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ORIGINAL RESEARCH PAPER

On the Cause of the Asymmetric Distribution between Scrambling and Postposing in Japanese

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Japanese exhibits a large degree of flexibility in terms of word order. Thus, not only SOV but also OSV (scrambling) and SVO (postposing) are grammatical. In terms of discourse function, there are some similarities between scrambling and (non-pause type) postposing. According to Author (2017) and Shimojo (2005), scrambled objects and postposed elements are anaphorically salient but cataphorically non-salient. Yet, Shimojo (2005: 202) observed no example with a postposed object. In order to explain this tendency, I propose that scrambling is not as costly as postposing due to the following two reasons. First, scrambling follows given-new-ordering whereas postposing does not. Second, rightward movements are more costly than leftward movements in Japanese (Fukui: 1993). Therefore, postposing is expected to be selected when scrambling cannot be chosen. As scrambling can be used for the object but not for the subject in SOV, postposing is dominantly utilized for subjects.

Keywords: Scrambling, Postposing, Discourse Analysis, Japanese, Givōnian approach.

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Introduction

As is predicted from the fact that Japanese is a head-final language, its basic word order is SOV. Yet, Japanese allows not only SOV, but also OSV and SVO, as shown in (1a), (1b), and (1c), respectively. It should be noted that the SOV, OSV, and SVO sentences in (1) express the same proposition *Taro ate an apple*. Hence, Japanese is sometimes described as having 'free' word order although this is misleading in the sense that there are often pragmatic factors governing the choice of word order. Thus, Japanese is a relatively 'free' word order language in terms of syntax but its word orders are expected to be determined by pragmatic factors. A question arises here: how does the speaker determine which word order to use? More specifically, how do Japanese speakers make a choice between OSV and SOV? The present study disentangles this issue mainly based on Imamura (2016) and Shimojo (2005) under the framework of Givōn (1983, 1988, 1990, and 1994).

(1) a. SOV

Taro-ga	ringo-o	tabe-ta.
Taro-NOM	apple-ACC	eat-PAST

'Taro ate an apple.'

b. OSV

ringo-o	Taro-ga	tabe-ta.
apple-ACC	Taro-NOM	eat-PAST

'Taro ate an apple.'

c. SVO

Taro-ga	tabe-ta-nda	ringo-o
Taro-NOM	eat-PAST-COP	apple-ACC

'Taro ate an apple.'

This article is organized as follows. First, we overview previous studies concerning scrambling and postposing. Then, the framework proposed by Givōn is expanded. Specifically, this section gives an explanation of several concepts: referential distance, topic persistence, saliency, focusing and defocusing. Next, we discuss the reason why Shimojo (2005) found an asymmetric distribution between the subject and the object with regard to postposed constituents. In order to deal with this issue, we claim that scrambling is more preferable to postposing due to syntactic and functional reasons. The last part is devoted to the conclusion and further studies.

Review Literature

Scrambling

Scrambling can be defined as the syntactic dislocations in the preverbal domain of a sentence. It should be noted that the direct object, *hon* 'book', in (2b) is moved from the immediately preverbal position to the sentence-initial position. Since this operation occurs in the preverbal position, the word order changes from the SOV sentence (2a) to the OSV sentence (2b) which should be called scrambling. By contrast, the word order changes from SOV to SVO is not scrambling because the preverbal argument is moved to the postverbal position.

(2) a. SOV

Taro-ga	hon-o	yon-da.
Taro-NOM	book-ACC	read-PAST

'Taro read a book.'

b. OSV

hon-o_i	Taro-ga_i	yon-da.
book-ACC	Taro-NOM	read-PAST

'Taro read a book.'

(Imamura 2015, 1)

In syntax, Saito (1985) and Kuroda (1988) insist that scrambling is a semantically vacuous movement because it does not affect the grammatical relations among arguments. It should be noticed that there is no distinction between SOV and OSV in terms of propositional meaning. This analysis leads to the idea that scrambling is an optional movement. However, numerous studies claim that scrambling is a discourse-motivated phenomenon (Imamura 2014, 2015, 2016, 2017a, b; Imamura, Sato, and Koizumi 2014, 2016; Ishii 2001; Karimi 2005; Kuno 1978, 1995; Masunaga 1983; Suzuki 2000). Specifically, it has been reported that scrambled elements tend to be given information. In an OSV sentence (3b), for instance, the scrambled object *konojimusho* 'this correspondence office' has its antecedent realized as *renrakujimusho* 'correspondence office' in the immediately preceding sentence (3a). The scrambled object is given information in (3b) in the sense that it was once mentioned in the immediately preceding sentence (3a). This example clearly indicates an interrelation between scrambling and givenness in Japanese.

