

# Towards a Unified Analysis of Japanese Adverb Types and Their Syntactic Positions\*

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**Abstract:** This paper aims to integrate what has been claimed in the proposals of Jackendoff (1972) and Cinque (1999) with studies on Japanese adverbs and to propose a unified analysis for the position of Japanese adverbs. Specifically, I divide Japanese adverbs into three types: CP adverbs, , while scrambled DPs target FocP. My point is that the positions of adverbs mark the boundaries of  $vP$ , IP, and CP.

## 1. Introduction

Japanese is usually included among free-word-order languages. But this does not indicate that word order is always free, and that a constituent can occur anywhere in a sentence. Let us take scrambling as an instance. Since Saito (1989), scrambling is often considered to be a semantically vacuous movement. However, recent studies (including Miyagawa 2010, Nakamura 2009a,b, 2012, and many others) have proved that scrambling is actually an operation triggered by some semantic or interpretive necessity, such as focus.

In Japanese linguistics, most of the studies on word order have focused on syntactic operations such as scrambling, topicalization, while the placement of adverbs has been widely neglected. However, as Noda (1984) argues, there is a rather strict rule of the ordering among Japanese adverbs. Needless to say, beginning with Jackendoff (1972), adverbs have been taken up in the syntactic literature, including Cinque (1999). The aim of this paper is to amalgamate what has been discussed in studies on Japanese adverbs and what has been investigated in the ones on adverbs of other languages. More specifically, the aims of this paper are threefold: The first one is to show that Jackendoff's (1972) and Cinque's (1999) analyses can be incorporated into those of Japanese. The second one is to indicate that there are three kinds of adverbs in Japanese: CP adverbs, TP adverbs, and  $vP$  adverbs. The third one is to prove that *wa*-marked Topic phrases move into a Topic Phrase (TopP) or a Focus Phrase (FocP), while scrambled DPs target FocP.

The organization of the paper is as follows: In section 2, I give a brief survey of the previous analyses by Jackendoff (1972) and Cinque (1999). In section 3, I take a brief look at the previous analyses of Japanese adverbs by Noda (1984), Nakau (1980), Endo (2007), and Fujimaki (2009). Section 4 is an interim summary. In section 5, I move on to the syntactic analyses of topicalization and focusing. Section 6 discusses possible problems of my analysis, and section 7 concludes the paper and presents future issues.

## 2. Previous Analyses on Adverbs in English, Italian, and French

### 2.1 Jackendoff (1972)

Jackendoff (1972) is said to be one of the first studies that extensively deal with English adverb types and structures. Jackendoff (1972:49) states that some adverbs have different meanings, depending on their syntactic positions.

- (1) a. John cleverly dropped his cup of coffee.
- b. Cleverly, John dropped his cup of coffee.
- c. John dropped his cup of coffee cleverly.

Jackendoff gives each of the adverbs different names, in accordance with their positions: The one in (1a) is called “subject-oriented adverb,” the one in (1b) is labeled “speaker-oriented adverb,” and the one in (1c) is called “manner adverb.” Jackendoff (1972:89) offers crucial types of examples, showing that there is a rule for the ordering of two types of adverbs: speaker-oriented adverb and subject-oriented adverb.

- (2) a. Probably, Max carefully was climbing the walls of the garden.
- b. \* Carefully, Max probably was climbing the walls of the garden.

(2a) is OK because *probably*, a speaker-oriented adverb, occurs before *carefully*, a subject-oriented adverb. (2b) is out because the order is reversed. Jackendoff (1972) himself does not offer solely a syntactic analysis, because an adverb can be both a speaker-oriented or a subject-oriented adverb. However, by putting forward numerous examples, his analysis proves that the syntactic position determines the interpretations of an adverb. This is the point I will emphasize in this paper.

### 2.2 Cinque (1999)

Cinque (1999) is undoubtedly the most comprehensive study of adverb types throughout the literature. Even though Cinque gives both Italian and French examples, let me here just give Italian examples here. Italian (and French) has rules for placing adverbs. Let me cite data from Cinque (1999:12).

