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On so-called "gapless" constructions in Japanese

Abstract: It has been claimed (Inoue, Kazuko. 1976. *Henkei Bunpō to Nihongo*. [Transformation grammar and Japanese]. Tokyo: Taishūkan.; Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.; Saito, Mamoru. 1985. *Some asymmetries in Japanese and their theoretical consequences*. Cambridge, MA: MIT dissertation.) that Japanese "gapless" topic constructions and relative clauses are derived by base-generation. Evidence in favor of the base-generation analysis comes from the observation that there does exist any derivational source of the "gapless" construction. Contrary to this widely accepted view, this paper argues that the Japanese "gapless" construction is derived in terms of movement enforced by labeling. Under the proposed analysis, obligatory raising of a phrase to the topic/relative head position, which is required by labeling, accounts for the fact that there does not seem to exist any derivational source of the "gapless" construction at first sight. It is shown that our movement analysis is supported by island, reconstruction, and parasitic gap facts. If our analysis is on the right track, it gives further support for the Free Merge coupled with a labeling algorithm approach (Chomsky, Noam. 2013. Problems of projection. *Lingua* 130. 33–49. and Chomsky, Noam. 2015. Problems of projection: Extensions. In Elisa Di Domenico, Cornelia Hamann & Simona Matteini (eds.), *Structures, strategies, and beyond: Studies in honor of Adriana Belletti*, 1–16. Amsterdam: John Benjamins.).

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1 Introduction

It has been widely assumed (Inoue 1976; Kuno 1973; Saito 1985; among others) that Japanese "gapless" topic constructions and relative clauses are derived not by movement but by base-generation. Contrary to this widely accepted view, this paper argues that the Japanese "gapless" construction is derived in terms of movement. More specifically, I argue that labeling in the sense of Chomsky (2013, 2015)

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enforces raising of a phrase to the topic/relative head position in the "gapless" construction, which accounts for the apparent lack of its derivational source. It is shown that the "gapless" construction exhibits island, reconstruction, and parasitic gap effects, which straightforwardly follows from a movement analysis but not from a base-generation analysis. If our analysis is on the right track, it gives further support for the Free Merge coupled with a labeling algorithm approach.

Under the base-generation analysis, the topic in the "gapless" topic construction such as *sakana-wa* 'fish-TOP' or *hana-wa* 'flower-TOP' in (1) is base-generated in the sentence-initial topic position:

(1) a. **Sakana-wa** tai-ga   oisii.
        fish-TOP   red.snapper-NOM delicious
        'Speaking of fish, red snapper is delicious.'
        (Saito 1985: 282)
     b. **Hana-wa**   sakura-ga   ii.
        flower-TOP cherry.blossom-NOM good
        'Speaking of flowers, cherry blossoms are the best.'
        (Kuno 1973: 251)

Evidence in favor of the base-generation analysis comes from the observation that there does not seem to exist any derivational source of the "gapless" topic construction. First, the topic in the "gapless" topic construction does not seem to bind any position as shown in (2–4):

(2) a. *****Sakana-ga** tai-ga   oisii.
        fish-NOM   red.snapper-NOM delicious
        'Speaking of fish, red snapper is delicious.'
     b. *****Hana-ga**   sakura-ga   ii.
        flower-NOM cherry.blossom-NOM good
        'Speaking of flowers, cherry blossoms are the best.'
        (Kizu 1999: 45)

(3) a. *****Sakana-no** tai-ga   oisii.
        fish-GEN   red.snapper-NOM delicious
        Lit. 'Red snapper of fish is delicious.'
        (Kizu 1999: 45)
     b. *****Hana-no**   sakura-ga   ii.
        flower-GEN cherry.blossom-NOM good
        Lit. 'Cheery blossoms of flowers are the best.'
        (Kuno 1973: 251)

(4)   a. *Tai-ga   **sakana-wa** oisii.
         red.snapper-NOM fish-TOP   delicious
         'Speaking of fish, red snapper is delicious.'
      b. *Sakura-ga   **hana-wa**   ii.
         cherry.blossom-NOM flower-TOP good
         'Speaking of flowers, cherry blossoms are the best.'
         (Kizu 1999: 46)

In (2), the initial phrases *sakana* 'fish' and *hana* 'flower' are marked by the nominative case marker -*ga*, which brings about multiple nominative constructions; the results are deviant.[1] In (3), the initial phrases *sakana* 'fish' and *hana* 'flower' are marked by the genitive case marker -*no*, which indicates that the initial phrase cannot have a possessive relation with the following phrase. (4) shows that the topic phrase like *sakana-wa* 'fish-TOP' or *hana-wa* 'flower-TOP' cannot be base-generated in a clause-internal position.

Second, one might argue that the "gapless" topic construction can be derived from a base structure with the compound particle *no uti de* or *no naka de* 'among'. (1) would be derived from (5) by first applying topicalization (6) and then deletion of the compound particle (7) (see Muraki 1970 for details):

(5)   a. ?Sakana-no-uti/naka-de tai-ga   oisii.
         fish-among   red.snapper-NOM delicious
         Lit. 'Among fish, red snapper is delicious.'
      b. ?Hana-no-uti/naka-de sakura-ga   ii.
         flower-among   cherry.blossom-NOM good
         Lit. 'Among flowers, cherry blossoms are the best.'

(6)   a. Sakana-no-uti/naka-de-wa tai-ga   oisii.
         fish-among-TOP   red.snapper-NOM delicious
         Lit. 'Among fish, red snapper is delicious.'
      b. Hana-no-uti/naka-de-wa sakura-ga   ii.
         flower-among-TOP   cherry.blossom-NOM good
         Lit. 'Among flowers, cherry blossoms are the best.'
         (Kuno 1973: 251–2)

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1 An anonymous reviewer has pointed out that the double nominative version (2), where the first nominative phrase gets focalized, can be ruled out as semantically anomalous. (2a), for example, is roughly interpreted as *it is fish, not other food, that red snapper is delicious*. This interpretation is anomalous, since red snapper is fish, but red snapper is not a hyponym of more than one hypernym classes.