(3) a. Kim-to Liza-wa Paris-no jibun-tachi-no apart-o
Kim-and Liza-TOP Paris-GEN self-PL-GEN apartment-ACC
kyōwaha-no renraku-jimusho-toshite kaihōshi-ta.
republican.faction-GEN correspondence-office-as open-PAST
'Kim and Lisa opened their apartment in Paris as a correspondence office of the Republican faction.'

b. kono jimusho-o kyōwaha-o shiensuru ooku-no
this office-ACC republican.faction-ACC support many-GEN
hitobito-ga otozureru-ga,
people-NOM visit-but
'Many people who supported the Republican faction visited this office'

c. sono naka-ni-wa wakaki hi-no Ernest
that among-in-TOP young day-of Ernest
Hemingway-no sugata-mo at-ta.
Hemingway-GEN figure-also be-PAST.
'Among them, there was also a figure of Ernest Hemingway in his younger days.'

(Suzuki 2000: 92)

In the same way, Masunaga (1983) observed that indefinite direct objects cannot be scrambled. In (4a), the scrambled object, *hitori-no onnnanohito* 'a woman', is

indefinite and thus has no explicit antecedent in the previous discourse. The low acceptability of (4a) indicates scrambling disagrees with indefinite referents. This also leads to the view that scrambling is generally inconsistent with new information because indefinite referents tend to be new information. By contrast, the acceptability of (4a) is increased if the scrambled object is substituted for a definite one, as shown in (4b). The acceptability of (4b) indicates that scrambling is compatible with definite referents. In (4b), the scrambled object *sono onnnanohito* 'that woman' is linked with the preceding discourse via the demonstrative *sono*. It should be noted that *sono* requires an antecedent because it is a referential expression. Hence, *sono onnnanohito* would have already been referred to in the preceding context, which leads to the idea that scrambling agrees with given information.

(4)	a.??	hirtori-no	onnanohito-o	Taro-ga	nagut-ta.
		one-GEN	woman-ACC	Taro-NOM	hit-PAST
		'Taro hit a woman.'			
	b.	sono	onnanohito-o	Taro-ga	nagut-ta.
		that	woman-ACC	Taro-NOM	hit-PAST
		'Taro hit that woman.'			

(Masunaga 1983:456-7)

Furthermore, Kuno (1978) supports the view that scrambled elements are likely to be given information by proposing "Information Flow Principle" which states that words in a sentence are arranged in such a way that those that represent old, predictable information come first, and those that represent new, unpredictable information last (Kuno 1978, 54). Note that scrambled objects are placed in the first position in OSV. Taking Kuno's principle into consideration, scrambled objects are expected to be older than non-scrambled subjects in OSV because the direct object precedes the subject. This idea was confirmed by a series of corpus analyses by Imamura (2014, 2015, 2016, 2017a, b) under the framework of Givōn (1983, 1988, 1990, 1994). Specifically, Imamura (2016) investigated not only anaphoric properties but also cataphoric properties of OSV in Japanese. In OSV, the scrambled object has been referred to more recently, but less frequently continues on in subsequent sentences than the subject. In order to explain this distribution, Imamura (2016) proposes that 'OSV are accompanied by a shift in topic from the object to the subject (Imamura 2016, 45). Let us have a close look at an actual example cited by Imamura (2016). It should be noticed first that (5b) is an OSV sentence, whose scrambled object *sonohanbai* 'that sale' contains a demonstrative *sono* 'that'. Since the demonstrative *sono* in (5b) is linked with *network kiki* 'network device' in (5a), the scrambled object is the focus of attention in (5b). Yet, the focus of discourse will move on from the scrambled object to the subject, *Cisco*. Indeed, it is referred to several times after it first appears in (5b). In contrast, the referent of the scrambled object *sonohanbai* 'that sale' is not mentioned again from (5c) to (5f). Based on these facts, Imamura (2016) concludes that topic shift arises from (5b) to (5c) because the centre of discourse changes from *sonohanbai* to *Cisco*.

(5) a. sōnaruto, network-kiki-ga hitsuyōni-naru.
if that is the case network-device-NOM necessary-become
'If that is the case, network devices become necessary.'
b. sono-hanbai-o Cisco-ga uke,
that-sale-ACC Cisco-NOM handle
c. rieki-o ageru-toiu
profit-ACC make-APP
d. eigyōsenryaku-dearu
business.strategy-COP
'Cisco's business strategy is to handle those sales, and by doing so they make a profit.'
e .yueni Cisco-wa tsuneni saisentan-no
therefore Cisco-TOP constantly cutting.edge-GEN
business-model-o hyōbōdekiru-yō
business-model-ACC advocate-in.order.to
f. mizukara henka-o tsuzuketeki-ta
by.themselves change-ACC continue-PAST
'Therefore, Cisco continues to change from the inside, in order to constantly adapt to cutting-edge business models.'

(Imamura 2016, 46)

In sum, it is conceivable that scrambling is a discourse-driven phenomenon. With regard to OSV, it has been proposed that scrambling is pertinent to topic shift from the scrambled object to the subject.

