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RIGHT-DISLOCATION BY JAPANESE-SPEAKING CHILDREN: A PRELIMINARY ANALYSIS¹

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Japanese is a pro-drop, SOV language. However, in casual speech, there occur non-canonical orders in which some element appears to be right-dislocated (RD; e.g., (S)V(O), (O)VS, etc.). This study was proposed as an emergence order of different types of RD in Japanese through the analysis of two Japanese-speaking children's right-dislocated utterances. The analysis makes use of several features (Type of Right-Dislocated Element, Repetition, Separation, Newness, and Joint Attention) and conservative criteria to classify right-dislocated utterances into different types. The results show that although the two children are quite different in RD rates, they start to use different types of RD in the same order: grammaticalized demonstratives > pragmatic repair > sophisticated pragmatics > grammatical repair. The results imply that (i) RD can be an indicator of the development of children's pragmatic and grammatical awareness, and (ii) children's pragmatic awareness might be one driving force for grammatical development. Possible explanations for the observed individual differences are also considered.

1. INTRODUCTION. Japanese is a pro-drop, Subject-Object-Verb (SOV) language that is often claimed to be strictly predicate-final (e.g., Kuno 1973). (1) shows the canonical orders for typical two-word utterances: SV and OV.

- (1) a. <SV pattern>
Basu(-ga) kita yo!
bus(-NOM) came PCL
'There comes the bus!'
- b. <OV pattern>
Keeki(-o) tabeta?
cake(-ACC) ate
'Did you eat that cake?'

However, in casual speech, either S or O (or some other element) may occur to the right of the verb. (2) exemplifies these so-called "right-dislocated" (RD) orders:

- (2) a. <VS pattern>
Kita yo **basu(-ga)**!
came PCL bus(-NOM)
- b. <VO pattern>
Tabeta **keeki(-o)**?
ate cake(-ACC)

Although the term "right-dislocation" implies rightward movement, the present study is not intended to make a claim about the syntactic operations that produce right-dislocated utterances. It simply follows a convention.

Right-dislocated elements are not limited to subjects and objects. Ono and Suzuki (1992) observe cases where NPs (including demonstratives and pronouns), PPs, adverbs (including temporal and locative phrases), conjunctions, and clauses are right-dislocated.

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The goal of this study is to propose, through analysis of right-dislocated utterances by two Japanese-speaking children, an emergence order of different types of RD based on the classification by Ono and Suzuki (1992). Previous studies (e.g., Clancy 1985; Sugisaki 2004) claim that RD by Japanese-speaking children is qualitatively adult-like. However, the present study shows that RD does show developmental changes in terms of the relative frequencies of different types of RD. Since RD by adults is supposed to be closely related to pragmatics, informational structure, and (lapses in) speech planning (see §2.1), its developmental progression may well reflect the emergence and development of children's pragmatic awareness and speech planning processes. (Note that I am using the term "pragmatics" in a broad sense, including factors such as newness, joint attention, emphasis, etc.)

This paper proceeds as follows. In the next section, I first review existing studies of RD by Japanese-speaking adults to discuss the factors leading to the occurrence of RD. Although there are not many studies of children's RD, the few studies that do exist are also reviewed. In the last part of the section I make predictions about the emergence order of RD.

Section 3 describes the methodology for this study: how right-dislocated utterances were identified, along what dimensions they were coded, and what criteria were used to distinguish among different types of RD. Although previous studies claim that the presence/absence of a prosodic break (i.e., a pause or intonational break) between the main sentence and the right-dislocated element plays a crucial role in distinguishing two broad categories of RD (see §2), this study focused on text analysis. Instead of using audio files to code for prosodic breaks, I introduce several alternative features, and use strict and conservative criteria to classify right-dislocated utterances and to exclude all ambiguous cases. Criteria that do not make use of audio data will be of use for future research, considering that the vast majority of publicly available data are text-based.

Section 4 reports the results of the analysis of each type of RD. The results show that the emergence order of RD is roughly as follows: grammaticalization > basic pragmatics > sophisticated pragmatics > grammar. I also consider possible explanations for individual differences. Section 5 summarizes the findings and considers future directions.

2. SOME EXISTING STUDIES ON RD.

2.1 RD BY ADULTS: GENERAL CONCENSUS. Why do adults use RD? The general consensus in the literature (e.g., Clancy 1985; Shibatani 1990) is that it arises from some kind of lapse in speech planning. Since the mental processes for producing utterances occur very quickly, lapses in planning do happen. For instance, speakers may fail to access some difficult lexical item. They may fail in constructing an appropriate model regarding what is in the listener's mind. Whatever the lapses may be, they often result in the inappropriate omission of constituents, especially in pro-drop languages like Japanese. If speakers notice these lapses themselves, they may on second thought produce the inappropriately omitted items after the predicates. According to these analyses, right-dislocated elements are afterthoughts.

