Antecedent-Contained Clausal Argument Ellipsis

Kensuke Takita

Meikai University

Abstract: The aim of this paper is to argue for a particular analysis of null clausal arguments in terms of ellipsis. It is first illustrated that null clausal arguments have underlying syntactic structures that are subject to ellipsis. The main and novel observation for this claim is that null clausal arguments exhibit the effect of the parallelism constraint that other ellipsis constructions like verb phrase ellipsis are also subject to, along the line with Takahashi (2013, "A Note on Parallelism for Elliptic Arguments," *Proceedings of Formal Approaches to Japanese Linguistics 6*, MITWPL). It then examines a hitherto unexplored construction, called *antecedent-contained clausal argument ellipsis*, where a null clausal argument appears to be properly contained by its antecedent. Although the construction can be readily accommodated by assuming the ellipsis process that directly elides arguments (*argument ellipsis*), it raises serious difficulties for its alternative analysis that employs the ellipsis process targeting a VP whose head has evacuated it (*verb-stranding VP-ellipsis*). This paper thus provides a novel case where the argument ellipsis analysis is required, no matter how well the verb-stranding VP-ellipsis analysis accommodates other null argument phenomena.

Keywords: *null arguments*, *argument ellipsis*, *antecedent-contained deletion*, *verb-stranding verb phrase ellipsis*, *parallelism*, *Japanese*

1. Introduction

Recent studies on null arguments in Japanese (see Oku 1998; Saito 2004, 2007; Takahashi 2008a,b, 2013, 2014; Tanaka 2008; Takita 2011; Sakamoto 2016, 2017, among many others) have provided cumulative evidence showing that certain instances of them should be treated as a result of *argument ellipsis*, the process that directly elides an argument, rather than as a phonologically null pronoun, *pro* (Kuroda 1965; see also Ohso 1976; Hoji 1985; Saito 1985, among many others). One of the most well-known arguments for the argument ellipsis analysis comes from the fact that null arguments can assume the reading that lexical pronouns cannot. Let us consider the example in (1), where the symbol Δ represents the missing object (adapted from Takahashi 2008a:396).

(1) A: Dare-ga zibun-o sememasita ka?
who-Nom self-Acc criticized Q
'Who criticized himself?'

B: Taroo-ga/Daremo-ga Δ sememasita.
Taroo-Nom/everyone-Nom criticized
'Taroo/Everyone$_1$ criticized himself$_1$.'

Under the intended interpretation of (1B), the missing object is co-indexed with the subject. If null arguments were always *pro*, the intended sloppy interpretation would be blocked due to a violation of the Condition B of the binding theory. In fact, the interpretation is unavailable when (1B) is uttered in out-of-the-blue contexts. The reading in question is not available either, when overt pronouns such as *kare* 'him' appear instead of Δ. These observations suggest that the missing object cannot be simply *pro*, given that it is just a phonologically null counterpart of overt pronouns.

This observation can be readily accommodated if Japanese allows argument ellipsis.[1] Under the argument ellipsis analysis, (1B) is analyzed as in (2), where the

[1] An alternative analysis that can also capture the relevant data is reviewed in Section

object anaphor *zibun* 'self' is elided.[2]

(2) Taroo-ga/Daremo-ga$_1$ ~~*zibun*$_1$ *-o*~~ sememasita

The availability of the relevant interpretation for (1B) can be accounted for since (2) contains *zibun* 'self' taking the subject as its antecedent.

It has been observed that argument ellipsis can target not only nominal arguments but also clausal arguments (Shinohara 2006; Saito 2007; Tanaka 2008; Takita 2010). The example in (3b) contains a missing embedded clause, which takes the embedded clause of (3a) as its antecedent.

(3) a. Mary-wa [$_{CP}$ zibun-no iken-ga tadasii to] omotteiru.
Mary-Top self-Gen idea-Nom correct C think
'lit. Mary$_1$ thinks [that self$_1$'s idea is correct].'

b. John-wa Δ omotteinai.
John-Top not.think
'lit. John$_2$ does not think Δ.' (Δ = [that self$_{1/2}$'s idea is correct])

The fact that the sloppy reading is available for (3b), where the missing anaphor *zibun* 'self' refers to *John*, has been taken as an indication that argument ellipsis can target clausal arguments.[3] Let us call the analysis of null clausal arguments in terms of

---

3.1.

[2] Although I indicate ellipsis by strikethrough as if it involved deletion, whether argument ellipsis (or ellipsis in general) should be conceived in terms of copying (Williams 1977; Fiengo and May 1994; Chung, Ladusaw and McCloskey 1995; 2011, among others) or deletion (Sag 1976; Merchant 2001; Fox and Lasnik 2003, among others) is not the main topic of this paper.

[3] Tanaka (2008) argues that although the sloppy reading is still available for (3b) when the adverb *soo* 'so' appears, it does not undermine the analysis in terms of argument ellipsis. This is because *soo* 'so' can co-occur with a clausal complement, as shown in (i).

argument ellipsis the *clausal argument ellipsis* (CAE) analysis.

On the other hand, Funakoshi (2014) and Kasai (2014) independently argue against the CAE analysis. Funakoshi (2014) argues that null clausal arguments result only from so-called *verb-stranding VP-ellipsis* (VVPE; see McCloskey 1991, 2011; Otani and Whitman 1991; Doron 1999; Goldberg 2005; Funakoshi 2012, 2016; Gribanova 2013a,b; see also Section 3.1 for a brief review). Meanwhile, Kasai (2014) takes null clausal arguments as phonologically null *pro*-forms, which totally lack any internal structure (to be reviewed in Section 2.1).

The goal of this paper is to provide some novel arguments for the CAE analysis. In Section 2, it is first shown that Kasai's (2014) *pro*-based analysis cannot be maintained, based on Takahashi's (2012) observation that null clausal arguments allow extractions out of them. The main and novel observation of this paper is then made that null clausal arguments obey the parallelism constraint (Fiengo and May 1994; see also Rooth 1992), along the line with Takahashi (2013). These observations suggest that clausal null arguments have full-fledged syntactic structures that undergo ellipsis. In Section 3, through a close scrutiny of a hitherto unexplored construction, which I call *antecedent-contained clausal argument ellipsis* (ACCAE), I show that it provides a novel way of distinguishing the CAE analysis from the VVPE analysis, arguing for the former analysis. In particular, it is illustrated that the effect of the parallelism constraint found in ACCAE can be captured by the CAE analysis in a straightforward way, while it raises serious difficulties for the VVPE analysis. Section 4 concludes this paper.

(i) John-wa [$_{CP}$ zibun-no iken-ga tadasii to] soo omotteinai.
John-Top self-Gen idea-Nom correct C so not.think
'lit. John does not think [that his idea is correct] so.'

If argument ellipsis applies to the CP stranding *soo* 'so,' the availability of sloppy readings for sentences with *soo* 'so' ceases to be problematic.

2. Elided Syntactic Structures in Null Clausal Arguments

This section aims at showing that there are full-fledged syntactic structures underlying null clausal arguments. Section 2.1 illustrates that it is not possible to maintain Kasai's (2014) argument that null clausal arguments are *pro*, which lacks any internal structure. Section 2.2 then offers the central observation of this section that null clausal arguments exhibit the parallelism effects. In Section 2.3, I argue that the parallelism effect with deaccented (overt but phonologically reduced) materials provides further confirmation of the idea that null clausal arguments have elided syntactic structures.

2.1. Extractions out of Null Clausal Arguments

Kasai (2014) argues that null clausal arguments are not the product of ellipsis but *pro*, whose categorial status is NP/DP. As shown in (4), verbs like *omou* 'think' and *iu* 'say' can take nominal arguments as well as clausal arguments (adapted from Kasai 2014:173).

(4) a. Taroo-wa iroirona koto-o omotta.
Taroo-Top various thing-Acc thought
'Taroo thought about various things.'

b. Taroo-wa Hanako-to onazi koto-o itta.
Taroo-Top Hanako-with same thing-Acc said
'Taroo said the same thing as Hanako.'

Hence, under Kasai's (2014) analysis, the sentences containing what we are calling null clausal arguments in fact involve *pro*, which lacks any internal syntactic structure.

Although Kasai's (2014) arguments for this claim involve the interpretations of *pro*, the strongest evidence for his claim comes from syntactic extraction.[4] As is

[4] Kasai's (2014) arguments based on *pro*'s interpretations crucially rely on the

observed by Shinohara (2006) and Tanaka (2008), scrambling out of null clausal

---

assumption that not only elided materials but also *pro* can assume sloppy readings. His reasoning comes from a sentence like (i) (adapted from Kasai 2014:171).

(i) [Watching a boy hitting his arm]

Taroo: Hanako-mo Δ yoku tataiteiru-yo.
Hanako-also often hit-Prt
'lit. Hanako also often hits Δ.'

Since there is no linguistic antecedent in (i), Δ must be *pro*. Nonetheless, (i) can mean that Hanako also often hits her arm, which Kasai (2014) takes as indicating that *pro* can assume a sloppy reading.

Suppose however that Taroo's utterance in (i) is changed to the one in (ii). Again there is no linguistic antecedent, hence Δ must be *pro*. If it could assume sloppy interpretation, (ii) should be able to mean that Hanako never hits her arm, which is true in the situation where she hits someone else's arm but not hers.

(ii) [Watching a boy hitting his arm]

Taroo: Hanako-wa Δ kessite tatakanai-yo.
Hanako-Top never not.hit-Prt
'lit. Hanako never hits Δ.'

However, (ii) is not true in the situation in question. Rather, it means what the example in (iii) does, which is also false in the relevant situation.

(iii) Hanako-wa ude-o kessite tatakanai-yo.
Hanako-Top arm-Acc never not.hit-Prt
'lit. Hanako never hits an arm.'

In (iii), an indefinite noun *ude* 'arm' occupies the object position. The fact that (ii) and (iii) share the same interpretation thus suggests that Δ in (ii) is the null counterpart of the indefinite noun (cf. Hoji 1998). Note also that the alleged sloppy reading in (i), namely Hanako often hits her arm, is compatible with the reading obtained by replacing Δ in (i) with the indefinite noun *ude* 'arm,' namely Hanako often hits an arm. Since the assumption that *pro* allows sloppy reading just like elided materials is not well-grounded, I do not review Kasai's (2014) arguments based on *pro*'s interpretations.

arguments is severely restricted. Let us consider the examples in (5).

(5) a. Sono hon-o$_1$ Taroo-wa [$_{CP}$ Hanako-ga t_1 katta to] itta.
that book-Acc Taroo-Top Hanako-Nom bought C said
'lit. That book$_1$, Taroo said [that Hanako bought t_1].'

b. Sono hon/zassi-o$_2$ Ziroo-wa [$_{CP}$ Hanako-ga t_2 katta
that book/magazine-Acc Ziroo-Top Hanako-Nom bought
to] iwanakatta.
C not.said
'lit. That book/magazine$_2$, Ziroo did not say [that Hanako bought t_2].'

c. * Sono hon/zassi-o$_2$ Ziroo-wa Δ iwanakatta.
that book/magazine-Acc Ziroo-Top not.said
'lit. That book/magiazine$_2$, Ziroo did not say Δ.'

