

# Arguments Against the LF-Copying Analysis of Particle-Stranding Ellipsis: New Evidence from Focus Intonation\*

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## 1 Introduction

Particle-stranding ellipsis (PSE) is a relatively new addition to the catalog of elliptical phenomena in Japanese (Sato & Ginsburg 2007, Nasu 2012, Sato 2012, Goto 2014, Shibata 2014, Sakamoto & Saito 2018, Sato & Maeda 2019, Takita 2020, among others). As illustrated in (1), this instance of ellipsis essentially occurs in an utterance-initial position, leaving only a particle stranded:<sup>1</sup>

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<sup>1</sup> The following abbreviations are used in this paper: ACC = accusative; C = complementizer; CL = classifier; COP = copula; DAT = dative; GEN = genitive; NEG = negation; NML = nominalizer; Q = question; PL = plural; PRT = particle; PST = past tense; TOP = topic marker.

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- (1) a. John-ga doo sita-no?  
 John-NOM how did-Q  
 ‘What did John do?’  
 b. -Ga kaisya-o yameta-rasii-yo  
 -NOM company-ACC quit-seem-PRT  
 ‘John quit his company.’ (adapted from Goto 2014: 103)

Partly due to the specific position of its occurrence, the precise derivation of this kind of ellipsis has been widely debated in the literature. Based on a wide range of empirical observations, I provide a theoretical argument supporting the PF-deletion analysis of PSE (Shibata 2014, Sato & Maeda 2019), as opposed to the LF-copying alternative (Sakamoto & Saito 2018).

The organization of this paper is as follows: After reviewing Sakamoto and Saito’s (2018) LF-copying-based account of PSE in Section 2, I demonstrate that overt extraction out of PSE sites is possible, contrary to the prediction of LF-copying, in Section 3. Section 4 presents a further argument against the LF-copying analysis of PSE, centering crucially on ‘covert across-the-board (ATB) movement’. In Section 5, I provide a previously unnoticed observation, which is that PSE may exhibit focus intonation when a certain type of a particle is employed in the sentence-initial position. Section 6 concludes the paper.

## 2 LF-Copying Analysis of PSE

Establishing that PSE involves ellipsis, instead of instances of covert proforms, Sakamoto and Saito (2018) claim that PSE is best captured by LF-copying, an operation that covertly recovers structure to ellipsis domains. Building on the fact that extractability serves as a useful diagnostic for surface anaphora (Merchant 2013)—if extraction is possible, the targeted domain is equipped with internal structure—Sakamoto and Saito observe that covert extraction out of PSE sites is possible. Their important observation concerns inalienable possessor constructions, such as (2), for which Kikuchi (1994) claims that the genitive-marked possessor undergoes covert raising out of the object nominal:

- (2) a. John-ga kinoo [DP Mary-no tume ]-o kit-ta  
 John-NOM yesterday Mary-GEN nail-ACC cut-PST  
 ‘(Lit.) John clipped [Mary’s nail] yesterday.’  
 b. John-NOM yesterday Mary-GEN [DP Mary-GEN nail]-ACC cut-PST  
 (adapted from Sakamoto & Saito 2018: 352)

Kikuchi’s (1994) motivation for postulating covert raising is based on an interpretative fact regarding floating numeral quantifiers (FNQs) (Miyagawa 1989). Consider (3):

- (3) a. Taroo-wa kuruma-o 2-dai kowasi-ta  
 Taro-TOP car-ACC 2-CL break-PST  
 ‘Taro broke 2 cars.’

- b. \*Gakusei-tati-ga [PP [DP kuruma]-de] 2-dai ki-ta  
 student-PL-NOM car-in 2-CL come-PST  
 ‘Students came in 2 cars.’ (Miyagawa 1989: 31)

While the FNQ *2-dai* can be associated with the object *kuruma* ‘car’ in (3a), the same is not true in (3b): The PP-internal *kuruma* cannot be associated with *2-dai*. This contrast is explained if we posit a condition such as (4), which is imposed on FNQs:

- (4) An FNQ or its trace must be c-commanded by a DP which it predicates of.  
 (adapted from Kikuchi 1994: 81)

Kikuchi (1994) observes that the FNQ-nominal association is impossible when the object nominal consists of a simple nominal, as in (5a); however, it is possible when an inalienable possessum nominal occupies the object position, as shown in (5b):

