The Syntactic Structure of Japanese Partitives and the *Either/or* Construction*

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This paper focuses on Japanese partitives and a construction involving disjunction, A ka B no dottika *(the Japanese counterpart of the English* either/or *construction). This construction has never been treated as a partitive construction but shows properties of partitives. The paper investigates the syntactic structure of the constructions and claim that both constructions can be explained by proposing a structure in which both the "whole" and the "part" project a Determiner Phrase (DP) independently and the whole DP is in the Specifier position of the part DP. The present proposal also explains some restrictions on the word order of the constructions.*

Keywords: partitives, the either/or *construction, DP structure*

1. Introduction

1.1. Introduction

This paper focuses on Japanese partitives in (1a) and a construction involving disjunction, *A ka B no dottika* (the counterpart of the English *either/or* construction), in (1b). The construction in (1b) has never been treated as a partitive construction but shows properties of partitives. The paper aims to investigate the syntactic structure of the constructions. Peculiar restrictions on the possible word order of the construction are introduced, and I show that they can be accounted for by adopting the multiple functional layers in DPs proposed by Watanabe (2006) and positing DP-internal movement.[1]

(1) a. Taro-wa tosyokan-no hon-no #(uti-no) san-satu-o yonda. (partitives)[2]
T-Top library-Gen book-NO out-of three-Cl-Acc read
'Taro read three of the books in the library.'

b. Taro-wa koohii ka otya-no dottika-o nonda. (*either/or* construction)
Taro-Top coffee or tea-NO either-Acc drank
'Taro drank either coffee or tea.'

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[1] The abbreviations used in this paper are the following: Acc = Accusative, Cl = Classifier, Cop = Copula, Gen = Genitive, Nom = Nominative, Top = Topic.

[2] I mark (1a) without *uti-no* 'out of' as #, following Watanabe (2008). Although in my intuition *uti-no* 'out of' is obligatory in this sentence, some speakers feel that it is optional.

Let me first clarify what type of construction I deal with in this paper. The Japanese counterpart of the *either/or* construction can be divided into at least two subcategories depending on what is in the Disjunction Phrase (DisjP) as the disjuncts. Specifically, the disjuncts can be common nouns/predicates as in (2a) or proper nouns/individuals as in (2b). The two types show slightly different behavior in terms of the use of the classifier and the noun that can accompany *dottika* 'either.' In the subsequent discussion, I mainly use examples with common noun disjuncts since they are less restricted, though examples with proper noun disjuncts will occasionally be referred to.

(2) a. Taro-wa koohii ka otya(-no dottika)-o nonda.
Taro-Top coffee or tea-NO either-Acc drank
'Taro drank either coffee or tea.'

b. Taro-wa LGB ka MP(-no dottika)-o yonda.
T-Top LGB or MP-NO either-Acc read
'Taro read either LGB or MP.'

I also clarify what I call "partitives" in this paper. This is necessary since in Japanese, the same sentence can have both a partitive, part-whole interpretation and a non-partitive, modifying interpretation, as we will observe later on. The definition of partitives I take here is a semantic one, proper partitivity between the "part" and the "whole", following Barker (1998).[3] Barker (1998) gives the semantic definition in (3) for *of*.

(3) $[\![\textit{of}_{\text{PART}}]\!] \equiv \lambda x.\ \lambda P.\ \lambda y.\ [P(y) \wedge y < x]$ (Barker (1998: 698))

Although I leave undetermined here exactly what element in the structure in the Japanese construction has the semantics of proper partitivity, I assume in this paper that partitives, as a definition, have a proper partitivity relationship between the "part" and the "whole".

The paper is organized as follows. After going through some basic data which show that the Japanese *either/or* construction is indeed a partitive, in Section 2, I review Sauerland & Yatsushiro (2017). It is a previous study on the structure of Japanese partitives, which is based on a study on the structure of DP from the perspective of accounting for Floating Quantifiers. In Section 3, I describe my proposal for the syntactic structure of partitives in which the "part" and the "whole" each project a DP with a full internal structure based on Watanabe's (2006) claim. I then return to the Japanese *either/or* construction and show that it can be explained with the same syntactic structure for partitives in

[3] Not all researchers assume proper partitivity, however. Ionin et al. (2006), for example, claim that *of* has a semantics of improper partitivity, as in (i).
(i) $[\![\textit{of}]\!] = \lambda x.\ \lambda y.\ [y \leq x]$ (Ionin et al. (2006: 359))

Section 4. I also elucidate two restrictions on the word order of the Japanese *either/or* construction and claim that the present proposal can explain them. Section 5 concludes the paper.

1.2. Basic Data

The Japanese counterpart of the *either/or* construction shares two properties with partitives: the use of the item *uti-no* 'out of' ((4), (5)), which emphasizes the part-whole meaning and is typically used in partitives, and the possible word orders ((6), (7)) (Watanabe (2008)).

(4) Taro-wa tosyokan-no hon-no #(uti-no) san-satu-o yonda. (partitives)
T-Top library-Gen book-NO out-of three-Cl-Acc read
'Taro read three of the books in the library.'

(5) Taro-wa koohii ka otya-no (**uti-no**) dottika-o nonda. (*either/or* construction)
Taro-Top coffee or tea-NO out-of either-Acc drank
'Taro drank either coffee or tea.'

(6) a. Taro-wa tosyokan-no hon-no #(uti-no) san-satu-o yonda. (NP-*no* + *uti-no* + Q + Case)
T-Top library-Gen book-NO out-of three-Cl-Acc read
'Taro read three of the books in the library.'

b. Taro-wa tosyokan-no hon san-satu-o yonda. (NP + Quantifier + Case)

c. Taro-wa tosyokan-no hon-o san-satu yonda. (NP + Case + Quantifier)

(7) a. Taro-wa [koohii ka otya]-no (**uti-no**) dottika-o nonda. (NP-*no* + *uti-no* + Q + Case)

b. Taro-wa [koohii ka otya(,)] dottika-o nonda. (NP + Quantifier + Case)

c. Taro-wa [koohii ka otya]-o dottika nonda. (NP + Case + Quantifier)

What is more, disallowed word orders are shared by partitives and the *either/or* construction. When we compare the possible word orders of Japanese partitives in (9) with those of non-partitives (Floating Quantifiers) in (8), we notice that in partitives, placing the Quantifier (the part) before the NP (the whole) makes it impossible for the sentence to obtain the partitive reading as in (9d), while this is a possible word order for non-partitives (8c). (This word order is, as we will see in the next section, what Sauerland & Yatsushiro (2017) call "reverse partitives".) The fact suggests that even though the items used in the two constructions are very similar (NP, Quantifier, and Case particle), their structures are in fact different.

