Japanese Sluicing as VP-Ellipsis:
Unifying the Differences between Japanese and English

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1 Introduction

In this paper, I investigate a sluicing-like construction (SLC) in Japanese, like in (1).

(1)   John-wa   Mary-ga   nanika-o   katta   to   itteita   ga,
       J.-Top   M.-Nom   something-Acc   bought   C   said   but
       'John said that Mary bought something, but'
       Boku-wa   [SLC **nani-o**   **(da)**   **ka]**   sira-nai
       I-Top   [what-Acc   (Cop)   Q]   know-not
       'I don't know what'

With the antecedent sentence, the bracketed part "*what-Acc (Cop) Q*" can be interpreted as "*I don't know what Mary bought*". Since the structure which constitutes with the elided part "*Mary bought*" and the remnant WH-phrase "*what*" is similar to the sluicing in English, I call this construction sluicing-like construction. This paper aims to capture different properties between English sluicing and Japanese SLC. In contrast to English sluicing which is derived by WH-movement and IP-ellipsis, Japanese SLC is thought to have distinct structure and even the operation of the ellipsis is an argument ellipsis. By presenting some novel data, I claim that Japanese SLC is a type of VP-ellipsis. In a literature, Japanese SLC is thought to be IP-ellipsis (or CP-ellipsis), so the differences between Japanese SLC and English sluicing (IP-ellipsis) was a problem. However, when you compare Japanese SLC with English VP-ellipsis, there can be observed no language specific property. With this analysis, I claim that the analysis of the SLC in Japanese can be unified to the analysis of the VP-ellipsis in English. The structure of (1) is depicted as in (2).

(2)   Boku-wa   [CP nani-o$_1$ [IP/vP [vP [CP Mary-ga t_1 katta   no] t_2]   da$_2$]   ka]
       I-Top   what-Acc   M.-Nom   bought   C   Cop   Q
       sira-nai
       know-not
       'I don't know what ~~Mary bought~~'

The copula "*da*" takes the embedded CP-clause as its complement and moves up to the head of TP. The large VP is elided while the wh-phrase "*nani-o* (what-Acc)" moves out from its ellipsis site to the CP-spec of upper clause to get focus interpretation.

In section 2, I briefly overview some significant differences between English and Japanese, and then, I take a look at the previous researches to see how have the differences been explained in section 3. In section 4, I report a novel investigation with the copula "*da*", and discuss that there needs reanalysis on an assumption of the copula. Finally, in section 5, I present some data to show similarity between English VP-ellipsis and Japanese SLC to strengthen this claim.

2 Sluicing in Japanese and English

In this section, I present some differences between Japanese SLC and English sluicing. SLC is initially analyzed as a sluicing because they are constructed with same constituents, as in (3).

(3)   a.   Sluicing (Ross 1969)

Mary bought something, but
I don't know [what$_1$ [$_{IP}$ ~~Mary bought~~ t_1]]

     b.   John-wa   Mary-ga   nanika-o   katta   to   itteita   ga,
            J.-Top   M.-Nom   something-Acc   bought   C   said   but
            'John said that Mary bought something, but'

            Boku-wa   [nani-o$_1$ [$_{IP}$ ~~Mary-ga~~ t_1 ~~katta~~]   ka]   sira-nai
            I-Top   [what-Acc   M.-Nom   bought   Q]   know-not
            'I don't know what ~~Mary bought~~'

A remnant of the ellipsis is a wh-phrase and also the meaning of the sentence is same between (3a) and (3b), as represented with strikethrough. Without pronouncing the subject '*Mary*' and the verb '*bought*' in the embedded sentence, we can understand the remnant constituent '*nani-o / what*' as an object of the embedded sentence. Although there are some similarities between SLC and sluicing, there are some significant differences between them. One of the differences is an optional copula, as in (4).

(4)   John-wa   Mary-ga   nanika-o   katta   to   itteita   ga,
             J.-Top   M.-Nom   something-Acc   bought   C   said   but
             'John said that Mary bought something, but'

             Boku-wa   [nani-o$_1$ **(da)**   ka]   sira-nai
             I-Top   [what-Acc   Cop   Q]   know-not
             'I don't know what'

In the remnant clause with the bracket, the copula can appear after the wh-phrase optionally. On the other hand, in English sluicing, there is no space for the copula to appear, as in (5).

(5)   Mary bought something, but
             I don't know [(*is) what$_1$ (*is)]

The other difference is the non-wh remnant. Japanese SLC allows non-wh phrase to appear instead of the wh-phrase while English sluicing does not, as in (6).

