A Note on Argument Ellipsis under Left Node Raising*

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1. Introduction

This squib examines argument ellipsis (AE) in left node raising (LNR) context. Japanese LNR is exemplified in (1):[1]

(1) Koneko-o Taroo-ga e_1 hiroi, Hanako-ga e_2 sodateta.
kitty -ACC Taro -NOM find Hanako-NOM kept.
'(lit.) The kitty, Taro found, and Hanako kept.

An issue regarding the raising in question concerns the nature of e_1 and e_2. One may claim that this example has the structure given in (2):

(2) koneko-o$_1$ Taroo-ga t_1 hiroi, Hanako-ga pro_1 sodateta

Nakao (2010), however, argues against such a proposal, and instead proposes that the LNR must be analyzed as an instance of across-the-board (ATB) movement. Accordingly, the structure of (1) should be as given in (3):[2]

(3) koneko-o$_1$ Taroo-ga t_1 hiroi, Hanako-ga t_1 sodateta

Yet, examining the availability of AE in LNR context, Kimura (2020) suggests that the variable in the second conjunct is created by the copying operation, which is responsible for AE, copying the variable from the first conjunct. These two proposals, therefore, appear to result in the same configuration. However, it is important to notice that under the latter proposal, no movement takes place in the second conjunct. Addressing this difference, the current squib provides one context under which the two proposals provide a different prediction, and suggests that the ATB movement, illustrated in (3), must take place in AE context. Given the assumption that ATB movement only occurs in overt syntax, the extraction taking place in the second conjunct of LNR under AE context,

* I would like to thank Jon Clenton for his comments on the earlier draft. This research was in part supported by the Grant-in-Aid (C) (#17K02809). The usual disclaimers apply.

[1] Abbreviations that are used throughout this squib are as follows: ACC = accusative, ASP = aspect, CL = classifier, COP = copula, DAT = dative, GEN = genitive, NEG = negation, NOM = nominative, PRES = present, PROG = progressive, Q = question (particle), SFP = sentence final particle, and TOP = topic.

[2] We do not commit ourselves to how ATB movement is to be analyzed. See Section 4 for discussion.

to be discussed in the current squib, shows that overt extraction is possible out of an ellipsis site.

For this purpose, the current squib is organized as follows. In Section 2, we introduce two forms of evidence, provided by Nakao (2010), for the analysis based on ATB movement for Japanese LNR. In Section 3, we review Kimura's (2020) argument against Nakao's ATB movement-based proposal. In Section 4, we resolve the conflict, examining the nature of the movement involved in the second conjunct of LNR. We show that AE taking place in LNR context does not pose a problem for Nakao's ATB movement-based proposal once we adopt Miyamoto's (2019, 2020) suggestion that when moving elements result in having no phonetic content at the end of the derivation, their extraction out of null argument sites is permitted. We note further that, under the single output model (Bobaljik 1995) that Saito (2007) must have assumed, this is exactly as we would have predicted. In Section 5 we briefly discuss WH-movement in AE context that Sakamoto (2019) discusses, before concluding the squib in Section 6.

2. Left Node Raising and ATB movement in Japanese

Nakao (2010) argues for the analysis, based on ATB movement, for sentences of the type exemplified in (1). Of significance is Nakao's finding that e_2 in (1) exhibits properties of a variable, not *pro*, which results in the hypothesis that movement is involved in the second conjunct.[3] In this section we only introduce Nakao's two forms of evidence, due to space limitation, for this stance.

First, English right node raising permits distributive scoping, as shown in the contrast between (4a) and (4b), cited from Abel (2004: 51):

(4) a. John sang, and Mary recorded, two quite different songs.
b. John sang two quite different songs, and Mary recorded two quite different songs.

Only (4a) can describe the situation in which John sang one song and Mary sang another song. Taken together, two different songs are involved in this example. In contrast, four different songs are mentioned in total in (4b). Likewise, (5a), not (5b), cited from Nakao (2010: 159), concerns two different songs in Japanese LNR:

(5) a. Hutatsu-no betsubetsu-no kyoku-o John-ga e_1 utai, Mary-ga e_2
two-CL-GEN separate-GEN song -ACC John-NOM sing Mary-NOM
rokuon-shita.
record-did
'Two separate songs, Jon sang, and Mary recorded.'
b. Hutatsu-no betsubetsu-no kyoku-o John-ga e_1 utatta.
two-CL-GEN separate-GEN song -ACC John-NOM sang

[3] For the current purpose, it is immaterial what type of movement is involved in the second conjunct.