(8) Non-partitives

a. Taro-wa hon san-satu-o katta. (NP + Quantifier + Case)
T-Top book three-Cl-Acc bought
"Taro bought three books."

b. Taro-wa hon-o san-satu katta. (NP + Case + Quantifier)

c. Taro-wa san-satu-no hon-o katta. **(Quantifier + NP + Case)**

(9) Partitives

a. Taro-wa tosyokan-no hon-no #(uti-no) san-satu-o yonda.
T-Top library-Gen book-NO out-of three-Cl-Acc read
'Taro read three of the books in the library.'

b. Taro-wa tosyokan-no hon san-satu-o yonda. (NP + Quantifier + Case)

c. Taro-wa tosyokan-no hon-o san-satu yonda. (NP + Case + Quantifier)

d. # Taro-wa san-satu(-no) tosyokan-no hon-o yonda. **(Quantifier + NP + Case)**

In the *either/or* construction, too, *dottika* 'either' cannot be placed in front of the DisjP (10) unlike non-partitives (8c). The set of data reinforces the idea that the *either/or* construction is a type of partitive.

(10) ***** Taro-wa dottika(-no) [koohii ka otya]-o nonda. **(Quantifier + NP + Case)**
Taro-Top either-NO coffee or tea-Acc drank

Further, notice that we can replace the DisjP with an NP as shown in (11). This makes the similarity between partitives such as (9a) and the *either/or* construction even clearer.

(11) Taro-wa futa-tu-no nomimono-no (uti-no) dottika-o nonda.
Taro-Top two-Cl-NO drink-NO out-of either-Acc drank
'Taro drank either of the two drinks.'

From the discussion above, I take the Japanese *either/or* construction to be a type of partitive, the DisjP being the "whole" and *dottika* 'either' being the "part," and inspect the syntax of the *either/or* construction in relation to the partitive construction.

I next review Sauerland & Yatsushiro (2017), which attempt to give a syntactic analysis for the partitive construction. The study focuses on partitives with a numeral + Classifier as the "part" like the example in (4), which I call *numeral partitives* hereafter. Even though the study attempts to account for English and Japanese numeral partitives in a parallel manner, I show that the analysis faces problems when we consider data that Sauerland & Yatsushiro (2017) do not consider.

2. A Previous Study: Sauerland & Yatsushiro (2017)

2.1. Sauerland & Yatsushiro (2017)

In this section I introduce a previous study on the syntactic structure of Japanese partitives, but before that, let me go through a previous study it is based on, namely Watanabe (2006), which also is important for my analysis. Watanabe (2006) attempts to account for the behavior of non-partitive (Floating Quantifiers), whose basic possible word orders are given in (12), and derives the possible word orders from a uniform source.

(12) Non-partitives

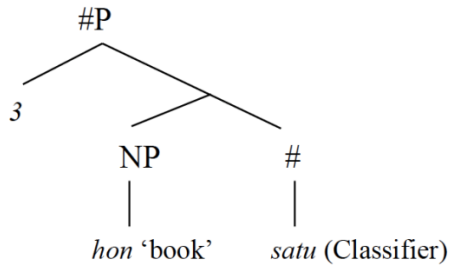
a. Taro-wa hon san-satu-o katta. (NP + Quantifier + Case)
T-Top book three-Cl-Acc bought
"Taro bought three books."

b. Taro-wa hon-o san-satu katta. (NP + Case + Quantifier)

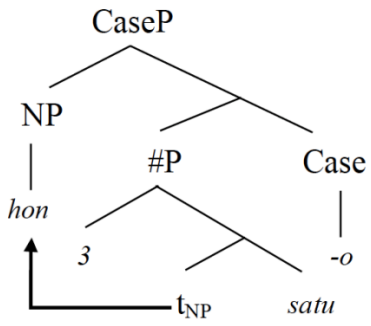
c. Taro-wa san-satu-no hon-o katta. (Quantifier + NP + Case)

Watanabe (2006) argues for a uniform underlying structure that derives the possible word orders of Floating Quantifiers in (12) through multiple applications of remnant movement. All of the word orders in (12) are derived from the uniform source (13a), in which #P is headed by a Classifier and takes an NP as its complement and a numeral in its Spec position. The order NP + Quantifier + Case (12a) is derived via obligatory movement of the NP to SpecCaseP (13b), required for Case reasons. From (13b), the order Quantifier + NP + Case (12c) is derived via optional movement of #P to SpecQP as in (13c) (according to Watanabe (2006), this movement marks the mass/count distinction). The order NP + Case + Quantifier (12b) is derived from (13c) by optionally moving the CaseP to SpecDP as in (13d) (this movement is claimed to mark non-specificity).

(13) a.

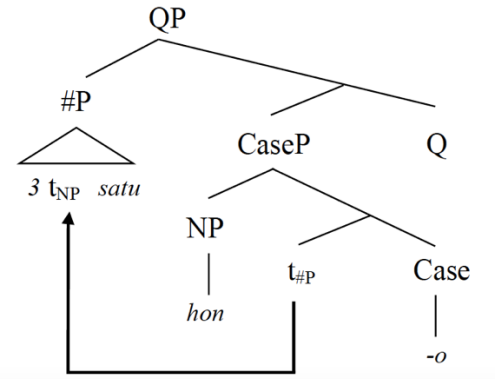


b. hon san-satu-o



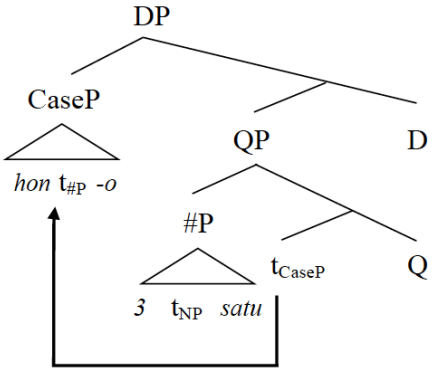
requirement of Case; obligatory

c. san-satu-no hon-o



(mass/count distinction; optional)

d. hon-o san-satu (*specific / non-specific)



(marking non-specificity; optional)

Watanabe (2006) gives examples like (14) to show that a sentence with the word order in (13d) has only the non-specific reading, giving support to his claim that the word order is derived through movement to SpecDP and there is an agreement between D and the Case head that marks specificity (he does not go into the details of the semantic process by which the non-specific reading becomes obligatory). While (14a,b) are ambiguous between the reading where John wants two specific pianos and any two pianos, (14c) has only the reading where John wants any two pianos.

(14) a. John-wa piano ni-dai-o kai-tagatta.
John-Top piano 2-Cl-Acc buy-wanted
'John wanted to buy two pianos.'
b. John-wa ni-dai-no piano-o kai-tagatta.
c. John-wa piano-o ni-dai kai-tagatta. (Watanabe (2006: 298))

With this much in mind, let us now move on to Sauerland & Yatsushiro (2017). Building on the argument made by Jackendoff (1977) for English partitives as in (15), Sauerland & Yatsushiro (2017) claim that Japanese numeral partitives also contain nouns in both a "whole" and a "part" ("unit" in their terms), either of which can be unpronounced. They claim that in addition to the typical partitive DP in (16a) (which corresponds to (15b)), (16b), which does not have the partitive interpretation and is usually not regarded as a partitive construction, is also analyzed as a partitive which corresponds to (15c). In their terminology, the first type of partitives are "plain partitives" while the second type of partitives are "reverse partitives."