As shown in (5a-b), scrambling out of the embedded CP does not cause any problem. On the other hand, once ellipsis applies as in (5c), taking (5a) as its antecedent, the sentence becomes ungrammatical. Hence, scrambling out of elided CPs is somehow blocked.

Kasai (2014) takes the impossibility of extraction as evidence against full-fledged syntactic structures underlying null clausal arguments. This is because typical ellipsis constructions such as sluicing and VP-ellipsis easily allow movement out of them, as shown in (6) (taken from Kasai 2014:182).

(6) a. John knows which professor we invited, but he is not allowed to reveal which one$_1$ ~~[we invited t_1]~~.

b. Mary doesn't know who we can invite, but she can tell you who$_1$ we cannot ~~[invite t_1]~~.

If null clausal arguments are *pro* without any internal structure, the impossibility of

extraction readily follows: Since there is no structure, scrambling cannot take place.[5]

Takahashi (2012), however, observes that there are cases where extraction out of null arguments yields grammatical results. The relevant examples are given in (7) and (8) (based on Takahashi 2012:4-5). In both cases, the a-examples are supposed to precede the b- and c-examples in the discourse. The b-examples are the baseline without ellipsis, while the c-examples involve ellipsis of the CP arguments within the presuppositional clause.

(7) a. Hanako-ga [$_{CP}$ Taroo-ga t_1 detekita to] syoogensita no-wa
Hanako-Nom Taroo-Nom came.out C testified C-Top
kono biru kara$_1$ desu.
this building from be
'It was from this building$_1$ that Hanako testified [that Taroo came out t_1].'

b. Yumi-ga [$_{CP}$ Taroo-ga t_2 detekita to] syoogensita no-wa
Yumi-Nom Taroo-Nom came.out C testified C-Top
ano biru kara$_2$ desu.
that building from be
'lit. It was from that building$_2$ that Yumi testified [that Taroo came out t_2].'

c. Yumi-ga Δ syoogensita no-wa ano biru kara desu.
Yumi-Nom testified C-Top that building from be
'lit. It was from that building that Yumi testified Δ.'

(8) a. Hanako-ga [$_{CP}$ Taroo-ga t_1 aitagatteiru to] omotteiru no-wa
Hanako-Nom Taroo-Nom want.to.see C think C-Top
Lady Gaga-ni$_1$ desu.

[5] But see Shinohara (2006) (and its elaborated versions in Saito 2007 and Takita 2010) for the account of why sluicing and VP-ellipsis but not null arguments allow extraction, maintaining the idea that all of them result through ellipsis.

Lady Gaga-Dat be

'lit. It is Lady Gaga$_1$ that Hanako thinks [that Taroo wants to see t_1].'

b. Yumi-ga [$_{CP}$ Taroo-ga t_1 aitagatteiru to] omotteiru no-wa
Yumi-Nom Taroo-Nom want.to.see C think C-Top
Madonna-ni$_1$ desu.
Maddona-Dat be

'lit. It is Maddona$_2$ that Yumi thinks [that Taroo wants to see t_2].'

c. Yumi-ga Δ omotteiru no-wa Madonna-ni desu.
Yumi-Nom think C-Top Madonna-Dat be

'lit. It is Madonna that Yumi thinks Δ.'

Crucially, both (7c) and (8c) are grammatical. In particular, the contrast found in (5b-c) is totally absent from (7b-c) and (8b-c).

Since Hoji (1990), cleft sentences where the focused phrase bears a Case-marker or a postposition have been analyzed as involving movement.[6] Then, the examples in (7c) and (8c) can be analyzed as in (9a-b), respectively.[7]

(9) a. [$_{CP}$ Op$_2$ [$_{TP}$ Yumi-ga ~~[$_{CP}$ Taroo-ga t_2 detekita to]~~ syoogensita no]-wa

[6] As shown in (i), cleft sentences with a Case/postposition-marked focus exhibit island effects, indicating that they involve movement.

(i) * Hanako-ga [Taroo-ga t_1 detekita kara] okotta no-wa
Hanako-Nom Taroo-Nom came.out because got.angry C-Top
kono biru kara$_2$ desu.
this building from be

'lit. It is from this building$_1$ that Hanako got angry [because Taroo came out t_1].'

[7] Takahashi (2012) notes that his argument is not affected by Hiraiwa and Ishihara's (2012) analysis of cleft, where not the null operator but the focused phrase itself moves. This is because both analyses share the assumption that movement takes place out of the elided clausal arguments in (9).

[ano biru-kara]$_2$ desu

b. [$_{CP}$ Op$_2$ [$_{TP}$ Yumi-ga [~~$_{CP}$ Taroo-ga *t*$_2$ aitagatteiru to~~] omotteiru no]-wa [Maddona-ni]$_2$ desu

The examples in (7) and (8) thus indicate that extraction out of clausal null arguments is indeed possible.[8] Therefore, null clausal arguments do have underlying syntactic structures that allow movement out of them, not just being *pro*.

2.2. Parallelism in Null Clausal Arguments

In this subsection, I provide a novel argument for the elided syntactic structures underlying null clausal arguments. The argument is based on the observation that null clausal arguments obey the parallelism constraint which other elliptic constructions such as VP-ellipsis are subject to, along the line with Takahashi (2013).

Takahashi (2013) observes that null nominal arguments in Japanese exhibit the effect of the so-called parallelism constraint, which demands that the relation between a binder and a variable be parallel between the ellipsis target and its antecedent (see Fiengo and May 1994, among others). Before jumping into the null nominal argument cases, let us consider the English example in (10), which involves VP-ellipsis.

(10) Max saw his mother, and Oscar said that Harry did Δ, too.

(i) Oscar said Harry saw Max's mother. (strict reading)

(ii) Oscar said Harry saw Harry's mother. (local sloppy reading)

(iii)*Oscar said Harry saw Oscar's mother. (long-distance sloppy reading)

In (10), the VP *see his mother* is elided. As for the interpretation of the pronoun *his*, in

[8] Capitalizing on the fact that the illegitimate extraction from null arguments in (5) is overt while the legitimate one in (7) and (8) involves covert (namely phonologically null) movement, Sakamoto (2017) offers an explanation in terms of LF-copying. See Sakamoto (2017) for the details and empirical evidence supporting his analysis.

addition to the interpretation given in (10-i), which is called the strict reading, the interpretation in (10-ii) is also available. Since the pronoun *his* is bound by the local subject *Harry*, namely the embedded subject, this is called the local sloppy reading. The example in (10), however, lacks the interpretation given in (10-iii). This interpretation is called the long-distance sloppy reading, since the pronoun *his* is bound by the matrix subject *Oscar*.

The long-distance sloppy reading is not unavailable at all, however, as exemplified by an example like (11) (adapted from Fiengo and May 1994:106).

(11) (I didn't know that Bill was a bigamist.)

Mary just said he's married to her, and Sally said he is Δ, too. (Δ = married to Sally)

In this example, the pronoun *her* in the antecedent is bound by the matrix subject *Mary*, unlike the case in (10). Under this construal, (11) has the long-distance sloppy reading where *Sally* binds the missing pronoun *her*.

Following Fiengo and May (1994), Takahashi (2013) assumes that the patterns found in (10) and (11) can be captured in terms of the parallelism constraint. One simplified illustration of this constraint is given in (12) (a dashed line indicates that the relevant binding relation is not possible).[9]

(12) a. Antecedent: … binder_1 … [$_{CP}$ … binder_2 … variable_2 …] …

Ellipsis target: … binder_3 … [$_{CP}$ … binder_4 … $\text{variable}_{*3/4}$ …] …

b. Antecedent: … binder_1 … [$_{CP}$ … binder_2 … variable_1 …] …

[9] Following Takahashi (2013), I put for future work the precise formalization of the parallelism constraint, because it is not the main focus of this paper.

Ellipsis target: … binder$_3$ … [$_{CP}$ … binder$_4$ … variable$_{3/*4}$ …] …

In (12a), the variable in the antecedent is bound by the local binder. In this case, the variable in the ellipsis site must also be bound by the local binder. This explains why (10-ii) but not (10-iii) is available. On the other hand, when the binding relation in the antecedent is long-distance as in (12b), the relation in the ellipsis site must be long-distance as well. And this situation corresponds to the case of (11).

Takahashi (2013) then argues that null nominal arguments exhibit the effect of the parallelism constraint.[10] First consider the examples in (13) (adapted from Takahashi 2013:210).[11]

(13) a. John-wa zibun-no kuruma-o aratta.
John-Top self-Gen car-Acc washed
'lit. John$_1$ washed self$_1$'s car.'

b. Mary-wa [$_{CP}$ Bill-ga/wa Δ arawanakatta to] itta.
Mary-Top Bill-Nom/Top not.washed C said
'lit. Mary$_2$ said [that Bill$_3$ did not wash Δ].' (Δ = self$_{*2/3}$'s car)

The sentence in (13b) contains a null nominal argument, which takes *zibun-no kuruma* 'self's car' in (13a) as its antecedent. In (13a), the anaphor is bound by the local binder

[10] Meanwhile, Takahashi (2013) observes that the effect of the parallelism constraint is also observed for N'-deletion in Japanese (see Saito and Murasugi 1990; Saito, Lin and Murasugi 2008, among others), which confirms the parallelism between English VP-ellipsis and argument ellipsis. See Section 2.3 for concrete examples.

[11] Following Saito (2007), Takahashi (2013) puts negation on the embedded verb in (13b), to avoid the interference of null indefinites in the sense of Hoji (1998). As for the embedded subject in (13b), he notes that "[it] may be marked with the topic particle rather than with the nominative particle, depending on speakers' preference (Takahashi 2013:210)."

John. Hence the parallelism constraint demands that the missing anaphor in (13b) be bound locally. As shown in (13b), the missing anaphor can be bound only by *Bill*, which is the local binder. The long-distance sloppy reading where the missing anaphor is bound by the matrix subject *Mary*, is unavailable.

If the parallelism constraint blocks the long-distance sloppy reading for (13b), it is predicted that the relevant reading can be obtained when the antecedent clause is changed so as to satisfy the parallelism constraint. This prediction is borne out, as shown in (14) (adapted from Takahashi 2013:211).

(14) a. Susan-wa [$_{CP}$ John-ga zibun-no kuruma-o aratta to] itta.
Susan-Top John-Nom self-Gen car-Acc washed C said
'lit. Susan$_1$ said [that John washed self$_1$'s car].'

b. Mary-wa [$_{CP}$ Bill-ga/wa Δ arawanakatta to] itta.
Mary-Top Bill-Nom/Top not.washed C said
'lit. Mary$_2$ said [that Bill did not wash Δ].' (Δ = self$_2$'s car)

Focusing on the interpretation where the matrix subject *Susan* in (14a) binds the anaphor, the example in (14b), which is repeated from (13b), assumes the long-distance sloppy reading.

Let us then consider whether null clausal arguments pattern with null nominal arguments with respect to the parallelism constraint. The first examples to be examined are the ones in (15), where the embedded clause containing the anaphor *zibun* 'self' in (15a) serves as the antecedent.