Clancy (1985) proposes another type of RD in which speakers deliberately defocus some element by placing it in the RD position. The motivations for her proposal are the high frequency of RD in casual speech, and the short length of typical right-dislocated utterances. Takahara and Peng (1981) report that nearly 10% of all the adult utterances that they studied included right-dislocated elements. Also, many researchers report that right-dislocated utterances are often very short and do not have any prosodic break between the main sentence and the right-dislocated element (e.g., Ono and Suzuki 1992). According to Clancy, these observations call into question the "lapse in planning" explanation because it is unlikely that a lapse in planning occurs so often with short utterances.

Tanaka (2001) proposes a syntactic analysis of RD sentences. According to his analysis, right-dislocated utterances in fact consist of two sentences, as in (3a), with the second sentence undergoing scrambling (3b) and deletion (3c).

- (3) a. Dylan-ga *pro* tabeta yo, Dylan-ga **chaahan-o** tabeta yo.
 Dylan-NOM ate PCL Dylan-NOM fried.rice-ACC ate PCL
- b. <Scrambling>
 Dylan-ga *pro* tabeta yo, **chaahan-o**_i [Dylan-ga t_i tabeta yo].
- c. <Deletion>
 Dylan-ga *pro* tabeta yo, **chaahan-o**_i [~~Dylan-ga t_i tabeta yo~~].
 'Dylan ate it, the fried rice.'

Though the motivation for RD is outside Tanaka's scope, his analysis is consistent with an "afterthoughts" explanation because it implies the possibility that the RD phrase is planned separately from the first sentence, i.e., "on second thought."

2.2 FOUR TYPES OF RD. Ono and Suzuki (1992; O&S) offer a more refined, comprehensive classification of RD on the basis of different motivations for it. Their broad classification consists of two types roughly corresponding to Clancy's afterthoughts and deliberate defocusing explanations. According to O&S, one type of RD usually occurs with a prosodic break between the main sentence and the right-dislocated element while the other type does not. They propose that the presence or absence of a prosodic break indicates that the first type of RD is planned separately from the main sentence, while the second type is more intentional, and hence the right-dislocated word order is grammaticalized. The second type is further classified into two subtypes (see below). Though they do not explicitly offer a finer classification of the first type, their description suggests that there are three subtypes. The motivations and properties suggested by O&S for these five types of RD are summarized in Table 1. Examples and explanations follow.

TABLE 1. Five types of RD based on O&S.

Type	Motivation	Prosodic break	Predicate and RD element
PR (Pragmatic Repair)	- Pragmatic repair. - Sometimes triggered by the (lack of) response from the listener.	Yes	- Arguments of the preceding clause - PPs - Other temporal/locative phrases
GR (Grammatical Repair)	- Grammatical repair.	Yes	- NPs with a case marker - PPs
SP (Sophisticated Pragmatics) with prosodic break	- Further specification, emphasis and/or elaboration. - Sometimes triggered by the listener's positive response.	Yes	- Adverbs - Clauses - Temporal/locative phrases - PPs
SP (Sophisticated Pragmatics) without prosodic break	- Add discourse-pragmatic information utterance-finally by linking or contrasting the present utterance with the prior utterance.	No	- Adverbs - Pronouns - Conjunctions
GD (Grammaticalized Demonstratives)	- Iconically motivated; inner feeling first, external object last.	No	- Predicate: Adjectival or nominal predicates expressing the speaker's feelings. - RD: Demonstrative.

2.2.1 PRAGMATIC REPAIR. An example of PR (pragmatic repair) is shown in (4).

- (4) Yurushite-kunnai yo, **shachoo-ga.**
 allow-not PCL president-NOM
 ‘(He) would not allow us to do that, the president.’ (O&S:431)

In this example, the subject of the sentence is dropped in the main sentence, but the speaker produces it as a right-dislocated element. According to O&S, this is the first time in this discourse that *shachoo* ‘president’ is referred to. Therefore the speaker may have realized while s/he was producing the main sentence that the listener might be unable to infer what the subject was, which led to the use of RD. Hence the motivation for PR is a pragmatic lapse in speech planning. PR may be triggered by a negative response, or a lack of response, on the listener’s part, as in (5).

- (5) K: Nampun-ni tsuitaa?
 what.time-at arrived
 ‘What time did you arrive?’

M: ...(no response)

- K: ... **kaijoo-ni.**
 hall-at
 ‘at the hall’ (O&S:433)

In this example, K asks ‘What time did you arrive?’, but the lack of response by M indicates that s/he does not understand the question. Therefore K adds a locative PP after a long pause. Needless to say, the listener’s negative response (i.e., an explicit expression of incomprehension) may also trigger this type of RD; in the above example, M might have explicitly indicated his/her incomprehension by saying, for example, *E?* ‘Huh?’ or *Nani?* ‘What?’. I assume that the types of elements that can appear in PR are elements that can provide information crucial to keeping up with the discourse. That is, they are expected to be argument NPs of the main sentence, some PPs (as in example (5)), and other temporal or locative phrases.