(15) a. two books/things of all the books Gina has

b. two ~~books/things~~ of the books (plain partitives)

c. two books of all those ~~books/things~~ Gina has (reverse partitives)

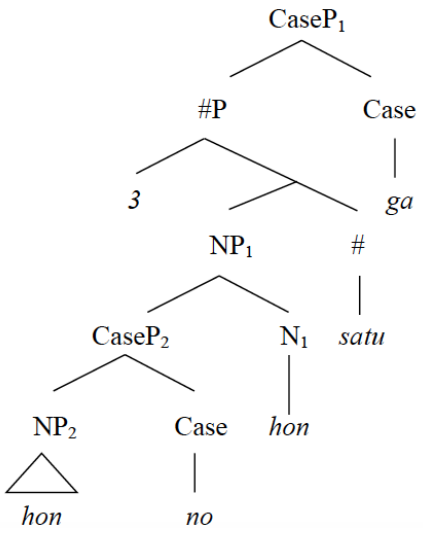
d. two ~~books/things~~ of those ~~books/things~~ (Sauerland & Yatsushiro (2017: 2))

(16) a. hon-no san-satu-ga (plain partitives)
book-NO three-Cl-Nom

b. san-satu-no hon-ga (reverse partitives)
three-Cl-NO book-Nom (cf. Sauerland & Yatsushiro (2017: 4))

Their structure and derivation of the surface form is partially based on Watanabe's (2006) derivation of the multiple word order of Floating Quantifiers and they give a uniform underlying structure of partitives in (17). In this structure, the part-whole relation is implemented by *no* (in English, the word *of*). Sauerland & Yatsushiro (2017) claim that plain partitives and reverse partitives differ from each other in that in the former the noun in the "part" is elided while in the latter the noun in the "whole" is deleted. The derivation that they claim for the two forms are shown in (18) and (19) respectively.

(17) Underlying structure



(18) plain partitives (= (16a))

a. [[hon-no hon]$_{NP}$ [san t$_{NP}$ satsu]$_{\#P}$-ga]$_{CaseP}$ (obligatory NP-movement to SpecCaseP; cf. (13b))

b. [[hon-no ~~hon~~]$_{NP}$ [san t$_{NP}$ satsu]$_{\#P}$-ga]$_{CaseP}$ ("part" noun-deletion)

(19) reverse partitives (= (16b))

a. [[hon-no hon]$_{NP}$ [san t$_{NP}$ satsu]$_{\#P}$-ga]$_{CaseP}$ (obligatory NP-movement to SpecCaseP; cf. (13b))

b. [[~~hon~~-no hon]$_{NP}$ [san t$_{NP}$ satsu]$_{\#P}$-ga]$_{CaseP}$ ("whole" noun-deletion)

c. [[san t$_{NP}$ satsu]$_{\#P}$ [~~hon~~-no hon]$_{NP}$ t$_{\#P}$-ga]$_{CaseP}$ (Q-inversion; cf. (13c))

(cf. Sauerland & Yatsushiro (2017: 17))

In both derivations, the obligatory NP movement to SpecCaseP, which Watanabe (2006) proposed in (13b), takes place as the first step. At this stage, according to Sauerland & Yatsushiro (2017), either of the two nouns inside NP can be elided: deleting the higher "part" noun derives the plain partitive sentence in (18) while deleting the lower "whole" noun results in the form in (19b). In their view, one of the advantages of taking sentences like (16b) into the paradigm of partitives is that it maintains the parallelism between English partitives and Japanese partitives in that either of the "whole" noun or the "part" noun can be elided. Although the form in (19b) as it is is ungrammatical because the suffix *-no* does not have a host to attach to, movement of #P to SpecCaseP in (19c) can solve this problem, deriving the reverse partitive form in (16b). As for the fact that (16b) does not have a partitive interpretation, Sauerland & Yatsushiro (2017) propose that the part-whole relation is vacuous in this sentence since the "whole" noun is elided and the speakers can assign any kind of unspecific noun for this position (e.g. *three books of* <u>*all the stuff in the world*</u>). In this way, they unify the *no* used in both plain partitives and reverse partitives.

Even though Sauerland & Yatsushiro (2017) attempt to make English and Japanese partitives parallel, their analysis face problems when we take a closer look at partitive data. In Section 2.2, I describe the problems and introduce a brief overview of my proposal.

2.2. Problems of Sauerland & Yatsushiro (2017)

I point out and discuss the problems for Sauerland & Yatsushiro's (2017) analysis in this section. There are roughly two issues: whether reverse partitives should be treated as partitives, and whether the proposed structure and derivation can be extended to other data.

There are several reasons to doubt whether reverse partitives are indeed partitives. First, there is a theoretical problem which exists both in the analysis of English partitives in (15) and Japanese partitives in (18). That is, eliding a phrase head does not seem to be plausible especially in terms of labeling the phrase. In the analysis of English and Japanese plain partitives in (15b) and (18), ellipsis applies to the part noun, which is the head of the part NP which takes the whole NP as its complement. How would the resulting structure be labeled as NP, or maintain the label as NP, if the head noun is deleted?

Second, if *-no* in reverse partitives is the same item as that in plain partitives and marks the

part-whole relation, we predict that it should be replaceable with *-no uti* 'out of', which emphasizes the part-whole relation, whatever its syntactic status is. This is not the case, however. As shown in (20), using *-no uti* 'out of' in reverse partitives is completely unacceptable.

(20) * san-satu-no-uti hon-ga
three-Cl-NO-among book-Nom
(intended) 'three books (of all the stuff in the world)'

Third, according to Sauerland & Yatsushiro (2017), there is a silent "whole" noun in reverse partitives, which is an unspecific noun like *mass* or *stuff*. However, this cannot be overtly realized in reverse partitives or plain partitives as described in (21).

(21) a. * san-satu mono-no hon-ga
three-Cl thing-NO book-Nom
(intended) 'three books (of all the stuff in the world)'
b. * mono-no san-satu-ga
thing-NO three-Cl-Nom
(intended) 'three (books) of (all) the things'

Also, there is little evidence that a silent "whole" noun exists between the numeral + Classifier and the "part" noun in reverse partitives. Consider (22).

(22) John-wa [Mary-ga katta] san-satu-no hon-o yonda.
John-Top [Mary-Nom bought] three-Cl-NO book-Acc read
'John read the three books that Mary bought.' (reverse partitives)
*'John read one/some of the three books that Mary bought.'
(silent "whole" with a Relative Clause) (Sauerland & Yatsushiro (2017: 18))

Sauerland & Yatsushiro (2017) observe that (22) can only have a reverse partitive reading with a part noun modified by the numeral + Classifier and a Relative Clause, not a partitive reading with a silent whole noun modified by the numeral + Classifier and a Relative Clause.[4] This is puzzling since, based

[4] In my intuition, the sentence can have a partitive reading with a silent whole noun modified by the numeral + Classifier and a Relative Clause if the silent whole noun and the part noun is not completely the same. For example, when the whole noun refers to books (as a general concept including magazines) and the part noun is a specific magazine as in (i), with a pause after *-no* the intended reading comes out. Using *-uti* 'among' makes it easier to get the reading.
(i) John-wa [Mary-ga katta] (hon) san-satu-no (-uti) zassi-o yonda.
John-Top [Mary-Nom bought] book three-Cl-NO -among magazine-Acc read

on their claim, *-no* is always the same item and the difference between the two readings emerge from the numeral + Classifier modifying the part noun or the deleted whole noun. Notice, however, that in (22) under the reverse partitive reading the whole noun is deprived of every semantic role and there is no evidence to prove its presence.