(15) a. Mary-wa [$_{CP}$ zibun-ga kasikoi to] itta.
Mary-Top self-Nom smart C said
'lit. Mary$_1$ said [that self$_1$ is smart].'

b. John-wa [$_{CP}$ Sue-ga/wa Δ iwanakatta to] omotteiru.
John-Top Sue-Nom/Top not.said C think

'lit. John$_2$ thinks [that Sue$_3$ did not say Δ].' (Δ = that self$_{*2/3}$ is smart)

As we have seen in (3), null clausal arguments can assume sloppy reading. In the case of (15), however, it allows only the local sloppy reading where the embedded subject *Sue* binds the anaphor. The long-distance sloppy reading where the matrix subject *John* binds the anaphor, is not available for (15b), exhibiting the parallelism effect.[12]

The reading in question is available when the antecedent clause (15a) is changed to the one in (16a), where (15a) is embedded under another clause.

(16) a. Bill-wa [$_{CP}$ Mary-ga [$_{CP}$ zibun-ga kasikoi to] itta to] omotteiru.
Bill-Top Mary-Nom self-Nom smart C said
'lit. Bill$_1$ thinks [that Mary said [that self$_1$ is smart]].'

b. John-wa [$_{CP}$ Sue-ga/wa Δ iwanakatta to] omotteiru.
John-Top Sue-Nom/Top not.said C think
'lit. John$_2$ thinks [that Sue did not say Δ].' (Δ = that self$_2$ is smart)

In (16a), the matrix subject *Bill* binds the anaphor, and then *John* can bind the missing anaphor in (16b), as predicted by the parallelism constraint.

A more striking example is given in (17), where the first clause contains the

[12] An anonymous reviewer points out that the parallelism effect obtains even if the adverb *soo* 'so' appears in (15b). This observation, however, does not undermine the ellipsis analysis, because it can cooccur with a clausal complement as in (i), as pointed out in footnote 3.

(i) John-wa [$_{CP}$ Sue-ga/wa [$_{CP}$ zibun-ga kasikoi to] soo
John-Top Sue-Nom/Top self-Nom smart C so
iwanakatta to] omotteiru.
not.said C think
'lit. John thinks [that Sue did not say [that self is smart] so].'

All the examples involving a missing CP to be discussed allow *soo* 'so' to appear, but at the same time it can cooccur with a clausal complement.

antecedent CP for the null clausal argument in the second clause.

(17) Mary-wa [$_{CP}$ John-ga zibun-o hihansita to] itta-ga,
Mary-Top John-Nom self-Acc criticized C said-but
Sue-wa [$_{CP}$ Δ] iwanakatta.
Sue-Top not.said
'lit. Mary said [that John criticized self], but Sue did not say Δ.'

(i) Mary$_1$ said [that John$_2$ criticized self$_1$], but Sue$_3$ did not say [that he$_2$ criticized self$_{*2/3}$].

(ii) Mary$_1$ said [that John$_2$ criticized self$_2$], but Sue$_3$ did not say [that he$_2$ criticized self$_{2/*3}$].

What is significant about (17) is the fact that the way the anaphor *zibun* 'self' within the missing CP is interpreted is affected by the way the anaphor in the antecedent CP is interpreted. That is, the reading given in (17-i) indicates that when the anaphor in the first clause is bound by the matrix subject *Mary*, the anaphor contained in the missing CP in the second clause must be bound by the matrix subject *Sue*. On the other hand, if the anaphor in the antecedent is locally bound as in (17-ii), the one in the missing CP must also be bound locally, disallowing the reading where it is bound by *Sue*.

The pattern found in (17) can be readily captured in terms of the parallelism constraint. As shown in (18a), the binding relations in the reading available for (17-i) are parallel in the antecedent and the target clause containing the null CP. (cf. (12b)).

(18) a. Antecedent: Mary-wa [$_{CP}$ John-ga zibun-o hihansita to] itta

Ellipsis target: Sue-wa [$_{CP}$ John-ga zibun-o hihansita to] iwanakatta

b. Antecedent: Mary-wa [$_{CP}$ John-ga zibun-o hihansita to] itta

Ellipsis target: Sue-wa [$_{CP}$ John-ga zibun-o hihansita to] iwanakatta

Under the reading available for (17-ii), on the other hand, the binding relations are local both in the antecedent and the subsequent clauses, as in (18b) (cf. (12a)). The unavailable readings are thus ruled out by the parallelism constraint.

Therefore, not only nominal null arguments but also clausal ones exhibit the effect of the parallelism constraint. Takahashi (2013) takes the parallelism effect on null nominal arguments as evidence for the analysis in terms of ellipsis. Extending his idea, I claim that the parallelism effect on null clausal arguments offers a new piece of empirical support for their ellipsis analysis as well. In particular, the observations made so far receive a straightforward explanation if there are underlying full-fledged syntactic structures for null arguments, both nominal and clausal, which are somehow elided.

2.3. A confirmation from the parallelism effects with reduced overt elements

The idea that null clausal arguments have full-fledged syntactic structures receives a confirming argument if we look at the effect of the parallelism constraint more closely.

Let us start the discussion with the examples in (10), repeated as (19a). Recall that (19a) allows the readings in (19a-i) and (19a-ii) but not (19a-iii).

(19) a. Max saw his mother, and Oscar said that Harry did Δ, too.

(i) Oscar said Harry saw Max's mother.

(ii) Oscar said Harry saw Harry's mother.

(iii)*Oscar said Harry saw Oscar's mother.

b. Max saw his mother, and Oscar said that Harry *saw his mother*, too.

Jonathan Bobaljik (p.c.) points out to me that the same range of interpretation is available for (19b), which involves deaccenting (indicated by italics) (cf. Rooth 1992;

Tancredi 1992). Hence, the effect of the parallelism constraint is not limited to constructions involving ellipsis but found in constructions with phonologically reduced materials.

In light of this, let us examine Takahashi's (2013) argument more closely. As noted in footnote 10, he first observes that N'-deletion in Japanese exhibits the parallelism effect, based on the examples in (20) and (21) (adapted from Takahashi 2013:207).

(20) a. Hanako-no zibun-no sensei-e-no izon-wa sikatanakatta.
Hanako-Gen self-Gen teacher-on-Gen dependence-Top was.inevitable
'lit. Hanako$_1$'s dependence on self$_1$'s teacher was inevitable.'

b. (Demo) Taroo-wa Mariko-no zibun-no sensei-e-no
but Taroo-Top Mariko-Gen self-Gen teacher-on-Gen
izon-wa mitomenakatta.
dependence-Top not.admitted
'lit. (But) Taroo$_2$ did not admit Mariko$_3$'s dependence on self$_{2/3}$'s teacher.'

c. (Demo) Taroo-wa Mariko-no Δ-wa mitomenakatta.
but Taroo-Top Mariko-Gen -Top not.admitted
'(But) Taroo$_2$ did not admit Mariko$_3$'s Δ.' (Δ = dependence on self$_{*2/3}$'s teacher)

(21) a. Ken-wa Hanako-no zibun-no sensei-e-no izon-o
Ken-Top Hanako-Gen self-Gen teacher-on-Gen dependence-Acc
mitometa.
admitted
'lit. Ken admitted Hanako's dependence on self's teacher.'

b. Taroo-wa Mariko-no Δ-o mitometa.
Taroo-Top Mariko-Gen -Acc admitted
'lit. Taro admitted Mariko's Δ.'

Takahashi (2013) observes that when preceded by (20a), the example in (20b), which does not involve N'-deletion, is ambiguous while the one in (20c) is unambiguous, which involves ellipsis. That is, the long-distance sloppy reading where *Taroo* binds the missing anaphor is not available for sentences with N'-deletion. Once the antecedent clause is made to involve long-distance binding as in (21a), the reading in question becomes available. Although Takahashi (2013) does not mention it, the example in (21b) allows only the local sloppy reading where *Mariko* binds the missing anaphor when the binder in the antecedent is *Hanako*. This is in fact another instance of the parallelism constraint effect.

Let us then consider what interpretations are available when the elided N'-part of (21b) is realized overtly but with phonological reduction as in (22b).

(22) a. Ken-wa Hanako-no zibun-no sensei-e-no izon-o
Ken-Top Hanako-Gen self-Gen teacher-on-Gen dependence-Acc
mitometa.
admitted
'lit. Ken admitted Hanako's dependence on self's teacher.'

b. Taroo-wa Mariko-no *zibun-no sensei-e-no izon-o*
Taroo-Top Mariko-Gen self-Gen teacher-on-Gen dependence-Acc
mitometa.
admitted
'lit. Taro admitted Mariko's dependence on self's teacher.'

If nothing precedes (22b) so that the italicized part receives no reduction, the sentence is ambiguous. Once it is preceded by (22a), which is repeated from (21a), and deaccenting takes place, however, the parallelism effect emerges. That is, when *Ken* in (22a) binds the anaphor *zibun* 'self,' *Taroo* must do so in (22b), but when *Hanako* in (22a) serves as the binder, *Mariko* should do so in (22b) as well. This observation

suggests that the parallelism effect is observed even with deaccented counterparts.[13]

As for (20b), Takahashi's (2013) judgment seems to suggest that it is free from the parallelism effect unlike (22b). However, if deaccenting applies to the relevant part as in (23b), the parallelism effect is observed.

(23) a. Hanako-no zibun-no sensei-e-no izon-wa sikatanakatta.
Hanako-Gen self-Gen teacher-on-Gen dependence-Top was.inevitable
'lit. Hanako$_1$'s dependence on self$_1$'s teacher was inevitable.'

b. (Demo) Taroo-wa Mariko-no *zibun-no sensei-e-no*
but Taroo-Top Mariko-Gen self-Gen teacher-on-Gen
izon-wa mitomenakatta.
dependence-Top not.admitted
'lit. (But) Taroo$_2$ did not admit Mariko$_3$'s dependence on self$_{*2/3}$'s teacher.'

It is worth emphasizing that the observations in (22) and (23) do not undermine Takahashi's (2013) main point. In fact, they are consistent with his argument because the observations suggest that the elided part does arise from full-fledged syntactic structures through ellipsis.

The effects of the parallelism on sentences with N'-deletion and with deaccenting can also be observed with nominal and clausal argument cases. (24a-b) are repeated from (14) and (25a-b) are repeated from (16).

(24) a. Susan-wa [$_{CP}$ John-ga zibun-no kuruma-o aratta to] itta.
Susan-Top John-Nom self-Gen car-Acc washed C said
'lit. Susan said [that John washed self's car].'

b. Mary-wa [$_{CP}$ Bill-ga/wa Δ arawanakatta to] itta.

[13] The effect can also be easily canceled by, for instance, putting certain phonological prominence on the anaphor (hence no deaccenting on the materials in question). The same remark also holds for the examples without ellipsis to be discussed in the text.

Mary-Top Bill-Nom/Top not.washed C said

'lit. Mary said [that Bill did not wash Δ].' (Δ = self's car)

c. Mary-wa [$_{CP}$ Bill-ga/wa *zibun-no kuruma-o* arawanakatta to]

Mary-Top Bill-Nom/Top self-Gen car-Acc not.washed C

itta.

said

'lit. Mary said [that Bill did not wash self's car].'

(25) a. Bill-wa [$_{CP}$ Mary-ga [$_{CP}$ zibun-ga kasikoi to] itta to] omotteiru.