- (5) a. \*John-ga [DP tomodati-no kuruma]-o 3-nin norimawasi-ta  
 John-NOM friend-GEN car-ACC 3-CL drive.around-PST  
 ‘John drove his friend’s 3 cars around.’ *Simple nominal*
- b. Hanako-wa [DP kodomo-tati-no tume]-o 3-nin kit-ta  
 Hanako-TOP child-PL-GEN nail-ACC 3-CL cut-PST  
 ‘Hanako clipped 3 children’s nails.’ *Inalienable possessum nominal*  
 (adapted from Kikuchi 1994: 82)

The impossibility of (5a) is self-evident and expected: The c-commanding requirement of (4) is not satisfied at any stage of the derivation. With regard to (5b), a cursory look suggests that (5b) should show no contrast with (5a), as (4) is not satisfied in this case either. However, Kikuchi (1994) claims that genitive possessors within inalienable possessum nominals undergo covert raising, thereby allowing *kodomo-tati-no* ‘children-PL-GEN’ to c-command the FNQ, ultimately meeting the c-commanding requirement in (4).

Sakamoto and Saito (2018) demonstrate that genitive possessors undergo covert raising out of inalienable possessum nominals even when they occur as PSE:

- (6) a. Taroo-wa [DP nezumi-no me]-o 50-piki sirabe-ta-n-da-yo-ne?  
 Taro-TOP mouse-GEN eye-ACC 50-CL examine-PST-NML-COP-PRT-PRT  
 ‘Did Taro examine 50 mice’s eyes?’
- b. [DP Δ]-o 100-piki sirabe-ta-n-da-yo  
 -ACC 100-CL examine-PST-NML-COP-PRT  
 ‘He examined 100 mice’s eyes.’ (adapted from Sakamoto & Saito 2018: 353)

In (6a), the possessor *nezumi-no* ‘mouse-GEN’ covertly moves out of the inalienable possessum nominal, thus allowing for the FNQ-nominal association. Anteceded by (6a), the inalienable possessum nominal part of (6b) is now PSE-ed, leaving only the accusative Case-marker behind. Of importance here is that the FNQ-nominal association remains possible in (6b), suggesting that the

possessor covertly undergoes movement out of the PSE position. Sakamoto and Saito (2018) consider this observation to be supporting evidence for their LF-copying analysis.

What about overt extraction from PSE sites? Notice that the explanatory potential of LF-copying is significantly weakened if such extraction is indeed possible, as this analysis assumes no overt structure in syntax. Sakamoto and Saito (2018: 352, Footnote 2) mention that ‘[w]hether overt extraction is possible out of a PSE domain is hard to check due to the fact that PSE is possible only in the “string-initial” position’. There is no doubt that testing the availability of overt extraction is difficult, but I argue that close scrutiny reveals that PSEs do, in fact, permit overt extraction.

### 3 Overt Extraction

Contrary to the prediction of the LF-copying analysis, this subsection demonstrates that overt extraction from PSE sites is possible. The first example is raising-to-object constructions (Kuno 1976, Hiraiwa 2010, among others), as exemplified in (7):

- (7) [TP Taro-ga [<sub>VP</sub> Ai-o<sub>i</sub> kokorokara [<sub>CP</sub> t<sub>i</sub> baka-da to] omotta ]]  
 Taro-NOM Ai-ACC really foolish-COP C thought  
 ‘Taro really considered Ai to be a fool.’

The CP-internal accusative argument *Ai* is moved to the matrix region in (7).<sup>2</sup> Turning (7) into a yes-no question, as in (8a), its answer, (8b), is now PSE-ed:

- (8) a. [TP Taro-ga [<sub>VP</sub> Ai-o<sub>i</sub> kokorokara [<sub>CP</sub> t<sub>i</sub> baka-da to] omotta ]]-no?  
 Taro-NOM Ai-ACC really foolish-COP C thought-Q  
 ‘Did Taro really consider Ai to be a fool?’  
 b. [[<sub>CP</sub> -To]<sub>j</sub> [TP Ken-ga [<sub>VP</sub> Akemi-o<sub>i</sub> kokorokara t<sub>j</sub> omotta]]]-yo  
 -C Ken-NOM Akemi-ACC really thought-PRT  
 ‘Ken really considered Akemi to be a fool.’