(6)   a.   John-wa   Mary-ga   nanika-o   katta   to   itteita   si,
            J.-Top   M.-Nom   something-Acc   bought   C   said   and
            'John said that Mary bought something, and'
            Boku-wa   **kuruma-o**   (da)   to   kiita
            I-Top   car-Acc   (Cop)   C   heard
            'I heard that it was a car'

     b.   *John said that Mary bought something, and
          I heard a car.

In (6a), the remnant of the elided sentence is '*kuruma-o* (car-Acc)' and the sentence is well-formed while this type of the remnant is not allowed in English as in (6b). This causes a problem since the wh-movement cannot capture this non-wh type of sluicing. Finally, the most significant distinction is an island repair. In a literature, it is reported that the extraction out from some specific environment (island) makes the sentence ungrammatical, and the IP-Ellipsis (sluicing) repairs this ungrammaticality, as in (7).

(7)   They want to hire someone who speaks a Balkan language, but
         a.   *I don't remember which$_1$ (Balkan language) they want to hire someone [who speaks t_1].
         b.   I don't remember which.

                                                          (Merchant 2001)

In (7a), the wh-phrase '*which*' moves out from the island that is called complex-NP island '*someone who speaks*', and the sentence becomes ungrammatical. On the other hand, the ellipsis of the IP repairs its ungrammaticality as in (7b). This is the island repair effect, and this effect cannot be observed in Japanese SLC, as in (8).

(8)   *John-ga   Mary-ni   nanika-o   okuttekita   hito-o   shoutaisita   rasii   ga,

J.-Nom	M.-Dat	something-Acc	sent	person-Acc	invited	I.hear	but

'I heard John invited a person who had sent something to Mary, but'

Boku-wa	nani-o	(da)	ka	sira-nai
I-Top	what-Acc	(Cop)	Q	know-not

'I don't know what ~~John invited a person who had sent to Mary~~'

In contrast to English sluicing, Japanese SLC never repairs the island effect, and the sentence becomes ungrammatical.

So far, I present some differences between English sluicing and Japanese SLC. To capture these differences, previous analyses proposed Japanese specific structure and operations for SLC. In the next section, I briefly overview such previous analyses and issues for them to explain these idiosyncratic behaviors in Japanese.

3   Previous Research

In this section, I overview some previous analyses for the sluicing-like construction. As I noted in the previous section, SLC is initially analyzed as a sluicing, depicted below.

(9)   Sluicing Analysis (Takahashi 1994)

John-wa	Mary-ga	nanika-o	katta	to	itteita	ga,
J.-Top	M.-Nom	something-Acc	bought	C	said	but

'John said that Mary bought something, but'

Boku-wa	[CP nani-o₁	[IP ~~Mary ga~~ *t₁* ~~katta~~]	ka]	sira-nai
I-Top	[what-Acc	[M.-Nom bought]	Q]	know-not

'I don't know what ~~Mary bought~~'

In the same way as English sluicing, Takahashi (1994) proposes this analysis with IP-ellipsis and wh-movement. The wh-phrase '*nani-o* (what-Acc)' moves up to the CP-spec by wh-movement, and the remnant IP is elided. Though this analysis can capture ordinary sluicing, the differences between English and Japanese which we saw in section 2 cannot be explained. Firstly, this analysis is completely same with the analysis of the English sluicing, so the absence of the island repair effect is an issue. Second, the availability of the non-wh phrase cannot be captured because the movement operation is the wh-movement. Finally, the optionality of the copula is also an issue for the sluicing analysis because the copula cannot appear in the base structure of the SLC, as in (10).

(10)

John-wa	Mary-ga	nanika-o	katta	to	itteita	ga,
J.-Top	M.-Nom	something-Acc	bought	C	said	but

'John said that Mary bought something, but'

a.   Base-structure of the SLC with sluicing analysis

Boku-wa	nani-o	Mary-ga	katta	(*da)	ka	siranai
I-Top	what-Acc	M.-Nom	bought	Cop	Q	know-not

'I don't know what Mary bought'

b.   SLC

Boku-wa	nani-o	(da)	ka	siranai
I-Top	what-Acc	Cop	Q	know-not

'I don't know what'

In (10a), the base structure of the SLC does not allow the copula to appear while the SLC allows the copula to appear optionally as in (10b). Thus, sluicing analysis cannot capture the structure with the copula.

To solve these issues, Hiraiwa and Ishihara (2012) proposes cleft analysis, illustrated as in (11).