Ishizuka (2017) makes a similar point and argues against Sauerland & Yatsushiro (2004), a previous version of Sauerland & Yatsushiro (2017), by showing that the silent whole noun cannot be modified in reverse partitives as in (23) (from her (8); the silent whole noun and the projection labels are added).

(23) * [[Ni t_{NP} satu]$_{\#P}$ (no) [zyu-satu ~~hon~~-no hon]$_{NP}$ $t_{\#P}$]-o yonda.
two Cl NO ten-Cl book-NO book -Acc read
(intended) '(I) read two (of ten) books.'

Note that according to the discussion made in Sauerland & Yatsushiro (2017), the degradedness of (23) can be explained if the movement of #P (Q-inversion) is a last-resort operation and can only take place when *-no* does not have a host to attach to. However, making Q-inversion a last-resort operation gives rise to problems when we turn to other data, as we see immediately below.

The analysis of Sauerland & Yatsushiro (2017) faces an empirical problem when we try to extend it to other data that they do not consider. There are many possible movement operations that they do not discuss, so there are many sentences whose deviation is unclear according to their analysis. For instance, consider (24) and (25). (24) is unproblematic. It is a plain partitive example like (18) with a modified "whole" noun and without the "part" noun-deletion. What about (25)? We can observe from (25) that both the "whole" and "part" noun can be overt and the "part" can have the word order *san-satu-no hon-ga* 'three-Cl-NO book-Case'.

(24) Tosyokan-no hon-no kookana hon 10-satu (Sauerland & Yatsushiro (2017: 7))
library-Gen book-NO expensive book 10-Cl
'10 expensive books of the library books'

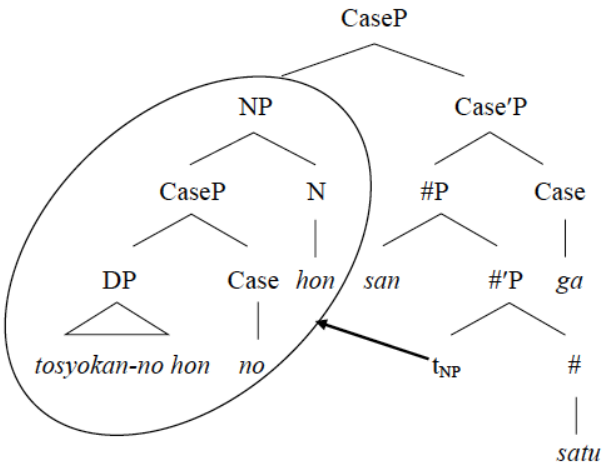
(25) Tosyokan-no hon-no (uti-no) san-satu-no hon-ga
library-Gen book-NO out-of three-Cl-NO book-Nom
'Three of the library books'

Since they only consider examples in which the "part" has the word order *hon san-satu-ga* 'book three-Cl-Case' for plain partitives, it is not clear how (25) is derived. One possibility would be

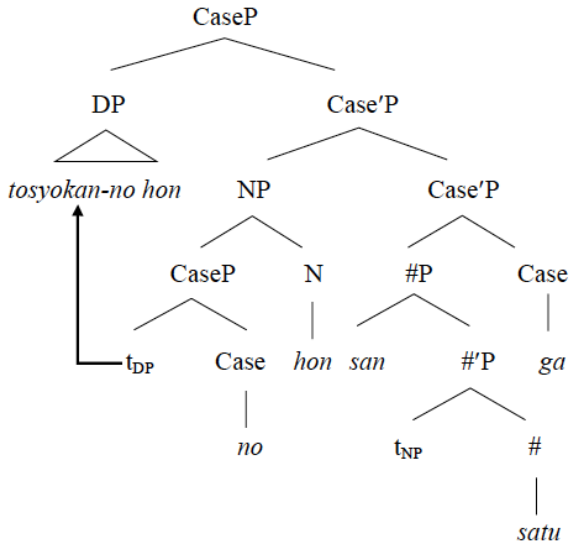
'John read a magazine out of the three books that Mary bought.'

san-satu-no hon 'three-Cl-NO book' being a reverse partitive. In this case, the derivation should proceed as in (26) to derive the word order, based on the derivation of reverse partitives in (19). What is different from the derivation of reverse partitives is that *-no* loses its host because of the movement of the "whole" DP, not the deletion of it, and that in the step of Q-inversion in (26c), #P has to tuck-in under the DP. (In this section all of the movements above the #P target SpecCaseP and CaseP has multiple Specifier positions, as Sauerland & Yatsushiro (2017) do, but in Section 3 I propose that the "part" and the "whole" DP each project a DP with multiple functional layers.)

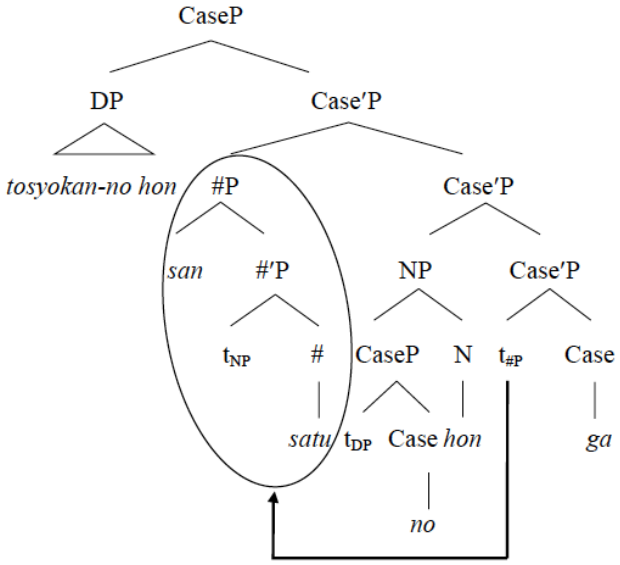
(26) a. Obligatory NP-movement to SpecCaseP



b. Movement of the "whole" DP



c. Q-inversion (Tuck-in of #P)

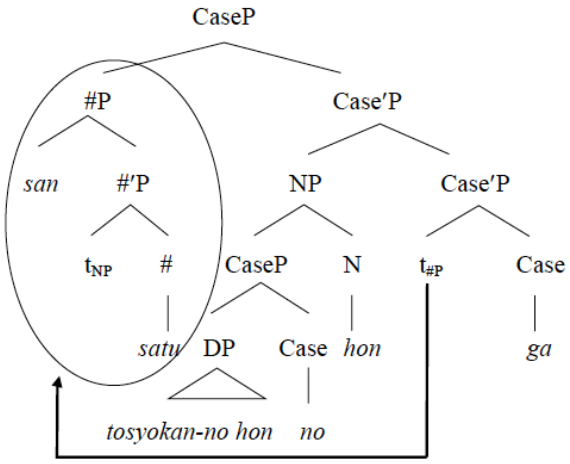


This derivation is clearly implausible. The crucial point is that the item *-no*, which marks the part-whole relation, is left between the numeral + Classifier and the part noun. Thus it is unclear how the partitive reading emerges. There is also no motivation for the movement of the #P which occurs in