2.2.2 GRAMMATICAL REPAIR. An example of GR (grammatical repair) is shown in (6).

- (6) Shigoto-nitaisuru hyooka-**ga** ano hito nee, shite-nai, hyooka-**o.**
 work-about credit-NOM that person PCL do-NEG credit-ACC
 ‘That person does not give credit to our work.’ (O&S:434)

In this utterance, the speaker first uses the nominative marker *-ga* for the noun *hyooka* ‘credit’. However, since the verb *shite* ‘do’ requires the accusative marker *-o*, s/he says the whole object NP again in the RD phrase, replacing *-ga* with *-o*. I would guess that, among many types of grammatical errors, only case marker/postposition errors can be repaired using RD, as in (6); in order to repair other types or errors, different means are required. For example, in order to correct a word-order error, the speaker needs to say almost the entire utterance again. Or if the error is in the verb ending, a correction would lead to a repetition of the verb. A repetition of the predicate is not considered to be RD because an RD utterance is one in which a pre-predicate element occurs in the post-predicate position. Based on these considerations, this study focuses on case marker/postposition errors. Therefore, types of elements that occur in GR are NPs and PPs.

2.2.3 SOPHISTICATED PRAGMATICS (WITH OR WITHOUT A PROSODIC BREAK). Unlike PR, SP (sophisticated pragmatics) with a prosodic break does not come from a lapse in planning. Rather it (i) provides extra information by further specifying a referent or by elaborating an expression that appeared in the main sentence, or (ii) expresses emphasis by repeating an element in the main sentence or by adding an adverbial or adjective. (7) shows an example of a right-dislocated adverbial clause that is classified as this type. In this example, the RD phrase provides a reason why they do not have to decide the time in the RD phrase.

- (7) Jikan kimendemo ee shi, **owatta tokoro de yametara ee kara.**
 time decide good PCL ended place at stop.if good because
 ‘We don’t have to decide the time, because we can stop when it is over.’ (O&S:434)

Elements used in SP with a prosodic break are usually adjacent-like elements such as adverbs, adverbial clauses, temporal/locative phrases, and PPs. It is also possible that crucial elements like arguments of the main sentences are repeated in the RD position for emphasis.

SP without a prosodic break also requires sophisticated pragmatic skills. It adds discourse-pragmatic information utterance-finally by linking or contrasting the present utterance with the prior utterance. Because it occurs without a prosodic break, O&S suggest that the RD order in this usage has been grammaticalized to some extent, with limited types of elements occurring in the RD position. Elements that are right-dislocated in this type are naturally conjunctions and adverbs. However, O&S mention an interesting example in which a pronoun is right-dislocated for creating contrast (8).

- (8) O: Itsunomani sukii nanka itte, nani yatten da.
 before.one.knows ski such.as go what doing COP
 ‘You went skiing without telling me... what are you doing?’
 T: Gomen. Repooto-mo dashitenai noni, sukii itte-kimashita yo **watashi.**
 Sorry report-even submit.not though ski have.been PCL I
 ‘Sorry. Although (I) haven’t submitted (my) report, (I) went skiing, I.’
 (O&S:437–38)

Here T adds *watashi* ‘I’ at the end of her utterance without a pause. It is clear from O’s utterance that he recognizes T went skiing (which is why O sounds angry). Therefore T’s addition of the 1st person pronoun is not for pragmatic repair. The most natural interpretation is that she intended to contrast herself, who went skiing, with O, who did not, by explicitly producing the personal pronoun, which is almost always omitted in a pro-drop language like Japanese.

In this study SP with a prosodic break and SP without a prosodic break will not be distinguished. One reason is that they are very similar in terms of their functions and elements that appear in the RD phrase. As described above, they have both sophisticated pragmatic functions. Adverbials, adjectives, and conjunctions appear in both types, although personal pronouns may also appear in SP without a prosodic break. The only feature that distinguishes them is the presence vs. absence of a prosodic break. However, since this study focuses on text analysis, it is virtually impossible to detect prosodic breaks consistently. Based on these considerations, these two types of RD are combined in this study and simply called SP.

2.2.4 GRAMMATICALIZED DEMONSTRATIVES. The other type of grammaticalized RD is GD (grammaticalized demonstratives), which is exemplified in (9).

- (9) Yaa da na **kono kokonatsu.**
 disgusting COP PCL this coconut
 ‘Tastes awful this coconut drink.’ (O&S:439)

According to O&S, this type of RD is iconically motivated. That is, the speaker’s inner feeling toward the object in front of him/her is expressed before naming the object itself. O&S propose that, in this type of right-dislocated utterances, predicates are limited to adjectivals or nominals expressing the speaker’s inner feelings and, more important, right-dislocated elements are always demonstratives, or nouns modified by an adjectival demonstrative.

