

Parasitic Gaps as Backward Argument Ellipsis*

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1 Introduction

It has long been assumed since Hoji (1985) that Japanese parasitic gaps (PGs) are licensed through overt *wh*-movement. As illustrated in (1), while covert *wh*-movement cannot license PGs, scrambling *wh*-phrases can. The italicized categories *t* and *e* are marked as real gaps (or elided phrases) and PGs, respectively. This practice is followed throughout this paper.

- (1) a. *[Hitome *e*₁ mita hito]-ga dare_i-o sukininata -no?
one glance saw person-Nom who-Acc fell in love -Q
Lit. ‘Who did the person that took a glance at *e* fall in love with *t*?’
b. Dare_i-o [hitome *e*₁ mita hito]-ga *t*_i sukininata-no?¹ (Hoji 1985: 51, 74)

Contrary to this analysis, this paper demonstrates that overt movement is unnecessary to license Japanese PGs. Despite covert movement, (2) and (3) are grammatical. (2) is a case where the PG is embedded in the subject position; (3) is a case where the PG is embedded in the adjunct phrase.

- (2) (?) [*e*₁ yomi-oeta hito]-ga John-ni nani_i-o kaeshita -no?
finished-reading person-Nom -Dat what-Acc returned -Q
Lit. ‘What did the person who finished reading *e* return *t* to John?’
(3) (?) John-wa [Tom-ga *e*₁ kau]-maeni nani_i-o katta -no?
-Top -Nom buy-before what-Acc bought -Q
Lit. ‘What did John buy *t* before Tom bought *e*?’

On the basis of this observation, this paper suggests that the ungrammaticality of (1a) should be attributed to the structural ambiguity induced by relative clauses in Japanese. Furthermore, it is shown that the ambiguity can be deduced from the properties of backward ellipsis.

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¹ One might analyze this sentence as follows:

(i) Dare_i-o [hitome *t*_i mita hito]-ga *e*₁ sukininata-no?

In this derivation, the *wh*-phrase moves out of the relative clause. Let us show that the derivation in (1b) is legitimate by means of case mismatch (see also footnote 2) and the double *o* constraint (only one accusative case can appear within a clause).

(ii) a. Dare_i-ni [hitome *e*₁ mita hito]-ga *t*_i kandooshita -no?
who-Dat one glance saw person-Nom was-moved -Q

Lit. ‘Who was the person that took a glance at *e* moved by *t*?’

b. ??Dare_i-o [hitome *e*₁ mita hito]-ga *t*_i suisen-o shita -no?
who-Acc one glance saw person-Nom recommendation-Acc did -Q

Lit. ‘Who did the person that took a glance at *e* recommend *t*?’

As in (iia), since the verb *kandoo-suru* assigns a dative case to its object and *miru* assigns an accusative case, the *wh*-phrase which contains a dative case move from the position of *t*. Next, (iib) is odd. This is due to the double *o* constraint in Japanese. This datum also backs up the derivation in (1b).

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The present analysis is consistent chiefly with Takahashi (2006), who reduces Japanese PGs to argument ellipsis phenomena. More specifically, the sentence (4a) is derived via argument ellipsis, as depicted in (4b).

- (4) a. (?)Mary-wa [Tom-ga e_i tukatta]-atoni kare-kara nani-o karita -no?
 -Top -Nom used-after -from what-Acc borrow -Q
 Lit. ‘What did Mary borrow t after Tom used e ?’
 b. (?)Mary-wa [Tom-ga e_i tukatta]-atoni kare-kara nani-o karita-no?
↑ LF-copying

Our proposal resolves theoretical problems that Takahashi’s (2006) account encounters. A consequence of our proposal is that Japanese lacks genuine PGs.

The remainder of this paper is structured as follows: Section two shows that Japanese PGs are independent of overt *wh*-movement. Based on the preceding observations, section three argues for Takahashi’s (2006) argument ellipsis analysis. Section four shows that backward ellipsis plays a crucial role in grammaticality. Section five is a brief summary of this paper.

2 Argument against Hoji’s (1985) PG analysis

This section claims that Japanese PGs do not require overt *wh*-movement, arguing against Hoji’s (1985) PG analysis.