(7)   a. Sakana~~no uti/naka de~~-wa   taiga   oisii.   [=(1a)]
        fish~~among~~-TOP   red.snapper-NOM   delicious
        'Speaking of fish, red snapper is delicious.'
   b. Hana~~no uti/naka de~~-wa   sakura-ga   ii.   [=(1b)]
        flower~~among~~-TOP   cherry.blossom-NOM   good
        'Speaking of flowers, cherry blossoms are the best.'

Kuno (1973), however, presents two arguments against such an analysis. One argument is that (1) and (6) have different meanings. (1a), for example, is a statement about fish, and it says that, among fish, red snapper is delicious. (6a), on the other hand, is not a statement about fish alone. It has a contrastive meaning, *i.e.*, if one restricts one's scope of discussion to fish, red snapper is delicious. The other argument is that the compound particles *no uti de* and *no naka de* 'among' cannot be deleted, as shown in (8), which casts doubt on the validity of compound particle deletion in (7):

(8)   a. John-to   Bill-to   Mary-no-uti/naka-de-wa,   Mary-ga   itiban
        John-and   Bill-and   Mary-among-TOP   Mary-NOM   most
        yoku dekiru.
        well does-well
        Lit. 'Among John, Bill, and Mary, Mary does the best.'
   b. ??John-to   Bill-to   Mary~~no uti/naka de~~-wa,   Mary-ga   itiban
        John-and   Bill-and   Mary~~among~~-TOP   Mary-NOM   most
        yoku dekiru.
        well does-well
        (Adapted from Kuno 1973: 252)

This apparent lack of a derivational source has led to the widely-accepted view that the "gapless" topic construction should be derived by base-generation.

    "Gapless" relative clauses like (9) have also been analyzed in terms of base-generation, since they do not seem to have any derivational source either as shown in (10) and (11). In (10a) and (10b), the relative head *sakana* 'fish' is marked by *-ga* 'NOM' and *-no* 'GEN' respectively within the relative clause; they are both deviant. As argued above, a base structure with the compound particle *no uti de* or *no naka de* 'among' like (11) cannot be the derivational source. Note in passing that "gapless" relative clauses like (9) sound unnatural in isolation, which Kuno (1973) claims is not due to a syntactic reason but a semantic or pragmatic reason. In (9), the relative heads *sakana* 'fish' and *hana* 'flower' are generic, but one cannot character- ize something generic by a specific event or state. In (9a), for example, one

cannot characterize fish in general by the specific state that red snapper is most delicious. Hence, as argued by Kuno, "gapless" relative clauses, though unacceptable in isolation, become acceptable when used in certain limited contexts like (9):

(9) a. [[_{Relative Clause} **Tai-ga**   **oisii]**   **sakana]**-wa eigo-dewa
                     red.snapper-Nom delicious fish-TOP   English-in
     "side dish" dewa-naku "fish" to iu.
     "side dish" not   "fish" as call
     Lit. 'Fish, as for which red snapper is delicious, is not called "side dish"
     but "fish" in English.'

  b. [[_{Relative Clause} **Sakura-ga**   **ii]**   **hana]**-wa eigo-dewa
                     cherry.blossom-Nom good flower-TOP English-in
     "nose" dewa-naku "flower" to iu.
     "nose" not   "flower" as call
     Lit. 'Flower, as for which cherry blossom is good, is not called "nose"
     but "flower" in English.'
     (Adapted from Kuno 1973: 257)

(10) a. *[**Sakana-ga** tai-ga   oisii]   (sakana)
      fish-NOM   red.snapper-NOM delicious   fish
      Lit. '[Speaking of fish, red snapper is delicious] (fish)'

  b. *[**Sakana-no** tai-ga   oisii]   (sakana)
      fish-GEN   red.snapper-NOM delicious   fish
      Lit. '[Red snapper of fish is delicious] (fish)'
      (cf. Kizu 1999: 45)

(11) ?[Sakana-no-uti/naka-de tai-ga   oisii]   (sakana)
      fish-among   red.snapper-NOM delicious   fish
      Lit. '[Among fish, red snapper is delicious] (fish)'

It should be noted that the apparent lack of a derivational source is the only reason why the "gapless" construction has been analyzed in terms of base-generation.

    This paper argues against this widely-accepted view, proposing that the Japanese "gapless" constructions are derived in terms of movement. The "gapless" constructions to be discussed in this paper are those like (1) and (9), where (i) the topic phrase/relative head and the nominative phrase constitute a hypernym-hyponym pair like *sakana* 'fish' – *tai* 'red snapper' in (1a) and (9a), (ii) the topic phrase/relative head cannot be replaced by a nominative or genitive

marked phrase as shown in (3, 4) and (10), and (iii) permutation of the topic phrase and the nominative phrase is not allowed as shown in (4).[2] The organization of this paper is as follows. Section 2 proposes a movement analysis of the Japanese "gapless" construction. Section 3 presents supporting evidence for our analysis. It is shown that a movement analysis is supported by island, reconstruction, and parasitic gap facts. Section 4 makes a concluding remark.

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2 According to these criteria of the "gapless" construction, the multiple-nominative examples like (i) do not count as "gapless" constructions to be discussed in this paper:

(i) a. Zoo-wa/ga/no   hana-ga   nagai.
         elephant-TOP/NOM/GEN nose-NOM   Long
         'Elephants have a long nose.'
     b. Hana-ga   zoo-wa   nagai.
         nose-NOM   elephant-TOP   long
         Lit. 'It is the nose that elephants have long ones.'