(11)   Cleft analysis (Hiraiwa and Ishihara 2012)

John-wa	Mary-ga	nanika-o	katta	to	itteita	ga,
J.-Top	M.-Nom	something-Acc	bought	C	said	but

'John said that Mary bought something, but'

a.   In-situ focus construction

boku-wa	[Mary-ga	nani-o	katta	no (da)]	ka	sira-nai
I-Top	[M.-Nom	what-Acc	bought	C Cop]	Q	know-not

'(Lit.) I don't know it is that Mary bought what'

b. Focus movement and Topicalization

boku-wa	$[_{TopP}[_{FinP}$ Mary-ga t_1 katta	no]-wa$_2$	$[_{FocP}$ nani-o$_1$	t_2	(da)]] ka
I-Top	[[M.-Nom bought	C]-Top	[what-Acc		(Cop)]] Q

sira-nai
know-not

'(Lit.) I don't know what it is that Mary bought'

c. Argument Ellipsis

boku-wa	$[_{TopP}$ ~~$[_{FinP}$ Mary-ga t_1 katta~~ no]~~ wa$_2$~~	$[_{FocP}$ nani-o$_1$	t_2	(da)]] ka
I-Top	[[M.-Nom bought	C]-Top	[what-Acc		(Cop)]] Q

sira-nai
know-not

'(Lit.) I don't know what it is that Mary bought'

First, they assume that the base structure of the SLC is the in-situ focus construction as in (11a). In this structure, the wh-phrase '*nani-o* (what-Acc)' is phonologically focused and the focus marker '*no da* (C Cop)' is attached to the end of the clause. Hiraiwa and Ishihara (2012) assume '*no*' to be the head of FinP and '*da*' to be the head of FocP with Rizzi's (1997) split-CP architecture which is adapted to Japanese. Initially, the focused phrase '*nani-o* (what-Acc)' moves up to the spec of Focus phrase by focus movement, then, the remnant FinP moves up to the spec of TopP by topicalization. These operations derive a cleft construction in Japanese as in (11b). Lastly, the argument ellipsis deletes the moved FinP, and the SLC emerges as in (11c). The significant difference of this base structure from the sluicing analysis is the optionality of the copula to appear. With this cleft analysis, the copula can appear not only in the SLC but also in the base structure. Furthermore, non-wh element can appear at the focus position because the movement operation is not a wh-movement but a focus movement, and the absence of the island repair can be explained since the ellipsis is not an IP-ellipsis but an argument ellipsis.

Though Hiraiwa and Ishihara (2012) can explain the differences between languages by claiming Japanese specific structure and operation, Nakamura (2013) makes objections to the need for the cleft construction. In the cleft analysis, SLC is derived from the in-situ focus construction via cleft construction. This means when the cleft construction is ungrammatical, the SLC is ungrammatical, and the SLC is grammatical only when the cleft is grammatical. Nakamura (2013) reported evidence to the contrary, as below.

(12)   Small Clause

a. In-situ focus

John-ga	$[_{SC}$ Mary-o kawaiku]	omotta	no	da
J.-Nom	M.-Acc cute	thought	C	Cop

'John thought Mary cute'

b. Cleft

*[John-ga	omotta no]-wa	Mary-o kawaiku	da
[J.-Nom	thought C]-Top	M.-Acc cute	Cop

'(Lit.) It was Mari cute that Ken thought'

c. SLC

John-ga	Susan-o	kawaiku	omotta	rasii	ga
J.-Nom	S.-Acc	cute	thought	I.heard	but

'I heard that John thought Susan cute, but'

Boku-wa	Mary-o	kawaiku	da	to	kantigaisiteita
I-Top	M.-Acc	cute	Cop	C	misunderstood

'(Lit.) I misunderstood it was Mary cute ~~that Ken thought~~'

While the in-situ focus in (12a) and the SLC in (12c) allow small clause to appear in its structure, the cleft construction in (12b) does not allow the small clause and the sentence becomes ungrammatical. Hiraiwa and Ishihara (2012) cannot explain this type of data because they assume that the SLC is always derived via a cleft construction. I skip the data with multiple foci and Clause Mate Condition in this paper, but Nakamura (2013) reported these data are ungrammatical with the cleft but grammatical with the SLC. To include these data,

Nakamura (2013) modified Hiraiwa and Ishihara's (2012) analysis, and claims the focus movement analysis without cleft, as below.

