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Information Structure and Intonation of Right-Dislocation Sentences in Japanese

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1 Introduction

How do speakers express old and new information? In what order do they convey it? With what kind of contour do they utter it? These issues have been studied especially within the framework of functional linguistics and generative grammar and are expected to reveal how speakers store, manage, and access old and new information in their mind. In this study, we examine the information structure of right-dislocation sentences versus the information status of postposed elements in Japanese by investigating a spoken corpus, specifically paying attention to phonetic cues.[1]

1.1 What are Right-dislocation Sentences?

Right-dislocation sentences are those in which pre-predicate elements are dislocated (i.e., postposed) to their predicate, as in (1). The postposed elements are shown in *italic*.

(1) a. hontooni dame-da-ne   *kimi-wa*
        really   foolish-ASS-PAR you-TOP
        "(You are) very foolish, you are."   (Kuno 1978: 67)

    b. yat-te age-mas-yoo   *watasi-ga*
        do-and give-POLITE-OFFER I-NOM
        "(I) will do it for you, I."   (*op.cit.*: 76)

Right dislocation is worthy of attention because it seems to be against the word order. Japanese is considered to be an SOV language and hence the postposed elements in (1) are expected to appear before their predicate.

This paper examines *The Corpus of Spontaneous Japanese* (CSJ) and investigates the information status of postposed elements. We are only concerned with postposed subject and object, namely with postposed elements marked by *wa* (topic), *ga* (nominative/subject) and *o* (accusative/object), excluding *wa*-marked adjuncts which express case relations other than nominative and accusative. Also, postposed zero-marked elements (i.e. bare nouns) are not studied due to the limitation of automatic searching.

Our findings can be summarized as below:

- Information status of postposed elements in right-dislocation sentences can be divided into two types depending on their contour patterns: the single-contour type (the whole sentence is uttered within a single intonation contour) and the double-contour type (the postposed element in the sentence is uttered with an intonation contour separate from the main clause).
- Postposed elements of single-contour type combined with their main clauses tend to be old information.
- Postposed elements of double-contour type tend to be unexpected, new information.

The intonation perspective, which we propose here, enables us to predict the information status of postposed elements in right-dislocation sentences in Japanese.

1.2 Overview of the Paper

Our discussion proceeds in the following way. In §2 we overview previous studies which have tried to identify what kind of information a postposed element conveys. We point out that their generalizations have some problems. This is, we argue, partially because their identification of old/new information is vague and subjective. More importantly, they miss an important aspect of the right-dislocation sentence, that is, its contour.

Thus, in §3, we investigate a spoken corpus. We claim that right-dislocation sentences can be divided into two types, i.e., single-contour type and double-contour type. We demonstrate that we can predict the information status of a right-dislocation sentence from this perspective; the postposed elements in right-dislocation sentences of single-contour type convey old information, while those of double-contour type convey new information. Our hypotheses are supported by the results of our corpus investigation.

In §4 we investigate the corpus in more detail in terms of Referential Distance (Givón 1983) and old/new hierarchy.

In §5 we discuss our hypotheses in relation to the literature which studies interactional

aspects of right-dislocation sentences. Then we discuss the relationships between our findings and related phenomena: Chafe's (1994) One New Idea Constraint hypothesis and Givón's (1983) prediction about the relationships between word order and information structure.

In §6 we summarize our findings and point out remaining issues.

2 Previous Studies and Remaining Issues

In this section we briefly examine the previous studies in 2.1, point out some remaining issues in 2.2, and propose solutions for them and alternative hypotheses in 2.3.

2.1 Previous Studies

In this section we first discuss Kuno (1978) in 2.1.1 and then Takami (1995a, 1995b) and Fujii (1995) in 2.1.2.

2.1.1 KUNO (1978)

Kuno (1978: 68) characterizes the postposed elements in Japanese right-dislocation sentences in the following way:

(i) Postposed elements are recoverable information, which at first the speaker thinks ommitable but in the end adds to make sentences clearer; or

(ii) they are recoverable from the physical context.   (translation ours)

2.1.2 TAKAMI (1995A, 1995B) AND FUJII (1995)

As Takami (1995a, 1995b) and Fujii (1995) point out, however, there are counterexamples to Kuno's characterizations of postposed elements in Japanese.

Takami reports a lot of counterexamples to Kuno's generalization. For example, he argues that postposed elements in (2) are not recoverable from the preceeding or physical context.