Postposing

Postposing is a word order variation which involves postverbal elements. Although Farmer (1984) argues that lexically governed phrasal constituents cannot appear to the right of the verb as shown in (Farmer 1984, 32) (6), it is common to find constituents following the verb in a matrix clause (Fujii 1991; Hinds 1983; Simon 1989; Seraku 2015; Seraku and Ohtani 2016; Shimojo 2005, 2006; Takami 1995). In fact, the acceptability of (6a) is dramatically improved when the verb is accompanied by a copula *da* as shown in (6b). Note that the primary difference between (6a) and (6b) is the existence of the copula *da*[1]. This contrast clearly demonstrates that the existence of the copula operates powerfully upon the acceptability of postposing. The reason why (6b) is much better than (6a) is that the postposed elements are 'transparent' when they are followed by the copula *da* (Hudson 1993, 10).

(6) a.*Mary-ga tabe-ru, okashi-o.
Mary-NOM eat-NONPAST sweets-ACC
'Mary eats sweets.'
b. Mary-ga tabe-ru-n-da, okashi-o.

[1] Another difference between (6a) and (6b) is the existence of the nominalizer *n*. It should be noticed that *n* in (6b) is a conjugated form of *no*.

Mary-NOM eat-NONPAST-NOMI-COP sweets-ACC
'Mary eats sweets.'

(adapted from Farmer 1984, 32)

In syntax, it has been observed that any preverbal constituent can be moved from its canonical position toward the post-predicate position (Kuno 1978; Simon 1989; Seraku 2015; Seraku and Ohtani 2016). In particular, Simon (1989) states that "one noteworthy feature of postposed sentences is that virtually any constituent can appear in postverbal position; for example, NP, PP, AP, AdvP, demonstrative and conjunction, and a combination thereof" (Simon 1989, 6). Example (7) illustrates that any type of constituents can be postponed. It should be noticed that (7a) is the canonical word order sentence without postposing and other examples exemplify that postposing is possible for a variety of constituents. To be more concrete, the object *Chopin* is postposed in (7b), the subject *Ken* is postposed in (7c), and the adverb *kino* 'yesterday' is postposed in (7d).

(7) a. Ken-ga kinō Chopin-o hii-ta-yo.
Ken-NOM yesterday Chopin-ACC play-PAST-FP
'Ken played Chopin yesterday.'
b. Ken-ga kinō hii-ta-yo Chopin-o.
Ken-NOM yesterday play-PAST-FP Chopin-ACC
'Ken played Chopin yesterday.'
c. kinō Chopin-o hii-ta-yo Ken-ga.
yesterday Chopin-ACC play-PAST-FP Ken-NOM
'Ken played Chopin yesterday.'
d. Ken-ga Chopin-o hii-ta-yo kinō.
Ken-NOM Chopin-ACC play-PAST-FP yesterday
'Ken played Chopin yesterday.'

(Simon 1989, 2)

With regard to functional aspects, several studies maintain that postposed constituents are less important than preverbal ones (Kamio and Takami 1998; Maynard 1989; Shimojo 1995, 2005; Simon 1989; Takami 1995). In particular, Maynard (1989) claims that "when a speaker introduces two pieces of totally new information which are neither familiar nor easily deducible, one may be chosen to be postposed simply because the piece of information the postposed element bears is not considered as important or relevant as the other" (Maynard 1989, 35). On the other hand, Simon (1989) argues that postposed constituents "are simply results of important or urgent information coming to the speaker's mind first and thus being vocalized first, especially under time pressure" (Simon 1989, 189). In other words, postposing is a by-product of the Important Information First principle. It should be noted here that Maynard's and Simon's analyses are two sides of the same coin. The former focusses on the fact that postposed elements are unimportant information whereas the latter shines light on the fact that non-postposed elements are important information. In either case, postposed elements tend to be less important than other elements, as proposed by Takami (1995, 228). Let us illustrate this proposal by

looking at example (8). In (8a), the postposed *wh*-phrase, *nani-o* 'what', results in an unacceptable sentence. It should be noted that the *wh*-phrase is the focus of a sentence and other elements are the presupposition. This means that the *wh*-phrase is more important than other constituents. Hence, *nani-o* is considered to be the most important information of the sentence. (8a) is unacceptable because the *wh*-phrase *nani-o* is postposed in spite of the fact that it is the most important information of the sentence. In contrast, in (8b), the postposed object, *sono hon* 'that book', results in an acceptable sentence. It should be noted that the postposed object is marked by the topic marker *WA* and works as the theme of (8b). This signifies that the postposed constituent is a topic and is not the focus of the sentence. Taken together, (8b) is acceptable because the postposed object is not the most important information.

(8) a.* kimi-wa tabe-ta-n-desu-ka? nani-o
you-TOP eat-PAST-NOMI-COP-Q what-ACC
'What did you eat?'

b. mō yomi-mashi-ta-yo sono hon-wa
already read-HON-PAST-FP that book-TOP
'I've already read that book.'