(13)   Focus movement analysis (Nakamura 2013)
        John-wa   Mary-ga   nanika-o   katta   to   itteita   ga,
        J.-Top   M.-Nom   something-Acc   bought   C   said   but
        'John said that Mary bought something, but'

    a. In-situ focus
        boku-wa   [Mary-ga   nani-o   katta   no (da)]   ka sira-nai
        I-Top   [M.-Nom   what-Acc   bought   C   Cop]   Q   know-not
        '(Lit.) I don't know it is that Mary bought what'

    b. Focus movement and Ellipsis
        boku-wa   [FocP nani-o   [FinP Mary ga   t₁   katta   no] (da)]   ka sira-nai
        I-Top   [what-Acc   [M.-Nom   bought   C   (Cop)]   Q   know-not
        '(Lit.) I don't know it is what that Mary bought'

Nakamura (2013) utilizes the in-situ focus construction and the focus movement, but he just removed the topicalization of the FinP. Namely, he skipped the cleft and claims that the SLC is derived directly from the in-situ focus construction. This change made it possible to explain the data of the small clause in (12).

However, this causes a problem to capture the differences between languages which Hiraiwa and Ishihara (2012) can capture. Since Nakamura (2013) continues to use the in-situ focus and focus movement, the optional copula and the non-wh remnant can be explained with this analysis. The problem is the island repair. Hiraiwa and Ishihara (2012) explained the absence of this effect with the argument ellipsis, and the topicalization made the FinP to be the argument by attaching topic marker '*wa*'. In the focus movement analysis, the movement to the CP let the remnant IP (FinP) to be deleted. Namely, this focus movement operation deletes the same constituent that the wh-movement of the sluicing analysis does. This signals that there needs some additional explanation to capture the difference between availability of the island repair.

To capture these remaining issues, I take a close look at the copula in next section. Previous researches assume the copula to be a functional word, that is the head of Focus phrase. I reanalyze this assumption and present some novel data which signals the copula to be a head of VP.

4   Copula "*da*": Foc⁰ or V⁰

Although previous analyses can capture almost all of the differences between languages, their analysis is based on an assumption that says the copula '*da*' to be the head of Focus phrase. In this section, I take a look at their crucial data for the assumption, and propose that the copula is actually a head of verb phrase. Hiraiwa and Ishihara (2012) and Nakamura (2013) assumes that the copula to be the head of FocP with the tense matching test as below.

(14)   a. Ordinary copula sentence
            kinoo   John-wa   byooki   {da-tta/*da}
            yesterday   J.-Top   sick   {Cop-Past/*Cop-Pres}
            'John {was/*is} sick yesterday'

        b. Copula in in-situ focus
            kinoo   John-ga nanika-o   katta   no   {da-tta/da}
            yesterday   J.-Nom something-Acc bought   C   {Cop-Past/Cop-Pres}
            '(Lit.) It {was/is} that John bought something yesterday'

In Japanese, the ordinary copula shows tense matching with the past tense adverb '*kinoo* (yesterday)', as in (14a). This sentence only allows the copula to appear with the past tense. On the other hand, the copula in the in-situ focus construction, which is the base structure of the SLC, does not show this tense matching effect. The copula is allowed to appear without the past tense suffix '*ta*' when the past tense adverb "*kinoo* (yesterday)" exists in the same sentence. Hiraiwa and Ishihara (2012) argues that the grammaticalized copula does not agree with its tense adverb because the grammaticalized copula locates at CP, and not IP. Namely, with their analysis, the copula never shows the tense matching effect. However, I present the novel data with the copula which shows the tense matching effect even in the in-situ focus construction. The copula with a modal '*tumorina / yoona* (seem)' and its correlate '*doomo* (apparently)' shows this effect, as in (15).

(15)   kinoo   doomo   Mary-ga hon-o   kau {tumorina/?yoona}   no {da-tta/*da}
        yesterday   apparently M.-Nom book-Acc buy seem   C   {Cop-Past/Cop-Pres}
        '(Lit.) It {seemed/*seems} that Mary will buy a book yesterday'

With the modal and its correlate, the copula shows the tense matching effect even in the in-situ focus construction. Previous analysis cannot explain this fact since they assume the copula to be the head of CP, which locates above IP. Though this is the issue for the analysis of the SLC, there is the other option for the copula. Moriyama (2020) used the hearsay phrase '*sooda* (I hear)' to show that the copula '*da*' is not the FocP-head, but the VP-head. In a literature, it is observed that the CP modal '*daroo* (seem)', the polite suffix '*desu*', and the sentence ending particle '*ne*' cannot be embedded below the '*sooda*' as in (16).

(16)   a. *John-ga kita   darou   sooda
           J.-Nom came   seem   I.hear
           '(Lit.) I hear that John seems to have come'

        b. *John-ga kima-sita   sood-esu
           J.-Nom   come-Pol   I.hear-Pol
           '(Lit.) I heard that John has come'

        c. *John-ga kuru   ne   sooda
           J.-Nom   come   SEP   I.hear
           '(Lit.) I heard that John will come'

This is because '*sooda*' only selects the phrase under the IP and cannot select the phrases in the CP-layer as its complement. Moriyama (2020) observed that '*sooda* (I hear)' with in-situ focus construction behaves differently, as in (17).