The multiple-nominative allows the topic phrase to be replaced by a nominative or genitive marked phrase, as shown in (ia). It also allows permutation of the topic phrase and the nominative phrase as shown in (ib). Similarly, examples like (ii) and (iii), where the nominative phrase is a hyponym of more than one super-categories, do not belong to the "gapless" construction either:

(ii) a. Butaniku-wa/ga/*no hireniku-ga oisii.
          pork-TOP/NOM/GEN   filet-NOM   tasty
          'As for pork, filet is tasty.'
      b. Hireniku-ga butaniku-wa oisii.
          filet-NOM   Pork-TOP   tasty
          'As for pork, it is filet that is tasty.'

(iii) a. Hokkee-wa/ga/*no   Canada-ga   tuyoi.
          hockey-TOP/NOM/GEN Canada-NOM   strong
          'As for ice hockey, Canada is strong.'
      b. Canada-ga   Hokkee-wa   tuyoi.
          Canada-NOM   hockey-TOP   strong
          'As for ice hockey, it is Canada that is strong.'

As shown in (iia) and (iiia), the topic phrase can be replaced by a nominative marked phrase. Permutation of the topic and nominative phrases is allowed as shown in (iib) and (iiib). One might claim that *hokkee-no Canada-ga* 'hockey-GEN Canada-NOM', where the topic phrase is replaced by the genitive marked phrase, is acceptable. However, it is semantically distinct from *hokkee-wa Canada-ga* 'hockey-TOP Canada-NOM'. While the former, if acceptable at all, means a Canadian style of hockey, the latter is a simple statement about hockey. Hence, the topic phrase cannot be replaced by the genitive marked phrase in (iiia). I thank an anonymous reviewer for bringing my attention to this issue.

2 A proposal

2.1 Free Merge and labeling algorithm

This paper adopts Chomsky's (2013, 2015) Free Merge coupled with a labeling algorithm approach. Under the Free Merge system, Merge applies freely without any feature trigger, though every syntactic object constructed by Merge needs to be labeled to be interpreted at the sensory-motor (S-M) and conceptual-intentional (C-I) interfaces. There is a labeling algorithm (LA) (12) that licenses syntactic objects for interpretation at the interfaces:

(12)   Labeling Algorithm (LA) (Chomsky 2013, 2015)
       LA is a special case of minimal search.

   Rizzi (2015) restates Chomsky's LA (12) in terms of the notion of "closeness" as shown in (13), where "closeness" is defined as in (14):

(13)   Node α created by merge receives the label of the closest head.

(14) H_1 is closest head to α iff
       I.   α contains H_1, and
       II. there is no H_2 such that i.   α contains H_2, and
                                         ii. H_2 c-commands H_1.
       (Rizzi 2015: 18)

According to Chomsky's LA (12), when a syntactic object (SO) is of {H, XP} type as in (15a), where H is a head and XP is a non-head, its label can be easily identified by minimal search; LA (12) selects H as the label. In Rizzi's terms, H is closer to SO than X, the head of XP; H becomes the label. When a syntactic object is of symmetric {XP, YP} type as in (15b), on the other hand, its label cannot be determined by LA (12), since minimal search is ambiguous, locating the two heads X and Y. Under Rizzi's restatement, both X and Y would qualify as "the closest head" to SO. If nothing happens to SO in (15b), it has no label and thus cannot be interpreted at the interfaces:

(15)   a. SO = {H, XP}
       b. SO = {XP, YP}

There are two ways in which this syntactic object can be labeled. First, a syntactic object can be modified for labeling by raising one of its immediate

constituents, either XP or YP, so that there is only one visible head, X or Y, which counts as its label. Second, when XP and YP share a prominent feature via agreement, that feature is the label.

As an illustration of how LA (12) works, let us consider (16), which is the structure of a clause under the predicate-internal subject hypothesis:

(16)   a. $SO_i = \{v, VP\}$
       b. $SO_j = \{_\alpha \, DP, \{v, VP\}\}$
       c. $SO_k = \{DP, \{T, \{_\alpha \, DP, \{v, VP\}\}\}\}$

In (16a), minimal search identifies v as the label of SO_i. In (16b), which is of symmetric {XP, YP} type, minimal search is ambiguous, locating two heads D and v. As mentioned above, one way to label α ($= SO_j$) in (16b) is to raise the subject DP, which results in (16c). At this stage, α is labeled as v. This is because Chomsky argues that α does not contain every occurrence of the subject DP so that the subject DP is taken not to be within α in (16c). In other words, the lower copy of the subject DP, part of the discontinuous element, is invisible to minimal search. Minimal search identifies the only visible head v as the label of α. Then, SO_k as a whole, which is also of symmetric {XP, YP} type, is labeled in terms of agreement; the subject DP and T share φ-features, which are identified as the label of SO_k.

2.2 A movement analysis of the "gapless" constructions

Assuming the Free Merge coupled with a labeling algorithm approach, this subsection explicates a movement analysis of the Japanese "gapless" construction, taking the "gapless" topic construction (1a), which is repeated here as (17), as an example. I propose that its derivation proceeds as represented in (18):

(17)   **Sakana-wa**   tai-ga   oisii.   [=(1a)]
       fish-TOP   red.snapper-NOM   delicious
       'Speaking of fish, red snapper is delicious.'

(18)   a. $[_\alpha \, [_{nP1} \, Sakana] \, [_{nP2} \, tai]]$ oisii.
                fish   red.snapper   delicious
       b. $[_{nP1} \, \textbf{Sakana}]$-wa $[_{\alpha(= nP2)} \, [_{nP1} \, \textbf{sakana}] \, [_{nP2} \, tai]]$-ga   oisii.
                fish-TOP   fish   red.snapper-NOM   delicious

I argue that the underlying form of (17) is (18a). In (18a), *sakana* 'fish' and *tai* 'red snapper' are directly merged on the assumption that Merge applies freely.