2.1 Overt Movement Hoji (1985) draws a parallelism between Japanese PGs and their English counterparts (Engdahl 1983, Contreras 1984, Kayne 1984, Chomsky 1986, among others). Hoji’s (1985) analysis relies on the fact that only overt *wh*-movement can license PGs.

- (5) a. *Who rejected which paper_i without reading e_i ?
 b. Which paper_i did John reject t_i [without reading e_i]?
- (6) a. *[Hitome e_i mita hito]-ga dare_i-o sukininata -no?
 one glance saw person-Nom who-Acc fell in love -Q
 Lit. ‘Who did the person that took a glance at e fall in love with t ?’
 b. Dare_i-o [hitome e_i mita hito]-ga t_i sukininata-no? (Hoji 1985: 51, 74)
- (7) a. *Kimi-wa [kaisya-ga e_i kubinishita]-atode dare_i-o nagusameta -no?
 you-Top company-Nom fired -after who-Acc consoled -Q
 Lit. ‘Who did you console t after the company had fired e ?’ (Hoji 1985: 53)
 b. Dare_i-o kimi-wa [kaisya-ga e_i kubinishita]-atode t_i nagusameta-no?

The unavailability of the (a)-sentences is due to the absence of overt movement. Meanwhile, overt *wh*-movement licenses the PGs in the (b)-sentences. As far as this data is concerned, it is plausible to conclude that (6b) and (7b) are genuine PGs in Japanese.

2.2 Covert Movement The PG analysis fails to capture the following data. The (a)-sentences may be slightly awkward compared with the (b)-sentences², but they are fairly acceptable regardless of whether

² (9) exhibits case mismatch. The verb *yoke-ru* (dodge) assigns its object an accusative case, but *butsukar-u* (crash) assigns its object a dative case. As Takahashi (2006) points out, Japanese PGs do not require case match. Furthermore, Saito (2007a) shows that argument ellipsis allows case mismatch.

(i) John-ga zibun-no musuko_i-ni gakkarishita. Mary-wa e_i syoosanshita.
 -Nom self-Gen son -Gen was-disappointed-with Mary-Top praised

they are embedded in adjunct phrases or subject phrases.

- (8) a. (?) $[e_i$ nusunda-hito]-ga nani-o uritobashita-no?
 stole person-Nom what-Acc sold -Q
Lit. ‘What did the person who stole e sell t ?’
 b. Nani-o $[e_i$ nusunda-hito]-ga t_i uritobashita-no?
- (9) a. (?) $[e_i$ yokeyooto-shita-hito]-ga nani-ni butasukatta -no?
 try to dodge-Past person-Nom what-Acc bumped into -Q
Lit. ‘What did the person who tried to dodge e bump into t ?’
 b. Nani-ni $[e_i$ yokeyooto-shita-hito]-ga t_i butasukatta-no?
- (10) a. (?)John-wa $[Mary$ -ga e_i kau]-maeni dono honi-o yomioeta -no?
 -Top -Nom buy-before which book-Acc finished reading -Q
Lit. ‘Which book did John finish reading t before Mary bought e ?’
 b. Dono honi-o John-wa $[Mary$ -ga e_i kau]-maeni t_i yomioeta-no?
- (11) a. (?)John-wa $[Mary$ -ga e_i otoshita basyo]-de issyoni nani-o sagashita -no?
 -Top -Nom lost place-at together what-Acc looked for -Q
Lit. ‘What did John look for t at the place Mary lost e ?’
 b. Nani-o John-wa $[Mary$ -ga e_i otoshita basyo]-de issyoni t_i sagashita-no?

It is clear that Hoji (1985) incorrectly predicts that the (a)-sentences are ungrammatical. Hence, it turns out that these facts pose a serious problem for the PG analysis. The next section describes an argument ellipsis analysis for Japanese PGs, drawing on Takahashi (2006).

3 The Argument Ellipsis Analysis

This section argues for Takahashi (2006) and tries to eliminate Takahashi’s (2006) generalization in terms of covert *wh*-movement. This proposal supports Takahashi’s (2006) analysis and overcomes its difficulties.