- (3) a. Gianni accetterà forse saggiamente il vostro aiuto.  
      *‘Gianni will perhaps wisely accept your help.’*
- b. \* Gianni accetterà saggiamente forse il vostro aiuto.
  
- (4) a. Gianni sarà probabilmente forse ancora in grado di aiutarci.  
      *‘Gianni will probably perhaps still be able to help us.’*
- b. \* Gianni sarà forse probabilmente ancora in grado di aiutarci.

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- (5) a. Gianni ha per fortuna probabilmente accettato.  
'Gianni has luckily probably accepted.'  
b. \* Gianni ha probabilmente per fortuna accettato.

(3a) is acceptable because the manner adverb *saggiamente* 'wisely' follows the subject-oriented adverb *forse* 'perhaps.' In contrast, (3b) is out because the order is reversed. Likewise, as shown in (4a), the modal adverb *probabilmente* 'probably' has to precede *forse*. A modal adverb, in turn, has to follow an evaluative adverb like *per fortuna* 'luckily.' This is demonstrated in (5a,b). An evaluative adverbs, finally, has to follow a pragmatic adverb like *francamente* 'frankly.' This is presented in (6a,b). (6a) is OK because *francamente* 'frankly' comes before *purtroppo* 'unfortunately.'

- (6) a. Francamente ho purtroppo una pessima opinione di voi.  
'Frankly I have unfortunately a very bad opinion of you.'  
b. \* Purtroppo ho francamente una pessima opinione di voi.

Based on the data above, Cinque (1999:11), following Bellert (1977), gives the following hierarchy or ordering of adverbs.

- (7) a. domain adverbs: *politically, legally*  
b. pragmatic adverbs: *frankly, sincerely, honestly*  
c. evaluative adverbs: *luckily, fortunately, happily*  
d. modal adverbs: *probably, presumably*  
e. *perhaps*

There is still another ordering rule of adverbs. A temporal adverb like *ora* 'now' has to precede a subject-oriented adverb like *saggiamente* 'wisely.' This is shown in (8a,b).

- (8) a. Gianni ha ora saggiamente ceduto.  
'Gianni has now wisely surrendered.'  
b. \* Gianni ha saggiamente ora ceduto. (Cinque 1999:13)

Based on the numerous Italian and French data, Cinque (1999:106) presents the following universal hierarchy.

- (9) *The Universal Hierarchy of Clausal Functional Projections*  
[frankly Mood<sub>speech act</sub> [fortunately Mood<sub>evaluative</sub> [allegedly Mood<sub>evidential</sub>  
[probably Mood<sub>epistemic</sub> [once T(Past) [then T(future) [perhaps Mood<sub>irrealis</sub>  
[necessarily Mood<sub>necessity</sub> [possibly Mood<sub>possibility</sub> [usually Asp<sub>habitual</sub>  
[again Asp<sub>repetitive</sub> [often Asp<sub>frequentative</sub> [intentionally Mod<sub>volitional</sub>  
[quickly Asp<sub>celerative</sub> [already T(anterior) [no longer Asp<sub>terminative</sub> ...

Cinque (1999) says that these adverbs are in the TP area. However, as will be clear in the next sections, adverbs can mark the boundary of a sentence.

In this section I took up Jackendoff (1972) and Cinque (1999), gave a quick survey of their analyses, and took a look at a hierarchy of adverbs. In the next section, I move on to Japanese literature and argue that the claims there are along the same line as Jackendoff and Cinque.

### 3. Previous Analyses on Japanese Adverbs

#### 3.1 Nakau (1980)

Nakau (1980:162f) gives a comprehensive list of adverbs. These are assumed to occur outside of the proposition and are called sentence adverbs. Let us here quote some examples from his list, which are shown in (10).