2.3 RD BY CHILDREN. As mentioned at the beginning of this section, there are few studies that deal with RD by children. Those that do exist mostly claim that children’s RD is essentially adult-like. For instance based on a qualitative analysis of a 2-year-old’s “postposing” (another term for RD), Clancy (1985) states that “postposed word orders are used very early by Japanese children” (Clancy 1985:420) and that “[c]hildren’s usage of [word order and ellipsis, including postposed orders] seems

to have the same basis as in adult speech” (Clancy 1985:420). Another study by Sugisaki (2004) examined VO utterances by two two-year-olds. Sugisaki’s goal was to examine whether Japanese two-year-olds have already set the head direction parameter on the basis of Tanaka’s (2001) analysis, which was mentioned in §2.1. According to the analysis, right-dislocated object *wh*-questions are not grammatical because, though a *wh* word is always in focus, it is replaced with *pro* in the first sentence (10).

- (10) *Dylan-ga *pro* tabeta no, **nani-o**; Dylan-ga ______{t_i} _____ tabeta no?
 Dylan-NOM ate Q **what-ACC** Dylan-NOM ate Q
 ‘lit. Dylan ate what?’

Sugisaki’s results show that the Japanese-speaking children never produced utterances like (10).

Both Clancy and Sugisaki claim that children’s RD is qualitatively adult-like. However, the present study provides both a quantitative analysis (e.g., the frequency of each type over the developmental course) as well as a qualitative analysis (e.g., the first clear use of each type) in order to examine the development of children’s linguistic awareness and capacity to realize it for successful communication with their caregivers. In the next subsection, I predict an emergence order of each type by considering what factors motivate each type of RD and what kind of input, processing capacity, and linguistic knowledge are necessary for each type to emerge.

2.4 PREDICTED EMERGENCE ORDER. The four types of RD described in §2.1 are differently motivated; they also require different kinds of input, knowledge, and abilities. PR (pragmatic repair) is often crucial for successful communication, because it adds essential information, the lack of which would lead to misunderstanding or incomprehension on the listener’s part. Therefore the motivation for PR is quite high, and it is predicted that children start to use this type of RD as soon as they enter the two-word stage, or even earlier, if we take into consideration O&S’s claim that this type of right-dislocated utterances is in fact planned as two separate utterances.

The demand for GR (grammatical repair) may not be so urgent. That is, the mistake made in the main sentence is not as serious for successful communication as in PR, although it does matter for more adult-like communication. As is widely known, case markers are often omitted in Japanese casual speech because cues other than case markers, such as word order and semantic relations among words, are available. Also, it is known that Japanese-speaking children make case-marker and postposition errors for quite a long time during development. These errors emerge mostly when they are two years old, and persist at least until well past the third birthday (e.g., Yokoyama 1997). These facts about the omission and the long “case-marker/postposition error period” predict that grammatical errors are not as serious or urgent for small children as the kind of errors made in PR. In addition, GR may be quite demanding for two-year-olds. In order to correct their own grammatical errors, children need to possess a robust grammar and to monitor their own speech based on that grammar. Therefore it is predicted that GR neither emerges very early nor is used very frequently.

SP (sophisticated pragmatics) is also expected to develop late. There are several reasons for this prediction. First, SP governs quite sophisticated functions, such as emphasis, further specification, elaboration, contrast, etc. They may not be necessary for minimal communication, which lowers the motivations for using them. Second, some of their functions may be quite demanding in terms of processing load, because these functions cannot be realized unless the previous context is taken into consideration. For instance, in order to create contrast, it is necessary to retain in working memory the previous utterance and its informational structure (i.e., old vs. new information, which element received focus, etc.), and construct a new utterance based on that. A third reason is that the elements that are supposed to occur in these types of RD (i.e., adjectives, adverbs, conjunctions, etc.) are usually acquired late. These all predict that SP develops quite late.

Finally, it is quite likely that GD (grammaticalization of demonstratives) appears very early and is used very frequently. The foremost reason for this prediction is that it is grammaticalized, and the possible combinations of the predicate and the right-dislocated element are quite limited, which should make it easier for children to capture the patterns. The use of demonstratives here is similar

to that of sentence-final particles in that there are only a few choices and that they appear at the end of a sentence, which is the easiest position for children to perceive and remember. In fact, sentence-final particles are very early acquisitions. According to Clancy (1985), they emerge at 1;6–2;0, before children enter the two-word stage. Besides, since demonstratives are very powerful referential tools for young children, they acquire them (especially *kore* ‘this’ and *koko* ‘here’) early, and use them frequently.