3.1 Takahashi (2006) Takahashi (2006) presents the argument ellipsis analysis for Japanese PGs (see Oku 1998, Kim 1999, Saito 2007a), adopting LF-copying (Williams 1977). We set aside issues that arise regarding the choice between LF-copying and PF-deletion (Hankamer and Sag 1976) in elliptical constructions. (12) shows typical cases of argument ellipsis.

- (12) a. Santa Claus_i-ga John-no ie-ni kita. e_i Mary-no ie-ni-mo kita.
 -Nom -Gen house-Dat came -Gen house-Dat-also came
Lit. ‘Santa Claus came to John’s house, and e also came to Hanako’s house.’
 b. Brown sensei-ga Johni-o hometa. Smith sensei-mo e_i hometa.
 Mr. -Nom -Acc praised Mr. -also praised
Lit. ‘Mr. Brown praised John. Mr. Smith also praised e .’

Subjects and objects can be omitted. One important property of argument ellipsis is concerned with the availability of the strict/sloppy identity.

- (13) John-wa zibun-no musume_i-o shikatta. Mary-mo e_i shikatta.
 -Top self-Gen daughter-Acc scolded -also scolded
Lit. John scolded self’s daughter. Mary also scolded e .’

Lit. ‘John was disappointed with his son. Mary praised e .’

Whereas the verb *gakkari-suru* assigns a dative case to its object, the verb *syoosan-suru* assigns an accusative case to its object. Despite the case mismatch, (i) can involve argument ellipsis.

The second sentence can be construed in at least two ways: i) Mary also scolded John's daughter (strict identity), or ii) Mary also scolded her (=Mary's) daughter (sloppy identity).

Takahashi (2006) makes use of cleft constructions for Japanese PGs instead of scrambling. According to this analysis, the *wh*-phrase is copied onto the ellipsis site, *e*, at LF.

- (14) [Hazimete e_i au hito]-ga t_i kenasu no-wa dare_i-o desu -ka?
 for-the-first-time see person-Nom criticize that-Top who-Acc is -Q
Lit. 'Who is it that people who see *e* for the first time criticize *t*?' (Takahashi 2006: 7)

By doing so, Takahashi (2006) provides a uniform account of several properties of Japanese PGs, such as the sloppy/strict identity, island insensitivity, and so on.

3.2 Takahashi's (2006) generalization Takahashi's (2006) analysis summarized above poses a problem with respect to *wh*-movement, since Takahashi (2006) maintains that the operation is mandatory to license Japanese PGs. More precisely, Takahashi (2006) establishes the following generalization:

- (15) (T)he position of the reconstructed part should be occupied by a variable which is bound by the original *wh*-phrase, not by a *wh*-phrase (Takahashi 2006: 17)

In short, the trace of a *wh*-phrase must be copied onto an elided phrase. For instance, sentence (14) is grammatical because of the presence of the *wh*-trace. In contrast, the instance (16) is illicit since no trace of the *wh*-phrase appears³.

- (16) ?*[Hazimete e_i au hito]-ga dare_i-o kenashimasu -ka?
 for-the-first-time see person-Nom who-Acc criticize -Q
Lit. 'Who do people who see *e* for the first time criticize *t*?' (Takahashi 2006: 8)

The generalization at hand works under the assumption that Japanese PGs require overt *wh*-movement.

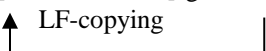
Nevertheless, this analysis conflicts with our observation. As already described in the previous section, covert *wh*-movement can also license Japanese PGs.

- (17) (?) [e_i nusunda-hito]-ga nani_i-o uritobashita -no?
 stole person-Nom what-Acc sold -Q
Lit. 'What did the person who stole *e* sell *t*?'

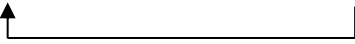
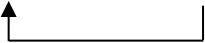

Takahashi's (2006) generalization cannot deal with (17). Since no trace (or copy) of the *wh*-phrase is left, this sentence is expected to be ungrammatical, but it is not the case. Let us revise the generalization as follows:

- (18) A *wh*-phrase is copied onto the ellipsis site at LF.