- (10) a. Pragmatic adverbs: *hontoo-no tokoro* ‘honestly,’ *tumari-wa* ‘briefly,’  
*uchiwa-no- hanasi-da-ga* ‘confidentially’  
 b. Evaluative adverbs: *odoroita-kotoni* ‘surprisingly,’ *saiwai-nimo* ‘luckily’  
*myoo-na-koto-ni* ‘oddly enough,’  
*too-zen-no koto nagara* ‘not surprisingly’  
 c. Modal adverbs: *akiraka-ni* ‘clearly,’ *utagai-mo-naku* ‘undoubtedly,’  
*kitto* ‘surely,’ *osoraku* ‘maybe’  
 d. Domain adverbs: *konpon-teki-ni-wa* ‘fundamentally,’ *risoo-o ie-ba* ‘ideally,’  
*genri-jyoo* ‘in principle,’ *teigi-jyoo* ‘by definition’

The crucial point of Nakau (1980:183f) is that he makes a distinction between evaluative subject adverbs and manner subject adverbs. The adverbs given in (11a) are some examples of the former, while the ones in (11b) are examples of the latter.

- (11) a. *kenmee-nimo* ‘wisely,’ *oroka-nimo* ‘foolishly,’ *baka-na koto-ni* ‘stupidly,’  
*sasuga-ni* ‘reasonably’  
 b. *koi-ni* ‘deliberately,’ *ito-teki-ni* ‘intentionally,’ *hokorasiku* ‘proudly,’  
*kanasigeni* ‘sadly’

The adverbs in (13a) are outside of the proposition and denote the speaker’s judgment about the way the subject does things. In this sense, they are more or like CP adverbs. In contrast, the adverbs in (11b) are inside the proposition, and they describe the way the subject does things. In this sense, they should be categorized as subject-oriented adverbs. Later I will call this kind of adverbs “TP adverb.”

### 3.2 Noda (1984)

Noda (1984:70) claims that there is a hierarchy of Japanese adverbs, represented in (12).

- (12)
- |    |                               |  |
|----|-------------------------------|--|
| a. | Adverbs of mood:              | <i>tabun</i> ‘perhaps,’ <i>ainiku</i> ‘unfortunately,’<br><i>yoosuruni</i> ‘in short’              |
| b. | Adverbs of tense:             | <i>rainen</i> ‘next year,’ <i>mukasi</i> ‘formerly,’<br><i>ni-san-nichi mae</i> ‘several days ago’ |
| c. | Adverbs of aspect:            | <i>tokidori</i> ‘sometimes,’ <i>sankagetu</i> ‘for three months,’<br><i>dandan</i> ‘gradually’     |
| d. | Adverbs of voice:             | <i>wazato</i> ‘intentionally,’ <i>tanosisooni</i> ‘joyfully,’<br><i>oogoede</i> ‘loudly’           |
| e. | Adverbs referring to objects: | <i>gatagata</i> ‘shaky,’ <i>kireini</i> ‘neatly,’ <i>marumaruto</i> ‘fully’                        |

Noda (1984:81).following Nakau (1980, further distinguishes modal adverbs into four types, as follows.

- (13)
- |    |                     |  |
|----|---------------------|--|
| a. | Pragmatic adverbs:  | <i>yoosuruni</i> ‘in short,’ <i>kantann-ni ieba</i> ‘simply put’           |
| b. | Evaluative adverbs: | <i>ainiku</i> ‘unfortunately,’ <i>zannen-nagara</i> ‘regretfully’          |
| c. | Modal adverbs:      | <i>tabun</i> ‘perhaps,’ <i>osoraku</i> ‘probably’                          |
| d. | Domain adverbs:     | <i>kihon-teki-ni-wa</i> ‘fundamentally,’ <i>omote-muki-wa</i> ‘officially’ |

Noda (1984) does not give a comprehensive list of Japanese adverbs, but I have to keep in mind his basic idea about the hierarchy of adverbs.