This results in a structure where the topic phrase and the nominative phrase establish a hypernym-hyponym relation, with *sakana* 'fish' being a hypernym and *tai* 'red snapper' being a hyponym. This hypernym-hyponym pair is roughly interpreted as appositional modification where *sakana* 'fish' modifies *tai* 'red snapper', *i.e., red snapper, which is a fish.* I claim with, Marantz (1997) and Chomsky (2013) among others, that a noun is a complex structure *n-root*. In (18a), both *sakana* 'fish' and *tai* 'red snapper' are nPs, and these two nPs are merged in the subject position α. The subject position α in (18a) is of symmetric {XP, YP} type. The label of α cannot be determined by LA (12), since minimal search is ambiguous, locating the two n heads. If nothing happens, it has no label and thus cannot be interpreted at the interfaces. Since there is no agreement feature sharing between the two nPs in α, we must modify α for labeling by raising one of the two nPs, which results in an asymmetric structure. It should be noted that although the two nPs share their categorial feature, only a shared agreement feature can serve as a label under Chomsky's LA. We raise nP$_1$ *sakana* 'fish' to the topic position as shown in (18b). The lower copy of nP$_1$ *sakana* 'fish', which is part of the discontinuous element, is invisible for labeling; α receives the label of nP$_2$ *tai* 'red snapper' as shown in (18b). Hence, the "gapless" topic construction (17) can be derived by movement of nP$_1$ *sakana* 'fish', which is required by labeling. It should be noted that under the proposed analysis, obligatory raising of *sakana* 'fish' to the topic position, which is required by labeling, accounts for the fact that there does not seem to exist any derivational source of the "gapless" topic construction at first sight.[3]

"Gapless" relative clauses can be analyzed in the same way. The derivation of (9a), which is repeated here as (19), is represented in (20). Note that the proposed analysis holds irrespectively of whether "gapless" relative clauses involve movement of a relative head (Kayne 1994; Murasugi 2000) or movement of an empty operator (Chomsky 1986). For an expository purpose, we assume that "gapless" relative clauses involve movement of a relative head. In (20), nP$_1$ *sakana* 'fish' is required by labeling to move to the relative head position:

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3 What is significant here is that the movement analysis of the "gapless" construction presented here is only made possible under the labeling theory. Without the labeling theory, there is no principled explanation of why *sakana* 'fish' in (18) obligatorily raises to the topic position and thus it looks as if there is no gap in the "gapless" construction. Note that a base-generation analysis of the "gapless" construction is compatible with the labeling theory, though a base-generation analysis is tenable even without the labeling theory.

(19) [[Relative Clause **Tai-ga oisii**] sakana]-wa eigo-dewa "side dish" dewa-naku
red.snapper-Nom delicious fish-TOP English-in "side dish" not
"fish" to iu.
"fish" as call
Lit. 'Fish, as for which red snapper is delicious, is not called "side dish" but
"fish" in English.'

(20) a. [[α [nP1 Sakana] [nP2 tai]]   oisii]
              fish   red.snapper delicious
      b. [[α(= nP2) **[nP1 Sakana]** [nP2 tai]]-ga   oisii] **[nP1 sakana]**
                  fish   red.snapper-NOM delicious fish

In the proposed analysis, a few remarks are in order. First, although *sakana*
'fish' is extracted out of the subject in (18) and (20), it is widely accepted that
Japanese lacks the Subject Condition effects (Ishii 1997, 2012; Kayne 1984; Saito
and Fukui 1998; Takahashi 1994 among others). Hence, extraction of *sakana*
'fish' out of the subject in (18) and (20) does not induce any island violation.

Second, in (18) and (20), it is *sakana* 'fish' rather than *tai* 'red snapper' that
undergoes movement. This does not follow from labeling. Raising of *tai* 'red
snapper' also resolves the labeling problem, though the results are deviant as
shown in (21) and (22):

(21)* **Tai-wa**   sakana-ga oisii.
      red.snapper-TOP fish-NOM   delicious
      Lit. 'Speaking of red snapper, fish is delicious.'

(22)* [[Relative Clause **Sakana-ga oisii**]   tai]-wa   eigo-dewa
                    fish-NOM   delicious red.snapper-TOP English-in
      "red snapper" to iu.
      "red snapper" as call
      Lit. 'Red snapper, as for which fish is delicious, is called "red snapper" in
      English.'

I claim with Kuno (1973) and Saito (1985) that a topic and a relative head are
licensed by the aboutness condition holding between the topic and the rest of the
sentence and between the relative head and the relative clause. The aboutness
condition is not syntactic but semantic or pragmatic in nature. The contrast between
(17, 19) and (21, 22) should be explained by the aboutness condition not by labeling.
In other words, (21) and (22) are semantically or pragmatically odd albeit syntacti-
cally well-formed. Taking the "gapless" topic construction as an example, *sakana*
'fish' is licensed as a topic in (17), since the rest of the sentence *tai-ga oisii* 'red

snapper is delicious' is "about" the topic *sakana* 'fish'. In (21), however, *tai* 'red snapper' cannot be licensed as a topic, since the rest of the sentence *sakana-ga oisii* 'fish is delicious' is not "about" *tai* 'red snapper'. This view is supported by the fact that even with a hanging topic, which does not involve any movement, *sakana* 'fish' rather than *tai* 'red snapper' must be the topic:

(23) a. **Sakana-ni kansite ieba/Sakana-nara** tai-ga   oisii.
　　　　fish-DAT   about speak/fish-as.for   red.snapper-NOM delicious
　　　　'Speaking of fish/As for fish, red snapper is delicious.'
　　 b. ***Tai-ni   kansite ieba/Tai-nara**   sakana-ga oisii.
　　　　red.snapper-DAT about speak/red.snapper-as.for fish-NOM   delicious
　　　　Lit. 'Speaking of red snapper/As for red snapper, fish is delicious.'