Mary-ga e_2 rokuon-shita.
Mary-NOM record-did
'Two separate songs, John sang. Mary recorded (them).'

In (5b), it is plausible that e_2 in the second sentence is *pro*; if so, the presence of the intended distributive scoping in (5a) indicates that in this example, e_2 in the second conjunct is not *pro*.

Another evidence comes from what Nakao calls 'Case matching effects.' Consider the contrast between (6a) and (6b), cited from Nakao (2010: 157):

(6) a. ??Mary-ni John-ga e_1 hana-o okuri, Tom-ga e_2 nagusameta.
Mary-DAT John-NOM flower-ACC send Tom-NOM comforted
'(lit.) (To) Mary John sent flowers, and Tom comforted.'

b. Mary-ni John-ga e_1 hana-o okutta.
Mary-DAT John-NOM flower-ACC sent
Tom-wa e_2 nagusameta.
Tom-TOP comforted
'John gave flowers to Mary, and Tom comforted (her).'

The marginality of (6a), not observed in the second conjunct of (6b), further suggests that e_2 is not *pro* in the former example.

Examining these two and other forms of evidence, Nakao thus proposes that Japanese LNR results from ATB movement, illustrated in (3). Under this proposal, the distributive scoping and the Case matching effects may be under scrutiny, since the two and same elements are raised above the subject position in an ATB fashion.

3. Left Node Raising and Argument Ellipsis

Kimura (2020), however, suggests that Nakao's analysis cannot be maintained, examining LNR under the context involving AE. Kimura's argument is based on Saito's (2007) observation that extraction from within is prohibited when AE takes place; this is illustrated in the contrast between (7a) and (7b), the latter of which is from Saito (2007: 724):[4]

(7) a. Sono hon-o [Taroo-wa [Hanako-ga e_1 katta to] itta] shi,
that book-ACC Taro -TOP Hanako-NOM bought that said and
Ziroo-mo [Hanako-ga e_2 katta to] itta.
Ziro -also Hanako-NOM bought that said
'Taro said that Hanako bought that book, and Ziro also said that Hanako bought (it).'

[4] See also Shinohara (2006) for relevant discussion.

b. Hon-o [Taroo-wa [Hanako-ga e_1 kata to] itta] shi,
book-ACC Taro -TOP Hanako-NOM bought that said and
*Zasshi-o Ziroo-wa [$_{CP}$ *e*] itta.
magazine-ACC Ziro -also said
'(intended) Taro said that Hanako bought a book, and Ziro said that she bought a magazine.'

Given this contrast, consider Kimura's (2020) crucial example in (8):

(8) Sono hon-o [Taroo-wa [Hanako-ga e_1 kata to] itta] shi,
that book-ACC Taro -TOP Hanako-NOM bought that said and
Ziroo-mo [$_{CP}$ *e*] itta.
Ziro -also said
'Taro said that Hanako bought that book, and Ziro also said that Hanako bought it.'

Since this is an instance of LNR, if Nakao's (2010) proposal is accurate, the ATB movement of *sono-hon-o* 'that book-ACC' must have taken place. Crucially, in the second conjunct, the intended extraction must have taken place from within the ellipsis site. However, as seen in (7b), this should be banned. The question this raises is why (8) is grammatical.

Kimura suggests that (8) must have undergone the derivational steps given in (9):

(9) a. In the first conjunct, *sono hon-o* is raised above the subject position.
Sono hon-o [Taroo-wa **[$_{CP}$ Hanako-ga *t* kata to]** itta]

b. The bold-faced CP is copied to the second conjunct.
Ziroo-mo **[$_{CP}$ Hanako-ga *t* kata to]** itta

Crucially, no movement is involved in the second conjunct, and thus, Saito's constraint is irrelevant. As a result, (8) is correctly expected to be grammatical. Notice that under this proposal, the availability of distributive scoping and the presence of Case matching effects may also be under scrutiny.