### 3.3 Endo (2007)

Endo (2007) divides Japanese adverbs into three types, according to the particles that are attached to them: High adverbs, middle adverbs, and low adverbs. The particle *koto ni* attaches to high adverbs, while the particle *ni-mo* attaches to middle adverbs. On the other hand, the particle *ni* attaches to low adverbs. This is shown below.

- (14)
- |    |   |  |  |
|----|---|--|--|
| a. | odoroita-koto-ni<br>surprising-fact-Prt<br>‘surprisingly’ | zan’nenna-koto-ni<br>unfortunate-fact-Prt<br>‘unfortunately’ | koounna-koto-ni<br>lucky-fact-Prt<br>‘luckily’ |
| b. | mazime-ni-mo<br>serious-Prt-Prt<br>‘seriously’            | kenage-ni-mo<br>admirable-Prt-Prt<br>‘admirably’             | syoojiki-ni-mo<br>honest-Prt-Prt<br>‘honestly’ |
| c. | mazime-ni<br>serious-Prt<br>‘seriously’                   | kenage-ni<br>admirable-Prt<br>‘admirably’                    | syoojiki-ni<br>honest-Prt<br>‘honestly’        |

### 3.4 Fujimaki (2009)

Fujimaki (2009), inspired by Noda's (1984) hierarchy and Endo's (2007) distinction, puts forward a more precise hierarchy of Japanese adverbs, as shown below.

- (15)
- |    |                          |      |
|----|--------------------------|------|
| a. | Domain adverbs           |      |
| b. | Speech act adverbs       |      |
| c. | Evaluative adverbs       |      |
| d. | Modal adverbs            | – CP |
| e. | Subject-oriented adverbs | – TP |
| f. | Manner adverbs           | – vP |

As can be easily seen, the hierarchy in (15) is basically the same as the one in (7), advocated by Cinque (1999). What is not specified in Jackendoff, Cinque, Noda, and Nakau is that some of the adverbs in the hierarchy mark the boundary of phrases. That is to say, the speaker-oriented adverbs are in the CP (or TopP and FocP territory), while speaker-oriented adverbs are in the TP territory. On the other hand, manner-adverbs are in the vP territory.

## 4. Interim Summary

In the sections 2 and 3, I took a brief look at the previous analyses of adverbs. The conclusion is that there is a hierarchy of adverbs: In principle, domain, speech act, evaluative, and modal adverbs come first, and subject-oriented adverbs, that is, adverbs that denote the speaker's judgment about the way the subject does things, come second. Manner adverbs come last. I assume here with Fujimaki (2009) that this hierarchy is manifested in the syntactic structure. Put differently, I call domain, speech act, evaluative, and modal adverbs "CP adverbs," and subject-oriented adverbs "TP adverbs." Finally, I call manner adverbs "vP adverbs."

I am now in a position to attest that the distinction is on the right track.

## 5. Topicalization and Focusing as a Diagnosis of Adverb Boundaries

### 5.1 Review of Nakamura (2009ab, 2010, and 2012)

Much of the recent research on scrambling has focused on its interpretative effects on the sentence. In this context, I put forward a theory according to which scrambling should be considered a focus movement which targets FocP (Nakamura 2009ab, 2010, 2012). This is basically in line with Miyagawa (2010). In Nakamura (2012), I also claim that phrases marked with *wa*, traditionally thought of as topics, should actually be divided into three types, i.e. Thematic Topic (TT), Contrastive Topic (CT), and Contrastive Focus with a focal stress on it (CF). Let me here take a very brief look at my proposals. First of all, look at the examples in (16a,b).