(2) a. atasi it-ta-no   *kekkon-si-tai-tte*
       I   say-PAST-PAR   marry-do-want-QUOTE
       "I said, (I) want to marry (you)"

    b. taroo-wa   hanako-ni   kat-te-yat-ta-yo   *zyukkaratto-no*   *daiya-no*
       Taro-TOP   Hanako-DAT   buy-and-give-PAST-PAR   ten-carat-GEN   diamond-GEN
       yubiwa-o
       ring-ACC
       "Taro bought for Hanako, a ten-carat-diamond ring."

Takami also observes that focus elements cannot be postposed. According to him, focus means the most important information which the speaker assumes that the hearer cannot predict (Takami 1995a: 136). For example, the answer to a question and *wh*-elements are foci in this sense. Firstly, as in (3), the answer to a question cannot be postposed. Secondly, as in (4), *wh*-elements cannot be postposed.

(3) A: taroo-wa hanako-ni nani-o kat-te-age-ta-no?
        Taro-TOP Hanako-DAT what-ACC buy-and-give-PAST-Q
        "What did Taro buy for Hanako?"

    B: #taroo-wa hanako-ni kat-te-yat-ta-yo *zyukkaratto-no*
        Taro-TOP Hanako-DAT buy-and-give-PAST-PAR ten-carat-GEN
        daiya-no *yubiwa-o*
        diamond-GEN ring-ACC
        "Taro bought for Hanako, a ten-carat-diamond ring."

(4) *itiban oisii-desu-ka *dore-ga*?
      best good-POLITE-Q which-NOM
    "Which is the best?"

Thus he revises Kuno's generalization and characterizes postposed elements as follows:

(iii) Postposed elements are elements other than focus.

As we will see, however, there are counterexamples to this generalization as well..

Fujii (1995) investigates the spoken corpora in which two people talk in TV program, and she reports that half of the postposed elements are new information. However, she makes no prediction about information status of postposed elements.

2.2 Remaining Issues

In this section we point out (i) counterexamples to Takami's generalization, (ii) more general problems with Kuno's and Takami's methods, and (iii) a remaining issue implicated in Fujii (1995).

Firstly, we found that one of the focus elements can also be postposed if a sentence has multiple focus elements. As in (5A), a *wh*-element can be postposed if there are two *wh*-elements in a sentence, and, as in (5B), an answer element can also be postposed if there are two answers.

(5) A: yamada-san-tte   omiyage-ni nani-o   kat-ta-no? *dare-ni*?
      Yamada-POLITE-TOP   souvenir-for   what-ACC   buy-PAST-Q   who-for
      "What souvenirs did Mr.Yamada buy for whom?"

     B: o-sake-o   kat-ta-rasii-yo   *okusan-ni*
      POLITE-sake-ACC   buy-PAST-EVID-PAR   wife-for
      "(I heard that he) bought sake for his wife."

Moreover, as in (6), which has sentence focus, the (part of) focus element can be post-posed.

(6) kaet-te   ki-ta   yo   *inu-dake-wa*
     return-and   come-PAST   PAR   dog-only-TOP
     "Only the dog came back to us."

These counterexamples suggest that postposed elements in right-dislocation sentences can be of any kind, i.e. they can include focus elements, new or old information etc This means that we can predict nothing.

Secondly, Kuno's and Takami's method which is based on constructed examples separately from the actual usage has serious problems because we do not know whether their generalizations reflect the actual tendency or not.

Thirdly, Fujii's (1995) observation implies, again, that we cannot make predictions about the information status of postposed elements.

In order to solve these problems, we will divide postposed elements into smaller groups and make a prediction. We will also investigate corpora to verify whether the prediction is correct or not.

2.3   Observations and Hypotheses

According to our observation and Clancy (1982, 1985), there is a difference in intonation between postposed elements which express old and new information. On the one hand, right-dislocation sentences with postposed elements which express old information (in Clancy's term, "familiar or easily deducible information") are uttered with a single intonation contour together with the main clauses. We refer to right-dislocation sentences of this type as single-contour type. On the other hand, right-dislocation sentences with elements which express new information (in Clancy's term, "afterthought") consist of two intonation contours and postposed elements themselves correspond to a single contour. We refer to right-dislocation sentences of this type as double-contour type. Thus, for example, the right-dislocation sentences with postposed elements conveying old informa-

tion as in (1) are uttered typically in a single coherent contour without a pause, and pitch and intensity rise only in the main clause. Examples are shown in (7), where boldface letters represent high pitch and intensity.