Following this simple assumption, the (a)-sentences in (8)-(11) should be represented as follows. Each *wh*-phrase undergoes LF-copying.

- (19) a. (?) [e_i nusunda-hito]-ga nani_i-o uritobashita-no?

 An arrow labeled 'LF-copying' points from the ellipsis site e_i in the first part of the sentence to the *wh*-phrase *nani_i-o* in the second part.

³ Takahashi (2006) assumes that Japanese does not allow covert *wh*-movement.

- b. (?) [e_i yokeyooto-shita-hito]-ga nani-ni butrukatta-no?

- c. (?) John-wa [Mary-ga e_i kau]-maeni dono honi-o yomioeta-no?

- d. (?) John-wa [Mary-ga e_i otoshita basyo]-de issyoni nani-o sagashita-no?


The amended hypothesis in (18) can explain (17) since it does not require overt *wh*-movement. It also eliminates Takahashi's (2006) original generalization in (15).

What is striking is that instances of covert *wh*-movement allow the sloppy/strict identity. This property naturally follows from the argument ellipsis analysis.

- (20) (?) [Mary-ga e_i suteru-kamoshirenai-to kiita hito]-ga John-ni
 -Nom may-throw-away-Comp heard person-Nom -Dat
 zibun-no dono-hon-o hozonsuru-yooni meizita -no?
 self-Gen which book-Acc keep-to ordered -Q
Lit. 'Which self's book did the person who heard Mary may throw away e order John to keep t ?'
 (...heard that Mary may throw away {John's book (strict)/her book (sloppy)})

- (21) (?) John-wa [Mary-ga e_i happyoosuru]-maeni zibun-no dono honi-o shuppanshita -no?
 -Top -Nom announce-before self-Gen which book-Acc published -Q
Lit. 'Which self's book did John publish t before Mary announced e ?'
 (...before Mary announced {John's book (strict)/her book (sloppy)})

Viewed in this way, the argument ellipsis approach is more plausible than the PG analysis⁴.

Before proceeding, one note is in order. Takita (2011)⁵ points out that *wh*-phrases generally cannot involve argument ellipsis. As shown in (22), the elided phrase cannot be interpreted as a *wh*-phrase.

- (22) Taroo-wa [Hanako-ga nani-o katta -ka] tazuneta.
 -Top -Nom what-Acc bought -Q asked
 'Taroo asked what Hanako bought.'
 (*) Ziroo-mo [Yooko-ga e_i katta -ka] tazuneta.
 -also -Nom bought -Q asked
 '(intended) Ziroo also asked what Yooko bought.' (Adapted from Takita 2011)

One might claim that this observation undermines our analysis. The observation, however, ignores another possible interpretation: (*Lit.*) *Ziroo also asked if Yooko bought e* . In other words, this sentence has a *yes/no*-question interpretation (see also Oku 2016). This indicates that the second sentence in (22) is involved with argument ellipsis. In fact, the sentence displays both the strict/sloppy readings in (23).

- (23) Taroo-wa [Hanako-ga zibun-no sukina dono honi-o katta -ka] tazuneta.
 -Top -Nom self-Gen favorites-of which book-Acc bough -Q asked
Lit. 'Taroo asked which book of self's favorites Hanako bought.'
 Ziroo-mo [Yooko-ga e_i katta -ka] tazuneta.
 -also -Nom bought -Q asked

⁴ Notice here that our hypothesis apparently cannot explain why sentences like (16) are ungrammatical. We return to this issue in section four.

⁵ This observation is first pointed out by Saito (2007b). Takita's (2011) data are instead cited here, because the original data of Saito (2007b) were not found.

Lit. ‘Ziroo also asked if Yooko bought *e*.’

The strict interpretation is that *Ziroo also asked if Yooko bought Hanako’s favorites*. The sloppy reading is that *Ziroo also asked if Yooko bought her (=Yooko’s) favorite*. In addition, the same applies to matrix questions.