- (16)
- |    |   |                 |                    |
|----|---|-----------------|--------------------|
| a. | Taro ga   | Reddo Sokkusu-o | ooen-site-iru.     |
|    | Taro-Nom  | Red Sox-Acc     | root for-does-Pres |
|    | <i>'Taro roots for the Red Sox.'</i>            |                 |                    |
| b. | Reddo-Sokkusu-o                                 | Taro-ga         | ooen-site-iru.     |
|    | <i>'It is the Red Sox that Taro roots for.'</i> |                 |                    |

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- c. Demo Taro-wa Marinaazu-mo ooen-site-iru.  
 but Taro-TT Mariners-also root for-does-Pres  
*'But Taro roots for the Mariners, too.'*

We can easily continue sentence (16a) with (16c), but it is somehow difficult to continue (16b) with (16c). This is because of the exhaustive identificational focus effect that object scrambling has. The following set of examples further demonstrates the focus effect of scrambling.

- (17) a. Dono insee-mo (riidingu-risuto-no) hon-yon-satu-o yon-da.  
 every grad student reading-list-Gen book-four-CL-Acc read-Past  
*'Every grad student read (at least) four books on the reading list.'*  
 b. (Riidingu-risuto-no) hon-yon-satu-o dono insee-mo yon-da.  
*'There are four books (in the reading list) such that every grad student read them.'*

In (17a), displaying the base order, the subject scopes over the object. In contrast, in (17b), the dominant or preferred reading is that the scrambled object has wider scope. This indicates that scrambling has a semantic effect and therefore must be regarded focus movement.

Let me move on to the examples in (18a,b), where the object is marked with *wa* or *WA*, with a focal stress on it, respectively.

- (18) a. (Riidingu-risuto-no) hon- yon-satu-wa dono insee-mo yon-da.  
 reading-list-Gen book-four-CL-TT every grad student read-Past  
*'As for the four books (in the reading list), every grad student read them.'*  
 b. (Riidingu-risuto-no) hon-yon-satu-WA dono insee-mo yon-da.  
 reading-list-Gen book-four-CL-CF every grad student read-Past  
*'There are (only) four books (in the reading list) such that every grad student read them.'*

The *wa*-marked phrase in (18a) is considered to be a TT, while the *WA*- marked phrase in (18b) constitutes a CF.

Next I show examples that involve multiple *wa*-marked phrases in the same sentence.

- (19) a. Ano ie-de-wa shigoto-o donoyoo-ni buntan-suru no?  
 that house-at-TT job-Acc how-Dat share-does Q  
*'At the house, how do they share the jobs?'*  
 b. Kaji-wa ryoori-WA Hanako-wa suru.  
 house chore-TT cooking-CF Hanako-CT does  
*'As for house chores, it is cooking, and nothing else that Hanako takes charge of.'*  
 c. ?? Kaji-wa ryoori-wa Hanako-WA suru.  
 house-chore-TT cooking-CT Hanako -CF does  
 d. ?? Kaji-wa ryoori-o Hanako-WA suru.  
 house-chore-TT cooking-Acc Hanako -CF does

Here, the judgment is somehow subtle, but I can detect the differences in meaning. (19b), with the TT-CF-CT order, is OK, while the examples in (19c,d) are degraded. This is because the order TT-CT-CF is somehow odd in (19c), whereas in (19d), the scrambled object and the WA-marked phrase compete for the same position. In light of the observation in the sentences in (16a-19d), I propose with Rizzi (1997), the following Japanese sentence structure.

(20) [TopP [FocP [TopP [TP [<sub>v</sub>P [VP V] v] T] Top] Foc Top]

I assume that a TT moves into the upper TopP, while scrambled elements and WA-marked phrases move into FocP. The lower TopP is the locus of a CT.

My next task is to verify the structure in (20) and, at the same time, to confirm the hierarchy of adverbs in (15).

## 5.2 Adverbs as Boundary Markers and the Topic-Focus Articulation

Let me begin with CP adverbs here. When I put CP adverbs like *odoroitta-koto-ni* ‘surprisingly’ in sentences like (21a,b), the intended reading is made clearer.