(7) a. **hontoo**ni **dame**-da-ne *kimi-wa*
  really foolish-ASS-PAR you-TOP
  "(You are) very foolish, you are."

 b. yat-**te age-mas-yo**o *watasi-ga*
  do-and give-POLITE-OFFER I-NOM
  "(I) will do it for you, I."   (=(1))

On the other hand, the right-dislocation sentences with postposed elements conveying new information like (2), (5), and (6) are typically uttered in two distinct coherent contours with a pause between the preposed and postposed elements, and pitch and intensity rise in both the postposed elements and the main clauses. Examples are shown in (8) and (9), where two periods represent a pause.

(8) atasi **it-ta**-no.. *ke***kkon-si-tai**-*tte*
 I say-PAST-PAR marry-do-want-QUOTE
 "I said, '(I) want to marry (you)."'   (=(2a))

(9) A: ya**mada-san**-tte o**miyage-ni na**ni-o kat-ta-no..? **da***re-ni*?
  Yamada-POLITE-TOP souvenir-for what-ACC buy-PAST-Q who-for
  "What did Mr. Yamada buy for souvenirs for whom?"

 B: o-**sake**-o kat-**ta-rasi**i-yo.. o**kusan-ni**
  POLITE-sake-ACC buy-PAST-EVID-PAR wife-for
  "(I heard that he) bought sake for his wife."   (=(5))

(10) **ka**et-te ki-ta yo.. i**nu**-da**ke**-wa
  return-and come-PAST PAR dog-only-TOP
  "Only the dog came back to us."   (=(6))

This contrast is clearer in the following examples. In (11), where *kome* "rice" is new information, the double-contour type as in (11B) is acceptable, whereas the single-contour type as in (11B′) is odd. On the other hand, in (12), where *kome* "rice" is old information, the double-contour type as in (12B) is odd, whereas the single-contour type as in (12B′) is acceptable.

(11) A: ano o-susi-ya-san   oisii?
          that   POLITE-sushi-bar-POLITE   good?
          "Is that sushi bar good?"

     B: o**isii**-yo.. **kome**-*wa*
          good-PAR   rice-TOP
          "The rice is good (but others not)."

     B′: ??o**isii-yo** *kome-wa*

(12) A: boku kome kirai
          I   rice   hate
          "I don't like rice."

     B: ?o**isii**-yo.. **kome**-wa

     B′: o**isii-yo**   kome-wa
          good-PAR   rice-TOP
          "Rice is good."

Thus we have the following hypotheses:

- Right-dislocation sentences can be divided into two groups in terms of intonation;
- Postposed elements of single-contour type convey old information;
- Postposed elements of double-contour type convey new information.

In the following section, we demonstrate that our hypotheses are supported by the results of investigation into a spoken corpus.

3 Corpus Investigation and Results I

In this section, we explain how we studied our corpus (3.1) and then show the results of our investigation (3.2).

3.1 Method

We investigated the conversational parts of *The Corpus of Spontaneous Japanese* (CSJ) constructed by Kokuritsu Kokugo Kenkyujo (the National Institute for Japanese Language) and NiCT (National Institute of Information and Communications Technology). Every conversation was produced by two persons who do not know each other well.The conversation parts of CSJ consist of 16 task talks, 26 interviews, and 16 free conversations. Conversation parts as a whole are 12.2 hours. Lines in the transcription are separated by a pause more than 0.2 seconds (cf. Koiso, Nishikawa, and Mabuchi (2006)). Thus each line corresponds to an Inter-Pausal Unit (IPU).

Table1　Information status and intonation in R-dis sentences: # of examples

Info. status	Single-contour	Double-contour	Total
New	1	**3**	4
Accessible	4	1	5
Old	**29**	9	38
Total	34	13	47

First, we divided the transcriptions of CSJ into morphemes by ChaSen, and searched for sequences of nouns followed by *wa*, *ga*, and *o* at the end of IPUs. We used KH-Coder to search for sequences.[2] Second, we gathered right-dislocation sentences from the searched results. Third, we classified the right-dislocation sentences into two types: single-contour type and double-contour type. In order to make our judgement less subjective, two of the authors independently classified them, and disagreed sentences are excluded from the results. Fourth, one of the authors classified postposed elements into three groups: old information, accessible information, and new information. "Old" means the referent in question is already referred to in the previous context. "Accessible" means the entity in `is_a` or `part_of` relation has been mentioned in the previous context. "New" means the referent is not referred to in the previous discourse except for accessible information.