(Takami 1995, 227)

Although Takami's generalization can account for the difference in the acceptability between (8a) and (8b), Hinds (1982) points out that postposed elements can be important information. To be more concrete, he claims that the postposed element can be important information when its function is i) the resolution of ambiguity i.e. information is added because the hearer may not be able to understand the intended message without the information presented at the postposed positions and ii) the emphasis; i.e., the postposed element is recoverable from the discourse context, but the speaker postposes it in order to place some sort of emphasis on the utterance. Let us have a look at (9) and (10) in order to illustrate the above two functions. In (9e), the postposed subject *hondana* 'bookcase' cannot be deleted because the speaker needed to specify the referential ambiguity caused in the context. Without clarifying the referent of the subject, the hearer cannot judge whether the speaker refers to the *keyboard* or the *bookcase*. In this sense, the postposed element complements the information conveyed by the pre-predicate constituents. Therefore, *hondana* is considered to be important information in (9e). Next, in (10), the postposed element is modified by the demonstrative *ano* 'that'. In this context, the demonstrative *ano* emphasizes the value of *Harvard University*, implying that *Harvard* is a very famous and good university. Under this context, the postposed element is emphasized and thus important information.

(9) a. watashi-Ø hondana-Ø hoshikat-ta-n-da-yo-ne
I-Ø bookcase-Ø want-PAST-NOMI-COP-FP-FP
'I wanted a bookcase.'

b. Ø kībōdo-ga hoshikat-ta-no?
(you) keyboard-NOM want-PAST-Q
'Did (you) want a keyboard?'

c. Ø nakat-ta-no
(they) exist-PAST-IT
'There were no (bookcases).'
d. a-Ø nakat-ta-no?
oh (it) exist-PAST-Q
'Oh, there were no (keyboards)?'
e. ikko-mo nakat-ta-no hondana-ga
one.thing-even exist-PAST-IT bookcase-NOM
'There was not a single bookcase.'

(Shimojo 2005, 213)

(10) Taro-wa ukat-ta-n-da ano Harvard-daigaku-ni
Taro-NOM pass-PAST-NOMI-COP that Harvard-university-DAT
'Taro was accepted by the Harvard University.'

It should be emphasized here that Takami's proposal disagrees with Hind's proposal with respect to the importance of postposed constituents; the former contends that postposed constituents are unimportant information whereas the latter claims that the postposed constituents are important information. This contradiction may derive from the difference in the definition of postposing. Many studies point out that there are two kinds of postposing (Clancy 1982; Ono and Suzuki 1992; Seraku 2015; Seraku and Ohtani 2016; Simon 1989; Shimojo 1995, 2005). The first type is labelled as *non-pause type* of postposing, which does not contain a noticeable pause between the verb and the postposed element. The second type is called *pause type* of postposing, where the speaker puts a noticeable pause between the verb and the postposed constituent. Several studies argue that the usage of *afterthought* is pertinent to pause type postposing (Shimojo 2005; Simon 1989; Shibatani 1990). Simon (1989) asserts that "an afterthought analysis may be well-motivated in cases in which a considerable pause intervenes between the verb and the postverbal element so that there is sufficient time for the speaker to reflect on the statement he/she originally makes or to monitor the hearer's reaction" (Simon 1989, 43). Note that the speaker performs pause type postposing after deliberating on his or her statement. Thus, the added element is expected to be needed for some reason and thus important information under the context. With respect to non-pause type postposing, Shimojo (2005) summarizes the main functions as shown in (11). The idea of (11a) and (11b) was first proposed by Kuno (1978), who alleged that postposed elements are i) recoverable from discourse context, but repeated later for the confirmation of the message; or ii) supplementary information (Kuno 1978, 68). Moreover, Simon (1989) supports the idea stated in (11c). Considering (11) in terms of importance, non-pause type postposing correlates with non-important information[1] and non-urgent information. To summarize the above discussion, it is conceivable that pause type postposing correlates with important information while non-pause type postposing correlates with unimportant information. This proposal

[1] Because postposed elements without a noticeable pause can be recoverable from the context, and may therefore be omitted without creating ambiguity.

can account for the discrepancy between Takami's analysis and Hind's one.

(11) a. Recoverability
Post-predicative phrases represent recoverable information such that the information does not need to be overtly present in the utterance.
b. Deducibility
Post-predicative phrases represent deducible information such that the omission of the information does not cause interference with the flow of discourse.
c. Urgency / relevance
Urgent or immediately relevant information is presented first, which results in postposing of other information.

(Shimojo 2005: 216)

Under the framework of the Givōnian approach, Shimojo (2005) proposes the property of postposed constituents in non-pause type postposing as stated in (12). It should be noted that this generalization does not hold of pause type postposing because Shampoo's data does not include postposed elements with a noticeable pause. The unique property of (12) is that the usage of postposing is germane to cataphoric defocusing of the postposed constituent. Cataphorically defocused referents are unlikely to be carried over to subsequent utterances. With regard to the definition of defocusing, Shimojo (2005) states that "defocusing is the process of deactivating a referent in one's cognitive focus of attention. Defocusing of a referent occurs if there is no longer focusing of the referent" (Shimojo 2005, 18). His proposal agrees with Takami's analysis in the sense that postposed elements are defocused and thus unimportant in the cataphoric context.