Bill-Top Mary-Nom self-Nom smart C said

'lit. Bill thinks [that Mary said [that self is smart]].'

b. John-wa [$_{CP}$ Sue-ga/wa Δ iwanakatta to] omotteiru.

John-Top Sue-Nom/Top not.said C think

'lit. John thinks [that Sue did not say Δ].' (Δ = that self is smart)

c. John-wa [$_{CP}$ Sue-ga/wa [$_{CP}$ *zibun-ga kasikoi to*] iwanakatta

John-Top Sue-Nom/Top self-Nom smart C not.said

to] omotteiru.

C think

'lit. John thinks [that Sue did not say [that self is smart]].'

In (24c), the null nominal object in (24b) is replaced with *zibun-no kuruma* 'self's' car,' while in (25c), the null CP in (25b) is overtly realized. In both cases, the parallelism effect is observed as long as the materials in question are phonologically reduced.

Finally, overtly realizing the missing CP in (17) with deaccenting does not affect the range of possible interpretation, as shown in (26a).

(26) a. Mary-wa [$_{CP}$ John-ga zibun-o hihansita to] itta-ga,

Mary-Top John-Nom self-Acc criticized C said-but

Sue-wa [$_{CP}$ *John/kare-ga zibun-o hihansita to*] iwanakatta.

Sue-Top John/he-Nom self-Acc criticized C not.said

'lit. Mary said [that John criticized self], but Sue did not say [that John/he criticized self].'

(i) $Mary_1$ said [that $John_2$ criticized $self_1$], but Sue_3 did not say [that he_2 criticized $self_{*2/3}$].

(ii) $Mary_1$ said [that $John_2$ criticized $self_2$], but Sue_3 did not say [that he_2 criticized $self_{2/*3}$].

b. Sue-wa ~~[$_{CP}$ John/kare-ga zibun-o hihansita to]~~ iwanakatta

If the missing CP in (17) results from ellipsis of the full-fledged CP as in (26b), the parallelism effects on the examples with null clausal arguments and their deaccented counterparts can be captured.

To summarize this section, it is argued that the null clausal arguments arise through ellipsis of underlying syntactic structures, based on the observations regarding extraction out of elided CPs and the parallelism constraint. Having established that null clausal arguments have underlying syntactic structures that are subject to ellipsis, I address the issue of what kind of ellipsis process is responsible for their derivations in the next section.

3. Antecedent-Containment and Parallelism in Null Clausal Arguments

There have been proposed at least two lines of analysis on null arguments in languages like Japanese, namely the argument ellipsis analysis and the verb-stranding VP-ellipsis (VVPE) analysis. Based on a close examination of the construction which I call antecedent-contained clausal argument ellipsis (ACCAE), I argue that the argument ellipsis but not the VVPE analysis can straightforwardly capture its properties.[14] In

[14] Note that the argument ellipsis analysis and the VVPE analysis are not mutually incompatible with each other, at least theoretically. What I argue in this paper is that

Section 3.1, I explore the properties of ACCAE, arguing for the clausal argument ellipsis (CAE) analysis. Section 3.2 observes that the parallelism effect is also observed in ACCAE, providing further support for the argument ellipsis analysis.

3.1. Antecedent-Containment in Null Clausal Arguments

Let us start with the examples in (27). In these examples, the matrix clause is *John-ga zibun-o hihansita* 'John criticized self.' The temporal adverbial clauses headed by *atode* 'after' and *maeni* 'before,' respectively, are adjoined between the matrix subject *John* and the matrix object *zibun* 'self.'

(27) a. John-wa [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansita to] itta
John-Top Mary-Nom he-Nom self-Acc criticized C said
atode] zibun-o hihansita.
after self-Acc criticized
'lit. John$_1$ criticized self$_1$ [after Mary$_2$ said [that he$_1$ criticized self$_{1/2}$]].'

b. John-wa [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansita to] iu
John-Top Mary-Nom he-Nom self-Acc criticized C say
maeni] zibun-o hihansita.
before self-Acc criticized
'lit. John$_1$ criticized self$_1$ [before Mary$_2$ say [that he$_1$ criticized self$_{1/2}$]].'

The CP arguments within the adverbial clauses contain the anaphor *zibun* 'self.' In the case of (27), the anaphor within the adverbial clause can be bound by *Mary*, which is the subject of the adverbial clause, or by *kare* 'he.' Focusing on the interpretation where the pronoun *kare* 'he' refers to the matrix subject *John*, (27a-b) are two-way ambiguous as indicated in their translations.

---

there is at least one case where the argument ellipsis analysis is called for. Hence it is not my main concern whether Japanese allows VVPE, although it is an important issue.

When the clausal arguments within the adverbial clause are elided, the examples in (28) are obtained, what I call ACCAE for the reason to be clarified.

(28) a. John-wa [$_{Adv}$ Mary-ga Δ itta atode] zibun-o hihansita.
John-Top Mary-Nom said after self-Acc criticized
'lit. John$_1$ criticized self$_1$ [after Mary$_2$ said Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

b. John-wa [$_{Adv}$ Mary-ga Δ iu maeni] zibun-o hihansita
John-Top Mary-Nom say before self-Acc criticized
'lit. John$_1$ criticized self$_1$ [before Mary$_2$ say Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

Crucially, these examples lack the reading where the missing anaphor is bound by *Mary*. That is, it must be bound by the local antecedent *kare* 'he', which refers to the matrix subject *John*.

Other kinds of adverbial clauses exhibit the same pattern. The examples in (29) involve another type of temporal clauses headed by *toki* 'when.' The examples in (30) and (31) contain reason clauses headed by *kara* 'because' and conditional clauses headed by *nara* 'if,' respectively.

(29) a. John-wa [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansita to] itta
John-Top Mary-Nom he-Nom self-Acc criticized C said
toki] zibun-o hihansita.
when self-Acc criticized
'lit. John$_1$ criticized self$_1$ [when Mary$_2$ said [that he$_1$ criticized self$_{1/2}$]].'

b. John-wa [$_{Adv}$ Mary-ga Δ itta toki] zibun-o hihansita.
John-Top Mary-Nom said when self-Acc criticized
'lit. John$_1$ criticized self$_1$ [when Mary$_2$ said Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

(30) a. John-wa [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansita to] itta
John-Top Mary-Nom he-Nom self-Acc criticized C said
kara] zibun-o hihansita.
because self-Acc criticized
'lit. John$_1$ criticized self$_1$ [because Mary$_2$ said [that he$_1$ criticized self$_{1/2}$]].'

b. John-wa [$_{Adv}$ Mary-ga Δ itta kara] zibun-o hihansita
John-Top Mary-Nom said because self-Acc criticized
'lit. John$_1$ criticized self$_1$ [because Mary$_2$ said Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

(31) a. John-wa [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansuru to]
John-Top Mary-Nom he-Nom self-Acc criticized C
iu nara] zibun-o hihansuru.
say if self-Acc criticize
'lit. John$_1$ criticizes self$_1$ [if Mary$_2$ says [that he$_1$ criticizes self$_{1/2}$]].'

b. John-wa [$_{Adv}$ Mary-ga Δ iu nara] zibun-o hihansuru.
John-Top Mary-Nom say if self-Acc criticize
'lit. John$_1$ criticizes self$_1$ [if Mary$_2$ says Δ].' (Δ = that he$_1$ criticizes self$_{1/*2}$])

In each case, the a-examples, which do not involve ellipsis, are two-way ambiguous, patterning with (27). Once ellipsis applies as in the b-examples, the sentences become unambiguous. Namely, the subject of the adverbial clause *Mary* fails to bind the anaphor within the null clausal arguments.

The lack of the reading in question in (28) and the b-examples of (29)-(31) can be easily captured as an instance of the parallelism constraint effect, if we assume that the missing CP within the adverbial clauses is elided under identity with the matrix CP. That is, taking (28a), repeated as (32a), as a concrete example, I argue that it has the

structure in (32b).[15]

(32) a. John-wa [$_{Adv}$ Mary-ga Δ itta atode] zibun-o hihansita.
John-Top Mary-Nom said after self-Acc criticized
'lit. John$_1$ criticized self$_1$ [after Mary$_2$ said Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

b. [$_{CP1}$ John-wa [$_{Adv}$ Mary-ga ~~[$_{CP2}$ kare-ga zibun-o hihansita to]~~ itta atode] zibun-o hihansita]

In (32b), the CP_1 serves as the antecedent for the CP_2 within the adverbial clause.[16] As shown in (33), *zibun* 'self' in the antecedent (namely CP_1) is bound locally by *John*. Then, *zibun* 'self' in the ellipsis site (namely CP_2) must also be bound locally due to the

[15] The analysis to be given in the text also holds for ACCAE with the other kinds of adverbial clauses.

[16] The elided CP in (32b) is not totally identical to its antecedent, namely the matrix CP, because only the former has the complementizer *to* 'that.' In fact, Saito (2007) observes that argument ellipsis is possible even when the elided nominal and its antecedent bear different Case-markers, as shown in (i).

(i) a. Taroo-wa [zibun-no hahaoya]-o tazuneta.
Taroo-Top self-Gen mother-Acc visited
'Taroo visited his mother.'

b. Hanako-wa ~~[zibun-no hahaoya]-ni~~ denwa-o sita.
Hanako-Top self-Gen mother-Dat phone-Acc did
'Hanako made a phone call to her mother.'

The antecedent in (ia) bears the accusative Case-marker while the elided argument in (ib) is accompanied by the dative Case-marker due to the lexical property of the verb. Nonetheless, the sloppy reading is available for (ib), suggesting that argument ellipsis can apply ignoring the difference regarding the Case-markers. I assume that the difference between the complementizer *to* 'that' and the matrix null complementizer also falls under this type of mismatches, although further investigation is necessary to see what kind of mismatches is allowed under argument ellipsis.

parallelism constraint.

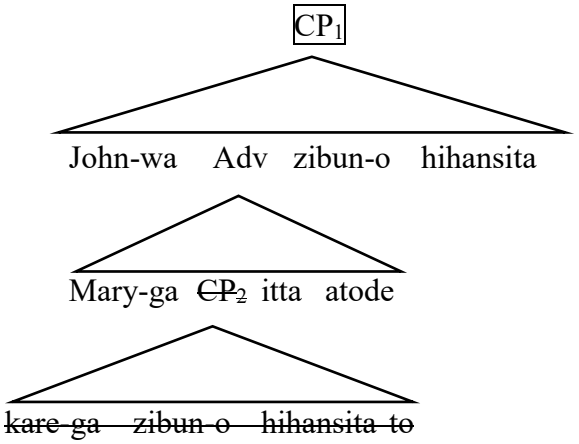
(33) Antecedent: [$_{CP1}$ John-wa [$_{Adv}$ …] zibun-o hihansita]

Ellipsis target: [$_{Adv}$ Mary-ga [$_{CP2}$ kare-ga zibun-o hihansita to] itta atode]

The lack of the reading where *Mary* binds *zibun* 'self' in (28)-(31) thus follows from the parallelism constraint.

Note that the elided CP_2 is contained within the adverbial clause, and the adverbial clause is in turn contained within the matrix clause CP_1. There is thus an antecedent-containment relation between CP_1 and CP_2, as illustrated in (34) (in what follows, the intended antecedent XP is put in a box).