In (8b), the embedded CP is moved to the sentence-initial position via scrambling, ultimately leaving only the overt C head *-to*. Thus, this sentence undergoes the following (informally depicted) derivational steps:

- (9) i. [TP really [<sub>CP</sub> Akemi-ACC foolish-COP C] thought ]-PRT  
 ii. [TP Ken-NOM Akemi-ACC really [<sub>CP</sub> \_\_\_ foolish-COP C] thought ]-PRT  
 iii. [[<sub>CP</sub> \_\_\_ foolish-COP C] [TP Ken-NOM Akemi-ACC really \_\_\_ thought ]]-PRT  
 iv. [[<sub>CP</sub> \_\_\_ foolish-COP C] [TP Ken-NOM Akemi-ACC really \_\_\_ thought ]]-PRT

<sup>2</sup> Following Kuno (1976), Tanaka (2002), and others, I assume that the raised argument is moved to the matrix object position.



- (13) a. Yuusyoku-o Taro-ga tukuri, Hanako-ga tabeta  
 supper-ACC Taro-NOM make Hanako-NOM ate  
 ‘Taro cooked dinner and Hanako ate it.’  
 b. supper-ACC Taro-NOM \_\_\_\_\_ make, Hanako-NOM \_\_\_\_\_ ate

Turning (13a) into an instance of PSE, we obtain (14b) as a response to (14a):

- (14) a. Yuusyoku-o Taro-ga tukuri, Hanako-ga tabeta-no?  
 supper-ACC Taro-NOM make Hanako-NOM ate-Q  
 ‘Did Taro cook dinner and Hanako eat it?’  
 b. -O Taro-ga tukuri, Mary-ga tabeta(-n-desu)  
 -ACC Taro-NOM make Mary-NOM ate-NML-COP  
 ‘Taro cooked dinner and Mary ate it.’

The grammaticality of (14b) forces the LF-copying analysis to derive it via covert ATB movement, as illustrated in (15):<sup>3</sup>

- (15) i. Taro-NOM supper-ACC make, Mary-NOM supper-ACC ate(-NML-COP)  
 ii. supper-ACC Taro-NOM \_\_\_\_\_ make, Mary-NOM \_\_\_\_\_ ate(-NML-COP)

Having (15i) as the base, (15ii) moves the two identical objects in each conjunct to the sentence-initial position in an ATB way. If this line of reasoning proves to be correct, PSE involves LF ATB movement, contrasting with the well established fact that the movement in question is banned in a covert way. Therefore, the discussion thus far indicates that PSE cannot be derived via LF-copying.

## 5 PSE Meets Focus Intonation

I present a novel observation in this section, namely that PSE may exhibit focus intonation when it occurs with a certain type of particle. Thus far, considerable attention has been paid to focus intonation in Japanese (Nagahara 1994, Deguchi & Kitagawa 2002, Ishihara 2003, 2007, Sugahara 2003, among others). One crucial trigger of focus intonation is *wh*-questions (Ishihara 2003); Ishihara (2007) observes that sentences containing the negative polarity item (NPI) *-sika* exhibit a focus intonation similar to that found in *wh*-questions. More specifically, he claims that the focus intonation observed in NPI *-sika* sentences is characterized by the following three points:

- (16) a. A focal  $F_0$ -rise of the phrase to which an NPI attaches.  
 b. A post-focal downtrend on all the material following the NPI until the negation that bind the NPI.  
 c. A pitch reset after the negation. (Ishihara 2007: 69)

<sup>3</sup> One may wonder why the accusative Case-marker of ‘supper’ in the sentence-initial position is pronounced in (15ii), even though the phrase is derived via LF-copying. Unfortunately, Sakamoto and Saito (2018) remain silent on how Case-marking interacts with the LF-copying operation. One possible way to resolve this issue is to assume that a DP is dominated by a K head. The entire KP, devoid of its internal DP, first undergoes overt movement to the initial position, followed by the covert copying of the DP, as depicted in (15ii).