Attractive though Kimura's proposal might be, a variety of issues remain unresolved. One such issue relates to the availability of distributive scoping in island context; that is, when the island is involved only in the second conjunct, the intended distributive scoping is not possible. Consider (10) from Nakao (2010: 161):

(10) Hutatsu-no betsubetsu-no kyoku-o John-ga e_1 utai, Mary-ga [e_2
two-CL-GEN separate-GEN song -ACC John-NOM sing Mary-NOM

rokuon-shita] hito-ni atta.
record-did person-DAT met
'(lit.) Two separate songs, John sang _____, and Mary met the person who recorded _____.'

The fact that this sentence, although grammatical, cannot describe the situation in which John sang one song and Mary met the person who recorded another song, suggests that (10) must be derived not in the way (5a) is formed. Yet, under Kimura's proposal, what remains unclear is why we cannot rely on AE to generate the second conjunct. In addition, even when the embedded CP is the target of AE, the distributive scoping remains unavailable.

(11) ?Hutatsu-no betsubetsu-no kyoku-o John-wa [Mary-ga e_1 utatta to] itta shi,
two-CL-GEN separate-GEN song -ACC John-TOP Mary-NOM sang that said and
Hanako-mo [[$_{CP}$ e] itta] hito-ni atta.
Hanako-also said person-DAT met
'(lit.) Two separate songs, John said that Mary sang _____, and Hanako also met the person who said _____.'

Note further that once an island is removed, to my ears, the distributive scoping becomes available under the ellipsis context, as shown in the parallelism between (12) and (13):

(12) ?Hutatsu-no betsubetsu-no kyoku-o John-wa [Mary-ga e_1 utatta to] itta shi,
two-CL-GEN separate-GEN song -ACC John-TOP Mary-NOM sang that said and
Hanako-mo [Mary-ga e_1 utatta to] itta.
Hanako-also Mary-NOM sang that said
'(lit.) Two separate songs, John said that Mary sang _____, and Hanako also said that Mary sang _____.'

(13) ?Hutatsu-no betsubetsu-no kyoku-o John-wa [Mary-ga e_1 utatta to] itta shi,
two-CL-GEN separate-GEN song -ACC John-TOP Mary-NOM sang that said and
Hanako-mo [$_{CP}$ e] itta.
Hanako-also said
'(lit.) Two separate songs, John said that Mary sang _____, and Hanako also said _____.'

If the availability of distributive scoping in LNR were due to the AE illustrated in (9b), it would be very difficult, if not impossible, to account for the contrast between (5a), (12) and (13) on the one hand, and (10) and (11) on the other. Of particular significance is the contrast between (11) and (13), which cannot be expected if the same copying operation is involved in these two examples.

This case in turn suggests that we may maintain Nakao's (2010) proposal, based on ATB movement, and for an independent reason, the intended ATB movement is unavailable in (10) and

(11). Nakao takes this precise route and suggests that due to the presence of an island, Japanese is forced to choose the resumptive *pro* strategy. The operation in point is assumed to be last resort in nature: Only when movement is unavailable, this option is to be taken (see Ishii (1991) for relevant discussion). Accordingly, the resumptive *pro* only makes the intended distributive scoping unavailable in (10) and (11).

We now return to our starting point: Given that Japanese LNR is an instance of ATB movement, we need to determine why extraction out of the ellipsis site is permitted for ATB movement. What is worthy of mention here is Bošković and Franks' (2000) claim that ATB movement is unavailable in LF. For space limitation, we present one instance of their arguments below.

It has been assumed since May's (1977, 1985) seminal work that for the object QP *every student* to take scope over the subject QP *some professor* in (14), it must be raised above the subject QP in LF:

(14) Some professor praised every student.

The movement in point, dubbed as Quantifier Raising (QR), is roughly illustrated in (15):

(15) [every student$_1$ [some professor praised t_1]

Under this QR-based approach to scope taking, consider (16), cited from Bošković and Franks (2000: 114):

(16) Some boy hugged every girl and kissed every girl.

Note that the QP *every girl* occupies the object position of both conjuncts. If the QR is available in a ATB fashion in LF, it should be able to take scope over the subject QP. This expectation, however, is unfulfilled; in this example, the subject QP necessarily takes scope over the object QP, unlike (14), which indicates that Coordinate Structure Constraint violations cannot be circumvented in LF, which may, in turn, show that there is no LF ATB movement.