- (24) John-wa zibun-no sukina dono hon_i-o katta -no?
 -Top self-Gen favorite which-book-Gen bought -Q
 Mary-mo *e*_i katta -no?
 -also bought -Q
 ‘Did Mary also buy John’s favorite book?’ (strict)
 ‘Did Mary also buy her favorite book?’ (sloppy)

Moreover, Japanese PGs do not have multiple *wh*-question interpretations, either. The matrix clause is a *wh*-question, but the embedded clause is not.

- (25) [*e*_i tabeta koto-no-nai hito]-ga nani_i-o tabe tagatteiru-no?
 eaten have-not person-Nom what-Acc eat want-to -Q
Lit. ‘What does the person who has not eaten *e* want to eat *t*?’

To put it differently, (25) is related to *yes/no* questions in embedded clauses and compatible with (22)-(24). Although the reason why these examples do not have *wh*-question interpretations is still left unanswered, Takita’s (2011) observation does not completely collapse Takahashi’s (2006) analysis.

4 Grammaticality Judgment

This section addresses the question: why do some instances of covert *wh*-movement influence grammaticality judgment? As a first step, we treat ambiguity as the factor that influences judgment. Next, we try to deduce the reason why the factor has ambiguity in terms of backward ellipsis.

4.1 Ambiguity It is necessary to explain why (26)-(28) are unacceptable in order to justify our analysis. This subsection suggests that the unavailability has something to do with ambiguity.

- (26) *[Hitome *e*_i mita hito]-ga dare_i-o sukininatta -no?
 one glance saw person-Nom who-Acc fell in love -Q
Lit. ‘Who did the person that took a glance at *e* fall in love with *t*?’ (Hoji 1985: 51)
- (27) ?*[Hazimete *e*_i au hito]-ga dare_i-o kenashimasu -ka?
 for-the-first-time see person-Nom who-Acc criticize -Q
Lit. ‘Who do people who see *e* for the first time criticize *t*?’ (Takahashi 2006: 8)
- (28) *Kimi-wa [kaisya-ga *e*_i kubinishita]-atode dare_i-o nagusameta -no?
 you-Top company-Nom fired -after who-Acc consoled -Q
Lit. ‘Who did you console *t* after the company had fired *e*?’ (Hoji 1985: 53)

First, the unacceptability of (26)-(27) can be attributed to their structural ambiguity caused by the properties of Japanese relative clauses. Verbs like *mi-ru* (see), *au* (meet), *home-ru* (praise) induce structural ambiguities, as shown in (29).

- (29) a. *e*_{object} mita/atta/hometa hito_{subject}
 b. *e*_{subject} mita/atta/hometa hito_{object}

The empty categories can be construed as either the object or the subject, as instantiated in (30).

- (30) [*e* mita/atta/hometa dansei]-ga sanposhiteita.
 saw/met/praised man-Nom was-walking
 ‘The man who saw/met/praised someone was walking.’
 ‘The man who someone saw/met/praised was walking.’

In fact, the verbs *au* (meet) and *home-ru* (praise) as well as *mi-ru* (see) make instances of covert *wh*-movement unacceptable, as shown below:

- (31) ??[*e*_i atta hito]-ga dare_i-ni odoroit_a -no?
 met person-Nom who-Dat was-surprised-at -Q
Lit. ‘Who was the person that met *e* surprised at *t*?’
- (32) ??[*e*_i hometa hito]-ga dono hito_i-o suisenshita -no?
 praised person-Nom which person-Acc recommended -Q
Lit. ‘Who did the person that praised *e* recommend *t*?’

Intriguingly, similar examples are grammatical once their ambiguities are removed, as illustrated below. The interpretation of (29b) is unavailable since *wh*-phrases which are exclusively identified as objects are contained.

- (33) (?) [Hitome *e*_i mita hito]-ga {dono poster_i-o/nani_i-o} sukininata -no?
 one glance saw person-Nom which poster-Acc/what-Acc became fond of -Q
Lit. ‘{Which poster/What} did the person that took a glance at *e* become fond of *t*?’
- (34) (?) [Battari *e*_i atta hito]-ga dono uchuzin_i-ni odoroit_a -no?
 unexpectedly saw person-Nom which alien-Dat was-surprised-at -Q
⁶*Lit.* ‘Which alien was the person that came across *e* surprised at *t*?’
- (35) (?) [*e*_i hometa hito]-ga dono ronbun_i-o suisenshita -no?
 praised person-Nom which paper-Acc recommended -Q
Lit. ‘Which paper did the person that praised *e* recommend *t*?’