- (21) a.      Dono insee-mo    odoroitā-koto-ni (riidinru-sisuto-no)    hon-yon-satu-o    yon-da.  
           every grad student surprisingly                    reading-list-Gen                    book-four-CL-Acc    read-Past  
           ‘*Surprisingly, every grad student read four books (in the reading list).*’
- b.      (Riidingu-risuto-no) hon-yon-satu-o odoroitā-kotoni dono insee-mo yon-da.  
           ‘*Surprisingly, there are four books (in the reading list) such that every grad student read them.*’

In (21a), the subject clearly scopes over the object. On the other hand, in (21b), the reading in which the scrambled object has wider scope is much more intuitive. This is because the adverb *odoroitā-koto-ni* indicates the CP (or FocP) boundary, which indicates that the scrambled object is interpreted as the focus of the sentence.

I can notice a similar effect with TP adverbs like *koi-ni* ‘deliberately.’ In (22a,b), the adverb *odoroitā-koto-ni* appears at the top of the sentence because it is more natural.

- (22) a.      Odoroitā-koto-ni    dono    insee-mo    koi-ni    (riidingu-risuto-no)  
           surprisingly            every    grad student    deliberately    reading-list-Gen  
           hon-yon-satu-o    yon-da.  
           book-four-CL-Acc    read-Past
- b.      Odoroitā-koto-ni (riidingu-risuto-no) hon-yon-satu-o dono insee-mo koi-ni  
           yon-da.

- (23) a.      \* Koi-ni dono-insee-mo odoroitā-koto-ni (riidingu-risuto-no) hon-yon-satu-o yon-da.  
       b.      \* Koi-ni (riidingu-risuto-no) hon-yon-satu-o dono-insee-mo odoroitā-koto-ni yon-da.



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In (22a,b), the CP adverb comes first, and the TP adverb occur immediately after the subject. These sentences are perfectly OK. In contrast, when I reverse the order of these, as in (23a,b), the sentences are unacceptable.

Next, when I replace the TP adverb *koi-ni* with a *vP* adverb such as *kenmee-ni* ‘earnestly,’ I obtain a similar effect.

- (24) a. Odoroita-koto-ni dono insee-mo kenmee-ni (riidingu-risuto-no)  
 surprisingly every grad student earnestly reading-list-Gen  
 hon-yon-satu-o yon-da.  
 book-four-CL-Acc read-Past
- b. Odoroita-koto-ni (riidingu-risuto-no) hon-yon-satu-o dono insee-mo kenmee-ni  
 yon-da.

In (24a), where the *vP* adverb occurs before the object, the sentence is OK. In the same way, (24b) is perfect, in which the *vP* adverb comes just after the subject.

Let me move on to cases where the TP adverb and the *vP* adverb co-occur.

- (25) a. Dono insee-mo koi-ni (riidingu-risuto-no) hon-yon-satu-o  
 every grad student deliberately reading-list-Gen book-4-CL-Acc  
 kossori yon-da.  
 secretly read-Past  
 ‘Every student deliberately read four books (in the reading list) secretly.’
- b. ?? Dono insee-mo kossori (riidingu-risuto-no) hon-yon-satu-o koi-ni yon-da.
- (26) a. (Riidingu-risuto-no) hon-yon-satu-o koi-ni dono insee-mo  
 reading-list-Gen book-four-CL-Acc deliberately every grad student  
 kossori yon-da.  
 secretly read-Past  
 ‘There are four books (in the reading list) such that every grad student deliberately read them secretly.’
- b. ?? (Riidingu-risuto-no) hon-yon-satu-o kossori dono insee-mo koi-ni yon-da.

Again, the judgment is somehow delicate, but I can verify the differences in meaning. The sentences in (25a, 26a), where the TP adverb comes before the *vP* adverb, are OK. The sentences in (25b, 26b) are degraded because the order is reversed.

Now I turn to the cases with *wa*-marked phrases and object scrambling. Let us give the representative paradigm again.

- (27) a. Gakusei-tachi-wa nani-o kat-ta no.  
 student-PL-TT what-Acc buy-Past Q  
 ‘What did the students buy?’