While the hanging phrase *sakana-ni kansite ieba/sakana-nara* 'speaking of fish/ as for fish' can be licensed as the topic by the aboutness condition as shown in (23a), the hanging phrase *tai-ni kansite ieba/tai-nara* 'speaking of red snapper/as for red snapper' cannot as shown in (23b).

　　Recall that the present analysis requires that apart from the aboutness condition, the topic phrase/relative head and the nominative phrase should establish a hypernym-hyponym relation in their base positions. Kuno (1973) observes that (24) is deviant even if the comment part *boku-no apaato-no mado-ga kitanai* 'the windows of my apartment are dirty' is "about" the topic *U.S. Steel* in that the U.S. steel is responsible for the speaker's windows being dirty:

(24)* U.S. Steel-wa boku-no apaato-no   mado-ga   kitanai.
　　　 U.S. Steel-TOP I-GEN   apartment-GEN window-NOM dirty
　　　 'Speaking of U.S. Steel, the windows of my apartment are dirty.'
　　　 (Kuno 1973: 254)

I argue that (24) is deviant because the topic phrase *U.S. Steel* and the nominative phrase *boku-no apaato-no mado* 'the windows of my apartment' do not constitute a hypernym-hyponym pair, though (24) satisfies the aboutness condition. Note also that the appositional modification relation between the topic phrase and the nominative phrase is not sufficient to license the "gapless" construction either, as shown in (25):

(25)* Sooridaizin-wa   Ikeda-si-ga   sinda.
　　　 prime.minister-TOP Ikeda-Mr.-NOM died
　　　 'Mr. Ikeda, Prime Minister, has died.'
　　　 (Kuno 1973: 251)

In (25), although *sooridaizin* 'prime minister' appositionally modifies *Ikeda-si* 'Mr Ikeda', the result is unacceptable, since *sooridaizin* 'prime minister' and *Ikeda-si* 'Mr Ikeda' do not constitute a hypernym-hyponym pair.

Third, a question arises as to how the derivational output created by the present analysis (18b), which is repeated here as (26), is read off at the semantic representation (SEM), since although the desired semantic interpretation is something like (27), (26) and (27) are not straightforwardly parallel to each other:

(26) Sakana-wa [[sakana tai]-ga   oisii]
     fish-TOP   fish   red.snapper-NOM delicious

(27) *As for fish, red snapper is delicious.*

The key question here is the role of the copy of *sakana* 'fish' in the original positon, *i.e.* the one inside the subject phrase *sakana tai* 'fish red.snapper'.[4] I argue that the copy of *sakana* 'fish' in the original position is not assigned any θ-role so that the lexico-semantic content of *sakana* 'fish' as well as its topic property is interpreted at the topic position. The θ-role of the predicate *oisii* 'delicious' is assigned to the larger constituent *sakana tai* 'fish red.snapper' and conceivably to its head *tai* 'red.snapper'. The only role of the copy of *sakana* 'fish' in the original position is to ensure that *sakana* 'fish' and *tai* 'red.snapper', which are directly merged with each other, establish a hypernym-hyponym relation. Hence, (26) leads to semantic representation like (27). This analysis is reminiscent of Kayne's (2002) analysis of pronouns, where a pronoun and its antecedent are merged together and then separated by movement. Under his analysis, (28), for example, is analyzed as shown in (29):

(28) *John thinks that he is smart.*

(29) a. thinks that [John he] is smart.
     b. **John** thinks that [**John** he] is smart.

In (29), *John* moves from within the embedded subject position to the matrix subject position. Kayne claims that *John* is assigned a θ-role in the matrix subject position, but not within the embedded subject position; the θ-role of *smart* is assigned to the larger constituent *[John he]* and conceivably to the head *he*. The only role of the copy of *John* in the original position is to establish an antecedent-pronoun relation between *John* and *he*.

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4 I thank an anonymous reviewer for bringing my attention to this issue.

Finally, one might claim that scrambling could also resolve the labeling problem. As argued by Saito (1985), however, scrambling can apply to overtly case-marked nominals but not to non-case-marked nominals. Since neither *sakana* 'fish' nor *tai* 'red snapper' itself is overtly case-marked, it is not subject to scrambling. There is no way of resolving the labeling problem by scrambling.[5]

3 Supporting evidence

The previous section has argued that the Japanese "gapless" construction is derived by movement. This section presents evidence supporting our movement analysis of the Japanese "gapless" construction.

3.1 Island constraints

First, the "gapless" construction shows island effects. The "gapless" construction allows long-distance dependency as shown in (30) and (31):

(30)　**Sakana-wa**　John-ga　[[[*t* tai]-ga　　oisii　　to]　omotteiru.
　　　fish-TOP　　John-NOM　red.snapper-NOM　delicious　that　think
　　　Lit. 'Speaking of fish, John thinks that red snapper is delicious.'

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5 It might be possible to extend the proposed analysis to other topicalization cases like (i) and copy-raising cases like (ii):

(i)　　Hana-wa　　Mary-wa/ga　　tulip-o　　katta.
　　　flower-TOP　Mary-TOP/NOM　tulip-ACC　bought
　　　'As for flowers, Mary bought tulips.'