According to (16), an XP with *-sika* undergoes F<sub>0</sub>-boosting, followed by a postfocus downtrend until its associated negation. The region following the negation marks an upward pitch reset. Bearing these observations in mind, let us consider the concrete examples in (17):

- (17) a. Naoya-wa [ Mari-**sika** ramu-o nomiya-de noma-**nakat**-ta to] Yumi-ni itta  
 Naoya-TOP Mari-SIKA rum-ACC bar-in drink-NEG-PST C Yumi-DAT said  
 ‘Naoya said to Yumi that only Mari drank rum at the bar.’  
 b. Naoya-**sika** [ Mari-ga ramu-o nomiya-de nonda to] Yumi-ni iwa-**nakat**-ta  
 Naoya-SIKA Mari-NOM rum-ACC bar-in drank C Yumi-DAT say-NEG-PST  
 ‘Only Naoya said to Yumi that Mari drank rum at the bar.’  
 (adapted from Ishihara 2007: 70)

While both the *-sika* phrase and its licensing negation are located within the embedded clause in (17a), they are located in the matrix clause in (17b). The expected intonation patterns of these examples are given below, in which the boxes and shaded areas denote F<sub>0</sub>-boosting and a postfocus downtrend, respectively:<sup>4</sup>

- (18) a. Naoya-TOP [Mari-SIKA rum-ACC bar-in drink-NEG-PST C] Yumi-DAT said  
 b. Naoya-SIKA [Mari-NOM rum-ACC bar-in drank C] Yumi-DAT say-NEG-PST

Let us consider that a *-sika* NPI can occur as a stranded particle of PSE, as seen in (19b):

- (19) a. Taro-wa LGB-sika yoma-nakat-ta-no?  
 Taro-TOP LGB-SIKA read-NEG-PST-Q  
 ‘Did Taro read only LGB?’  
 b. -sika *pro* yoma-nakat-ta-yo  
 -SIKA read-NEG-PST-PRT  
 ‘*pro* (= Taro) read only LGB.’

I argue that sentences with *-sika* exhibit focus intonation (i.e. (16)), even when they undergo PSE. The test sentences are provided below:

- (20) a. Mary-**sika** [Taro-ga itumo mizu-o nomu to] minna-ni iwa-**nakat**-ta-no?  
 Mary-SIKA Taro-NOM always water-ACC drink C everyone-DAT say-NEG-PST-Q  
 ‘Did only Mary tell everyone that Taro always drink water?’  
 b. -**Sika** [Akemi-ga itumo mizu-o nomu to] minna-ni iwa-**nakat**-ta-yo  
 -SIKA Akemi-NOM always water-ACC drink C everyone-DAT say-NEG-PST-PRT  
 ‘Only Mary told everyone that Akemi always drinks water.’

<sup>4</sup> A note on the position of a pitch reset is in order. Ishihara (2007) suggests that the endpoint of a postfocus downtrend is not categorically fixed at the postnegation position but rather occurs somewhere around the negation. Following Ishihara, this study remains noncommittal on this issue.

- (21) a. Mary-wa [ Taro-ga itumo mizu-**sika** noma-**nai** to] minna-ni itta-no?  
 Mary-TOP Taro-NOM always water-SIKA drink-NEG C everyone-DAT said-Q  
 ‘Did Mary tell everyone that Taro always drinks only water?’
- b. -**Sika** Mari-wa [ Akemi-ga itumo noma-**nai** to] minna-ni itta-yo  
 -SIKA Mari-TOP Akemi-NOM always drink-NEG C everyone-DAT said-PRT  
 ‘Mari told everyone that Akemi always drinks only water.’

In (20b), the PSE-ed *-sika* is associated with the matrix negation, whereas it is associated with the negation within the embedded CP in (21b). The expected intonation patterns are shown below:

- (22) a. -SIKA [Akemi-NOM always water-ACC drink C] everyone-DAT say-NEG-PST-PRT  
 b. -SIKA Mari-TOP [Akemi-NOM always drink-NEG C] everyone-DAT said-PRT

I argue that the predicted focus intonation patterns in (22) are indeed attested. The pitch tracks obtained for (20b) and (21b) are shown in Figures 1 and 2 below:

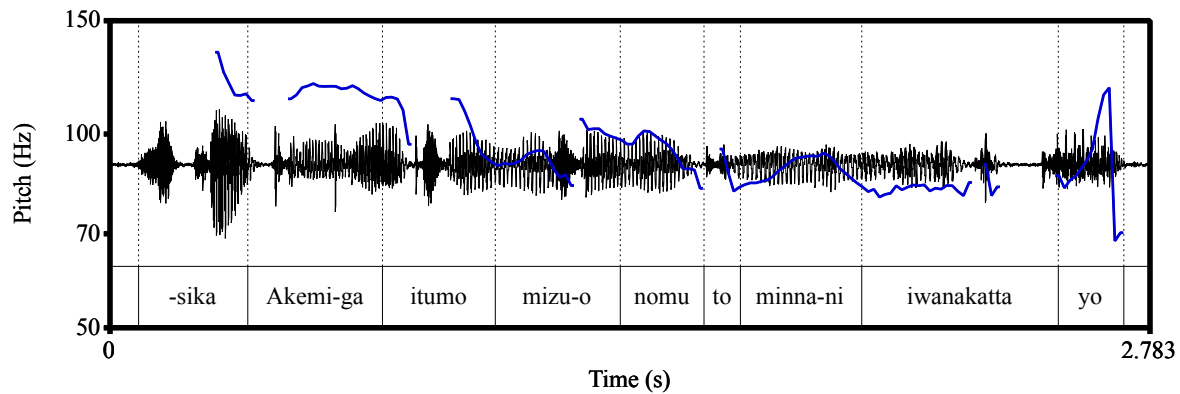


Figure 1: Pitch Track of (20b)

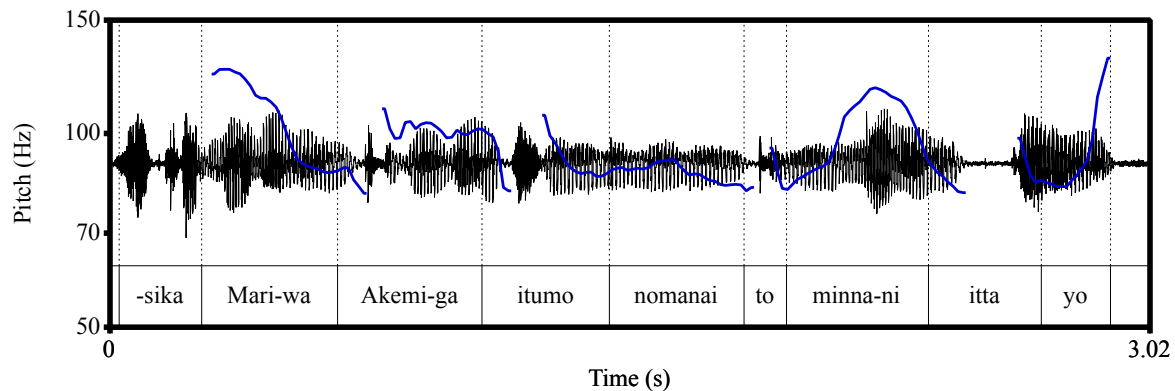


Figure 2: Pitch Track of (21b)

Figure 1, which presents the pitch contour obtained from (20b), shows that *-sika* starts with a higher pitch, followed by a postfocus downtrend. Turning to Figure 2, which shows the pitch contour in (21b), it reveals the higher pitch in the sentence-initial area, and that the subsequent domain undergoes pitch reduction. Of note, the region after the negation exhibits an upward pitch reset.

The current observations on focus intonation in the PSE environment, coupled with the above data pertaining to overt extraction and covert ATB movement, provide a strong argument against the LF-copying analysis of PSE, as the analysis cannot predict the observed focus intonation patterns presented here. More concretely, a covertly recovered syntactic structure cannot trigger the computation of focus intonation, regardless of what it is. Overall, in the current paper, I take a stand against the LF-copying analysis of PSE but support the PF-deletion alternative. The latter analysis neatly explains the observed intonation patterns by considering that the computation of focus intonation, potentially carried out at syntax (Ishihara 2003, 2005), precedes phonological deletion. Accordingly, the stranded *-sika* NPI induces focus intonation.

## 6 Conclusion

In this paper, I have argued that the LF-copying-based analysis of PSE suffers from empirical drawbacks based on observations regarding overt extraction, covert ATB movement, and the focus intonation of NPI *-sika*. The final conclusion drawn from our discussion is that PSE is best accounted for by PF-deletion rather than LF-copying. If the present analysis is on the right track, it not only contributes to a better understanding of elliptical phenomena in Japanese but also provides an important perspective on ellipsis-prosody interactions, an area that has yet to be fully explored in the literature.

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