- b. John-wa gengogaku-no hon-wa kat-ta.  
 John-TT linguistics-Gen book-CT buy-Past  
*'As for John, he bought a book on linguistics, but I don't know whether he bought anything else.'*
- c. John-wa gengogaku-no hon-WA kat-ta.  
 John-TT linguistics-Gen book-CF buy-Past  
*'As for John, he bought a book on linguistics, but he didn't buy anything else.'*
- d. Gengogaku-no hon-o John-wa kat-ta.  
*'It is a book on linguistics that John bought.'*
- e. ?? Gengogaku-no hon-o John-WA kat-ta.

The order TT-CT in (27b) is OK, as is the order TT-CF in (27c). Likewise, (27d) is OK because the scrambled object, interpreted as a CF, comes before the CT. (27e) is odd because the scrambled object and the WA-marked phrase compete for the same position.

Keeping this in mind, let me investigate some additional adverbs here. The sentences in (28a,b) are grammatical because the CP adverb occurs in the TopP domain, while the TP adverb appears in the TP domain. The schematized structures only show the relevant parts.

- (28) a. [<sub>TopP</sub> John-wa [<sub>FocP</sub> [<sub>TopP</sub> odoroitakoto-ni gengogaku-no hon-wa kat-ta]]]  
 John-TT surprisingly linguistics-Gen book-CT buy-Past  
*'As for John, surprisingly he bought a book on linguistics, but he didn't buy anything else.'*
- b. [<sub>TopP</sub> John-wa [<sub>FocP</sub> [<sub>TopP</sub> gengogaku-no hon-wa [<sub>TP</sub> itoteki-ni kat-ta]]]]  
 John-TT linguistics-Gen book-CT intentionally buy-Past  
*'As for John, he bought a book on linguistics, but he didn't buy anything else.'*

The sentences in (29a,b), on the other hand, are somewhat odd because these adverbs occur outside of the designated domain. In (29a), the CP adverb is in the TP domain, while in (29b), the TP adverb is in the TopP domain. On the other hand, the sentence in (29c) is OK because the object is marked with the accusative marker *o* and the adverb is assumed to be in the TP domain. (29d) is perfect because the subject, which is marked with the nominative marker *ga*, comes before the adverb, indicating that the adverb is in the TP domain.

- (29) a. ?? John-wa gengogaku-no hon-wa odoroitakoto-ni kat-ta.  
 John-T linguistics-Gen book-CT surprisingly buy-Past
- b. ?? John-wa itoteki-ni gengogaku-no hon-wa kat-ta.  
 John-TT intentionally linguistics-Gen book-CT buy-Past
- c. John-wa itoteki-ni gengogaku-no hon-o kat-ta.  
 John-TT intentionally linguistics-Gen book-Acc buy-Past
- d. John-ga itoteki-ni gengogaku-no hon-o kat-ta.  
 John-Nom intentionally linguistics-Gen book-Acc buy-Past

Next, I move on to the cases with object scrambling.

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- (30) a. [FocP Gengogaku-no hon-o [TopP saiwai-na-koto-ni [TP John-ga kat-ta]]]  
 linguistics-Gen book-Acc luckily John-Nom buy-Past  
*'It is a book on linguistics that fortunately John bought.'*  
 b. [FocP Gengogaku-no hon-o [TopP saiwai-na-koto-ni John-wa kat-ta]]  
 linguistics-Gen book-Acc luckily John-CT buy-Past
- (31) a. [FocP Gengogaku-no hon-o [TopP [TP ito-teki-ni John-ga kat-ta]]]  
 linguistics-Gen book-Acc intentionally John-Nom buy-Past  
 b. ?? Gengogaku-no hon-o ito-teki-ni John-wa kat-ta  
 linguistics-Gen book-Acc intentionally John-CT buy-Past

Both (30a,b) are OK because the CP adverb is in the TopP domain. (31a) is also good because the TP adverb is in the TP domain. In contrast, (31b) is degraded because the TP adverb is in the TopP domain.