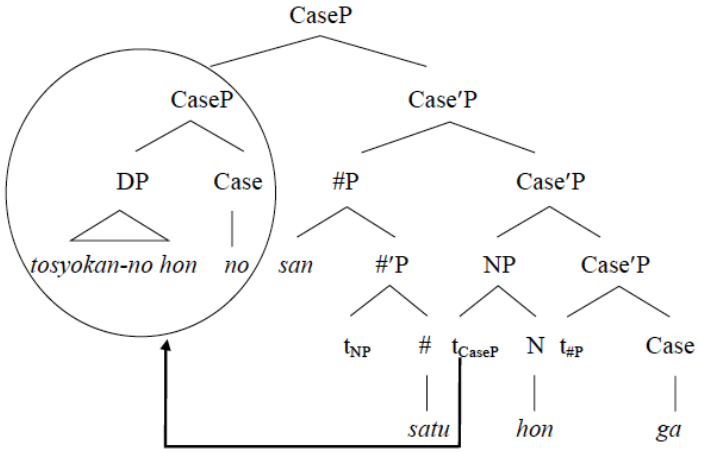
the step from (26b) to (26c). This is because there actually exists an overt item that *-no* can attach to, namely *tosyokan-no hon*.

Another possible way to derive (25) is to start from (26a) and move the #P *san-satu* and the CaseP *tosyokan-no hon-no*, rather than only the DP inside it. By moving the CaseP, the partitive reading is obtained between the part and the whole. Here, we can either move the #P first (27), or the "whole" CaseP first (28). In (27a), the #P first moves above the NP, and then the "whole" CaseP moves above that in (27b). If the "whole" CaseP moves first as in (28a), the #P has to tuck-in under it as in (28b).

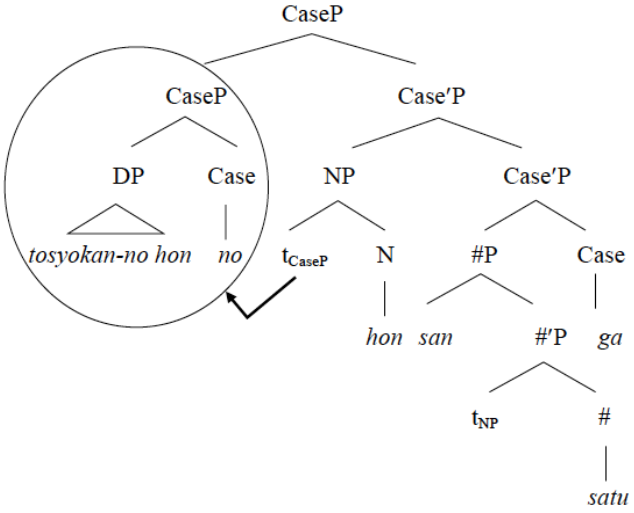
(27) a. Movement of the #P



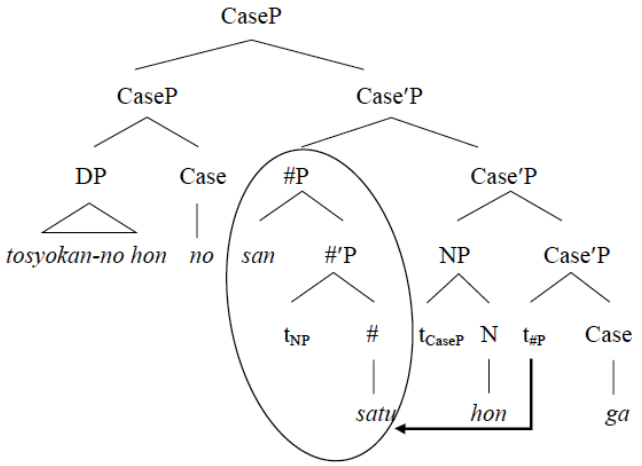
b. Movement of the "whole" CaseP



(28) a. Movement of the "whole" CaseP



b. Tuck-in of the #P



The movement of #P in (28b) reminds us of the rescue solution involved in the derivation of reverse partitives (recall the example in (23) that can be explained if this movement is a last-resort solution), but if this movement can take place freely, why cannot it take place in (18b), for example, and derive **san-satsu hon-no-ga* 'three-Cl book-NO-Acc'? The derivation in (27) does not have this problem, but the motivation for each movement is unclear.

As shown in this section, Sauerland & Yatsushiro's (2017) analysis faces problems in accounting for some numeral partitive data. In the next section, I introduce my proposal for numeral partitives in which both the part element and the whole element project a full DP. It will be shown that the structure can also be carried on to both the data in (24) and (25) above and it does not need the rescue solution for the deletion of the whole noun. The underlying form that I propose for numeral partitives is in (29), and I further propose that it is extendable to the *either/or* construction type partitives as in (30).

(29) [[Tosyokan-no hon-no]$_{DP}$ (uti-no) [san-satu(-no hon)-ga]]$_{DP}$
library-Gen book-NO out-of three-Cl-NO book-Nom
'Three of the library books'

(30) Taro-wa [[koohii ka otya-no **(futa-tu-no nomimono-no)]$_{DP}$** (uti-no) [dottika **(hito-tu-no**
Taro-Top coffee or tea-NO two-Cl-NO drink-NO out-of either 1-Cl-NO
nomimono)-o]]$_{DP}$ nonda.
drink-Acc drank
'Taro drank either (one drink) out of (two drinks) coffee or tea.'

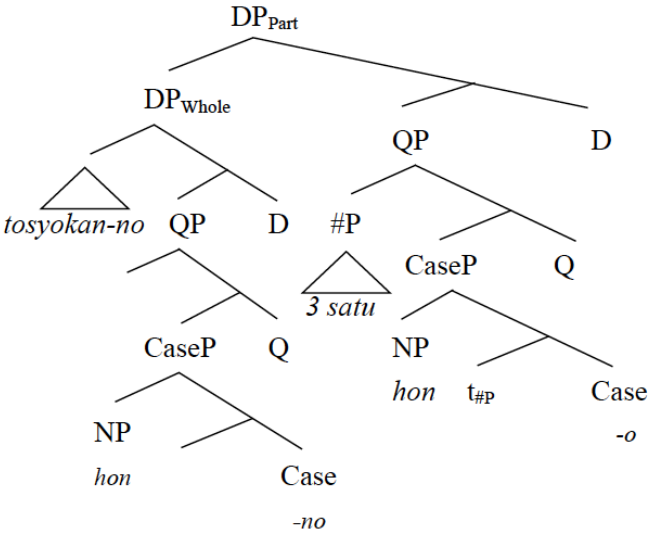
As shown in the brackets, the numerals and nouns in the whole and the part can be overt or covert if it is recoverable from the rest of the sentence. Both of them being overt is possible (although it sounds somewhat redundant) and both of them or one of them being covert is natural.