(12) The post-predicative encoding of arguments
The information encoded in post-predicative arguments is unimportant such that the information is defocused in the cataphoric context

(Shimojo 2005, 224)

Let us illustrate the proposal shown in (12) by citing example (13). Note that (13l) comprises the postposed element *Zidane*, who was the topic of the discourse before (13l) because he had been referred to repeatedly in the preceding utterances. Particularly, he was mentioned in (13a), (13c), (13e), (13f), (13h), and (13l). Yet, he disappeared from the discourse after the postposing. In fact, the sentences following (13l) do not make mention of *Zidane* at all. In other words, *Zidane* was defocused in (13l) because *he* was postposed. In consequence, there occurred a clear topic shift from *Zidane* to *Korea* after (13l).

(13) a. Ø nijūkyū Kazu-san-to issho-da-ne
(he) 29 Kazu-Mr.-as same-COP-FP
'(Zidane) is 29..., Mr. Kazu's (age).'
b. a honto sokka
oh true I.see
'Oh, right, I see.'

c. Ø nijūkyū-da-kara mada
(he) 29-COP-because still
'Because (Zidane) is still 29.'
d. tsugi sanjūsan
next 33
'33 years old next time (i.e. next World Cup).'
e. Ø maa ōgosho-da-yo-ne
(he) F seasoned.player-COP-FP-FP
'(Zidane) will be a seasoned player.'
f. Ø ōgosho-de ike-nai koto-wa
(he) seasoned.player-by can.go-NEG NMZ-TOP
g. nai-kedo
exist-NEG-but
'It's not impossible that (Zidane) will go (to the World Cup) as a seasoned player.'
h. demo Zidane-ga anmari deshabacchau-to
but Zidane-NOM too.many play.important.roles-if
'But if Zidane plays too many important roles.'
i. Furansu-wa nobi-naku-naru-yone
France-TOP grow-NEG-become-FP
'France won't grow.'
j. soo da nee
so COP IT
'Right.'
k. akirakani nee
obviously IT
'Obviously.'
l. daka sore-Ø wakatte-n-janai? Zidane-Ø
so that-Ø understand-NMZ-COP.NEG Zidane-Ø
'So, doesn't Zidane know that?'
m.sokka Ø wakate sodate-nai-to
I.see (it) young.player raise-NEG-if
'I see, unless (France) raises young player…'
n. ato-wa ko Korea
rest-TOP FRG Korea
'And then…Korea.'
o. mondai-wa Koriya
matter-TOP Korea
'Korea is the matter.'

(Shimojo 2005:215)

In sum, there are two types of postposing: pause type postposing and non-pause type postposing. The former is considered to be relevant to important information whereas the latter is expected to be pertinent to unimportant information. Furthermore, Shimojo (2005) proposed that postposed elements without a pause

tend to be cataphorically defocused. Taken together, non-pause type postposing is tied to unimportant information because postposed elements are defocused.

Givōnian Approach

The first thing I should note here is that the definition of givenness has been controversial for many years. Actually, givenness has been defined in many ways such as shared knowledge, saliency, predictability, or recoverability (Chafe 1976; Kuno 1972 & 1978; Lambrecht 1996; Prince 1981). The main issue related to these definitions is that they are to some degree subjective. There are many cases where it is difficult to judge whether the hearer 'could have predicted', 'knows or can infer', or is 'conscious of' the referent in a sentence. Consequently, it is difficult to determine the degree of givenness of a referent. In order to solve this problem, Givōn (1983, 1988, 1990 & 1994) developed a new approach by taking only texts into consideration. Although Givōn (1990) shares the view that given information is assumed by the speaker to be 'accessible' to the hearer, he indicates that it is hard to measure or quantify givenness directly (Givōn 1990, 897). Therefore, he makes an attempt to measure givenness indirectly from the text instead of calculating givenness on the basis of the mental states of participants in the discourse. His approach is a specific implementation of the view that given information can be equated with high referential accessibility within the text. The core intuition around what it means for a referent to represent given information is that the referent is already entailed by the discourse: the referents made mention of in the preceding text are regarded as given information. The advantage of the Givōnian approach is that the method of counting is explicit and unmistakable and the results of analyses are easily reproducible. Indeed, two important concepts; i.e., Referential Distance (RD) and Topic Persistence (TP) are well-recognized measurement that are implementable without difficulty and their employment renders the results of the analysis reproducible.

(14) a. Referential Distance
The number of clauses to the last occurrence in the preceding discourse;
b. Topic Persistence
The number of recurrences of the referent in the subsequent 10 clauses
(adapted from Givōn 1988, 248).