(ii)　　*John seems as if he has found the chocolate.*

In (i), under the present analysis, *hana* 'flower' and *tulip* 'tulip' would be directly merged within the object position, and then move *hana* 'flower' to the topic position, which is enforced by labeling. In (ii), *John* and *he* would be directly merged within the embedded subject position, and then the labeling requirement would force *John* to undergo movement out of the embedded subject position to the matrix subject position. Since assessing the consequences of the present analysis to other constructions is beyond the scope of this paper, I leave this important issue for future research. I thank an anonymous reviewer for bringing my attention to this issue.

(31) [[John-ga   [[*t* tai]-ga   oisii   to]   omotteiru] **sakana**]
     John-NOM   red.snapper-NOM delicious that think   fish
     Lit. 'Fish, as for which John thinks that red snapper is delicious'

The "gapless" construction, however, obeys the Complex NP Constraint and the Adjunct Condition as shown in (32) and (33) respectively:

(32) Complex NP Constraint
     a. *?**Sakana-wa**   John-ga   [Complx NP [*t* tai]-ga   oisii
         fish-TOP   John-NOM   red.snapper-NOM delicious
         mise]-o   sitteiru.
         restaurant-ACC   know
         Lit. 'Speaking of fish, John knows a restaurant where red snapper is delicious.'
     b. *?[John-ga [Complx NP [*t* tai]-ga   oisii   mise]-o
         John-NOM   red.snapper-NOM delicious restaurant-ACC
         sitteiru]   **sakana**
         know   fish
         Lit. 'Fish, as for which John knows the restaurant where red snapper is delicious'

(33) Adjunct Condition
     a. *?**Sakana-wa**   John-ga   [Adjunct [*t* tai]-ga   oisii   kara]
         fish-TOP   John-NOM   red.snapper-NOM delicious because
         totemo   manzoku siteiru.
         very   be-satisfied
         Lit. 'Speaking of fish, John is very satisfied because red snapper is delicious.'
     b. *?[John-ga [Adjunct [*t* tai]-ga   oisii   kara]   totemo
         John-NOM   red.snapper-NOM delicious because   very
         manzoku siteiru] **sakana**
         be-satisfied   fish
         Lit. 'Fish, as for which John is very satisfied because red snapper is delicious'

Sakana 'fish' is moved out of the complex NP in (32) and the adjunct in (33). (32) and (33) are all deviant, which indicates that the "gapless" construction involves movement. The existence of the island effects with the "gapless" construction

thus constitutes evidence in favor of our movement analysis and against a base-generation analysis.[6,7]

This is in contrast with the lack of the island effects with hanging topics and relative clauses with resumptive pronouns, which do not involve movement (Kuno 1973; Saito 1985):[8,9]

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6 This paper accepts the widely-accepted view that sensitivity to islands is a diagnostic for the existence of syntactic movement. See Boeckx (2003) and Postal (1998) against this standard view, claiming that sensitivity/insensitivity to islands does not necessarily indicate the existence/absence of syntactic movement. For alternative approaches to islands, see, among others Szabolcsi and Zwart (1993) for a semantic approach and Sprouse (2008) for a processing approach.

7 The "gap" constructions such as (i), which can be derived either by movement or base-generation (Saito 1985), are immune from the island effects, which is in contrast with the island-sensitivity of the "gapless" constructions, which are unambiguously derived by movement:

(i)　　a.　**Sakana-wa** John-ga 　[*e* oisii 　　mise]-o 　　　sitteiru.
　　　　　　fish-TOP 　　John-NOM 　　delicious restaurant-ACC 　know
　　　　　　Lit. 'Speaking of fish, John knows the restaurant where it is delicious.'
　　　　b.　**Sakana-wa** John-ga 　[*e* oisii 　　kara] 　　totemo manzokusiteiru.
　　　　　　fish-TOP 　　Jonn-NOM 　　delicious because very 　　be.satisfied
　　　　　　Lit. 'Speaking of fish, John is very satisfied because it is delicious.'

8 Note that (34b) and (35b), which belong to the "gap" constructions, are still acceptable even if the resumptive pronouns are omitted. What (34b) and (35b) intend to show is that the relative clauses with resumptive pronouns, which can only be derived by base-generation, do not exhibit any island effects. I thank an anonymous reviewer for bringing my attention to this issue.

9 An anonymous reviewer has raised the question why the base-generation analysis of hanging topics cannot be extended so as to accommodate the "gapless" construction. The present analysis claims that unlike the hanging topic construction, the "gapless" construction requires that the topic phrase and the nominative phrase should be directly merged to constitute a hypernym-hyponym pair in their base positions so that the topic phrase undergoes movement from its original position to the topic position. Evidence in support of this view comes from the fact that hanging topics, whose only licensing requirement is the aboutness condition, do not require the topic phrase and the nominative phrase to be a hypernym-hyponym pair. Hence, (i) and (ii), though there is no hypernym-hyponym relation between the hanging topic and the nominative phrase, are marginally acceptable, which is in contrast with the total unaccept-ability of their "gapless" construction counterparts (24) and (25):

(i)　　　?U.S. Steel-ni 　kansite ieba 　boku-no apaato-no 　　mado-ga 　　kitanai.
　　　　　U.S. Steel-DAT about 　speak I-GEN 　apartment-GEN window-NOM 　dirty
　　　　　'Speaking of U.S. Steel, the windows of my apartment are dirty.'

(ii)　　? Sooridaizin-ni 　　kansite ieba 　Ikeda-si-ga 　　　sinda.
　　　　　prime.minister-DAT about 　speak Ikeda-Mr.-NOM 　died
　　　　　'Speaking of Prime Minister, Mr. Ikeda has died.'