3. Proposal: The Structure of Numeral Partitives

The core of my proposal is the structure in (31). I propose that, adopting the DP-internal structure of Watanabe (2006), numeral partitives involve two DP projections and that the whole DP is in the Specifier position of the part DP as in (31). The part-whole relation is implemented by *-no*. In addition, DP-internal movement proposed in Watanabe (2006) (cf. (13b-d)) can take place in both the part DP and the whole DP independently. For example, in (31b) the obligatory movement of NP in (13b) and the optional movement in (13c) have taken place in the part DP.

(31) a. Taro-wa tosyokan-no hon-no san-satu-no hon-o yonda.
T-Top library-Gen book-NO three-Cl-NO book-Acc read
'Taro read three of the library books.'

b. Structure of (31a)



This proposal has several advantages. First, it explains the difference between (24) and (25) repeated below, which was problematic for Sauerland & Yatsushiro's (2017) analysis. In these sentences, multiple word orders are possible inside the part element since the part projects a DP and DP-internal movement can take place inside it. In (24) the obligatory movement of the NP in (13b) has taken place while in (25) the optional movement of the #P in (13c) has further taken place in the part DP. The present proposal also explains the sentences in (32), in which the whole element takes the full form with a numeral and a noun and the same kind of multiple word orders are observed, in a similar manner.

(24) Tosyokan-no hon-no kookana hon 10-satu (Sauerland & Yatsushiro (2017: 7))
library-Gen book-NO expensive book 10-Cl
'10 expensive books of the library books'

(25) Tosyokan-no hon-no (uti-no) san-satu-no hon-ga
library-Gen book-NO out-of three-Cl-NO book-Nom

(32) a. Taro-wa [$_{DP}$ [$_{DP}$ [$_{CP}$ hondana-ni atta] [$_{CaseP}$ **hon$_{NP}$** [$_{\#P}$go t$_{NP}$ satu]-no(uti-no)]]
T-Top bookshelf-on were books 5 Cl-NO out-of
[$_{CaseP}$ hon san-satu-o]] yonda.
books 3-Cl-Acc read
'Taro read three books of the five books which were on the bookshelf.'

b. Taro-wa [$_{DP}$ [$_{DP}$ [$_{CP}$ hondana-ni atta] [$_{QP}$ **[$_{\#P}$ go t$_{NP}$ satu]-no** [$_{CaseP}$ hon t$_{\#P}$ -no (uti-no)]]]
[$_{CaseP}$ san-satu-no hon-o]] yonda.

Note that, if we adopt the DP-internal structure and movement of Watanabe (2006), we predict that

(33) is derived from (32b) through movement of CaseP inside the whole DP (the movement in (13d)), but the resulting sentence (33) is unacceptable. I claim that this is because, on the assumption that phrases cannot have multiple specifiers, the whole DP needs a Relative Clause in its specifier position in order to make it a definite expression (cf. Inoue (1978)) and this Relative Clause blocks other elements from moving into SpecDP.

(33) * Taro-wa [$_{DP}$ [$_{DP}$ [$_{CP}$ hondana-ni atta] **[$_{CaseP}$ hont$_{\#P}$ -no (uti-no)]** [$_{QP}$ go-satu t_{CaseP}]] (uti-no) [$_{CaseP}$ san-satu-no hon-o]] yonda.

As we have seen in (32), it is possible to have a #P in the whole DP as well as in the part DP. I propose that in the structure in (31) the numerals and nouns in the whole and the part can be overt or covert if it is recoverable from the rest of the sentence. Both of them being overt is possible (although it sounds somewhat redundant) as in (32) and both of them or one of them being covert is natural. (The whole noun and the part noun being different common nouns is a possble option; see note 3.) I further claim that the motivation that Sauerland & Yatsushiro (2017) give for analyzing reverse partitives as a kind of partitive, namely that by doing so we keep the parallelism between English partitives and Japanese partitives in that either of the whole noun or the part noun can be elided, cannot be maintained. With the proposed structure in (31), the parallelism between English and Japanese that Sauerland & Yatsushiro (2017) are concerned about is simply derived without any movement.

Since the part element and the whole element project a DP independently in the present proposal, we predict that a whole DP does not have to be generated. I claim that reverse partitives and sentences without a partitive reading such as (34) are such examples. (Note that the surface form may be the same as the partitive examples.) Assuming that *no* inside the whole element marks the part-whole relation, we can explain the lack of the partitive reading since these sentences do not have a whole element with *-no* but only a single DP that corresponds to the part element.

(34) a Taro-wa sansatu-no hon-o yonda. (Sauerland & Yastushiro's (2017) reverse partitives)
T-Top 3-Cl-NO books-Acc read
'Taro read three books.'

b. Taro-wa hon san-satu-o yonda.

c. Taro-wa hon-o san-satu yonda.

In this section, I have laid out my proposal for numeral partitives. In the next section, I return to the *either/or* construction and claim that the proposal can be directly extended to it. I further describe restrictions on the word order of the *either/or* construction and argue that they can also be accounted for by making slight modifications to the proposed structure.

4. Extending the Analysis to the *Either/Or* Construction

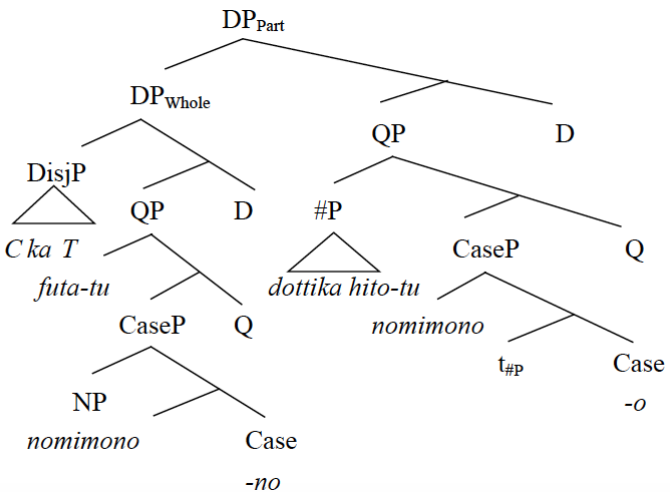
Consider the sentence (35b) as opposed to the simple *either/or* sentence in (35a). Both the whole element and the part element in (35b) have a numeral + Classifier and a common noun which the disjuncts are subclasses of.

(35) a. Taro-wa koohii ka otya-no dottika-o nonda. (= (2))
Taro-Top coffee or tea-NO either-Acc drank
'Taro drank either coffee or tea.'

b. Taro-wa [$_{\text{Whole}}$ koohii ka otya-no futa-tu-no nomimono-no] (uti-no)
Taro-Top coffee or tea-NO two-Cl-NO drink-NO out-of
[$_{\text{Part}}$ **dottika hito-tu-no nomimono]**-o nonda.
either 1-Cl-NO drink-Acc drank
'Taro drank either one drink out of coffee or tea.'

This set of data is reminiscent of the numeral partitive data (32) in which the part element and whole element accompany a numeral + Classifier and a noun. Thus I propose that (35b) has a structure similar to the one in (31b):

(36) Structure of (35b)



As was the case for numeral partitives, the whole and the part each project a DP and the whole DP is in the Specifier position of the part DP.