(17)   John-ga kita   no da   sooda
        J.-Nom came   C Cop   I.hear
        '(Lit.) I heard that it is that Taro has come'

This indicates that the copula in the in-situ focus construction is not in the CP as a head of focus phrase. This signals that the copula to be in the head of VP or IP.

To explain all of these data, I assume that the ordinary copula '*da*' is a short form of the copula '*dearu*'. According to Nishiyama (1999), Japanese copula '*da*' has its base form '*dearu*'. He proposes the copula '*dearu*' is formed with its contentful part and dummy part, and its dummy part project VP to support the tense, as in (18).

(18)   a. Yoru-wa   shizuka {dearu/da}
           Night-Top   quiet   Cop
           'The night is quiet'

        b. [TP night [VP [PredP quiet   de] ar-] u]

'*de*' is the semantically contentful part, and '*ar-*' is semantically vacuous dummy part of the copula. He proposes that its dummy part project VP to support its tense, as depicted in (19a). Since the copula '*da*' also has tense as its suffix, I assume the short form '*da*' moves up to the TP-head to get its tense suffix as in (19b).

(19)   a. Yoru-wa   shizuka {dear-u/dea-tta}
           Night-Top   quiet   {Cop-Pres/Cop-Past}
           'The night {is/was} quiet'

        b. [TP Yoru-wa   [VP [PredP   shizuka t_1] t'_1] {da/da-tta}$_1$]
               Night-Top   quiet   {Cop-Pres/Cop-Past}
           'The night {is/was} quiet'

With this assumption, I propose that the copula in the in-situ focus construction, which is the base structure of the SLC, is not a grammaticalized one but the ordinary copula in VP, as illustrated in (20).

(20)   Bi-clausal analysis
        [TP [vP [CP   John-ga   nanika-o   katta   no] t_1] da-tta$_1$]
                       J.-Nom   something-Acc bought   C   Cop-Past
        '(Lit.) It was that John bought something'

In contrast to the mono-clausal structure with the copula in the focus phrase of split-CP, I call it bi-clausal analysis. With this bi-clausal analysis, I can explain all of the data in this section, and the tense matching effect can be reduced to the clause mismatch, as depicted below.

(21)   a.   kinoo   [CP doomo   Mary-ga hon-o   kau   tumorina   no]
                    yesterday   apparently M.-Nom   book-Acc buy   seem   C
                    {da-tta/*da}
                    {Cop-Past/Cop-Pres}
                    '(Lit.) It {seemed/*seems} that Mary will buy a book yesterday'

        b.   (kinoo) [CP [IP (kinoo) Mary-ga   nanika-o   katta]   no] {da-tta/da}
                    yesterday   M.-Nom   something-Acc bought   C   {Cop-Past/Cop-Pres}
                    '(Lit.) It {was/is} that Mary bought something yesterday'

The sentence in (21a) is the in-situ focus construction with the modal, which shows tense matching effect. With the assumption that the temporal adverb attaches to the IP as an adjunction, '*kinoo* (yesterday)' cannot attach to the embedded clause because there is an intervening modal-correlate '*doomo* (apparently)' at the embedded CP. Thus, the copula in the matrix clause is the only verb which allows the temporal adverb to agree with its tense, and this causes the tense matching effect in (21a). On the other hand, in (21b), the temporal adverb '*kinoo* (yesterday)' can agree with both the embedded verb '*katta* (bought)' and the matrix verb '*datta* (Cop-Past)', since there is no intervener at the embedded CP-layer. This bi-clausal analysis can explain not only the absence of the tense matching effect, but also the existence of this effect. Furthermore, this analysis predicts the copula to show obligatory tense matching effect when the embedded verb is in present tense, and we can correctly observe such a sentence as below.

(21)   kinoo   Mary-ga   hon-o   kau   no {da-tta/*da}
        yesterday   M.-Nom   book-Acc   buy   C   {Cop-Past/Cop-Pres}
        '(Lit.) It {was/*is} yesterday that Mary buys a book'

Since the embedded verb is in present tense '*kau* (buy)', the copula is the only option for the temporal adverb to agree. Predictably, the copula with the present tense is not allowed in this sentence.