In the next section, we show the results of our investigation and analyze them.

3.2　Results

In this section, we show the results of the investigation in 3.2.1 and examine the examples against our hypotheses in 3.2.2.

3.2.1　RESULTS

We found 60 right-dislocation sentences in the corpus. However, the authors disagreed as to tagging 13 examples, thus we excluded them from the following discussion and examined 47 right-dislocation sentences (32 with *wa*, 14 with *ga*, and 1 with *o*).

The results of our investigation are shown in Table 1. The bold-faced numbers are the numbers of examples compatible with our hypotheses. The results show that right-dislocation sentences tend to follow our hypotheses.

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[2]　KH-Coder is a free software for text mining. It is available at the following URL: `http://khc.sourceforge.net/`

We show below some of the examples which support our hypotheses: old information with single-contour in (13) and new information with double-contour in (14).

(13) a. do**no-kurai**   koo   kubat-te   do**no-kurai**   kaishuu
how-approximate FILLER hand.out-and how-approximate collect
dekiru-mono-nan-desu-ka   *kore-wa*
possible-NOMINL-ASS-POLITE-Q this-TOP
"How many (questionnaires did you) hand out and how many (did you) collect, as for these (questionaires)?"

(ID: D04F0050)

b. **ka**nari ga**manduyo**i-to omou-n-desu-ne   *otto-wa*
quite   patient-QUOTE   think-CO-POLITE-PAR husband-TOP
"(I) think that (he) is quite patient, (my) husband."

(ID: D01F0046)

(14) a. nan= na**ntona**ku wa**kari-ma**si-ta...   *ken**kyuusya-zi**nsei-ga*
      kind of   understand-POLITE-PAST researcher-life-NOM
"(I) kind of understood, what researcher's life is like."

(ID: D03M0017)

b. omo**siro**i-kamo **ha***ikei-ga*
interesting-may.be background-NOM
"It's interesting, the background."

(ID: D03F0006)

3.2.2 EXAMPLES AGAINST OUR HYPOTHESES

Other postposed elements, however, do not support our hypotheses. That is, there are postposed elements which convey old information with double-contour in the corpus. We found several reasons for pitch-rising of the postposed elements which convey old information.[3] Here we enumerate the reasons.[4]

(15) a. Long time from the previous mention of a referent   (2 example)
     b. Postposed elements corresponding to long clauses[5]   (3 example)

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[3] The only one exception where the postposed element of the single-contour type conveys new information is discussed in 4.2. The example is shown in (21).

[4] There are cases where a single example is influenced by some of the factors shown in (15). The factors in (15) cover all exceptions which are against our hypotheses.

[5] We do not know which factor (being long or being a clause) affects the intonation contour.

    c. Contrasted postposed elements   (2 examples)

    d. Laughing   (3 example)

    e. Emphasized postposed elements   (1 examples)

We show some of the examples below. First, in (16) below the word *yoshimura-san-wa* "Yoshimura-POLITE-TOP" consists of a single contour by itself although it conveys old information. This word is, however, mentioned back in more than 100 preceding IPUs before it is mentioned here. Thus L2 in (16) corresponds to the case in (15a).

(16)   L and R work together with a task on the ranking of incomes of famous people.

    R1: doo-nan-daroo sosite kakehu-wa doo-mitaina-ne
           what-ASS-would and   Kakefu-TOP what-like-PAR
           "What is that? And, what about Kakefu?"

    L1: wakara-nai
           understand-NEG
           "(I) don't know."

    L2: **doo**-suru? *yosimura-san-wa*   "What (should we) do, for Yoshimura."
           what-do   Yoshimura-POLITE-TOP

    R2: kakehu-wa
           Kakefu-TOP

    R3: soo-da wasure-teta-yo
           so-ASS   forget-PERFECT-PAR
           "Oh! (I) forgot about him!"   (ID: D02F0025)

Second, the postposed element in the example (17) corresponds to a clause, and pitch rises in the postposed element although it conveys old information. However, the information conveyed by the postposed element in (17) is mentioned back in 54 IPUs before it is mentioned here. Thus (17) corresponds to the case in (15a) and (15b).