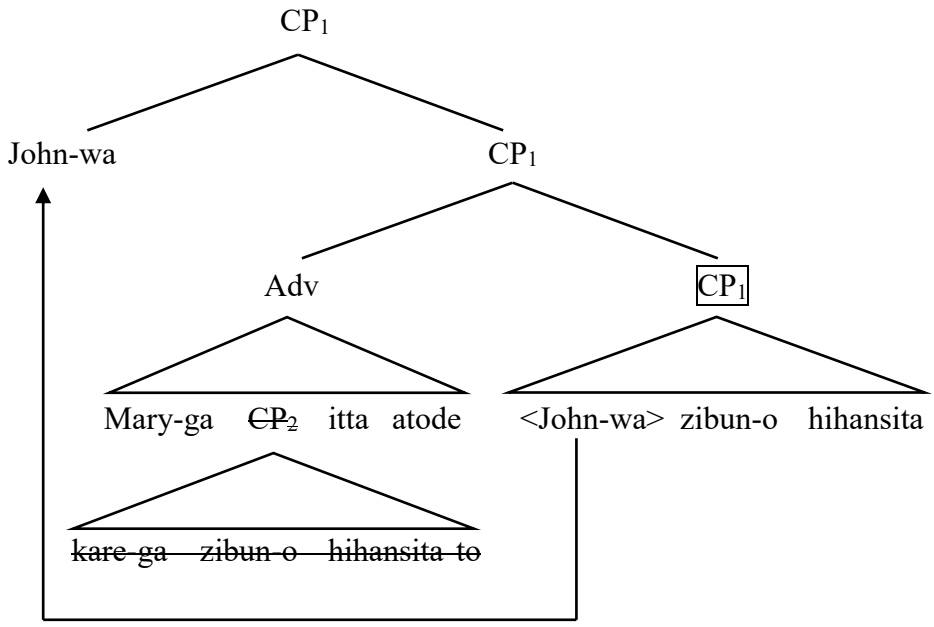
(34)



Hence, I call this construction antecedent-contained clausal argument ellipsis (ACCAE) (see Sag 1976; Baltin 1987; Hornstein 1994; Abe and Hoshi 1999; Fox 2002; Yoshida 2006, 2010, among many others for other cases of antecedent-contained deletion).

Let us consider how we can resolve the antecedent-containment relation. The structure in (35) illustrates a way of resolving the antecedent-containment relationship.

(35)



In (35), the adverbial clause is adjoined to CP_1, and the matrix subject *John* is moved across it, leaving a copy (given in < >).[17] Under this structure, CP_2 is not contained

[17] Nothing in the discussion in the text hinges upon the nature of the movement of the subject. One possible candidate for this movement is clause-internal scrambling (see, for instance, Tanaka 2001; Ko 2005). Tanaka's (2001) argument for clause-internal scrambling of subjects is based on the so-called right-dislocation construction. First, Tanaka (2001) argues that right-dislocation constructions like (ia) involve bi-clausal structures where leftward scrambling and TP-deletion apply in the second clause as in (ib) (see also Abe 1999; Takita 2011, 2014; Yamashita 2011).

(i) a. Taroo-ga katta-yo, sono hon-o.
Taroo-Nom bought-Prt that book-Acc
'lit. Taroo bought, that book.'

b. [Taroo-ga katta-yo], [$_{CP}$ sono hon-o$_1$ ~~[$_{TP}$ Taroo-ga t_1 katta-yo]~~]

Tanaka (2001) then takes the fact that subjects can be right-dislocated as in (iia) as an indication of clause-internal scrambling of subjects as in (iib).

(ii) a. Sono hon-o katta-yo, Taroo-ga.
that book-Acc bought-Prt Taroo-Nom
'lit. Bought that book, Taroo.'

within the lowest segment of CP_1. Therefore, an infinite regress can be avoided if argument ellipsis applies to CP_2 taking the lowest segment of CP_1 as its antecedent. In this way, the CAE analysis can easily accommodate ACCAE.[18]

---

b. [sono hon-o kata-yo], [$_{CP}$ Taroo-ga$_1$ [~~$_{TP}$ t_1 sono hon-o katta-yo~~]]

[18] I do not intend that the analysis presented in the text is the only way of resolving the antecedent-containment relation in question. Related to this point, an anonymous reviewer suggests that Hornstein's (2009) treatment of adjuncts provides another solution to the antecedent-containment relation. Hornstein (2009) proposes that when two elements are composed into a phrase, two operations, concatenation and labeling, come into play. Concatenation is an operation that puts two elements together, while labeling makes the result of concatenation available for further syntactic operations. Hornstein's (2009) point is that labeling is not necessary for adjuncts. Thus, when the adjunct *in the yard* is integrated into the structure, there are two structural possibilities given in (i), where labeling takes place only in (ib) ("X^Y" indicates that X and Y are concatenated).

(i) a. [$_V$ eat^the-cake]^in-the-yard
b. [$_V$ [$_V$ eat^the-cake]^in-the-yard]

Hornstein (2009) argues that this structural ambiguity explains the fact that adjuncts may or may not be included in VP-fronting (as in (ii)) and VP-ellipsis (as in (iii)).

(ii) a. John could [eat the cake] in the yard and [eat the cake] he did in the yard.
b. John could [eat the cake in the yard] and [eat the cake in the yard] he did.

(iii) a. John [ate a cake] in the yard and Bill did Δ in the hall too. (Δ = eat a cake)
b. John [ate a cake in the yard] and Bill did Δ too. (Δ = eat a cake in the yard)

Then, Hornstein (2009) suggests that this treatment of adjuncts offers a way of avoiding an infinite regress. According to his analysis, the underlying structure of (iva), which is a typical ACD example, is (ivb), where the adjunct containing the ellipsis site is concatenated without labeling.

(iv) a. John greeted everyone that I did.
b. [$_T$ John^[$_T$ T^[$_V$ greeted^everyone]]]
^that-I-did

One of the most notable properties of ACCAE is that it raises a significant difficulty for the VVPE analysis, which analyzes null arguments as a result of ellipsis of VP after verb-raising. Let us briefly review the main differences of the VVPE analysis from the argument ellipsis. As schematically shown in (36), the VVPE analysis presupposes that verb-raising takes place both in the antecedent and the target clauses (irrelevant details are omitted).

This effectively renders the adjunct invisible for the purpose of ellipsis resolution, hence no infinite regress arises. Similarly, (va), where sluicing takes place within the adjunct clause (see Yoshida 2006, 2010) has the structure in (vb).

(v) a. John kissed someone without knowing who.

b. [$_{T}$ John^[$_{T}$ T^[$_{V}$ kissed^someone]]]
^without-knowing-who

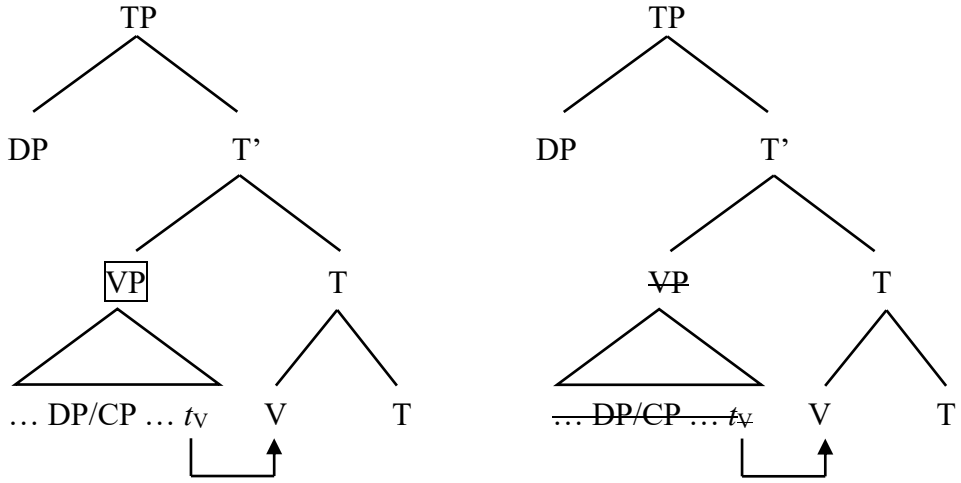
Hornstein's (2009) analysis is intriguing, but there is at least one serious problem. In particular, the alleged underlying structure in (vb) predicts that if a certain syntactic operation targets the VP *kissed someone*, the adjunct *without knowing who* cannot be involved in the process. This is because it is crucial that the adjunct is just concatenated without labeling so that it is invisible to further syntactic operations including ellipsis resolution. As shown in (vi), however, the adjunct can be involved in VP-fronting and VP-ellipsis (adapted from Yoshida 2010:351).

(vi) a. I thought John loves someone without knowing who [$_{TP}$ Δ] and [$_{VP}$[$_{VP}$ love someone] [without knowing who [$_{IP}$ Δ]]], he does *t*$_{VP}$ indeed.

b. John [$_{VP}$[$_{VP}$ loves someone] [without knowing who [$_{TP}$ Δ]]], and Mary does [$_{VP}$ Δ], too. (Δ = love someone without knowing who)

Therefore, I do not extend Hornstein's (2009) analysis to the ACCAE case.

(36) Antecedent: Ellipsis target:



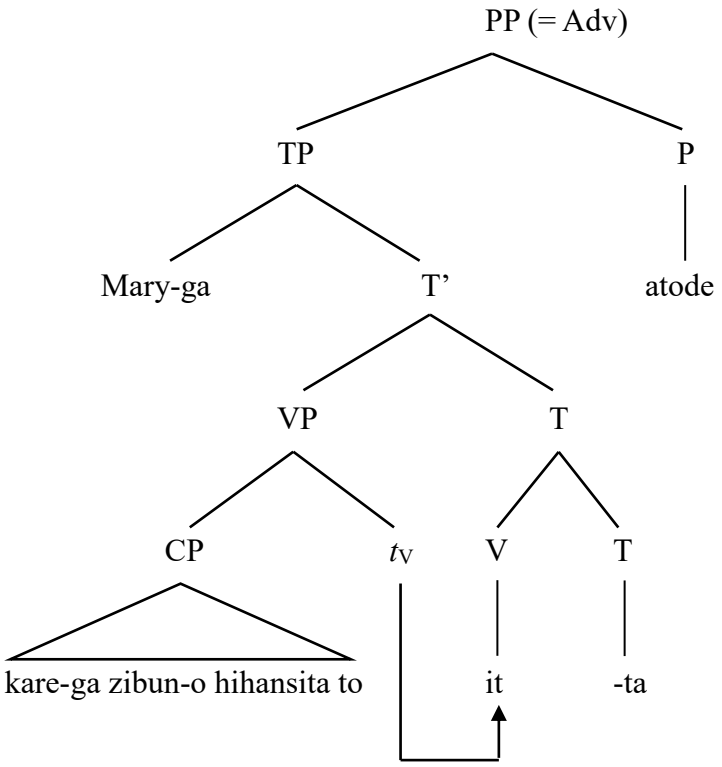
After verb-raising, subsequent ellipsis of VP in the target clause takes place, taking the other VP as its antecedent. As a result, the elements within the VP but not the verb itself are elided. This instance of VP-ellipsis is thus called *verb-stranding* VP-ellipsis. If the elided VP contains a DP, we obtain a null nominal argument, while if it contains a CP, ellipsis of VP yields a null clausal argument.[19] On the other hand, the argument ellipsis analysis allows arguments to be elided directly.