As exemplified by the formal definition of RD and TP in (14), RD calculates the anaphoric saliency of a referent whereas TP measures the cataphoric aspects of a referent. The basic insight behind RD is that

> *"[If] a topic is indefinite and thus introduced for the first time, it is maximally difficult to process, by definition, since a new file has to be opened for it. If a topic is definite and returns to the register after a long gap of absence, it is still difficult to process. The shorter is the*

gap of absence, the easier is topic identification; so that a topic that was there in the preceding clause is by definition easiest to identify and file correctly"

(Givōn 1983, 11)

As for the concept of TP, it assesses cataphoric importance by calculating 'how long a referent *persists* once it had been introduced' (Givōn 1988, 248). On the basis of the cognitive correlation between text continuity and mental accessibility, RD and TP can measure topicality in terms of the co-occurrence of the entity in its particular discourse domain.

According to Shimojo (2005), RD is a reflection of *saliency* (15) because "what this measurement suggests is the level of activation of a particular referent in one's consciousness".

(15) Saliency

A referent is *salient* if it continues to be activated in one's cognitive focus of attention. Continued activation of a referent occurs if there is recurrent focusing of the referent

(Shimojo 2005, 17).

Additionally, he states that

"Information becomes activated and deactivated in one's cognitive attention. When a speaker refers to a particular referent in conversation, the referent becomes activated in the hearer's consciousness. As the hearer, and also the speaker for this matter, processes information represented by the subsequent utterances, that particular referent activated moments ago decays in activation. Thus, other things being equal, a referent whose RD is 1 may be considered to be more activated than a referent whose RD is 20 at the given point of discourse"

(Shimojo 2005, 71-2).

With respect to TP, this concept seems to reflect *focusing* (16) and *defocusing* (17). Shimojo (2005) claims that "focusing is a mechanism to select a particular piece of information to pay attention to; hence, the information being selected for focusing is in one's cognitive attention" (Shimojo 2005, 16).

(16) Focusing

Focusing is the process of activating a referent in one's cognitive focus of attention regardless of the activation status of the referent in the preceding context. Focusing includes the process in which a referent is rendered activated by way of association with another referent which has been activated

(Shimojo 2005, 17).

(17) Defocusing

Defocusing is the process of deactivating a referent in one's cognitive focus of

attention. Defocusing of a referent occurs if there is no longer focusing of the referent

(Shimojo 2005, 17).

Furthermore, Imamura (2016) states that

> *"If a referent is focused, it will remain activated in the cataphoric context. This is because activated referents tend to stay activated upon shifting the focus of attention to other referents. Therefore, focused referents naturally have high TP values. In contrast, if a referent is defocused, it will be deactivated in one's cognitive attention. Deactivated referents normally disappear from the discourse and are unlikely to be mentioned in the subsequent context. As a general tendency, defocused referents are inclined to have low TP"*
>
> (Imamura 2016, 46).

To summarize the above discussion, RD mirrors saliency and TP is a reflection of focusing and defocusing. In the next section, let us consider scrambling and non-pause type postposing in terms of saliency, focusing, and defocusing.

The Asymmetric Distribution of Moved Elements

Imamura (2016) found that scrambled objects in OSV are usually intermediately salient, but cataphorically defocused. This is because the scrambled object is inclined to have intermediate RD and low TP. In the same way, Shimojo (2005) observed that postposed elements tend to be intermediately salient, but cataphorically defocused. This is because postposed elements tend to have intermediate RD and low TP. These facts signify that scrambling is similar to postposing in terms of anaphoric saliency and cataphoric defocusing; moved referents are intermediately salient, but cataphorically defocused. In other words, scrambled or postposed elements tend to have antecedents in the preceding discourse, but then disappear from the succeeding discourse.

Yet, I claim that the choice between postposing and scrambling is not completely optional. First, Shimojo (2005) observed the asymmetric distribution regarding postposed elements in terms of grammatical functions Shimojo (2005, 202). To be more concrete, there was a strong bias toward avoiding postposed accusative objects. It should be noted that it is grammatical to postpose accusative marked objects, as exemplified in (18). However, there were no postposed *O*-marked objects in Shimojo's data.

(18) boku-wa koroshiteshimat-ta-n-da, koibito-o.
I-TOP kill-PAST-MONI-COP lover-ACC
'I killed my lover.'

(Kamio & Takami 1998, 156)

Second, Saito (1985) proposes that subjects cannot be scrambled at all. To begin with, a numeral quantifier must be adjacent to its host NP. Next, a numeral quantifier can be connected with the NP via the trace, as illustrated by (19).

Although *John* intervenes between the direct object *sake* and the quantifier *sanbon* 'three bottles', (19) is completely acceptable. It should be noted that the scrambled object *sake* leaves its trace at the in-situ position. Hence, the quantifier *sanbon* can modify its host NP *sake* because it is adjacent to the trace of *sake*.

(19) sake$_i$-o John-ga sanbon t_i motte-ki-ta.
sake-ACC John-NOM 3. bottle with-come-PAST
'John came with three bottles of sake.'