(34) No Complex NP Constraint Effects

    a. **Sakana-ni**   **kansite**   **ieba/Sakana-nara** John-ga
       fish-DAT   about   speak/fish-as.for John-NOM
       [$_{Complx\ NP}$ tai-ga   oisii   mise]-o   sitteiru.
       red.snapper-NOM delicious restaurant-ACC   know
       Lit. 'Speaking of fish/As for fish, John knows a restaurant where red
       snapper is delicious.'

    b. [John-ga [$_{Complx\ NP}$ **sore**-ni   takane-o   tuketa nakagai]-o
       John-NOM   **that**-DAT high.price-ACC gave   middle.trader-ACC
       sitteiru] **sakana**
       know   **fish**
       Lit. 'Fish, as for which John knows [the middle trader who priced it high]'

(35) No Adjunct Condition Effects

    a. **Sakana-ni kansite ieba/Sakana-nara** John-ga
       fish-DAT   about   speak/fish-as.for   John-NOM
       [$_{Adjunct}$ tai-ga   oisii   kara]   totemo manzoku siteiru.
           red.snapper-NOM delicious because very   be-satisfied
       Lit. 'Speaking of fish/As for fish, John is very satisfied because red
       snapper is delicious.'

    b. [John-ga [$_{Adjunct}$ nakagai-ga   **sore**-ni   takane-o
       John-NOM   middle.tradier-NOM **that**-DAT high.price-ACC
       tuketa kara]   otemo manzoku siteiru] **sakana**
       gave   because very   be-satisfied   **fish**
       Lit. 'Fish, as for which John is very satisfied [because the middle trader
       priced it high]'

3.2 Reconstruction

Second, the "gapless" construction shows reconstruction effects for variable binding:

(36) [**Soko**$_1$-no   sakana]$_2$-wa **nakaorosi-sae**$_1$-ga   [[t_2 nisin]-ga
     that place-GEN fish-TOP   middle.trader-even-NOM   herring-NOM
     itiban oisii   to] omotteiru.
     most delicious that   think
     Lit. 'Speaking of its$_1$ fish, [even the middle trader]$_1$ thinks that herring is most delicious.'

(37) [**Nakaorosi-sae**$_1$-ga   [[t_2 tai]-ga   itiban yoku ureru to]
middle.trader-even-NOM   red.snapper-NOM most well sell   that
omoikondeiru] [**soko**$_1$-no   sakana]$_2$
believe   that.place-GEN fish
Lit. 'Its$_1$ fish, as for which [even the middle trader]$_1$ believes that red
snapper sells best'

In (36) and (37), the pronoun *soko* 'that place' can be interpreted as a variable
bound by the quantificational expression *nakaosrosi-sae* 'even the middle trader'
through reconstruction into its original position. This indicates that the "gapless"
construction involves movement. Under a base-generation analysis, however,
since the quantificational expression *nakaosrosi-sae* 'even the middle trader'
does not c-command the pronoun within the topic/relative head position, there
is no straightforward way of accounting for the bound variable reading of the
pronoun.[10] This is in contrast with the lack of the reconstruction effects with
hanging topics and relative clauses with resumptive pronouns. In neither (38) nor
(39), the bound variable interpretation of *soko* 'that place' is allowed:

(38) *?[**Soko**$_1$-no sakana-ni kansite ieba]/[**Soko**$_1$-no sakana-nara]
place-GEN fish-DAT about speak place-GEN fish-as.for
nakaorosi-sae$_1$-ga   [nisin-ga   itiban oisii   to] omotteiru.
middle.trader-even-NOM herring-NOM most   delicious that think
Lit. 'Speaking of its$_1$ fish/As for its 1 fish, [even the middle trader]$_1$ thinks that
herring is most delicious.'

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10 An anonymous reviewer observes that (36) and (37) sound deviant, pointing out that if they
are acceptable at all, it might be attributed to the fact that the subject can "weakly" c-command
the topic phrase to the left or the relative head to the right. I have consulted seven native
speakers of Japanese and five of them find (36) and (37) acceptable. Note also that reconstruc-
tion with variable binding is also allowed for those five native speakers even when a QP appears
in an embedded clause as shown in (i), which suggests that movement is involved in the
"gapless" construction:

(i)   [**Soko**1-no   sakana]2-wa John-ga   [[**nakaorosi-nitotte-sae**]1 [$t2$ nisin]-ga
that.place-GEN fish-TOP   John-NOM middle.trader-for-even   herring-NOM
itiban oisii   to] omotetiru.
most   delicious that think
Lit. 'Speaking of its$_1$ fish, John thinks that [even for the middle trader]$_1$ herring is most
delicious.'

I leave for future research why there exist variations with the acceptability judgments among
speakers.

(39) *?[**Nakaorosi-sae**$_1$-ga [sore$_2$-ni takane-o tuketa no]-o
      middle.trader-even-NOM that-Dat high.price-ACC gave fact-ACC
      kookaisita] [**soko**$_1$-no sakana]$_2$
      regretted that.place-GEN fish
      Lit. '[**Its**$_1$ fish]$_2$ that [**even the middle trader**]$_1$ regretted that he priced it$_2$
      high.'

3.3 Parasitic gaps

Finally, the "gapless" construction licenses a parasitic gap. Abe and Nakao
(2009) and Abe (2011) claim that although Japanese does not seem to have
parasitic gaps at first sight, there are instances of parasitic gap in Japanese as
exemplified by (40):

(40) [Op_1 [e_1 mita [subete-no hito]$_2$]-ga [Mary$_3$-ga t_1 kiniitteiru to]
              saw every-GEM person-NOM Mary-NOM like that
      itta no]-wa [**zibun**$_{2/*3}$-**no donna syasin-o**]$_1$ desu ka.
      said COMP-TOP self-GEN what picture-ACC be Q
      Lit. '[What kind of pictures of self$_{2/*3}$]$_1$ was it that everyone$_2$ [who saw e_1]
      say that Mary$_3$ liked t_1'
      (Abe 2011: 206)

(40) is an instance of subject parasitic gap in the cleft construction with a case-
marked focused element, which has been assumed to involve empty operator A'-
movement, as argued by, among others, Hoji (1985). In (40), the reflexive
pronoun *zibun* 'self' can refer to *subete-no hito* 'everyone' but not to *Mary*. In
other words, (40) allows Condition A reconstruction into the parasitic gap but
not into the real gap.