One respect in which this structure differs from the numeral partitive one is how to handle *dottika* 'either.' A restriction on word order concerning *dottika* 'either' is that it has to directly precede the numeral that denotes the number of element that it picks up. Consider (37). In this sentence, *dottika* 'either' co-occurs with a numeral and a Classifier, whose form is sensitive to the nouns used as

disjuncts. The most general classifier *tu* is used, reflecting the partitive interpretation that Taro chose one from the two kinds of drinks (and not two glasses of drinks).[5] As shown further in (37′), the numeral expresses the number of the elements that *dottika* or *doreka* picks up. (Note that since *dottika* 'either' can only choose from two options, another item *doreka*, which can choose from three or more options, is used in (37′).) Only one position is available for the numeral, namely directly following *dottika* 'either,' at least in the reading where the numeral expresses the number of the elements that *dottika* 'either' picks up.

(37) Taro-wa **(*hito-tu)** koohii ka otya-no **(*hito-tu) dottika (hito-tu)**-o nonda.
Taro-Top 1-Cl coffee or tea-NO 1-Cl either 1-Cl-Acc drank
'Taro drank (either) one of coffee or tea.'

(37′) Taro-wa koohii ka otya ka juusu-no (uti-no) **doreka futa-tu**-o nonda.
Taro-Top coffee or tea or juice-NO out-of either 2-Cl-Acc drank
'Taro drank (any) two out of coffee, tea, or juice.'

Other syntactic variations maintaining the basic word order are possible here too, namely the order *NP + Quantifier + Case* in (38a) and the order *NP + Case + Quantifier* in (38b) (cf. (7b,c)), but importantly, the same restriction regarding the position of the numeral classifier obtains here as well.

(38) a. Taro-wa **(*hito-tu)** koohii ka otya(,) **(*hito-tu) dottika (hito-tu)-o** nonda.
b. Taro-wa **(*hito-tu)** koohii ka otya-o **(*hito-tu) dottika (hito-tu)** nonda.

Based on this word order restriction, in (38) *dottika* 'either' is placed inside the #P so that it directly precedes the numeral classifier. I am assuming the structure of #P in (36) to be like (39) with all elements in their base position.

---

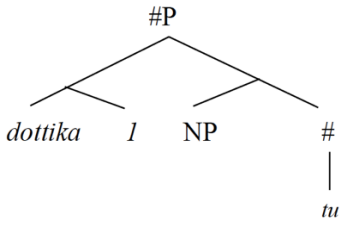
[5] The range of classifiers that can be used with numerals is one point where common noun partitives and proper noun partitives differ from each other. As we can observe from the contrast between (i) and (ii), common noun partitives are degraded with classifiers with specific semantic content, such as *satu* used for books, while proper noun partitives are fine with any classifiers as long as they match the counted noun.

(i)?*Taro-wa syoosetu ka sisyuu-no dottika **i-ssatu**-o yonda.
T-Top novel or collected.poem-NO either 1-Cl-Acc read
'Taro read either one of novels or collections of poems.'

(ii) Taro-wa LGB ka MP-no dottika **i-ssatu**-o yonda.
Taro-Top LGB or MP-NO either 1-Cl-Acc read
'Taro read either one of LGB or MP.'

This behavior seems to come from the semantic property that the two partitives have. Common noun partitives in (i) typically have the reading of picking up one from two kinds of literature, and thus the classifier *satu*, which counts individual books, cannot be used. (Note that if there is a specific context and the nouns in (i) refer to specific novels and collections of poems, rather than to novels and poems as kinds of literature, the sentence is acceptable.) The proper noun partitives in (ii), however, have two specific books as disjuncts, and thus the use of *satu* is unproblematic.

(39) #P with *dottika* ‘either’ modifying the numeral



A word order which I put aside here is “DisjP + *dottika* + Case + Numeral” in (40a). Observe that the numeral can be *two*. Since *dottika* ‘either’ picks up one from the two options, the numeral clearly does not express the number of the elements that *dottika* ‘either’ picks up but expresses the number of cups of coffee or tea, whichever *dottika* ‘either’ picks up. We can make this reading more explicit by making the part DP in its full form as in (40′). Here, there is a numeral and a classifier inside the part DP and ni-hai ‘2-cl’ resides outside of the part DP. I assume that in this sentence the numeral modifies the DisjP + *dottika* ‘either’ in some way and that the sentence has a different structure from the one proposed above. The first idea that comes to one’s mind is that, under this reading, the numeral modifies the DisjP + *dottika* ‘either’ in the same way as Quantifiers and numerals usually modify nouns. However, the possible word orders seem to differ not only from those of partitives but also from FQs. From (40a), the numeral can go in front of the DisjP + *dottika* ‘either’ (40b) but inserting the linker *no* degrades the sentence, and the word order in (40c) has only the infelicitous “picking out two from two options” reading for me. I leave open the structure of (40a) for now.[6]

(40) a. Taro-wa [koohii ka otya-no dottika]-o **ni-hai** nonda.
T-Top coffee or tea-NO either-Acc 2-Cl drank
‘Taro drank two cups of coffee or two cups of tea.’

a′. Taro-wa [koohii ka otya-no dottika hito-tu-no nomimono]-o **ni-hai** nonda.
T-Top coffee or tea-NO either 1-Cl-NO drink-Acc 2-Cl drank
‘Taro drank two cups of either one of coffee or tea.’

b. Taro-wa **ni-hai(-?*no)** [koohii ka otya-no dottika]-o nonda.

c. ?*Taro-wa [koohii ka otya-no dottika] **ni-hai**-o nonda.

[6] Another difference between common noun partitives and proper noun partitives concerns the word order “DisjP + *dottika* + Case + Numeral.” Proper noun partitives, as exemplified in (i), do not allow this word order.

(i)#Taro-wa LGB ka MP-no dottika-o **ni-satu** yonda.
Taro-Top LGB or MP-NO either-Acc 2-Cl read
‘Taro read two copies of LGB or two copies of MP.’

This behavior also would be explained from the fact that proper noun partitives have proper nouns/individuals as disjuncts. Since the disjuncts denote individuals, it is not possible for the numeral to express the number of the books, unless under the situation that Taro read two copies of the same book or two books in a series of books.

Let us take a look at a word order restriction that can be accounted for with this structure. Recall from Section 1.2 that both numeral partitives and the *either/or* construction do not allow the part element preceding the whole element. In the numeral partitive example (41), the sentence loses the partitive interpretation by placing the numeral classifier before the whole NP. In the *either/or* construction, too, *dottika* 'either' cannot be placed in front of the DisjP (42). It is possible to account for this behavior by claiming that the part QP cannot move across the whole DP in the structure (36), assuming that DP cannot have multiple Specifiers.