(Saito 1985, 212)

Considering the above observation, let us have a close look at (20). There is no problem with the interpretation of (20a) because it is a canonical word order. (20b) is also grammatical because the floating quantifier *sannin* 'three people' is adjacent to its host NP *gakusei* 'student'. In the same way, if the subject *gakusei* were scrambled to the beginning of the sentence in (20c), the sentence would be grammatical because the floating quantifier *sannin* is adjacent to the trace of *gakusei*. Yet, (20c) is a completely unacceptable sentence, which indicates that scrambling does not occur in (20c). This fact also suggests that scrambling is not permitted for the subject. Saito's observations at least partly support the view that scrambling is generally inconsistent with subjects in Japanese.

(20) a. sannin-no gakusei-ga sake-o non-deiru.
3.person-GEN student-NOM sake-ACC drink-PROG
'Three students are drinking sake.'
b. gakusei-ga sannin sake-o non-deiru.
students-NOM3. person sake-ACC drink-PROG
'Three students are drinking sake.'
c.*gakusei-ga sake-o sannin non-deiru.
students-NOM sake-ACC 3.person drink-PROG
'Three students are drinking sake.'

(Saito 1985, 211)

In terms of grammatical functions, postposing avoids direct objects in actual discourse although the resulting structure is grammatical. The source of bias toward subjects in postposing can be accounted for by presupposing that scrambling is not as costly as postposing. First of all, subjects cannot be scrambled in many cases. In (21), for example, the subject of a simple SOV sentence *Hiroki* cannot be scrambled because there is no landing site left of the subject.

(21) Hiroki-ga sake-o non-deiru.
Hiroki-NOM sake-ACC drink-PROG
'Hiroki is drinking sake.'

It should be noted that subjects are anaphorically salient and cataphorically focused in SOV (Imamura 2016; Shimojo 2005). Thus, when the speaker/writer would like to cataphorically defocus the subject, he or she needs to utilize postposing because scrambling cannot be made use of. By contrast, scrambling is

usually selected for direct objects instead of postposing because scrambling is preferable to postposing, and so there is no need to take advantage of postposing. In consequence, the speaker/writer is expected to avoid postposing direct objects.

A question arises here: Why is scrambling not as costly as postposing? One explanation is a syntactic one. According to Fukui (1993), the cost of a movement should be determined by the Parameter Value Preservation (PVP), which is stipulated as (22). Note that parameter signifies head-parameter in (22). The PVP states that it is costless to move a certain element when the resulting structure is consistent with the parameter value for the individual language. Since Japanese is a head-final language, leftward movements are expected to be costless whereas rightward movements are considered to be costly. Indeed, Fukui (1993) explicitly states that "In Japanese leftward movement of an object needs not have any driving force and can be optional, whereas rightward movement does need some grammatical factor that makes it forced (or obligatory)" (Fukui 1993, 402).

(22) The Parameter Value Preservation (PVP) Measure
A grammatical operation (Move-α, in particular) that creates a structure that is inconsistent with the value of a given parameter is costly in that language, whereas one that produces a structure consistent with the parameter is costless
(Fukui 1993, 402).

It should be noted that scrambling is a leftward movement while postposing is a rightward movement. Thus, if the PVP is correct, scrambling will be a costless movement while postposing will be a costly movement. Although the PVP is too strict because the processing cost of scrambling is higher than that of the canonical counterpart (Chujo 1983; Imamura, Sato, & Koizumi 2014, 2016; Koizumi & Tamaoka 2010; Tamaoka et al. 2005), it is conceivable that scrambling is not as costly as postposing. If so, scrambling is more desirable than postposing in terms of processing costs. This may be the reason why scrambling is selected instead of postposing for anaphorically salient and cataphorically defocused accusative objects in SOV.

Another explanation about the asymmetric distribution between scrambling and postposing counts on the violation of Information Flow Principle (IFP), which is defined in (23).

(23) Information Flow Principle (IFP)
In principle, words in a sentence are arranged in such a way that those that represent old, predictable information come first, and those that represent new, unpredictable information last
(Kuno 1978, 54).

Recall that moved elements tend to be given information both in scrambling and postposing (Imamura 2014, 2015, 2016, 2017a, b; Imamura, Sato, & Koizumi 2014, 2016; Ishii 2001; Kuno 1978, 1995; Seraku 2015; Shimojo 1995 & 2005). However, scrambling is different from postposing in that the former is a leftward movement while the latter is a rightward movement. Therefore, if given information is scrambled, the resulting structure follows given-new ordering and obeys IFP. On the

other hand, if given information is postposed, the resulting structure does not follow given-new ordering and does not observe IFP. This contrast anticipates that scrambling is less penalized than postposing due to Kuno's Markedness Principle for discourse rule violations, which is shown in (24).

(24) Markedness Principle for Discourse-rule Violations
Sentences that involve marked (or intentional) violations of discourse principles are unacceptable. On the other hand, sentences that involve unmarked (or unintentional) violations of discourse principles go unpenalized, and are acceptable

(Kuno 1987, 212).