Returning to the case of ACCAE, (37) illustrates the internal structure of the adverbial clause.[20] In order to derive the null clausal arguments under the VVPE analysis, the verb *iw* 'say' must move to T first.

[19] The cases where the null arguments are subjects can be accommodated by assuming that they stay within the VP-internal position.

[20] Although it is assumed that *atode* 'after,' which is the head of the adverbial clause, is a P taking a TP complement, nothing in the discussion hinges upon this assumption.

(37)



Crucially, under the VVPE analysis, ellipsis must target the VP that overtly contains nothing but the CP argument, so there must be an appropriate antecedent VP. However, such an antecedent is never available for the case of ACCAE simply because there is no VP that contains the matrix root clause. Hence, if VVPE were the only way of deriving null clausal arguments, as argued by Funakoshi (2014), ACCAE should never be available.[21]

[21] Funakoshi's (2014) argument that null clausal arguments can result only from VVPE is based on the effect of the verbal identity requirement (see Goldberg 2005, among others), which requires the elided VP be identical to its antecedent VP with respect to their head verbs. In particular, he observes that the sloppy reading is not available for the missing CP in (i), where the matrix verb of the antecedent (*omow* 'think') is different from the one in the second clause (*kangae* 'think') (adapted from Funakoshi 2014:335 with his judgment).

(i)*	Taroo-wa	[$_{CP}$	zibun-ga	itibanda	to]	omotteiru	kedo,
	Taroo-Top		self-Nom	is.the.best	C	think	but

Put it differently, the CAE analysis allows us to take the matrix clause itself as the antecedent, while the VVPE analysis requires a bit larger antecedent, which is crucially unavailable in the case of ACCAE. Therefore, we can safely conclude that it is not the case that the VVPE analysis can explain all the null argument phenomena. That is, the CAE analysis cannot be dispensed with, no matter how well the VVPE analysis accommodates other null argument phenomena.

3.2. Further Parallelism Effects in Antecedent-Contained Clausal Argument Ellipsis

Recall that the proposed analysis attributes to the parallelism constraint the lack of the long-distance sloppy readings in (38), repeated from (28), where *Mary* binds the anaphor *zibun* 'self' within the adverbial clause.

Hanako-wa Δ kangaeteinai.
Hanako-Top not.think
'(intended) Taroo thinks [that he is the best], but Hanako does not think [she is the best].'

At the same time, Takita (2010) observes that the sloppy reading is available even when the embedding verbs are different, as in (ii) (adapted from Takita 2010:83).

(ii) a. Taroo-wa [$_{CP}$ zibun-ga sakini sono teiri-o syoomeisita
Taroo-Top self-Nom first that theorem-Acc proved
to] syutyoosita.
C claimed
'Taroo claimed that he (= Taroo) proved the theorem first.'

b. Ziroo-wa Δ hanronsita.
Ziroo-Top counter-argued
'lit. Ziroo counter-argued Δ (Δ = that Ziroo proved the theorem first).'

The matrix verb in (ii-a) is *syoomeis* 'prove' while the one in (ii-b) is *hanrons* 'counter-argue,' hence they are clearly different from each other. Nonetheless, (ii-b) readily allows the sloppy reading.

(38) a. John-wa [$_{Adv}$ Mary-ga Δ itta atode] zibun-o hihansita.
John-Top Mary-Nom said after self-Acc criticized
'lit. John$_1$ criticized self$_1$ [after Mary$_2$ said Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

b. John-wa [$_{Adv}$ Mary-ga Δ iu maeni] zibun-o hihansita.
John-Top Mary-Nom say before self-Acc criticized
'lit. John$_1$ criticized self$_1$ [before Mary$_2$ say Δ].' (Δ = that he$_1$ criticized self$_{1/*2}$])

It is then predicted that the reading is obtained once a parallel binding relation is made available.

The prediction is indeed borne out, as shown by the examples in (39), which are obtained by embedding the examples in (38) under another clause.

(39) a. Sue-wa [$_{CP}$ John-ga [$_{Adv}$ Mary-ga Δ itta atode] zibun-o
Sue-Top John-Nom Mary-Nom said after self-Acc
hihansita to] itta.
criticized C said
'lit. Sue said [that John criticized self [after Mary said Δ]].'
(i) 'Sue$_1$ said [that John$_2$ criticized self$_1$ [after Mary$_3$ said [that he$_2$ criticized self$_{*2/3}$]]].'
(ii) 'Sue$_1$ said [that John$_2$ criticized self$_2$ [after Mary$_3$ said [that he$_2$ criticized self$_{2/*3}$]]].'

b. Sue-wa [$_{CP}$ John-ga [$_{Adv}$ Mary-ga Δ iu maeni] zibun-o
Sue-Top John-Nom Mary-Nom say before self-Acc
hihansita to] itta.
criticized C said
'lit. Sue said [that John criticized self [before Mary say Δ]].'

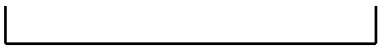
(i) ‘Sue$_1$ said [that John$_2$ criticized self$_1$ [before Mary$_3$ says [that he$_2$ criticized self$_{*2/3}$]]].’

(ii) ‘Sue$_1$ said [that John$_2$ criticized self$_2$ [before Mary$_3$ said [that he$_2$ criticized self$_{2/*3}$]]].’

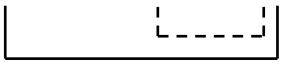
The readings in (39a-i) and (39b-i) indicate that the long-distance sloppy readings that are unavailable for (38) are forced if the anaphor *zibun* ‘self’ in the matrix clause is bound by the long-distance binder, namely *Sue*. On the other hand, the local sloppy readings in (39a-ii) and (39b-ii) are the only possibility where *John* binds the matrix anaphor.

The parallelism constraint can readily capture these observations. Taking (39a) as a concrete example, (40) and (41) illustrate how the long-distance sloppy reading and the local sloppy reading are forced, repectiely.

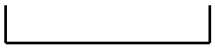
(40) Antecedent: Sue-wa [$_{CP}$ John-ga [$_{Adv}$ …] zibun-o hihansita to] itta



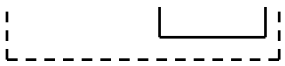
Ellipsis target: [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansita to] itta atode]



(41) Antecedent: Sue-wa [$_{CP}$ John-ga [$_{Adv}$ …] zibun-o hihansita to] itta



Ellipsis target: [$_{Adv}$ Mary-ga [$_{CP}$ kare-ga zibun-o hihansita to] itta atode]



In the case of (40), the binding relation in the antecedent is long-distance, so that the one in the target clause should also be long-distance, yielding the long-distance sloppy reading. On the contrary, the relation is local in the antecedent of (41), hence the local relation is forced in the target clause, giving rise to the local sloppy reading.

The same pattern is found for the ACCAE examples with different kinds of adverbial clauses in (29)-(31). In the examples in (42), the b-examples of (29)-(31) are

embedded under another clause just like (39).

(42) a. Sue-wa [$_{CP}$ John-ga [$_{Adv}$ Mary-ga Δ itta toki] zibun-o
Sue-Top John-Nop Mary-Nom said when self-Acc
hihansita to] itta.
criticized C said
'lit. Sue said [that John criticized self [when Mary said Δ]].'
(i) 'Sue$_1$ said [that John$_2$ criticized self$_1$ [when Mary$_3$ said [that he$_2$ criticized self$_{*2/3}$]]].'
(ii) 'Sue$_1$ said [that John$_2$ criticized self$_2$ [when Mary$_3$ said [that he$_2$ criticized self$_{2/*3}$]]].'

b. Sue-wa [$_{CP}$ John-ga [$_{Adv}$ Mary-ga Δ itta kara] zibun-o
Sue-Top John-Nom Mary-Nom said because self-Acc
hihansita to] itta.
criticized C said
'lit. Sue said [that John criticized self [because Mary said Δ]].'
(i) 'Sue$_1$ said [that John$_2$ criticized self$_1$ [because Mary$_3$ said [that he$_2$ criticized self$_{*2/3}$]]].'
(ii) 'Sue$_1$ said [that John$_2$ criticized self$_2$ [because Mary$_3$ said [that he$_2$ criticized self$_{2/*3}$]]].'

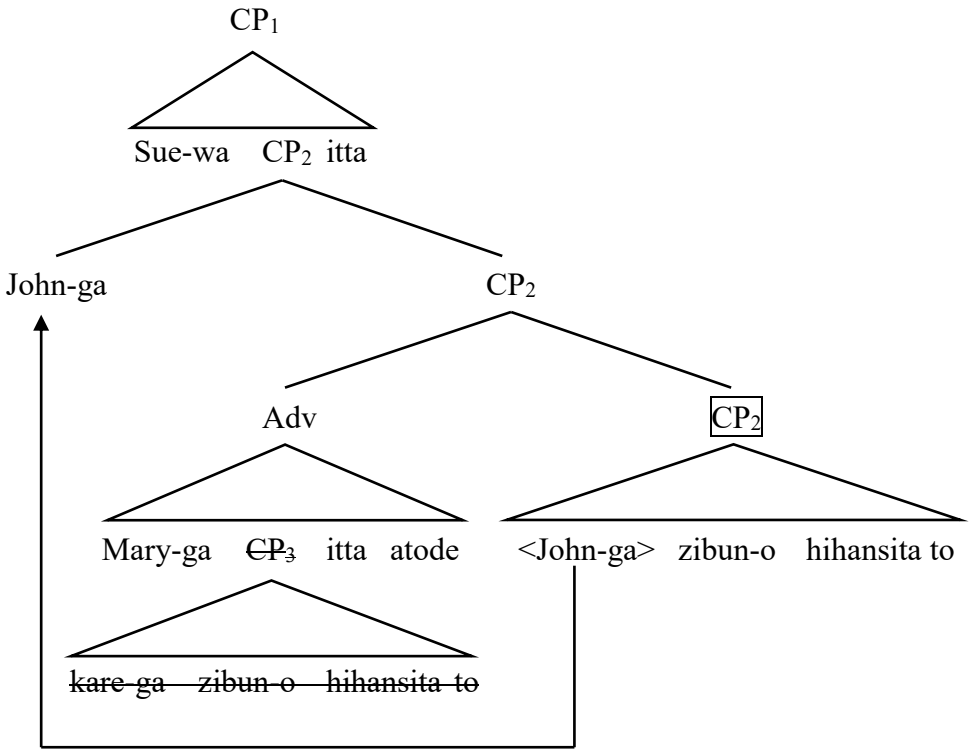
c. Sue-wa [$_{CP}$ John-wa [$_{Adv}$ Mary-ga Δ iu nara] zibun-o
Sue-Top John-Nom Mary-Nom say if self-Acc
hihansuru to] itta.
criticize C said
'lit. Sue said [that John criticizes self [if Mary says Δ]].'
(i) 'Sue$_1$ said [that John$_2$ criticizes self$_1$ [if Mary$_3$ says [that he$_2$ criticizes self$_{*2/3}$]]].'