Summarizing the argument so far, it is broadly predicted that PR and GD emerge early, while GR and SP are late. If we compare PR and GD, I predict that GD might be earlier, or at least it becomes frequent earlier, on grounds that (1) the right-dislocated elements are very limited (only demonstratives), and (2) the whole utterance is typically very short: an NP or adjective and a demonstrative. It might also be the case that this type is quite frequent in the input due to grammaticalization, while pragmatic lapses in planning, which motivate PR, may not occur as frequently in adult speech. Comparing GR with SP, GR could be earlier because children reportedly overuse or overgeneralize case markers and postpositions (Clancy 1985) soon after acquiring them, typically around their second birthday. This implies that children become conscious of those markers at some early point of development. Therefore, the more detailed emergence order that I predict at this point is (11):

- (11) Predicted emergence order of different RD types:
 Grammaticalized Demonstratives (GD) > Pragmatic Repair (PR) > Grammatical Repair (GR) > Sophisticated Pragmatics (SP)

In the next section, I describe the method used in this study. A challenge here is how to sort out each type of RD. The basic strategy is to be as strict and conservative as possible by introducing several criteria.

3. METHOD.

3.1 DATA. Longitudinal data from two male Japanese-speaking children, Jun (Ishii 1999) and Tai (Miyata 2000), were chosen from the CHILDES archives (MacWhinney 2000). These two sets of data are similar in the frequency of recording sessions and the length of each session; for both, one month typically contains four recording sessions, and a typical recording session is sixty minutes long.

However, these children are quite different in terms of their RD rates and the situations in which they were recorded. Jun’s overall RD rate is quite high, while that of Tai is very low (23.2% vs. 6.1%; see 4.1). The Jun data consist of dyads involving his father, whereas Tai talks mainly with his mother and sometimes with the female investigator. These differences were the main reason why they were chosen. That is, since there is no comprehensive quantitative study on children’s RD, dealing with two very different children may well lead to more robust generalizations.

Transcripts are available from 1;6 to 3;8 for Jun and from 1;5 to 3;1 for Tai. For this study a period of nine months was selected for each child (Jun: 2;1–2;9; Tai: 1;9–2;5). The onset of the analyzed period for each child was determined on the basis of the number of right-dislocated utterances; that is, the first files for both Jun and Tai (2;1.8 and 1;9.3, respectively) contained only one RD utterance. Although these two utterances might not be their very first instances of RD, it can safely be said that the analyzed periods contain very early stages of RD; it is important in examining which type is acquired first.

This study also analyzed a sample of the adults’ speech directed to their children for the purpose of showing the final stage that the children may be expected to reach. The sample consisted of two months’ data from Jun’s father (2;2 and 2;6) and Tai’s mother (1;9 and 2;5). Each month contained four 60-minute recording sessions.

3.2 IDENTIFICATION OF TARGET UTTERANCES. The analysis began with the extraction of all utterances containing elements that are or *can be* right-dislocated. The latter type of utterances, i.e., those with right-dislocatable but not right-dislocated elements, are so-called canonical utterances for

convenience, although they in fact include some scrambled utterances. The total number of canonical and right-dislocated utterances serves as the denominator for calculating overall RD rates.

By definition, right-dislocated utterances are those with post-predicate elements. However, one problem was that, as the pre-RD predicates in PR, GR, and part of SP are followed by a prosodic break, they are often transcribed as two utterances. Moreover, different transcribers may apply different standards to the question of whether or not to transcribe an RD utterance as two utterances. (12) is an example of an RD utterance transcribed as two separate utterances.

(12) <Jun, 2;5.25>

Mata kowareteru wa, taiya-ga. **Torakku-no.**
 again broken PCL tire-NOM **truck-GEN**
 '(It's) again broken, the wheel. The truck's.'

In the above example, Jun RDs two elements: *taiya-ga* 'tire-NOM' and *torakku-no* 'truck's'. The first one is transcribed as belonging to the preceding clause, but the second one is not, although it clearly modifies the preceding noun, *taiya* 'tire'. In order to maintain consistency in identifying right-dislocated utterances, elements that are assumed to belong to the preceding clause were all treated as right-dislocated elements, i.e., as belonging to a single RD utterance. Whether or not a separately transcribed element belonged to the preceding clause was determined based on syntactic, semantic, and pragmatic considerations. First, adjectives, adverbials (including adverbial clauses), and nominals followed by a case marker or postposition were easy to determine because they clearly showed that they modified a preceding element (see example (11) above). A slightly more difficult case was a nominal, especially a demonstrative, without any marker following it. In such a case, the judgment was based on semantic and pragmatic considerations. An example is shown in (13). The preceding utterance by the father is translated into English.

(13) <Jun, 2;5.24>

Fat: I wonder whose this is?

Jun: Yoshono, yosono? **Kore.**
 somebody.else-GEN somebody.else-GEN **this**
 'Somebody else's? This.'

Here the father is talking about a toy that he has never seen. The separately transcribed demonstrative *kore* 'this' in Jun's utterance refers to the toy (a pragmatic consideration). If this is the case, it is semantically most plausible to interpret the demonstrative as a case of topic marker drop (i.e., *kore(-wa)*) and as belonging to the preceding part.