This principle predicts that unmarked options can violate discourse rules without penalty whereas marked options are penalized when they violate discourse rules. What I should note here is that scrambling and postposing are marked options in the sense that they are not canonical word orders. Therefore, both options are expected to be sensitive to the violation of IFP. Recall that scrambling follows IFP while postposing does not. Taken together, scrambling is preferable to postposing from the viewpoint of information structure. It should also be noted that scrambling competes with postposing in terms of information structure because moved elements are anaphorically salient and cataphorically defocused both in scrambling and postposing. This may lead to the low frequency of postposed accusative objects because scrambling is preferable to postposing whenever the former can be utilized.

To summarize the above discussion, both syntactic and functional accounts can deal with asymmetric distribution between scrambling and postposing in terms of grammatical functions. Scrambling is preferable to postposing due to syntactic and functional reasons. This leads to the connection between scrambling and accusative objects and the one between postposing and subjects.

Conclusion

The present article explores the cause of the asymmetric distribution between scrambling and postposing. To be more concrete, the main theme of this article is to reveal the reason why the frequency of postposed accusative objects is very low although it is grammatical to postpose direct objects. In order to provide a solution to this issue, I suggest that scrambling is not as costly as postposing. From a syntactic viewpoint, Fukui (1993) proposes that leftward movements are not as costly as rightward movements in Japanese. It should be noted that scrambling is a leftward movement while postposing is a rightward movement. Taken together, scrambling is expected to be less costly than postposing in terms of syntax. From the viewpoint of information structure, scrambling is preferable to postposing in the sense that the former obeys given-new ordering whereas the latter violates it. It should be noted that Kuno's Markedness Principle for Discourse-rule Violations stipulates that marked options are sensitive to discourse contexts. Since word order changes are marked, moved elements are expected to be sensitive to discourse contexts. Taken together, scrambling is more desirable than postposing due to functional reasons. In sum, two explanations predict that scrambling is not as costly

as postposing. Next, it should be noted that scrambling is functionally similar to postposing: moved constituents tend to be anaphorically salient but cataphorically defocused, as observed by Imamura (2016) and Shimojo (2005) under the framework of Givōn (1983, 1988, 1990 & 1994). Thus, scrambling functionally vies with postposing when word order change is utilized in order to mark the specific discourse function. Recall that scrambling is not as costly as postposing. Taken together, scrambling is more preferable than postposing whenever it is possible to scramble the anaphorically salient, but cataphorically defocused element. Furthermore, scrambling can be utilized for the direct object, but not for the subject in SOV. Therefore, postposing must be made use of instead of scrambling in order to defocus the subject of SOV. In contrast, scrambling is dominantly used in order to defocus the accusative object in SOV because it is a preferable option. This analysis leads to the conclusion that the frequency of postposed accusative objects is very low because scrambling is preferable to postposing with respect to the accusative object. However, the complementary distribution between scrambling and postposing is susceptible of various interpretations. Although the present study points out syntactic and functional possibilities, it is conceivable that another explanation can deal with the asymmetric distribution more efficiently. Further studies are needed in order to disentangle this issue.

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درباب توزیع نامتقارن قلب نحوی و پسایندسازی در زبان ژاپنی

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زبان ژاپنی انعطاف‌پذیری زیادی را درارتباط با آرایش جمله از خود نشان می‌دهد. ازاین‌رو، نه‌تنها SOV؛ بلکه OSV (قلب نحوی) و SVO (پسایندسازی) نیز دستوری به‌حساب می‌آیند. برحسب نقش گفتمانی، شباهت‌هایی بین قلب نحوی و پسایندسازی (ازنوع بدون مکث) وجود دارد. طبق نظر ایماموراً (۲۰۱۶) و شیموجو (۲۰۰۵)، مفعول‌های قلب‌شده و اجزای پسایندشده ازنظر پیش‌ارجاعی برجسته هستند؛ ولی ازنظر مرجع پسایند غیربرجسته هستند. بااین‌وجود، شیموجو (۲۰۰۵) هیچ مثالی را با مفعول پسایندشده مشاهده نکرد. به‌منظور تبیین این جهت‌گیری، نگارنده به دو دلیل قلب نحوی را به‌اندازه‌ی پسایندسازی به‌صرفه نمی‌داند: ۱. قلب نحوی از الگوی ترتیبی اطلاعات جدید-قدیم پیروی می‌کند؛ درحالی‌که پسایندسازی از این الگو پیروی نمی‌کند و ۲. حرکت‌های راستگرد در زبان ژاپنی بیش‌تراز حرکت‌های چپگرد به‌صرفه هستند (فوکوی ۱۹۹۳). بنابراین، انتظار می‌رود هنگامی‌که نمی‌توان از قلب نحوی استفاده کرد، پسایندسازی انتخاب شود. زیرا در SOV قلب نحوی را می‌توان برای مفعول و نه برای نهاد استفاده کرد؛ اما اغلب پسایندسازی را برای نهاد استفاده می‌کنند.

واژه‌های کلیدی: قلب نحوی، پسایندسازی، تحلیل گفتمان، ژاپنی، رویکرد گیوونیان.

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