If Bošković and Franks' proposal is correct, we should conclude that Japanese LNR results from overt ATB movement, which, in turn, suggests that in (8), *sono hon-o*, or its equivalent, is extracted out of the ellipsis site in overt syntax. If this supposition is accurate, Sakamoto's (2017, 2019) generalization, given in (17), cannot be responsible for the grammatical status of this example.

(17) Only covert extraction is permitted out of null argument sites, regardless of the type of movement (A' or A) or the category of null arguments (clausal or nominal).

In Section 4, we provide an account for why overt extraction is available in (8), but not in, say, (7b), taking Miyamoto's (2019, 2020) generalization into consideration.

4. Towards the Solution

Saito (2007) claims that AE is an instance of LF-copying; what Saito means by 'LF-copying' here needs approaching with caution since we independently know that natural language is subject to cyclicity, which prohibits counter-cyclic operations. Informally speaking, you cannot change the structure that you have already created, for example, by inserting elements into it. Accordingly, Saito must have assumed that the copying operation in point is applied cyclically. This amounts to saying that Saito assumes the single output model (Bobaljik 1995), under which all movements, overt or covert, take place cyclically and the only difference between these two types of movement is which copy is to be pronounced. For Saito, AE is merely an instance of copying operation which applies derivationally under the single output model.

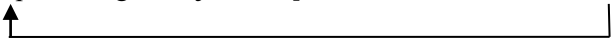
In light of such background, let us reexamine the Chinese relative clause example that Miyamoto (2019) discusses:

(18) a. [Lisi juede [$_{CP}$ nimen dou xihuan [*e*]$_1$] de] ren] lai-le.
Lisi feel you all like DE people come-ASP
'The person$_1$ [that Lisi feels [that you all will like [*e*]$_1$]] came.'

b. Dan [[Zhangsan juede ([$_{CP}$ nimen dou xihuan [*e*]$_1$]) de] ren] mei lai.
but Zhangsan feel you all like DE people NEG come
'But, the person [that Zhangsan feels [that you all like [*e*]$_1$]] did not come.'

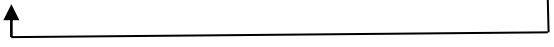
Following (18a), (18b) with or without the bracketed CP is acceptable. Given the assumption that the structure of the relative clause in (18b) is as shown in (19), Sakamoto suggests this provides evidence that the grammaticality of (18b) constitutes evidence for the claim that covert A'-movement is possible from an ellipsis site.

(19) [Op$_1$ Zhangsan juede [$_{CP}$ nimen dou xihuan t_1] de] (ren)



However, Miyamoto (2019) points out that Sakamoto's assumption that Chinese relative clauses involve Op-movement makes a (wrong) predication for the availability of N'-ellipsis triggered by a relative clause. In (18a, b), the relative clause must be an NP-modifier, being adjoined to NP. If so, since it cannot occupy DP SPEC at any point of derivation, the relative head should not be able to be elided in (18b), which is contrary to fact. Miyamoto (2019) thus claims that (18b) with the NP *ren* deleted must have undergone the derivational steps illustrated in (20):

(20) [$_{DP}$ **[$_{TP}$ Zhangsan juede [$_{CP}$ nimen dou xihuan t_1]]$_2$** de [$_{CP}$ ren$_1$ t_2]]



In (20), the DP takes the CP complement. From within this CP complement, *ren* is raised to its SPEC, and the bold-faced TP is raised to DP SPEC, as the arrow indicates. Now, this TP raising creates SPEC-head configuration in DP, which, in turn, allows us to delete the lower CP which only contains *ren*. Under the derivation given in (20), what appears to be an instance of NP-deletion is in fact CP-deletion. What is crucial for Miyamoto is the fact that *ren* can be deleted under the context where the intended AE takes place: the NP *ren* can be overtly raised to CP SPEC despite of the fact that the CP deletion takes place inside the relative clause.[5] What Miyamoto (2019) does not consider, however, is whether *ren* has phonetic content when it is first merged. If not, we end up with the covert *ren*, independent of whether the intended lower CP deletion takes place.