    So far, I discussed about the copula in the in-situ focus construction because the in-situ focus is the base structure of the SLC. Now, I move on to the structure of the SLC. To capture the differences between languages, I modify the Nakamura (2013) and claim the bi-clausal structure for the SLC as in (23). Only the category of the copula is changed from his focus movement analysis.[1]

(22)   John-wa   Mary-ga   nanika-o   katta   to   itteita ga,
        J.-Top   M.-Nom   something-Acc   bought   C   said   but
        'John said that Mary bought something, but'
        a.   In-situ focus and head movement
              boku-wa [IP/vP [vP [CP Mary-ga   nani-o   katta   no] t_1] (da)$_1$] ka sira-nai
              I-Top   M.-Nom   what-Acc   bought   C   Cop   Q   know-not
              '(Lit.) I don't know it is that Mary bought what'

        b.   Focus movement and Ellipsis
              boku-wa   [FocP nani-o$_2$ [IP/vP [vP [CP ~~Mary-ga~~ t_2 ~~katta~~   ~~no]~~ t_1] (da)$_1$] ka]
              I-Top   what-Acc   M.-Nom   bought   C   Cop   Q
              sira-nai
              know-not
              '(Lit.) I don't know it is what ~~that Mary bought~~'

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[1] Hiraiwa and Ishihara (2002) already pointed out the possibility of the focus movement analysis, so see his discussion for more detailed structure with the grammaticalized copula at FocP-head.

The base structure of the SLC is the in-situ focus construction, and the focus movement moves '*nani-o* (what-Acc)' up to the spec of FocP. The different part from previous analysis is a number of the clause and the category of the copula. The copula is base generated at the head of VP, so it takes embedded CP as its complement. This makes the structure bi-clausal, and the focused phrase moves to the FocP of the upper clause. This analysis allows us to explain the differences between English sluicing and Japanese SLC. The optionality of the copula can be explained with the base structure, that is in-situ focus construction, and the non-wh focus is possible with the focus movement operation. The small clause cleft from Nakamura (2013) in not an issue since the SLC is directly derived from the in-situ focus construction. Lastly, following Merchant (2008), we can also explain the absence of the island repair, which is the remaining issue for Nakamura (2013). Merchant (2008) proposed that intermediate traces of island-escaping XPs make the whole sentence ungrammatical, and the island repair is caused by the operation that delete this "Bad-trace", as illustrated below.

(23)   They want to hire someone who speaks a Balkan language, but
         I don't remember which$_1$ [IP t''_1 [IP they [VP t'_1 [VP want to hire someone [island who speaks t_1]]]]].

The wh-phrase '*which*' is extracted out from the complex-NP island '*someone who speaks*' and its cyclic movement leaves its bad trace. This trace makes the whole sentence ungrammatical, and the ellipsis of every trace repair the ungrammaticality of the sentence. Assuming this bad trace, the absence of this repair effect in Japanese SLC can be explained with the bi-clausal analysis. The SLC with the island is repeated in (25).

(24)   *John-ga   Mary-ni   nanika-o   okuttekita   hito-o   shoutaisita   rasii   ga,
          J.-Nom   M.-Dat   something-Acc sent   person-Acc   invited   I.hear but
          'I heard John invited a person who had sent something to Mary, but'

         Boku-wa [nani-o$_1$ [IP/vP t_1 [VP [CP John-ga [Mary-ni t_1 okuttekita hito] o   shoutaisita   no]] (da)]
         I-Top   what-Acc   J.-Nom [M.-Dat   sent   person]-Acc invited   C   (Cop)
         ka Sira-nai]
         Q know-not
         'I don't know what John invited a person who had sent to Mary'

With the bi-clausal analysis, the wh-phrase '*nani-o* (what-Acc)' moves up to the CP of upper clause via IP-adjunction to get a focus interpretation, and the ellipsis applies to the VP. This ellipsis operation cannot delete the bad trace above the copula. There is no other way to delete the remaining bad trace so the island repair cannot be observed in Japanese SLC. Thus, this bi-clausal analysis can explain the differences between Japanese SLC and English sluicing.

In this section, I modified previous analyses and proposed the bi-clausal structure for the SLC to explain the differences between English sluicing and Japanese SLC. In the next section, I move on to the similarity between these languages.

5   SLC as VP-Ellipsis

While the modification of the previous analyses allows us to capture the differences between English sluicing and Japanese SLC, I proposed that the Japanese SLC is derived by a VP-ellipsis. This leads us to observe whether there is a similarity between Japanese SLC and English VP-ellipsis. In this section, I report two types of the data which signals the SLC to be VP-ellipsis, and not IP-ellipsis (sluicing).

First, I utilize the island repair effect again as a diagnostics to check whether the ellipsis is done at VP or IP. In English, this effect is the specific property of the IP-ellipsis and the VP-ellipsis never repairs the island effect as in (26) and (27) (see Merchant (2001) and (2008) for a detailed discussion about English sluicing).