(17) demo su**goi** yuuki-desu-ne
      but   great   courage-POLITE-PAR
      *so**no-kata**-to.. hontooni.. kek**kon-nasa**ru-tte-iu-no-wa*
      that-person-with   actually   marry-do.HONORIFIC-QUOTE-called-NOMINL-TOP
      "But it is of great courage, that (you) actually married that person."
                                                            (ID: D01F0057)

The postposed element in the next example (18) also conveys old information with high pitch contour. In this case information conveyed by the postposed element is contrasted with another element because here the violin and the piano are compared and the speaker

says that she likes to play the piano by herself, but not the violin.

(18) hi**to**ri-de   yaru-no   sonna   suki-zyanai...   *ba***iorin**-*no-hoo-wa*
      alone-STATE   play-NOMINL   so   like-NEG   violin-GEN-side-TOP
      "I don't like to play the violin alone."   (ID: D01F0049)

This observation suggests that our old/new distinction is imperfect. Instead of distinguishing old from new depending on whether the referent in question has been mentioned before or not, we need to measure how "old" the referent in question is. In the following section, we investigate the same corpus from this point of view and try to predict the information status of postposed elements by measuring the "oldness" of referents.[6]

4   Corpus Investigation and Results II

In this section we investigate the corpus in more detail. We employ Givón's method of measuring the "oldness" of a referent as well as the taxonomy of old-new information, then we examine whether the results of this second investigation correlate with our hypotheses. We explain the method of investigation in 4.1 and show the results in 4.2.

Referential Distance (RD) is, according to Givón (1983), the number of clauses between a clause where a referent in question is mentioned and the last clause where the referent is mentioned. Thus RD approximates the oldness of a referent. In this paper we measured RD between IPUs instead of clauses because our corpus identifies conversational units based on IPUs. The maximum value of RD is 100, which means the referent is the newest information. On the other hand, the minimum value of RD is 0, which means the referent is the oldest information.

The old/new taxonomy shows the relationships between oldness of a referent and its form. The forms of expressions at the left side in (19) are expected to convey older information than those at the right side.

(19) pronouns & demonstrative + nouns < names < nouns < modified nouns & clauses

We have the following hypotheses in relation to Referential Distance and old/new taxonomy.

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[6] Thus, in the following section, we can only capture (15a) and (15b) by measuring the oldness of the postposed elements and by describing their forms. The other factors in (15c-e) cannot be predicted by the examination in the following section. We need to study further on (15c-e).

(20) • **Hypothesis about Referential Distance and intonation**:

The postposed elements with lower RD are classified into single-contour type, while those with higher RD are classified into double-contour type.

• **Hypothesis about the old-new taxonomy and intonation**:

The lower elements below are likely to be of single-contour type, while the upper elements are likely to be of double-contour type.

↑ Newer

　○ clause/modified noun

　○ noun

　○ name

　○ demonstrative + noun

　○ pronoun/situational

↓ Older

4.1　Method

In the second investigation, we employ Givón's (1983) method of measuring the oldness of a referent, which is referred to as Referential Distance, and the taxonomy of old-new information. Then we examined the relationships between intonation we analyzed in §3, Givón's Referential Distance, and the old/new taxonomy.

First, we measured Referential Distance of each postposed element of the right-dislocation sentences. We did not measure RD of accessible information because Givón's method can measure RD of referred NPs. Situationals were tentatively counted as 0. Second, we classified the postposed elements into seven groups according to the taxonomy of old-new information.

4.2　Results

We show the results of the second investigation in Table 2 and 3. Table 2 shows the average number of RD for postposed elements. Table 3 shows the raw number of examples. These tables show that the results support our hypotheses except for pronouns, which we discuss in the following paragraph. As Table 2 and 3 indicate, clauses and modified nouns are mentioned more often with double-contour than others. The RDs of clauses, modified nouns, and nouns with double-contour are larger than those of demonstrative + nouns, and situationals. Nouns can be uttered both in the single-contour type and in the double-contour type, but Table 2 suggests that nouns are uttered in the single-contour type if their last mention is near the current mention, while they are uttered in the double-contour type

if their last mention is far from the current mention.