Under the single output model, when the intended AE takes place, *ren*, part of the material introduced via AE, is merged without its phonetic content, and thus, we correctly obtain the 'effect' of *ren* being deleted. Note that under this analysis, it is inconceivable that *ren* is overtly present when the intended AE takes place, which leads us to assume that when *ren* is overtly present along with the intended AE, (18b) must have the derivation illustrated in (19).[6] Accordingly, under the single output model, the Chinese relative clause example that Miyamoto (2019) investigates is accounted for in a principled manner.

Now, let us return to (8). Under the single output model, since AE is involved, the second conjunct must have the following derivational steps:

(21) a. The bold-faced CP, which lacks phonetic content, is copied to the second conjunct.
Ziroo-mo **[$_{CP}$ Hanako-ga sono hon-o kata to]** itta

b. The NP *sono hon-o* is subject to the intended ATB movement
Ziroo-mo **[$_{CP}$ Hanako-ga *t* kata to]** itta
sono hon-o ←┘ ATB movement

Notice that in (21b), the intended movement must take place in overt syntax, but crucially the moving element lacks phonetic content since AE takes place, which therefore enables us to generate (8) with the required ATB movement without any problem. The situation, notwithstanding, is different in (7b). In this example, *zasshi-o*, which carries phonetic content, must be extracted out of the ellipsis site; but, this cannot be done because the embedded CP is intended to be elided.

To restate, we have suggested that Miyamoto's (2019, 2020) generalization that when moving elements end up having no phonetic content at the end of the derivation, their extraction out of null argument sites is permitted, is a consequence of the model Saito (2007) assumes for AE to take place in a cyclic fashion.

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[5] See also Miyamoto (2020) who examines the interpretation of the distributive affix *zutsu* in AE context and arrives at the same conclusion.

[6] Note that this does not exclude the possibility that the relative clause is adjoined to NP when *ren* is overtly present.

5. WH-movement and Argument Ellipsis

In this section, we briefly reexamine Sakamoto's (2017) data concerning WH-movement.

Tanaka (2008) argues that embedded clauses containing a WH-in-situ can be elided as an indirect question, whereas they cannot be null as a matrix question.

(22) a. Taroo-wa [$_{CP}$ Hanako-ga nani-o tabeta ka tazuneta.
Taro -TOP Hanako-NOM what-ACC eat.PAST Q ask.PAST
'Taro asked what Hanako ate.'

b. Ziroo-mo _____ tazuneta.
Ziro -also ask.PAST
'(lit.) Ziro also asked _____.'

(23) a. A: Taroo-wa [$_{CP}$ Hanako-ga nani-o tabeta to] omotteiru no.
Taro -TOP Hanako-NOM what-ACC eat.PAST C think.PRES Q
'Taro asked what Hanako ate.'

b. B: Pan da yo.
bread COP SFP
'It is bread.'

c. A: *Zyaa, Ziroo-wa _____ omotteiru no.
then Ziro -TOP think.PRES PROG Q
'Then, Ziro thinks what Hanako ate.'

Under Sakamoto (2017), the contrast between (22b) and (23c) is because the Q particle resides within the matrix or embedded clause. If the particle in question is within the embedded clause, as in the former, the Q particle does not have to be raised out of the embedded clause, and thus, the movement in point can take place after the CP complement is introduced into the structure via LF-copying. As a result, no problem arises. By way of contrast, in (23c), the Q particle, assumed to be base-generated with the WH-phrase, must be raised out of the embedded clause in overt syntax. Otherwise, the word string that is given in (23c) cannot be obtained. The raising of the Q-particle in overt syntax thus yields its ungrammaticality, due to the generalization in (17).

Under the single output model, Sakamoto's account remains intact in essence for the ungrammaticality of (23c). Given the assumption that the Q particle is base-generated with the WH-phrase in this example, the embedded clause, which corresponds to the one in (23a), without phonetic content is merged into the structure cyclically, and therefore, there is no way for the Q particle to maintain its phonetic content in the second conjunct. As a result, (23c) is not derivable.

6. Concluding Remarks

The current squib examined ATB movement in LNR in the elliptical context. I showed that the

movement out of the second conjunct involving AE is possible because the moving element does not have phonetic content. We further propose that Sakamoto's (2017, 2019) generalization in (17) is a consequence of Saito's (2007) proposal on AE under the single output model (Bobaljik 1995).[7]

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[7] See Bošković (to appear) for a possible analysis of ATB movement under the minimalist program.