Abe and Nakao present evidence to support for their claim that (40) is an
instance of parasitic gap. First, the Condition A reconstruction pattern is also
observed in the English subject parasitic gap construction as shown in (41).
While *himself* can refer to *every boy* in (41a), *herself* cannot refer to *Mary* in (39b)
(Munn 1994: 407):

(41) a. [*Which picture of **himself**$_1$*] *did* [***every boy**$_1$ who saw e*] *say Mary$_2$ liked* t?
      b. *[*Which picture of **herself**$_2$*] *did* [*every boy$_1$ who saw e*] *say **Mary**$_2$ liked* t?

Second, such cases as (40) show the case-matching effect, which is one of the
properties of the parasitic gap construction. In (40), both the real and parasitic

gaps carry accusative Case, since *miru* 'see' and *kiniiru* 'like' both require accusative objects. The Case of the parasitic gap matches that of the real gap; (40) is acceptable. (42), however, is ruled out by the Case-matching requirement:

(42) *?[Op$_1$ [**e$_1$** mita [subete-no hito]$_2$]-ga   [Mary-ga **t$_1$** kisusita
              saw every-Gen person-NOM Mary-NOM   kiss
    to] itta no]-wa   **zibun$_2$-no donna syasin-ni$_1$** desu ka.
    that said COMP-TOP self-GEN what picture-DAT be   Q
    Lit. '[What kind of pictures of self$_2$]$_1$ was it that everyone$_2$ [who saw *e$_1$*] say
    that Mary kissed *t$_1$*?' (Abe 2011: 207)

In (42), the parasitic gap carries accusative Case, since the predicate *miru* 'see' requires an accusative object. The real gap, on the other hand, carries dative Case, since the predicate *kisusuru* 'kiss' requires a dative object. The Case of the parasitic gap does not match that of the real gap; (42) is deviant.

Adopting Abe and Nakao's view that examples like (40) are parasitic gap constructions in Japanese, let us consider the "gapless" construction with a subject parasitic gap:

(43) **[Zibun$_2$-no mise-no sakana-wa]$_1$** [*e$_1$* sabaita [subete-no
    self-GEN shop-GEN fish-TOP   cooked every-GEN
    nakagai]$_2$]-ga   [[**t$_1$** marugo]-ga itiban oisii   to] omotteiru.
    middle.trader-NOM   tuna-NOM   most delicious that think
    Lit. 'Speaking of [fish at self$_2$'s shop]$_1$, every middle trader$_2$ [who cooked *e$_1$*]
    thinks that [*t$_1$* tuna] is most delicious.'

(44) [[*e$_1$* sabaita **[subete-no nakagai]$_2$**]-ga   [[**t$_1$** maguro]-ga
       cooked every-GEN middle.tradier-NOM   tuna-NOM
    itiban oisii   to] omotteiru] **[zibun$_2$-no mise-no sakana]$_1$**
    most delicious that think   self-GEN shop-GEN fish
    Lit. '[Fish at self$_2$'s shop]$_1$, as for which every middle trader$_2$ [who cooked
    e$_1$] thinks that [*t$_1$* tuna] is most delicious'

In (43) and (44), the reflexive pronoun *zibun* 'self' can refer to *subete-no nakagai* 'every middle trader'. In other words, Condition A reconstruction into the empty category within the subject phrase is allowed. According to Abe and Nakao's view, (43) and (44) count as parasitic gap constructions. This shows that the "gapless" construction licenses a parasitic gap. Given that parasitic gaps are only licensed by movement, this constitutes evidence in support of our movement analysis and against a base-generation analysis.

This is in contrast with the hanging topic construction (45) and the relative clause with a resumptive pronoun (46), which do not involve movement. The unacceptability of (45) and (46) shows that they do not license parasitic gaps:

(45)*? **[Zibun$_2$-no mise-no sakana]$_1$**-ni kansite ieba/
self-GEN shop-GEN fish-DAT about speak
[Zibun$_2$-no mise-no sakana]$_1$-nara [**e$_1$** sabaita
self-GEN shop-GEN fish-as.for cooked
[subete-no nakagai]$_2$]-ga
every-GEN middle.tradier-NOM
[maguro-ga itiban oisii to] omotteiru.
tuna-NOM most delicious that think
Lit. 'Speaking of [fish at self$_2$'s shop]$_1$/As for [fish at self$_2$'s shop]$_1$, every middle trader$_2$ [who cooked e$_1$] thinks that tuna is most delicious.'

(46)*? [[**e$_1$** sabaita **[subete-no nakagai]$_2$**]-ga [**sore$_1$**-ni takane-o
cooked every-GEN middle.tradier-NOM that-DAT high.price-ACC
tuketa-no]-o kookaisita **[zibun$_2$-no mise-no sakana]$_1$**
gave-fact-ACC regretted self-GEN shop-GEN fish
Lit. '[Fish at self$_2$'s shop]$_1$, as for which [every middle trader$_2$ [who cooked e$_1$]] regretted that he priced it$_1$ high'

4 Conclusion

This paper has proposed a movement analysis of the Japanese "gapless" construction, where a topic phrase or a relative head is derived in terms of movement required by labeling. It was shown that our movement analysis is supported by island, reconstruction, and parasitic gap facts. If our analysis is on the right track, it gives further support for the Free Merge coupled with a labeling algorithm approach.

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