(ii) 'Sue$_1$ said [that John$_2$ criticizes self$_2$ [if Mary$_3$ says [that he$_2$ criticizes self$_{2/*3}$]]].'

In each case, the effect of the parallelism constraint is observed.

The proposed analysis of the ACCAE in Section 3.1 can be carried over to the cases under discussion. Specifically, the example in (39a) is analyzed as having the structure in (43). This structure is identical to the one in (35) except that the whole CP of (35) (indicated as CP_2) is embedded under the higher CP, namely CP_1.

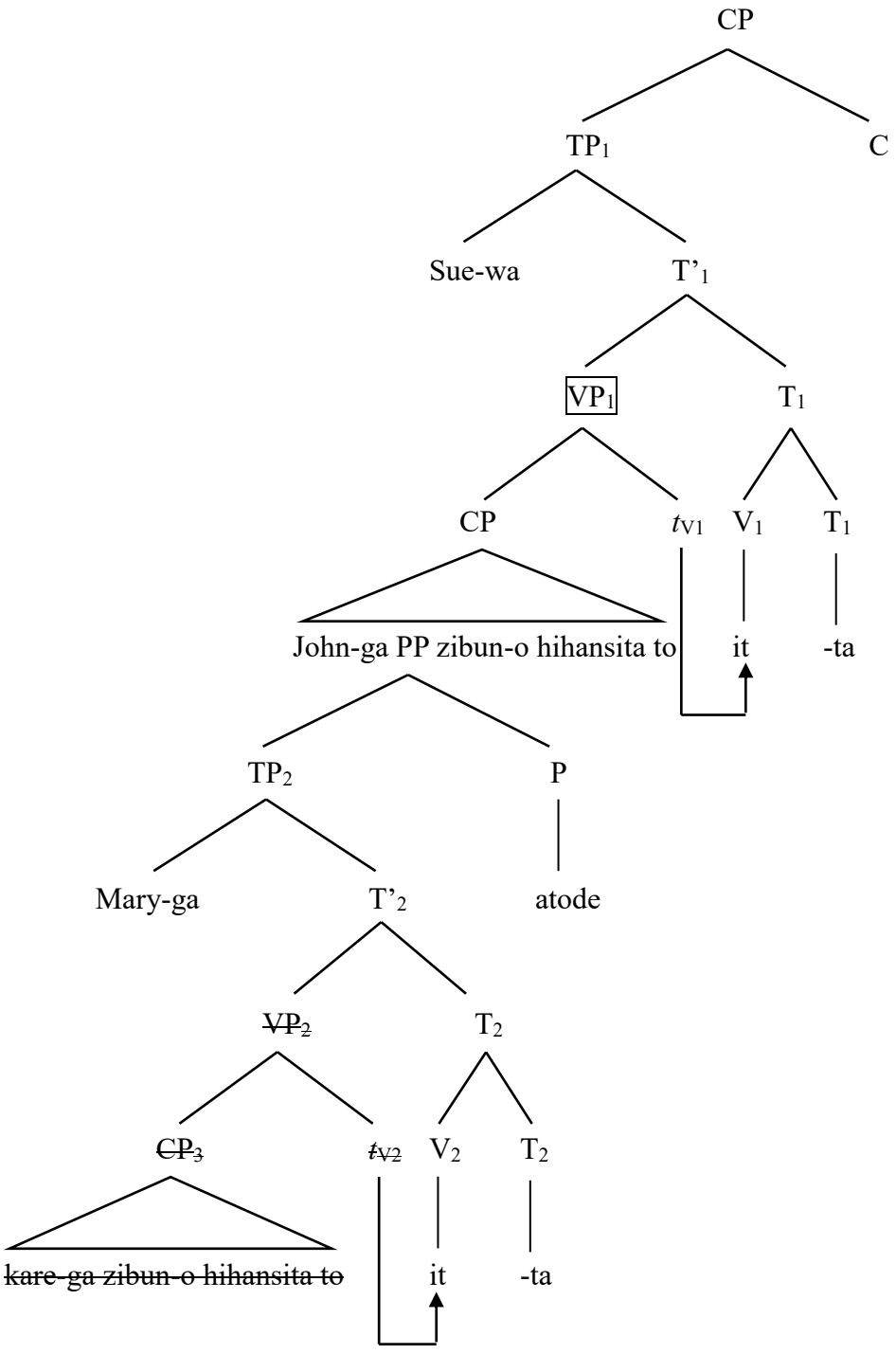
(43)



There is no antecedent-containment relation between the lowest segment of CP_2 and the elided CP (CP_3) within the adverbial clause, hence argument ellipsis can target the clausal argument.

On the other hand, the ACCAE examples under discussion pose further difficulties for the VVPE analysis. Under the VVPE analysis, the example in (39a) is analyzed as having the structure in (44) rather than (43). In order to elide the CP_3, the VVPE analysis should assume that what is elided is the VP_2, whose head raises to T_2.

(44)



Recall that in the case of simple ACCAE discussed in Section 3.1, there is no appropriate antecedent for the VP because no VP takes the root clause as its complement. This is the crucial property that helps us tease apart the CAE analysis from the VVPE analysis. In the case of (44), we do have a potential antecedent VP, namely VP_1, whose

head is also moved to T_1 by verb-raising. Hence, it is worth considering if the VVPE analysis has a chance to accommodate examples like (39) and (42).

Note at the same time that the VP_1 properly contains the VP_2. Therefore, for ellipsis of VP_2 to be legitimate, the antecedent-containment relationship must be resolved. There are, however, at least two issues that the VVPE analysis must overcome in order to resolve it; (i) long-distance movement of subjects and (ii) the ban on string-vacuous movement. The rest of this section is devoted to illustrate that they are real problems for the VVPE analysis.[22] Note that neither of these problems arises for the CAE analysis, hence it can avoid all the unnecessary complications that the VVPE analysis should overcome.

To see the problems more clearly, let us consider what must be moved in order to avoid an infinite regress under the VVPE analysis. First, it must be the adverbial clause itself, namely the PP in (44), that is moved to somewhere higher than the VP_1. This is because the adverbial clause constitutes an island, as indicated by the contrast in (45).

(45) a. Taroo-ga [$_{Adv}$ Hanako-ga tegami-o suteta atode] kaettekita.
Taroo-Nom Hanako-Nom letter-Acc discarded after came.home
'Taroo came home [after Hanako discarded the letter].'

b. * Tegami-o$_1$ Taroo-ga [$_{Adv}$ Hanako-ga t_1 suteta atode] kaettekita.
letter-Acc Taroo-Nom Hanako-Nom discarded after came.home
'lit. The letter$_1$, Taroo came home [after Hanako discarded t_1].'

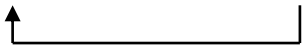
(45b) is derived from (45a) by moving *tegami-o* 'letter' out of the adverbial clause, which results in ungrammaticality. Therefore, the antecedent-containment relation can

[22] It is worth mentioning that the problems to be discussed in the text do not arise if one assumes Hornstein's (2009) analysis of ACD briefly reviewed in footnote 18. At the same time, the proponents of his analysis should overcome the problem pointed out in the footnote.

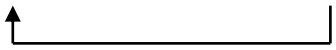
only be resolved by moving the PP but not the TP_2 or the VP_2.

The long-distance movement of the adverbial clause yields the word order schematically shown in (46a). Given the surface word order of (39a), however, the embedded subject *John* should also undergo movement to the position between the highest subject *Sue* and the moved adverbial clause, as shown in (46b).

(46) a. Sue-wa $[_{Adv}$ …$]_1$ $[_{VP1}$ $[_{CP}$ John-ga t_1 zibun-o hihansita to] $t_{V1}]$ $[_{V1}$ it]-ta



b. Sue-wa John-ga_2 $[_{Adv}$ …$]_1$ $[_{VP1}$ $[_{CP}$ t_2 t_1 zibun-o hihansita to] $t_{V1}]$ $[_{V1}$ it]-ta



Since the movement targets the position below the matrix subject *Sue* and it does not seem to have any semantic effect, the most natural candidate for this movement is scrambling. The scrambling of subjects, however, raises the problems mentioned above.

Since Saito (1985), it has been standardly assumed that subjects in Japanese cannot undergo long-distance scrambling to begin with, as shown in (47) (adapted from Saito 1985:185).

(47)*Sono okasi-ga_1 John-ga [t_1 oisii to] omotteiru.
that candy-Nom John-Nom tasty C think
'lit. That candy, John thinks [that t_1 is tasty].'

Furthermore, the landing site of the subject in question is *below* the matrix subject *Sue*. As shown in (48), even non-subjects resist undergoing long-distance scrambling below the higher subject (based on Saito 1985:267 with his judgment).

(48) a. Taroo-ga minna-ni $[_{CP}$ Hanako-ga sono hon-o motteiru
Taroo-Nom all-to Hanako-Nom that book-Acc have
to] itta.
C said
'Taroo said to all [that Hanako has that book].'

b. Sono hon-o$_1$ Taroo-ga minna-ni [$_{CP}$ Hanako-ga t_1
that book-Acc Taroo-Nom all-to Hanako-Nom
motteiru to] itta.
have C said
'lit. That book$_1$, Taroo said to all [that Hanako has t_1].'

c. ?? Taroo-ga sono hon-o$_1$ minna-ni [$_{CP}$ Hanako-ga t_1
Taroo-Nom that book-Acc all-to Hanako-Nom
motteiru to] itta.
have C said
'lit. Taroo, that book$_1$, said to all [that Hanako has t_1].'

(48a) is the baseline example without scrambling. In (48b), the embedded object *sono hon-o* 'that book' is moved to the position higher than the matrix subject. On the other hand, if the movement targets between the matrix subject and the matrix indirect object as in (48c), the result is marginal. In fact, if the embedded subject instead of the embedded object undergoes long-distance scrambling to the same position, the result is even worse, as in (49).

(49) * Taroo-ga Hanako-ga$_1$ minna-ni [$_{CP}$ t_1 sono hon-o
Taroo-Nom Hanako-Nom all-to that book-Acc
motteiru to] itta.
have C said
'lit. Taroo, Hanako$_1$, said to all [that t_1 has that book].'

The examples of ACCAE discussed in this subsection do not exhibit such degradation regarding grammaticality, however.

Furthermore, the derivation in (46) involves a typical violation of the ban on string-vacuous scrambling (cf. Hoji 1985). To see the effect of the ban in question, let us consider the examples in (50).

(50) a. * Soko$_1$-no zyuugyooin-ga mittu-izyoo-no kaisya-o$_1$ uttaeta.
it-Gen employee-Nom three-or.more-Gen company-Acc sued
'lit. Their employees sued three or more companies.'

b. Mittu-izyoo-no kaisya-o$_1$ soko$_1$-no zyuugyooin-ga t_1 uttaeta.
three-or.more-Gen company-Acc it-Gen employee-Nom sued
'lit. Three or more companies$_1$, their employees sued t_1.'

In (50a), the object quantifier follows the subject containing the pronoun *soko* 'it,' and the intended bound-variable interpretation is not possible. Once the object quantifier undergoes scrambling as in (50b), however, the reading in question is available.