Notably, the traditional instance of Japanese PG (26) becomes grammatical, as (33) shows.

Let us next turn to (28), as repeated below:

- (36) *Kimi-wa [kaisya-ga *e*_i kubinishita]-atode dare_i-o nagusameta -no?
 you-to company-Nom fired -after who-Acc consoled -Q
Lit. ‘Who did you console *t* after the company had fired *e*?’ (Hoji 1985: 53)

(36) is ungrammatical because the antecedent of the empty category *e* can be not only *dare-o* (who) but also *kimi* (you). The ambiguity involved with co-reference has to do with grammaticality judgment. The

⁶ The *wh*-phrases in (34) and (35) cannot be replaced with *nani-o/ni* (what) as follows:

- (i) a. ??[Battari *e*_i atta hito]-ga nani_i-ni odoroit_a -no?
 unexpectedly saw person-Nom what-Dat was-surprised-at -Q
Lit. ‘What was the person that came across *e* surprised at *t*?’
 b. ??[*e*_i hometa hito]-ga nani_i-o suisenshita -no?
 praised person-Nom what-Acc recommended -Q
Lit. ‘What did the person that praised *e* recommend *t*?’

This is because the verb *aw* (see) requires the object to be [+animate]. On the other hand, *nani* is an inanimate object, giving rise to the semantic mismatch between *aw* and *nani*. Notice also that the verb *home-ru* (praise) forces the object to be interpreted as [+animate] unless the object itself means inanimacy. Since *nani* does not inherently involve animacy, (ib) is odd. Thus, the ungrammaticality of (i) does not deny our analysis.

next subsection deduces this property. On the other hand, (37) is grammatical, since presidents are unlikely to be fired by the company that they founded in light of our common sense, which means the antecedent of the empty category is interpreted as *dono-hirasyain* (employee).

- (37) (?) Sono syachou-wa [sono kaisya-ga e_i kubinishita]-atode
 the president-Top the company-Nom fired -after
 dono hirasyain_i-o nagusameta -no?
 which employee-Acc consoled -Q
Lit. ‘Which did the president console t after the company had fired e ?’

To summarize, (26)-(28) are ill-formed since they display ambiguities with regard to their structures and co-reference. The next subsection attempts to explain the slight awkwardness of instances of covert *wh*-movement and deduce the ambiguity at issue.

4.2 Backward Ellipsis Some speakers still judge examples of covert *wh*-movement as more or less awkward⁷.

- (38) (?) [e_i yomi-oeta hito]-ga John-ni nani-o kaeshita -no?
 finished-reading person-Nom -Dat what-Acc returned -Q
Lit. ‘What did the person who finished reading e return t to John?’

- (39) (?) John-wa [Tom-ga e_i kau]-maeni nani-o katta -no?
 -Top -Nom buy-before what-Acc bought -Q
Lit. ‘What did John buy t before Tom bought e ?’

For such speakers, sentences like (38) and (39) are derived through backward ellipsis.

- (40) a. John-wa musuko_i-o shikatta kedo, Mary-wa e_i hometa.
 -Top his son-Acc scolded although -Top praised
Lit. ‘John scolded his son, but Mary praised e .’
 b. (?) John-wa e_i shikatta kedo, Mary-wa musuko_i-o hometa.

Backward ellipsis makes (40b) slightly odd. (38) and (39) are equivalent to (40b) in that the elliptical sites precede their antecedents.

In the previous section, we observed that Japanese PGs are subject to structural ambiguity, as shown below:

- (41) a. *[Hitome e_i mita hito]-ga dare_i-o sukininatta -no?
 one glance saw person-Nom who-Acc fell in love -Q
Lit. ‘Who did the person that took a glance at e fall in love with t ?’
 b. Dare_i-o [hitome e_i mita hito]-ga t_i sukininatta no? (Hoji 1985: 51, 74)

Crucially, backward ellipsis can induce the ambiguity. Forward ellipsis spontaneously avoids the structural ambiguity in question. Recall that the verb *au* (meet) induces the ambiguity.