(25)   They want to hire someone who speaks a Balkan language, but
         a.   I don't remember which.

         b.   *I don't remember which$_1$ (language) they want to hire [someone who speaks t_1].

(26)   They want to hire someone who speaks Balkan language, but
         a.   *I don't remember which they do.

         b.   *I don't remember which$_1$ (language) they do want to hire [someone who speaks t_1].

As we've seen in the previous section, in (26), the ungrammaticality of the island effect is repaired when the IP-

ellipsis applies. On the other hand, the VP-ellipsis cannot repair the ungrammaticality of the island effect as in (27). Then, the Japanese SLC with the island effect is repeated below.

(27) John-ga   Mary-ni   nanika-o   okuttekita   hito-o   shoutaisita rasii   ga,
      J.-Nom   M.-Dat   something-Acc   sent   person-Acc   invited   I.hear   but
      'I heard John invited a person who had sent something to Mary, but'

   a. *Boku-wa   nani-o   (da)   ka sira-nai
       I-Top   what-Acc   (Cop)   Q   know-not
       'I don't know what ~~John invited a person who had sent to Mary~~'

   b. *Boku-wa nani-o$_1$ John-ga [Mary-ni t_1 okuttekita   hito]-o   shoutaisita no da
       I-Top   what-Acc   J.-Nom M.-Dat   sent   person-Acc   invited   C   Cop
       ka Sira-nai
       Q   know-not
       '(Lit.) I don't know what John invited a person who had sent to Mary'

The Japanese SLC does not show the island repair effect when the ellipsis applies to the island as in (28). Because the island repair is a sluicing specific property, these data signals that the behavior of the SLC is similar to the VP-ellipsis in English, and not IP-ellipsis. Though it is an indirect argument with the sluicing specific property, there is another evidence with the specific property of the VP-ellipsis. In English, it is observed that the VP-ellipsis allows voice mismatch between antecedent and ellipsis site, as in (29).

(28)   Someone should replace the bulb$_1$ in the staircase, but
         It$_1$ can't be [~~replaced $t1$~~] because it's jammed.

                                                                                    (Rouveret 2012)

While the antecedent sentence in (29) is an active voice, the sentence with the ellipsis is a passive voice. Although the object of the verb '*replaced*' is moved up to the subject position in the ellipsis sentence, the sentence with the VP-ellipsis is grammatical. On the other hand, this mismatch is not allowed with the IP-ellipsis (sluicing), as below.

(29)   *Joe was murdered, but
         we don't know who$_1$ [~~t_1 murdered Joe~~].

                                                                                    (Merchant 2013)

In (30), the antecedent is a passive sentence, and the ellipsis sentence is an active voice. The ungrammaticality means that the sluicing does not allow the voice mismatch between the antecedent and the ellipsis site. This is the specific property of the VP-ellipsis, and the SLC in Japanese allows this voice mismatch as below.

(30) Mary-ga   John-ni   korosareta   toiu   nyuusu-o   mita   ga[2]
      M.-Nom   J.-Dat   be.murdered say   news-Acc   watched   but
      'I watched the news story that says Mary was killed by John, but'

      Boku-wa   [John-ga$_1$ [t_1 ~~Mary-o korosita   no~~] (da)   to] omowanakatta
      I-Top   J.-Nom   M.-Acc murdered   C   Cop   C   thought.not
      '(Lit.) I didn't think it is ~~that John killed Mary~~'

In (31), the antecedent is a passive sentence, while the ellipsis occurs in an active voice sentence. The focus movement moves the subject '*John-ga* (John-Nom)' up to the CP, and the ellipsis deletes its remnant embedded

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[2] The antecedent sentence is not restricted to the complex-NP '*the news story that ~*', and the ordinary embedded sentence without the complex-NP is possible as in (i). I just use it because the context is easy to understand.

(i)   Mary-ga John-ni   korosareta   to   kiita   kedo
      M.-Nom J.-Dat   be.murdered   C   heard   but
      'I heard that Mary was killed by John, but'
      Boku-wa masaka   John-ga da   to   omowanakatta
      I.-Top   never   J.-Nom Cop C   thought.not
      '(Lit.) I never thought that it is ~~that John killed Mary~~'

clause. This availability of the voice mismatch signals that the SLC in Japanese is derived by the VP-ellipsis. Though Sugisaki (2016) reported that the ellipsis sentence with passive voice is not allowed with the active antecedent, the mechanism of the identity condition of the ellipsis is beyond the purpose of this paper. Here, I just mention the availability of the voice mismatch with the passive-active pair, and I will try to explain the unavailability of the active-passive pair in future research.