An element separated by an adult response was also considered to be a right-dislocated element if it was assumed to be part of the preceding clause according to the above criteria. It was important to include these cases, because O&S observe that RD is sometimes triggered by a response from the listener. For an element separated by a response to be regarded as belonging to the previous utterance, two additional conditions had to be satisfied. First, the main sentence and RD phrase had to be separated by only one utterance. Second, it was also important, especially in ambiguous cases like nominals without a marker, that the adult response not be intended to change topics; if it was, the child's seeming right-dislocated element might in fact have been a response to the change of topics. An example of an element regarded as belonging to the previous utterance is shown in (14).

(14) <Tai, 2;4.30>

Tai: Suwatta.
sat
'I sat down'

Mot: Mata.
again
'Again.'

Tai: **Koko ni.**
here in
'In this position.'

Mot: You really like to sit there.

In the above example, Tai sits down in his favorite position. His mother responds *mata* 'again', which means 'You sat there again'; it seems that she does not want Tai to sit there. Tai's next utterance, *koko ni* 'in this position', belongs to his preceding utterance, because *koko* expresses a location where Tai is sitting (a semantic consideration). Besides the postposition *ni* syntactically links *koko* to the verb *suwatta* 'sat'. The rate of this type of right-dislocated utterances (i.e., those separated by an adult response) was 10.3% for Jun and 7.4% for Tai, out of all right-dislocated utterances (see Table 2 below for the total number of right-dislocated utterances).

In addition to right-dislocated utterances, canonical utterances that contain right-dislocatable elements were also identified in order to calculate the number of opportunities to produce right-dislocated utterances, which is the number of right-dislocated utterances and right-dislocatable canonical utterances combined. right-dislocatable canonical utterances were identified in the following way. The most fundamental criterion for judging whether an utterance contained a right-dislocatable element or not was whether it contained, in addition to a predicate, at least one "free-standing word," i.e., a nominal (noun, demonstrative, or pronoun), adjective, adjectival verbs, or adverbial (adverb, onomatopoeia, or floating quantifier). However, the analysis faced one problem: how to deal with noun/onomatopoeia incorporation patterns. In Japanese, a noun or onomatopoeic element is often combined with *suru* 'do' to form a single verbal expression, as shown in (15).

(15) a. Eigo-o **benkyoo-shita.**
English-ACC study-did
'I did (some) study of English.'

b. Tsukue-o **tonton-shicha** dame.
desk-ACC tapping.sound-do.if bad
'Stop tapping the desk.'

Note that (15a) has an accusative-marked object, which means that *benkyoo* 'study' is not the object of *shita* 'did' but part of the verbal expression.

These noun/onomatopoeia incorporation patterns are sometimes treated as consisting of two separate words. This is shown by the fact that a case marker or a particle can be placed inside them (16).

(16) a. Benkyoo-**o** shita.
study-ACC did
'I did (some) study.'

b. Tsukue-o tonton **to** shicha dame.
desk-ACC tapping.sound PCL do bad
'Stop tapping the desk.'

In this study, these patterns were treated as consisting of two separate words, because the children did show at least a few instances where the nouns or onomatopoeic elements in such patterns were right-dislocated (17).

- (17) a. <Jun, 2;7.26>
 Otoo-san mo **shoo** ka, **pashiin** to.
 father also let's.do Q slapping.sound PCL
 'You slap it, too, Dad.'
- b. <Tai, 2;2.27>
Dassen-shite iru yo, **dassen dassen dassen**.
 derail-do PRG PCL derail
 'It has derailed.'

The number of utterances identified using these criteria is shown in Table 2.

TABLE 2. The number of canonical and right-dislocated utterances by the children and the adults.

	Canonical	RD
Jun	4795	1483
Fat	1599	276
Tai	5649	367
Mot	1648	404

3.3. CODING. After identifying right-dislocated and canonical utterances, each right-dislocated element was coded for relevant features. Each feature is discussed in detail below.

3.3.1 GRAMMATICAL TYPE, SEPARATION, AND REPETITION. All right-dislocated elements were coded for Grammatical Type, Separation, and Repetition. "Grammatical Type" classified each right-dislocated element as a Demonstrative, Pronoun, other NP (including those with a postposition), Adjective, Adverb, Onomatopoeia, Clause, or Conjunction. "Separation" coded whether the clause and the right-dislocated element were separated by a response from the listener. Also, if they were separated, whether the response was positive (i.e., showing the listener's understanding) or negative (i.e., showing a lack of understanding) was also coded. "Repetition" referred to whether the right-dislocated element was a repetition or paraphrase of some element in the main sentence.