- (42) a. ?? [e_i awanakatta hito]-ga sanposhiteita toki, [John_i-ni atta hito]-mo sanposhiteita.
 did-not-see person-Nom was-walking when -Dat saw person-also was-walking
Lit. ‘When the person who did not see e was walking, the person who saw John was also walking.’
 b. [John_i-ni awanakatta hito]-ga sanposhiteita toki, [e_i atta hito]-mo sanposhiteita.

⁷ For instance, Hoji (1985) and Hasegawa (1984/85) attribute their awkwardness to weak crossover effects.

This pair patterns with (41). These facts indicate that one of the properties of backward ellipsis causes structural ambiguity.

Further, the following contrast also falls within the properties of backward ellipsis.

- (43) a. *Kimi-wa [kaisya-ga e_i kubinishita]-atode dare_i-o nagusameta -no?
 you-to company-Nom fired -after who-Acc consoled -Q
Lit. ‘Who did you console t after the company had fired e ?’ (Hoji 1985: 53)
 b. Dare_i-o kimi-wa [kaisya-ga e_i kubinishita]-atode t_i nagusameta no?

As in (43a), *kimi* (you) is located on the left side of the null position e , and *dare* (who) on the right side of it. On the other hand, (43b) does not have an antecedent to the left of e . Interestingly, (44) shows that a phrase to the left of e is more likely to serve as its antecedent.

- (44) John-wa Mary_i-o shikari, Bill-wa $e_{i??j}$ home, Tom-wa Catherine_j-o nagusameta.
 -Top -Acc scolded -Top praised -Top -Acc consoled
Lit. ‘John scolded Mary, Bill praised e , and Tom consoled Catherine.’

The potential antecedent *Catherine* cannot be the antecedent for the ellipsis site. This means that, in (43a), the antecedent of e is *kimi* (you) rather than *dare* (who): after the company had fired you, who did you console? This interpretation is contextually inappropriate, since it is pragmatically unnatural that you console someone else after you get fired.

These observations indicate that it is not essential to attribute the awkwardness of (41a) and (43a) to the properties of PGs. The argument ellipsis analysis suffices to explain the data. Here, a question arises as to why backward ellipsis is responsible for the structural ambiguity and co-reference. At this point, there is no clear answer to this puzzle. One possibility would be that the solution lies outside the syntax (e.g., parsing), but we do not pursue this issue in this paper.

Finally, Hoji (1985), Hasegawa (1984/85), and Takahashi (2006) judge (45) and (46) as ungrammatical.

- (45) (*)Kimi-wa [Mary-ga e_i yomu]-maeni dono honi-o suteta -no?
 you-Top -Nom read-before which book-Acc threw away -Q
Lit. ‘Which book did you throw away t before Mary read e ?’ (Hoji 1985: 55)
 (46) (?*)[e_i yonda gakusei]-ga dono ronbun_i-ni unzarishita -no?
 read student-Nom which paper-Dat got-bored-with -Q
Lit. ‘Which paper did the student who read e got bored with t ?’ (Takahashi 2006: 8)

(45) and (46) do not cause the ambiguity in question. In fact, they can be judged as quite acceptable. The slight awkwardness is presumably due to backward ellipsis. These examples tell us that we should be cautious when analyzing Japanese PGs since the grammaticality varies depending on sentences.

5 Summary

Overt *wh*-movement is irrelevant to licensing Japanese PGs. Rather, Japanese PGs should be analyzed by the argument ellipsis strategy, following Takahashi (2006). This paper has shown that instances of covert *wh*-movement lead to eliminating Takahashi’s (2006) generalization. Their slight awkwardness is triggered by backward ellipsis which is also responsible for their structural ambiguity and co-reference. If the present proposal is on the right track, Japanese does not have PGs. Theoretical explanations of backward ellipsis remain to be fully explored in the future.

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