- (32) a. [FocP Gengogaku-no hon-o [TP John-ga [vP isoide kat-ta]]]  
 linguistics-Gen book-Acc John-Nom quickly buy-Past  
*'It is a book on linguistics that John quickly bought.'*  
 b. ?? [FocP Gengogaku-no hon-o [TP isoide John-ga [vP kat-ta]]]  
 c. ?? [TopP Isoide [FocP gengogaku-no hon-o [TP John-ga [vP kat-ta]]]]

(32a) is OK because the vP adverb is in the vP domain. On the other hand, (32b) is somehow odd because the same adverb is outside of the vP domain. Similarly, (32c) is odd because the same adverb occurs at the top of the sentence.

Summing up, in this section, I have brought up data involving adverbs and *wa*-marked phrases and scrambled phrases. CP adverbs are in the CP, i.e. in the TopP or FocP domain, while TP adverbs are in the TP domain. In contrast, vP adverbs are in the vP domain. Each kind of adverbs marks their designated domains. This is verified by the examples of *wa*-marked TT, CT and CF as well as object scrambling data.

Now I am in the point to raise possible problems of my analysis.

## 6. Possible Problems of my Analysis

In this section, I raise some problems that my analysis faces. Let me consider the examples below.

- (33) a. ?? John-wa gengogaku-no hon-wa odoroi-ta-koto-ni kat-ta (= 29a)  
 John-TT linguistics-Gen book-CT surprisingly buy-Past  
 b. ?? John-wa ito-teki-ni gengogaku-no hon-wa kat-ta (= 29b)  
 John-TT intentionally linguistics-Gen book-CT buy-Past

Some of the speaker may find these sentences grammatical. If *John* is marked with the nominative marker *ga*, as in (34a,b), the sentences become better.

- (34) a. John-ga gengogaku-no hon-wa odoroitakoto-ni kat-ta.  
 John-Nom linguistics-Gen book-CT surprisingly buy-Past  
 b. John-ga ito-teki-ni gengogaku-no hon-wa kat-ta.  
 John-Nom intently linguistics-Gen book-CT buy-Past

This fact may indicate the existence of another layer of Topic and Focus inside the  $\nu$ P. This awaits further inquiries.

A further possible problem is the one given by Jackendoff (1972).

- (35) a. John cleverly dropped his cup of coffee. (= 1a)  
 b. Cleverly, John dropped his cup of coffee. (= 1b)  
 c. John dropped his cup of coffee cleverly. (= 1c)

- (36) a. John wisely read all the books in the reading list.  
 b. Wisely, John read all the books in the reading list.

Jackendoff somehow denies the notion of speaker-oriented, subject-oriented, and manner adverbs. This is because the same adverb can act both as a speaker-oriented adverb, as in (35b) or a subject-oriented adverb, as in (35a). The same applies to the cases such as (36a,b). I can simply solve this by assuming that the structural position decides the function of an adverb. When in CP territory, it acts as a CP adverb. Likewise, when in the TP territory, it plays the part of a TP adverb. The same applies for a  $\nu$ P adverb.

The last problem concerns the exact position of adverbs. In this paper, I have not specified where exactly adverbs occur. The simple assumption is that adverbs move to the designated phrase. This again needs further investigations.

## 7. Conclusion and Future Issues

In this paper, I have investigated different adverb types and their structural positions. I have proved that adverbs have a syntactic hierarchy. My assumption has been that speaker-oriented adverbs are in the CP, i.e. in the TopP and FocP territory, whereas subject-oriented adverbs are in the TP territory. On the other hand, manner adverbs are in the  $\nu$ P territory. In addition, even though I have not presented the precise formalization of how the adverbs occur or move, I suppose that the adverbs move to the designated phrases.

It should be added that here, I have not examined temporal and manner adverbs. Especially, manner adverbs are divided into several categories. This again should be examined more closely.

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