PP, the goal C, and the indefinite PP in the

recycled TP requires that the correlate match the interrogative PP in syntactic category. This result is achieved here by the percolation of the [+wh] feature onto the PP so that the whole PP becomes the closest goal from the perspective of the probe C.

There are three difficulties with that Fortin's analysis that suggest that it is not the right way to understand P-stranding under sluicing. The first problem concerns the Case checking of the *wh*-phrase base-generated in [Spec, CP], which has proven a perennial difficulty for the LF Copy Theory of sluicing as in Chung et al (1995) by Merchant (2001). Under the standard assumption that the Case feature of a *wh*-phrase is checked via Agree with an appropriate functional head such as v and T, Fortin's analysis would not provide a natural explanation for how the Case of the base-generated *wh*-remnant can be checked. One could get around this problem by introducing new mechanisms such as Case Transmission but that is clearly an ad hoc assumption without independent motivation. Relatedly, Ross (1969) and Merchant (2001) draws on evidence that, in many languages with rich case morphology, the *wh*-remnant in a sluicing is marked for case that it would bear in a corresponding, non-elliptical *wh*-question. As Ross originally notes, this case-matching effect receives a straightforward account if the sluicing is derived from the regular *wh*-question. It is not clear whether Fortin's analysis derives this result as naturally as the movement + deletion analysis as argued for in this chapter. The second problem concerns the percolation of the [+wh] feature of the complement of a preposition onto the PP. As in the proposed analysis, Fortin assumes, as in the present analysis, that the [+wh]

feature may percolate. As is clear from the derivations in (42) and (43), she assumes that the feature percolation is optional in Indonesian, a view that the proposed analysis does not support. However, this assumption overgenerates. In (42), the *wh*-feature does not percolate whereas in (44), it does. The question is what prevents the percolation in (44) but not in (42); if the feature percolation were optional, the P-stranding should be acceptable under non-elliptical *wh*-questions in Indonesian because nothing in Fortin's analysis requires the percolation. The present analysis is sufficiently constrained in this regard: the [+wh] feature **always** percolates in Indonesian whether the construction in question is a non-elliptical *wh*-question or sluicing. Finally, we have seen above that there are languages such as French which prohibit P-stranding under any context. I have shown that this observation directly follows from the present analysis, which takes seriously the morphophonological property of D-to-P coalescence. It is not clear whether Fortin's analysis could derive the same results as there is no room for the phonological properties of certain prepositions to play a role in her purely syntactic approach. Based on these considerations, the present approach is superior to Fortin's LF Copy + Agree-based approach.

6. Conclusions

The P-stranding pattern in Indonesian presents a challenge to the PSG established by Merchant (2001) in support of his movement + TP deletion analysis of sluicing. Arguments based on the distribution of *-kah* and the obligatory lack of *yang* with PP questions show that the

source of PP-sluicing in this language is via regular *wh*-movement. This observation is important because, to the extent that it is correct, the P-stranding pattern in Indonesian provides the first genuine counterexample to the PSG. This paper then has developed a new theory of P-Stranding that relies on the recent idea of interface repair, coupled with two independently motivated assumptions concerning the percolation of the [+wh] feature and the D-to-P coalescence as the result of syntactic D-to-P incorporation. The three-way contrast in P-stranding between English, Indonesian, and French receives a straightforward explanation in a way that the apparently atypical pattern of Indonesian is naturally accommodated. The current analysis also correctly predicts that deletion of smaller categories than TP should also ameliorate P-stranding violations in Indonesian but not in French. This prediction was verified by the grammaticality of the pseudogapping construction with the DP remnant in Indonesian and the ungrammaticality of the corresponding example in French. If the present analysis holds, the current investigation provides strong evidence that syntax makes derivational "mistakes" and some of them can be repaired by operations such as deletion at the syntax-external phonological component. It is important that only certain mistakes such as minimality violations can be repaired; some others such as D-to-P incorporation cannot be repaired. This result, therefore, is one clear demonstration that the syntax-external phonological component conducts several domain-specific operations they avail of to legitimatize an otherwise illegitimate syntactic object but only within the range of options that is parametrically set by a particular language.

Notes

* An earlier version of this paper was presented at the Thirty-Fourth Annual Meeting of the Berkeley Linguistics Society (February 2008). I thank Andrew Carnie, Sandy Chung, Andy Barss, Cati Fortin, Heidi Harley, Simin Karimi, Dave Medeiros, Jason Merchant, and Jeff Punske for comments. Special thanks go to Dwi Hesti Yuliani, my primary consultant, for data, judgments, and encouragement. All remaining errors are mine.

[1] The present discovered was independently made by Catherine Fortin at her LSA talk in January 2007 in Anaheim, CA at around the same time the present author began to start fieldwork with Indonesian consultants on sluicing. However, the analysis developed in section 5 is quite different from her analysis, each motivated by two distinct sets of assumptions within the minimalist framework. Nonetheless, I wish to acknowledge that her work represents the first comprehensive description of Indonesian sluicing and that the current article is also indebted to her data and analysis as we see in section 3.

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