In this section, I observed the data which signals that the SLC is a VP-ellipsis. The absence of the island repair effect and the availability of the voice mismatch effect in Japanese SLC mean that there is a similarity between the SLC and the VP-ellipsis in English.

6   Concluding Remarks

In this paper, I proposed a new analysis for the sluicing like construction in Japanese. I took a close look at the copula, and modified the assumption of the previous analyses. Previously, the copula in the in-situ focus construction is thought to be the head of FocP with the tense matching effect test. By presenting a novel data, I observed that there is an environment where the copula shows tense matching effect even in the in-situ focus construction. This signals the copula to be the head of VP, and not in a CP-layer. With this reanalysis of the copula, I claimed the bi-clausal analysis for the in-situ focus construction, which is the base structure of the SLC in Japanese, repeated below.

(31)   John-wa   Mary-ga   nanika-o   katta   to   itteita   ga,
       J.-Top   M.-Nom   something-Acc   bought   C   said   but
       'John said that Mary bought something, but'

    a.   In-situ focus and head movement
        boku-wa $[_{IP/vP}$ $[_{vP}$ $[_{CP}$ Mary-ga   nani-o   katta   no] t_1] $(da)_1$] ka sira-nai
        I-Top   M.-Nom   what-Acc   bought   C   Cop   Q know-not
        '(Lit.) I don't know it is that Mary bought what'

    b.   Focus movement and VP-Ellipsis
        boku-wa $[_{FocP}$ nani-o$_2$ $[_{IP/vP}$ $[_{vP}$ $[_{CP}$ ~~Mary ga~~ t_2 ~~katta~~   ~~no]~~ t_1] $(da)_1$] ka]
        I-Top   what-Acc   M.-Nom   bought   C   Cop   Q
        sira-nai
        know-not
        '(Lit.) I don't know it is what ~~that Mary bought~~'

With this analysis, all of the differences between Japanese SLC and English sluicing can be explained. The in-situ focus for the optionality of the copula, focus movement for the non-wh remnant, and the VP-ellipsis for the cleft with small clause and the absence of the island repair. Furthermore, I observed the similarity between Japanese SLC and the sluicing. This analysis allows us to unify the analysis of the Japanese SLC with the analysis of the VP-ellipsis in English. The next question is "why Japanese allows the ellipsis with the copula while English does not". The key to this question is the copula. In Japanese, the genuine sluicing (IP-ellipsis) is observed in the environment where the copula cannot appear. Takita (2011) reports that the control predicate does not allow copula to appear, and in this construction, the island repair effect can be observed.

(32)   Taro-wa   [PRO   doko-e   ikoo   (*da)   ka] $\{_{control\ predicate}$ mayotteiru/kimekaneteiru$\}$
       Taro-Top   where-to   go   Cop   Q   cannot.decide
       '(Lit.) Taro {hesitate/cannot} decide where to go'

In (33), the copula cannot appear in the embedded clause when the matrix verb is a control predicate. In this environment, the island repair effect is observed even in Japanese, as in (34).

(33)   Taro-wa [PRO mazu [zibun-no   heya-kara   nani-o   nusunda otoko]-o   sirabeyoo]   (*da)
       T.-Top [first [self-Gen   room-from   what-Acc   stole   man]-Acc   check]   Cop
       ka kimeta ga
       Q   decided but
       '(Lit.) Though Taro decided to check first [the man who stole what from his room]'

    a.   Hanako-wa nani-o   (*da)   ka kimekaneteiru
        H.-Top   what-Acc   Cop   Q cannot.decide
        '(Lit.) Hanako cannot decide what ~~to check first [the man who stole from her room]~~'

    b. *Hanako-wa nani-o$_1$ [PRO mazu   [zibun-no   heya-kara t_1 nusunda otoko]-o
        H.-Top   what-Acc [first   [self-Gen   room-from   stole   man]-Acc
        sirabeyoo]   ka kimekaneteiru
        check   Q cannot.decide
        '(Lit.) Hanako cannot decide what$_1$ to check first [the man who stole t_1 from her room]'

In (34b), the movement out of the complex-NP island '*the man who stole from her room*' makes the whole sentence ungrammatical. On the other hand, the ellipsis of the island repairs its ungrammaticality as in (34a). Thus, even in Japanese, the island repair effect can be observed in the environment where the copula cannot appear. This signals that the ellipsis with the copula is the option only for Japanese. Since there is no space for the copula for English sluicing, there is no bi-clausal type of ellipsis. Although I need to investigate the cross-linguistic data with the copula, the existence of the copula somehow related to the availability of the (VP) ellipsis.

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