Table2　Information status and intonation in R-dis sentences II: Average # of RD

Info. status	Single-contour	Double-contour	Total
Clause	–	**30.5**	30.5
Modified noun	–	**35.0**	35.0
Noun	7.3	**35.0**	20.1
Name	**5**	100	36.67
Demonstrative + noun	**2.7**	–	2.7
Pronoun	*15.1	–	15.1
Situational	**0.0**	–	0.0
Total	6.9	39.7	16.5

Only the number of pronouns is against our hypotheses; as we see from the starred number in Table 2, pronouns uttered with single-contour show a larger value than we expected. This is because the postposed element of one example (21) is not referential; it does not refer to an entity mentioned before in the context.

(21)　　[R joins a gospel group and L guesses it would be difficult to sing in the high tone.]

Table3　Information status and intonation in R-dis sentences III: # of examples

Info. status	Single-contour	Double-contour	Total
Clause	–	**2**	2
Modified noun	–	**3**	3
Noun	7	6	13
Name	2	1	3
Demonstrative + noun	**7**	–	7
Pronoun	**9**	–	9
Situational	**5**	–	5
Total	30	12	42

L: demo gosuperu-tte sugoi taihen-zya-nai-desu-ka utau-no
   but   gospel-called   very   difficult-ASS-NEG-POLITE-Q   sing-NOMINL
   "But isn't it difficult to sing gospel?"

R: sonna koto-wa-nai
   such   thing-TOP-NEG
   "No, it isn't."

(Explaining how to train singing (13IPUs).)

R: han-tosi gurai si-tara moo kekkoo deru-yooni-ne **nat**-te
   half-year   approximate   do-when   FILLER   very   come.out-to-PAR   become-and
   kuru-n-desu-yo-ne *kore-ga*
   come.to-CO-POLITE-PAR-PAR   this-NOM
   "You'll be able to sing in a high tone in a half year."

(ID: D03F0040)

Surprisingly, example (21) would be odd if the postposed element was put in its "canonical" preverbal position as in (22).

(22) #*kore-ga* kekkoo deru-yooni-ne **nat**-te **ku**ru-n-desu-yo-ne
     this-NOM   very   come.out-to-PAR   become-and   come.to-CO-POLITE-PAR-PAR

According to one of the author's intuition, *kore-ga* refers to nothing and indicates that content conveyed by the speaker is surprising for the hearer. Except for this case, the RD of pronouns with single-contour would be 3.2 and this supports our hypotheses.[7]

To summarize, the results of our second investigation support our hypotheses. The postposed elements of single-contour type convey old information in terms of Referential Distance and the old/new hierarchy; they have low RD and are at the left side in the old/new hierarchy in (19). The postposed elements of double-contour type convey new information; they have high RD and are at the right side in the old/new hierarchy.

5 Discussion

In this section, we discuss other aspects of two kinds of right-dislocation sentences in relation to previous studies (5.1) and further related phenomena pointed out in the literature (5.2).

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[7] Pronouns except for that in (21) occur with *wa* (topic marker): *kore-wa* "this-TOP" (2 examples), *sore-wa* "that-TOP" (5 examples), and *sooiuno-wa* "that.kind.of.thing-TOP" (1 example). This also suggests that the pronoun in (21) is different from others.

5.1 Functional and Interactional Aspects of Two Kinds of Right-Dislocation Sentences

Ono and Suzuki (1992), Ono (2006), and Ono (2007), following Clancy (1982, 1985), have also pointed out that there are two kinds of right-dislocation sentences with respect to intonation contours: increment and emotive.[8] Here we discuss Ono (2006) in comparison with our findings.

Ono argues that the emotive right-dislocation sentence has no pause between the main clause and the postposed element and consists of a single intonation contour. He points out that this kind of sentence is grammaticalized because there is no pause between the main clause and the postposed element, which suggests that the speaker had planned to produce a right-dislocation sentence before s/he made the utterance. This type of right-dislocation is used, he argues, when the speaker expresses some emotions or his/her feelings (Ono 2006: 388). This type is similar to (i) which has been pointed out in Kuno (1978). However, a part of Kuno's generalization does not apply to the characteristics of this type; although the postposed elements of this type convey old ("recoverable") information, one cannot say that this is "afterthought" in the sense that at first the speaker thinks ommitable but in the end adds to make the sentence clearer.