3.3.2 NEWNESS AND JOINT ATTENTION. In addition to the above three features, nominals were further coded for Newness and Joint Attention. These features were introduced because they are claimed to be useful in predicting children's omission of arguments. For instance, Guerriero, Cooper, and Oshima-Takane (2001) and Skarabela and Allen (2002) report that children tend to omit elements that are not informative, i.e., those that are old in the discourse and/or jointly attended to by the speaker and the listener. Newness and Joint Attention are useful particularly in sorting out PR and GD. If an informative (i.e., new and/or not jointly attended to) element appears in the RD phrase, it is likely that the child uses RD to make up for the inappropriate omission of some element. That is, RD is used for pragmatic repair. Right-dislocated uninformative (i.e., old and/or jointly attended) demonstratives are most likely used as GR; the child is using RD simply as a convention. The detailed criteria for sorting out different types of RD are discussed in §3.4.

The values for Newness and Joint Attention for each right-dislocated nominal were determined following the previous studies (Guerriero, et al. 2001; Skarabela and Allen 2002). "Newness" was determined based on whether or not the object denoted by the right-dislocated element had been mentioned in the preceding twenty utterances. "Joint Attention" coded whether the speaker and the listener were paying attention to the same object. Presence or absence of joint attention was judged

using the context preceding and following the target utterance. (18) is an example of a situation where joint attention is absent. Utterances other than the target are translated into English.

- (18) <Joint attention absent: Tai, 1;11.1>
 (Tai and Mot are playing with toy cars)
 Tai: Truck crane.
 Mot: Right, a truck crane.
 Tai: Truck crane. This way?
 Mot: Yes.
 Tai: **Issho, kore?**
 same this
 ‘Is this the same?’
 Mot: What?
 Tai: How about this? Cement truck?
 Mot: Right, a cement truck.

In this situation, Tai and his mother are paying joint attention to the truck crane at first, but then Tai shifts his attention to another toy vehicle, a cement truck. However, the mother is not keeping up with this shift, which is why she asks ‘What?’ right after the target utterance. Therefore it is evident that they were not paying joint attention to the same object when the target RD utterance was produced. (19) is a situation where joint attention is clearly present.

- (19) <Joint attention present: Tai 1;10.20>
 Mot: What’s this?
 Tai: **Pan, kore.**
 bread this
 ‘This is bread’
 Mot: Right.

As mentioned before, this study used only text (rather than audio or video) information to judge joint attention. Clearly, judgment is less reliable than when videos are used. However, this potential weakness is thought to have had relatively little effect, partly because judgment of joint attention was always used conservatively in conjunction with Newness, and partly because it was not the only factor in distinguishing among different types of RD. As described in §3.4, several other features in addition to Joint Attention were used to set criteria for the identification of different types of RD.

3.4 CRITERIA FOR IDENTIFYING EACH TYPE OF RD. This study posited several criteria to distinguish among different types of RD. These criteria make use of all five features described in §3.3: (i) Type, (ii) Separation, (iii) Repetition, (iv) Newness, and (v) Joint Attention.

3.4.1 PRAGMATIC REPAIR. PR was defined to have the following properties. The first necessary condition was that the right-dislocated element should be something that can provide crucial information, i.e., an NP, demonstrative, or pronoun (with or without a case marker or postposition). A second condition was that the element must be informative, i.e., it had to be *both* new *and* not jointly attended to. The fact that the element is informative is exactly why its absence from the main sentence requires repair; without repair, the listener would fail to understand. Although it might be possible to sort out elements that are *either* new *or* not jointly attended to, this study conservatively examined only those satisfying both of these conditions. A typical example that satisfies both conditions is shown in (20).

- (20) <Jun, 2;6.28>
 Ita desu, **kamakiri**.
 was/existed COP mantis
 ‘Here (it) is, a mantis.’

Before this utterance, Jun and his father are playing with toy cars. Then the child suddenly finds a toy mantis and produces (20). Here the right-dislocated element is both new and not jointly attended to. It is apparently produced for pragmatic repair in that the child recognized that the father probably did not know what he was talking about.

There was one exception to the condition about Newness and Joint Attention: the values for these features were ignored when the right-dislocated element was separated from the main sentence by a negative response from the listener. This is because a negative response explicitly requires repair. An example is shown in (21), involving a common TV character named *Kamenraidaa*.

- (21) <Jun, 2;7.26>.
 Fat: You ripped it.
 Jun: No, I didn't. I didn't.
 Fat: Really? Who ripped it, then?
 Jun: It's Jun. Look!
 Fat: Yes.
 Jun: Kondo wa... **Jun-kun suki yo**.
 next TOP Jun-kun like PCL
 ‘The next page is... I like (it).’
 Fat: E?
 huh
 ‘Huh?’
 Jun: **Kamenraidaa**.
 Kamenraidaa
 ‘Kamenraidaa.’