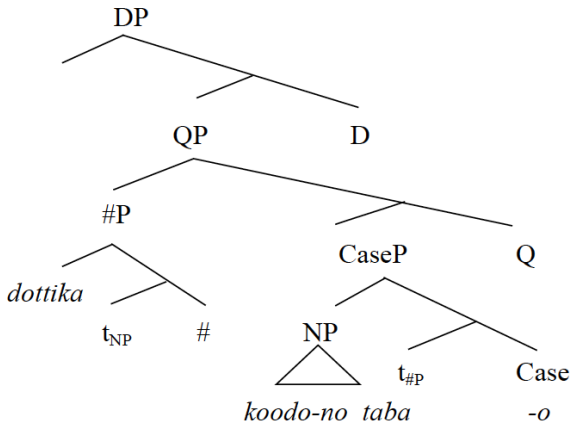
(41) # Taro-wa san-satu(-no) tosyokan-no hon-o yonda.
T-Top three-Cl-NO library-Gen book-Acc read

(42) * Taro-wa dottika(-no) [koohii ka otya]-o nonda.
Taro-Top either-NO coffee or tea-Acc drank

Consider (43). *Dottika* 'either' is in the sentence-initial position preceding a noun, but this sentence is different from (42) since the noun following *dottika* 'either' is not a whole noun. *Dottika* 'either' modifies the NP without the part-whole relation and *dottika* + NP denote a single NP. This is an instance of the part element projecting a DP without the whole DP in its specifier position, as we have discussed earlier in relation to numeral partitives (cf. (35)). The structure of (43) is thus as in (44).

(43) Dottika-no koodo-no taba-o kiru to bakudan-o kaijyo dekiru.
either-NO cord-NO bundle-Acc cut if bomb-Acc deactivate can
'Cutting either bundle of cords will make the bomb deactivated.'

(44) Structure of (43)



A word order restriction that the present proposal cannot completely account for concerns the fully realized part DP with *dottika* 'either,' a numeral, a Classifier, and a noun. This full form is possible in both proper noun partitives in (45) and (46) and common noun partitives in (35b). The noun in the part

DP has to be a common noun which the disjuncts are subclasses or members of.[7]

(45) A ka B-no (uti-no) **dottika i-ppon-no koodo**-o kiru to bakudan-o kaijyo dekiru.
A or B-NO out-of either one-Cl-NO cord-Acc cut if bomb-Acc deactivate can
'Cutting either one cord out of A or B will make the bomb deactivated.'

(46) Taro-wa Aspects ka LGB ka MP-no (uti-no) **doreka ni-satu-no hon**-o yonda.
Taro-Top Aspects or LGB or MP-NO out-of either 2-Cl-NO book-Acc read
'Taro read (any) two books out of Aspects, LGB, or MP.'

In addition to the restriction introduced above that *dottika* 'either' and the numeral + Classifier must be adjacent (see (37) and (38)), (47) and (48) exemplify that the noun cannot be in the initial position in the part DP in both proper noun partitives and common noun partitives. In the examples, *uti-no* 'out of' is used in order to overtly mark the edge of the whole NP. (The specific syntax of *uti-no* 'out of' remains a problem.)

(47) a. A ka B-no uti-no **dottika i-ppon-no koodo**-o kiru to bakudan-o kaijyo dekiru.
A or B-NO out-of either one-Cl-NO cord-Acc cut if bomb-Acc deactivate can
'Cutting either one cord out of A or B will make the bomb deactivated.'

b. A ka B-no uti-no **dottika-no koodo i-ppon**-o kiru to bakudan-o kaijyo dekiru.

c. ?*A kaB-no uti-no **koodo dottika i-ppon**-o kiru to bakudan-o kaijyo dekiru.

d. ?*A kaB-no uti-no **koodo-o dottika i-ppon** kiru to bakudan-o kaijyo dekiru.

(48) a. Taro-wa koohii ka otya-no uti-no **dottika hito-tu-no nomimono**-o nonda.
Taro-Top coffee or tea-NO out-of either 1-Cl-NO drink-Acc drank
'Taro drank either one drink out of coffee or tea.'

b. Taro-wa koohii ka otya-no uti-no **dottika-no nomimono hito-tu** -o nonda.

c. ?*Taro-wa koohii ka otya-no uti-no **nomimono dottika hito-tu**-o nonda.

d. ?*Taro-wa koohii ka otya-no uti-no **nomimono-o dottika hito-tu** nonda.

This restriction is actually not limited to the fully realized version of the part DP. The part DP can be partially realized as *dottika* 'either' + NP (49) or numeral + Classifier + NP (50), both of which allow only the order with the NP in the non-initial position.

[7] This is why this form with a fully realized "part" makes it easier for the common noun partitives to have the subclass interpretation and slightly difficult for the proper noun partitives to find the appropriate noun of which the proper nouns are subclasses.

(49) a. A ka B-no uti-no **dottika-no koodo**-o kiru to bakudan-o kaijyo dekiru.
A or B-NO out-of either-NO cord-Acc cut if bomb-Acc deactivate can
'Cutting either one cord out of A or B will make the bomb deactivated.'

b. ?*A ka B-no uti-no **koodo dottika**-o kiru to bakudan-o kaijyo dekiru.

c. ?*A ka B-no uti-no **koodo-o dottika** kiru to bakudan-o kaijyo dekiru.

(50) a. A ka B-no uti-no **i-ppon-no koodo**-o kiru to bakudan-o kaijyo dekiru.
A or B-NOout-of one-Cl-NO cord-Acc cut if bomb-Acc deactivate can
'Cutting either one cord out of A or B will make the bomb deactivated.'

b. ?*A ka B-no uti-no **koodo i-ppon**-o kiru to bakudan-o kaijyo dekiru.

c. ?*A ka B-no uti-no **koodo-o i-ppon** kiru to bakudan-o kaijyo dekiru.

The structure (36) can explain (47d), (48d), (49c), and (50c), in which the movement of the CaseP to the Specifier position of the part DP (cf. (13d)) is disallowed. This is because the whole DP is in the Specifier position of the part DP and the CaseP in the part DP cannot move above the other elements, assuming that DPs cannot have multiple Specifiers. Problematic are the degradedness of (47c), (48c), (49b), and (50b). Since the movement of the #P to SpecQP is acceptable as in (47a), (48a), (49a), and (50a), it seems that this movement is obligatory and the #P cannot stay in its base position. I currently find no motivation to force this movement, and I leave this problem for future research.

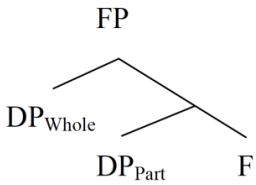
In this section, I have shown that the structure proposed for numeral partitives can be directly extended to the *either/or* construction. I further claimed that restrictions on the word order of the *either/or* construction also be accounted for by making slight modifications to the proposed structure.

5. Concluding Remarks

In this paper, I have focused on Japanese partitives and the Japanese *either/or* construction, which has never been treated as a partitive construction but shows properties of partitives. I have proposed that the behavior of both constructions can be accounted for by adopting the multiple functional layers and movements in DPs proposed by Watanabe (2006) and giving a structure in which both the whole element and the part element project a DP.

One remaining issue is the precise structural relation between the part DP and the whole DP. Recall that in the current proposal, the whole DP resides in the Specifier position of the part DP. However, I have not provided evidence that this has to be so. Another plausible possibility concerning the position of the whole DP is the Specifier position of a functional projection above the part DP, as in (51). In this structure, the part DP is the complement of the F head.

(51) Two DPs in the Specifier and the Complement position of FP



Although there is little evidence for FP so far, the structure in (51) has an advantage that the whole DP and the part DP are split so that the latter cannot precede the former (cf. (41), (42)) and that the F can implement the part-whole relation. I leave detailed investigation for future research.

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