Ono argues, on the other hand, that the incremental right-dislocation sentence has a pause between the main clause and the postposed element and consists of two intonation contours: the contour of the main clause and that of the postposed element. He points out that the other participants often react between the main clause and the postposed element (*op.cit.*: 383). He argues that the postposed element of this type repairs and specifies what is said in the main clause (*op.cit.*: 385). We point out another aspect of this type: the speaker utters a right-dislocation sentence with a pause when s/he wants to make the other participant get surprised or laugh. In our data, example (14a) can be classified into this type because the speaker, the interviewer, and the interviewee have talked about what the interviewee studies, not what the researchers life in general is like. This observation is supported from the fact that, after (14a) is uttered, the interviewee laughed at the utterance. This type is similar to those which have been pointed out in Takami (1995a, 1995b).

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[8] Ono (2006) claims that there are three kinds of right-dislocation sentences: increment, emotive, and cognitive shift. However, cognitive shift does not correspond to right-dislocation sentence by our definition; the postposed element of cognitive shift type rephrases what is said in the main clause. Thus, we exclude this type from the following discussion.

5.2 Implications for Previous Studies

In this section we discuss theoretical implications for Chafe (1994: Ch9) and Givón (1983) in 5.2.1 and 5.2.2 respectively.

5.2.1 IMPLICATIONS FOR CHAFE (1994)

Here we suggest that our study supports Chafe's (1994) hypothesis: One New Idea Constraint.

Chafe and his colleagues argue that conversational sequences can be divided into appropriate units by phonological cues such as rising and falling of pitch, lag and rush, creaky voice, and a pause (cf. Chafe (1994), Du Bois et al. (1993) for English and Iwasaki (2008) for Japanese). They refer to this phonological unit as intonation unit (hereafter IU). Chafe (1994) argues that each IU can convey only one new idea (One New Idea Constraint hypothesis), and our study seems to support his hypothesis.

Iwasaki (2008) proposes important factors for identifying IUs in Japanese:

  (i) coherent contour (for the whole IU)
 (ii) pause (for inter-IUs)
(iii) pitch reset (for the begining of an IU)
 (iv) syllable lengthening (fot the end of an IU)
  (v) pitch changing (for the end of an IU)
 (vi) interjection and ending particle (for the end of an IU)

We show an example from Iwasaki (2008: 108).

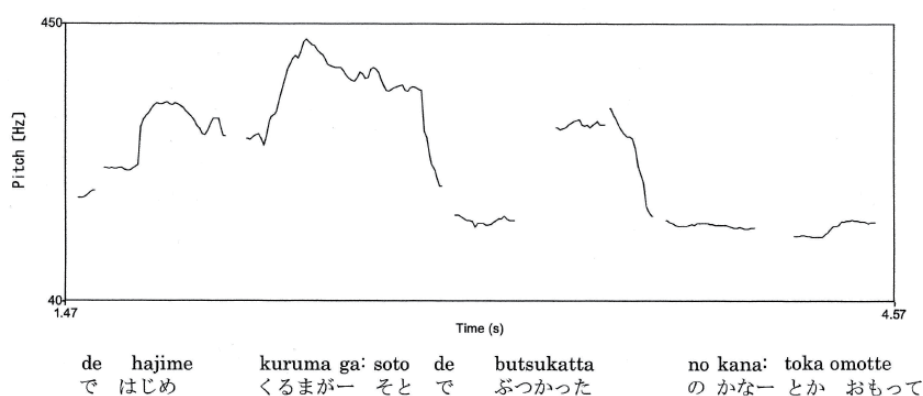(23) [The speaker talks about the earthquake s/he experienced.]

de	hazime	kuruma-ga:	soto-de	butukat-ta-no-kana:-toka
and	at.first	car-NOM	outside-LOC	crash-PAST-NOMINL-Q-something.like.that

omot-te
think-and

"At first, (I) thought a car crashed or something like that."

As we see in Figure 1, the speaker utters the IU without a pause. The break points of intonation contour are not pauses but voiceless consonants or lexically necessary pauses.[9] In (23), *kuruma* "car" is the focus element and is uttered at the highest pitch. After the

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[9] Japanese has lexical pauses such as *totte* "grip" and *makka* "red," where lexical pauses are indicated by double consonants. In (23), *omot-te* "think-PAST" has a lexical pause.

Figure1   An example of IU

de   hajime   kuruma ga: soto de   butsukatta   no kana: toka omotte
で   はじめ   くるまがー そと で   ぶつかった   の かなー とか おもって

focus element, pitch contour is going down to the end of the IU. The last element *omot-te* "think-and" has the lowest pitch.