Suppose that the scrambling of the object quantifier is followed by the (clause-internal) scrambling of the subject, as illustrated by the steps in (51). The resultant string is identical to the surface word order of (50a). Thus, this way of applying movements is called string-vacuous.

(51) a. [… Obj$_1$ … Subj … t_1 …]

b. [… Subj$_2$ … Obj$_1$ … t_2 … t_1 …]

If the derivation in (51) would be available for (50a), it could involve the step identical to the one involved in the derivation of (50b). The ban on string-vacuous movement is thus called for to accommodate the contrast between (50a) and (50b).

It then follows that the VVPE analysis should invent a way of allowing string-vacuous scrambling in the case of ACCAE while disallowing it in cases like (50). This raises significant difficulties for the VVPE analysis, while the CAE analysis is free from it since there is no need to move the adjunct clause to avoid an infinite regress (see (43)).

To summarize, I have argued that the analysis of the ACCAE examples in terms of VVPE face the problems concerning long-distance movements of subjects and

string-vacuous movement. Although these instances of movement are impossible in general, the VVPE analysis should utilize them only for the case of ACCAE. On the other hand, the CAE analysis, which this paper tries to support, is free from these problems. Therefore, ACCAE provides a novel way of distinguishing the CAE analysis from the VVPE analysis, arguing for the former analysis.

4. Conclusion

In this paper, I have first argued that null clausal arguments have underlying full-fledged syntactic structures to be elided. Specifically, it is illustrated that not only null nominal arguments but also null clausal arguments pattern with VP-ellipsis in English and N'-deletion in Japanese with respect to the parallelism constraint. Taken together with Takahashi's (2012) argument based on extraction out of null clausal arguments, the observation supports the idea that the null clausal arguments are derived by eliding their underlying syntactic structures.

The construction called antecedent-contained clausal argument ellipsis (ACCAE) is then closely examined, where a null clausal argument within an adverbial clause takes the matrix clause as its antecedent. It is argued that ACCAE provides a novel way of distinguishing the analyses in terms of argument ellipsis and in terms of verb-stranding VP-ellipsis (VVPE). In particular, I have illustrated that the VVPE analysis faces serious difficulties to accommodate ACCAE, while the clausal argument ellipsis analysis can straightforwardly capture the properties of the construction in question. Therefore, ACCAE represents the case where the argument ellipsis analysis is called for, no matter whether Japanese allows VVPE.

Acknowledgments: I thank two anonymous reviewers and the editors of *JEAL*, Jun Abe, Jonathan Bobaljik, Kenshi Funakoshi, Taichi Nakamura, Yohei Oseki, Hiroaki Saito,

Yuta Sakamoto, Yoshiyuki Shibata, Yasutada Sudo, Hisako Takahashi, Masahiko Takahashi, and especially Mamoru Saito and Daiko Takahashi for their valuable comments and discussions. I am also grateful to the audiences at University of York, University of Connecticut, and New York University, where earlier versions of this paper were presented. All errors are of course mine. Part of this work is supported by MEXT KAKENHI Grant Number JP15623587.

References

Abe, Jun. 1999. On directionality of movement: A case of Japanese right dislocation. Unpublished ms., Nagoya University.

Abe, Jun, and Hiroto Hoshi. 1999. A generalized rightward movement analysis of antecedent contained deletion. *Journal of Linguistics* 35: 451-481.

Baltin, Mark. 1987. Do antecedent-contained deletions exist? *Linguistic Inquiry* 18: 579-595.

Chung, Sandra, William Ladusaw, and James McCloskey. 1995. Sluicing and logical form. *Natural Language Semantics* 3: 239-282.

Chung, Sandra, William A. Ladusaw, and James McCloskey. 2011. Sluicing(:) between structure and inference. In *Representing language: Essays in honor of Judith Aissen*, ed. Rodrigo Gutiérrez-Bravo, Line Mikkelsen, and Eric Potsdam, 31-50. California Digital Library eScholarship Repository. Santa Cruz: University of California, Santa Cruz, Linguistic Research Center.

Doron, Edit. 1999. V-movement and VP ellipsis. In *Fragments: Studies in ellipsis and gapping*, ed. Shalom Lappin and Elabbas Benmamoun, 124-140. New York: Oxford University Press.

Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge: MIT Press.

Fox, Danny. 2002. Antecedent-contained deletion and the copy theory of movement.

Linguistic Inquiry 33: 63-96.

Fox, Danny, and Howard Lasnik. 2003. Successive-cyclic movement and island repair: The difference between sluicing and VP-ellipsis. *Linguistic Inquiry* 34: 143-154.

Funakoshi, Kenshi. 2012. On headless XP-movement/ellipsis. *Linguistic Inquiry* 43: 519-562.

Funakoshi, Kenshi. 2014. Syntactic head movement and its consequences. PhD dissertation, University of Maryland.

Funakoshi, Kenshi. 2016. Verb-stranding verb phrase ellipsis in Japanese. *Journal of East Asian Linguistics* 25: 113-142.

Goldberg, Lotus. 2005. Verb-stranding VP-ellipsis: A cross-linguistic study. PhD dissertation, McGill University.

Gribanova, Vera. 2013a. Verb-stranding verb phrase ellipsis and the structure of the Russian verbal complex. *Natural Language and Linguistic Theory* 31: 91-136.

Gribanova, Vera. 2013b. A new argument for verb-stranding verb phrase ellipsis. *Linguistic Inquiry* 44: 145-157.

Hiraiwa, Ken, and Shinichiro Ishihara. 2012. Syntactic metamorphosis: Clefts, sluicing, and in-situ focus in Japanese. *Syntax* 15: 142-180.

Hoji, Hajime. 1985. Logical form constraints and configurational structures in Japanese. PhD dissertation, University of Washington, Seattle.

Hoji, Hajime. 1990. Theories on anaphora and aspects of Japanese syntax. Unpublished ms., University of Southern California.

Hoji, Hajime. 1998. Null object and sloppy identity in Japanese. *Linguistic Inquiry* 29: 127–152.

Hornstein, Norbert. 1994. An argument for minimalism: The case of antecedent-contained deletion. *Linguistic Inquiry* 25: 455-480.

Hornstein, Norbert. 2009. *A theory of syntax: Minimal operations and Universal*

Grammar. New York: Cambridge University Press.

Kasai, Hironobu. 2014. On the nature of null clausal complements in Japanese. *Syntax* 17: 168-188.

Ko, Heejeong. 2005. Syntactic edges and linearization. PhD dissertation, MIT.

Kuroda, S.-Y. 1965. Generative grammatical studies in the Japanese language. PhD dissertation.

McCloskey, James. 1991. Clause structure, ellipsis and proper government in Irish. *Lingua* 85: 259-302.

McCloskey, James. 2011. The shape of Irish clauses. In *Formal Approaches to Celtic Linguistics*, ed. Andrew Carnie, 143-178. Cambridge: Cambridge Scholars Publishing.

Ohso, Mieko. 1976. A study of zero pronominalization in Japanese. PhD dissertation, Ohio State University, Columbus.

Oku, Satoshi. 1998. A theory of selection and reconstruction in the minimalist program. PhD dissertation, University of Connecticut, Storrs.

Otani, Kazuyo, and John Whitman. 1991. V-raising and VP-ellipsis. *Linguistic Inquiry* 22: 345-358.

Rooth, Mats. 1992. Ellipsis redundancy and reduction redundancy. In *Proceedings of the Stuttgart Ellipsis Workshop*, ed. Steve Berman and Arild Hestvik, 1-26. Stuttgart: University of Stuttgart.

Sag, Ivan. 1976. Deletion and logical form. PhD dissertation, MIT.

Saito, Mamoru. 1985. Some asymmetries in Japanese and their theoretical implications. PhD dissertation, MIT.

Saito, Mamoru. 2004. Ellipsis and pronominal reference in Japanese clefts. *Nanzan Linguistics* 1: 21-50.

Saito, Mamoru. 2007. Notes on East Asian argument ellipsis. *Language Research* 43:

203-227.

Saito, Mamoru, and Keiko Murasugi. 1990. N'-deletion in Japanese: A preliminary study. In *Japanese/Korean Linguistics*, Vol. 1, 258–301. Stanford: CSLI Publications.

Saito, Mamoru, T.-H. Jonah Lin, and Keiko Murasugi. 2008. N'-ellipsis and the structure of noun phrases in Chinese and Japanese. *Journal of East Asian Linguistics* 18: 247-271.

Sakamoto, Yuta. 2016. Phases and argument ellipsis in Japanese. *Journal of East Asian Linguistics* 25: 243-274.

Sakamoto, Yuta. 2017. Escape from silent syntax. PhD dissertation, University of Connecticut, Storrs.

Shinohara, Michie. 2006. On some differences between the major deletion phenomena and Japanese argument ellipsis. Unpublished ms., Nanzan University.

Tancredi, Christopher. 1992. Deletion, deaccenting and presupposition. PhD dissertation, MIT.

Takahashi, Daiko. 2008a. Noun phrase ellipsis. In *The Oxford Handbook of Japanese Linguistics*, ed. Shigeru Miyagawa and Mamoru Saito, 394-422. New York: Oxford University Press.

Takahashi, Daiko. 2008b. Quantificational null objects and argument ellipsis. *Linguistic Inquiry* 39: 307-326.

Takahashi, Daiko. 2012. Looking at argument ellipsis derivationally. Paper presented at the 15th Workshop of the International Research Project on Comparative Syntax and Language Acquisition, Nanzan University.

Takahashi, Daiko. 2013. A note on parallelism for elliptic arguments. In *Proceedings of FAJL 6: Formal Approaches to Japanese Linguistics*, ed. Kazuko Yatsushiro and Uli Sauerland, 203-213. Cambridge, MA: MIT Working Papers in Linguistics.

Takita, Kensuke. 2010. Cyclic linearization and constraints on movement and ellipsis. PhD dissertation, Nanzan University.

Takita, Kensuke. 2011. Argument ellipsis in Japanese right dislocation. In *Japanese/Korean Linguistics*, Vol. 18, 380-391. Stanford: CSLI Publications.

Takita, Kensuke. 2014. Pseudo-right dislocation, the bare-topic construction, and hanging topic constructions. *Lingua* 140: 137-157.

Tanaka, Hidekazu. 2001. Right-dislocation as scrambling. *Journal of Linguistics* 37: 551-579.

Tanaka, Hidekazu. 2008. Clausal complement ellipsis. Unpublished ms., University of York.

Williams, Edwin. 1977. Discourse and logical form. *Linguistic Inquiry* 8: 101-139.

Yamashita, Hideaki. 2011. An(other) argument for the repetition analysis of Japanese right dislocation: Evidence from the distribution of thematic topic *-wa*. In *Japanese/Korean Linguistics*, Vol. 18, 410-422. Stanford: CSLI Publications.

Yoshida, Masaya. 2006. Sometimes smaller is better: Sluicing, gapping and semantic identity. In *Proceedings of NELS 36*, ed. Christopher. Davis, Amy Rose Deal, and Youri Zabbal, 681-694. Amherst: GLSA Publications.

Yoshida, Masaya. 2010. “Antecedent-contained” sluicing. *Linguistic Inquiry* 41: 348-356.