In terms of our classification, right-dislocation sentences of single-contour type correspond to a single IU because, by definition, they consist of a single contour. On the other hand, those of double-contour type correspond to two IUs: one for the main clause and the other for the postposed element. It seems that the One New Idea Constraint works here; in single-contour type (a single IU) only main clauses convey new information and postposed elements convey old information; in double-contour type (two IUs) both preposed and postposed elements convey new information. The two types of right-dislocation sentences obey the One New Idea Constraint.

5.2.2   IMPLICATIONS FOR GIVÓN (1983)

In this section, we argue that our study partially supports Givón's hypothesis on word order and information structure, but also that the relationships between word order and information structure have another aspect which is not well captured by Givon's hypothesis.

Givón (1983) argues that there is a universal correlation between word order and Referential Distance; if a referent has larger RD, then it would appear at the left of its predicate and the whole sentence becomes a left-dislocation sentence; if it has smaller RD, then it would appear at the right of its predicate and the whole sentence becomes a right-dislocation sentence. This generalization is shown in (24) and specified in (25).

(24) **High RD** ← topic < topic-comment < comment-topic < comment → **Low RD**

(Givón 1983: 20)

(25) ↑ **High RD**

- referential indefinite NPs
- cleft/focus constructions
- Y-moved NP's ('contrastive topicalization')
- Left-dislocated DEF-NP's
- neutral-ordered DEF-NP's
- *Right-dislocated DEF-NP's*
- stressed/independent pronouns
- unstressed/bound pronouns or grammatical agreement
- zero anaphora

↓ **Low RD**

(*op.cit.*: 17)

Our study supports this hypothesis in that it predicts that the postposed elements with single-contour in right-dislocation sentences would be low RD. However, our study predicts another aspect of right-dislocation sentences; the postposed elements with double-contour would have a high RD. As we see in Table 1, four postposed elements convey new information[10] and they can fall into a unique category different from those which convey old information.[11]

6   Conclusions and Remaining Issues

In this study we have made the following claims and confirmed that they are supported by the investigation of the actual usage of right-dislocation sentences in the spoken corpus. Table 4 is the summary of findings of this paper.

We left much for further study. Firstly, the way of mesuring Referential Distance should

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[10] It is reported that many postposed elements which convey new information are found in written language such as novels (cf. Nagaya and Nakagawa (2008)).

[11] Rochemont (1986) discusses many right-dislocation sentences in English as focusing constructions. He argues that the postposed elements in right-dislocation sentences are foci or new information. As we see in (i) and (ii), where capital letters indicate focus, (part of) focus elements can be postposed in English.

(i)   a. A MAN came into the office today from INDIA.

      b. A CAR pulled out ahead of her that she hadn't noticed at the LIGHT.

(ii) A: Who just walked into the bathroom?

      B: That MAN just walked into the bathroom from INDIA.

Table4   Summary of the paper

	Single-contour type		Double-contour type	
	Main clause	Postposed element	Main clause	Postposed element
information status	new	old	new	new
pitch and intensity	high	low	high	high

be improved so that it can reflect the effect of incremental information and accessible information. Secondly, the way of determining "a sentence" needs to be sophisticated (cf. Ono and Iwasaki (2002)). Thirdly, our results are not statistically significant ($0.05 < $ p $ < 0.10$ in Fischer's test) because our data was too small. We need to gather more data and examine whether our hypotheses are statistically valid. Fourthly, it is necessary to show the relationships between our findings and the interactional characteristics of right-dislocation sentences.

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List of Abbreviations

Abbreviations used in this paper are listed below:

ACC	. . . . accusative marker	NEG	. . . . negative marker
ASS	. . . . assertion marker	NOM	. . . . nominative marker
CO	. . . . coherence marker	NOMINL	. . . . . . nominalizing marker
DAT	. . . . dative marker	PAR	. . . . particle
EVID	. . . . evidential marker	Q	. . . . question marker
GEN	. . . . genitive marker	TOP	. . . . topic marker
LOC	. . . . locative marker		

†   †   ‡

†   ‡

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(Givón (1983)   referential distance: RD)

RD

(   )   RD

 (   )

(1978)   (1995)

2

Givón (1983)

(   )

(Chafe 1994)

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2008 10 26