When Jun and his father are looking at a picture book about *Kamenraidaa*, they find that a page that should have *Kamenraidaa* on it is missing. After the father blames Jun for ripping it, Jun tries to go on to the next page. Then he suddenly says *Jun-kun suki yo* ‘I like (it).’ The father does not understand what he is saying he likes, so he responds negatively by saying *E?* ‘Huh?’. Jun repairs his speech by adding *Kamenraidaa*, the object of *suki* ‘like’. We can determine that *Kamenraidaa* is old information because Jun clearly names it 15 utterances ago. Old elements do not satisfy the condition about Newness and Joint Attention above. However, since the negative response from the father explicitly requires repair and Jun does repair his speech, it was included in PR.

Finally, some of the right-dislocated utterances that satisfy the above two conditions were excluded from the analysis because the right-dislocated elements were a repetition of some element in the main sentence. It was important that the right-dislocated element not be a repetition, because a repetition can be used for emphasis, which is classified as SP.

3.4.2 GRAMMATICAL REPAIR. GR was identified using two conditions. One was that the element had to be a nominal (NP, demonstrative, or pronoun), because the present study limits the scope of grammatical repair to case markers or postpositions (see §2.2.2). The other condition was that an element in the main sentence be repeated as a right-dislocated element, but in a slightly different form; that is, it had to be the case that either (1) an NP appeared without any marker in the main sentence, and was repeated in the RD phrase with a case marker or postposition, or (2) the marker that appeared in the main sentence was replaced with another one in the RD phrase. Some examples of GR are shown in (22). (22b) is a rather rare type of example where the error in the use of a marker led to a negative response from the listener.

(22) a. <Addition of a postposition; Tai, 2;3.4>

Kotchi aru yo, **kotchi made**.
 here be/exist PCL here up.to
 ‘It’s here, up to here.’

b. <Change of markers; Jun, 2;8.15>

Jun: Tsumiki-**ga** asobo ka.
 block-NOM play Q
 ‘Shall we play [nominative marker] blocks?’

Fat: E?
 huh
 ‘Huh?’

Jun: Tsumiki **de**.
 block with
 ‘With blocks.’

It might be difficult to say that the first type of RD, in which a case marker or postposition is added to a repeated NP, is repair in the true sense; since case markers and some postpositions are legitimately dropped in casual speech, it is possible to say that children are not making any errors in the main sentence. The reason I classified this type of RD as GR is that the motivation for it is similar to that for the second type, in which a marker is replaced: a manifestation of children’s grammatical awareness.

In addition to the above two types of repair, I found many right-dislocated utterances in which an NP appeared with some marker in the main sentence and was repeated in the RD phrase without the marker. I excluded these utterances because the motivation for the repetition in such a case involved most likely the emphasis of the NP (a case of SP) and not grammatical repair. It is true that some these excluded cases might include some error in the main sentence. However, it is difficult to tell without an explicit marker following the right-dislocated element whether the children noticed the error themselves and attempted to repair it in the RD phrase. In other words, this study was again conservative in examining only explicit cases of repair.

3.4.3 SOPHISTICATED PRAGMATICS. For SP, the first condition was that the right-dislocated element had to be a non-argument of the preceding clause, i.e., an adverb, adjective, adverbial clause, temporal/locative phrase, or conjunction, because it had to be an element that was not crucial in interpreting the utterance. (23) is a typical example where an adverb is right-dislocated.

(23) <Tai, 2;2.20>

Koko ii, **kekoo**?
 here good quite
 ‘Is this good, quite?’

In addition, NPs (with or without a case marker) that were old and jointly attended to were also considered when they were a repetition of an element in the main sentence, because such repetitions were very likely used for emphasis. (24) is an example of an element repeated in the RD position for emphasis.

(24) <Jun, 2;8.5>

Jun: The missile is not flying.
 Fat: No?
 Jun: Oops?

Jun: **Mishairu** tonde-hen yan, **mishairu** .
 missile fly-not PCL missile
 ‘The missile is not flying, missile.’

Here *mishairu* ‘missile’ is clearly old and jointly attended to. However, Jun repeats the word in the RD position, probably to emphasize the object that should be flying but actually is not. One exception to this was demonstratives that were old and jointly attended to, because such demonstratives might be classified as GD.

Unrepeated nominals that were either new or not jointly attended to were also included in SP only when they followed a positive response, because it was thought that such nominals were used for further elaboration or specification encouraged by a sign of comprehension on the listener’s part. See example (25).

- (25) <Jun, 2;7.13>
 Jun: Notte kudasai.
 ride please
 ‘Please ride it.’
 Fat: Yes.
 Jun: **Koko kara.**
 here from
 ‘From here.’
 Fat: Yes.

Here Jun and his father are playing with a toy train, and the father is playing the role of a passenger. Since the father answers ‘Yes’ after Jun’s first utterance, he clearly understands his intention, and probably is paying attention to the door. However, Jun adds *koko kara* ‘from here’. Since *koko* ‘here’ (which refers most likely to the door) is not mentioned in the preceding context, it was coded as new though jointly attended to. Although new elements can appear in the RD position for pragmatic repair, *koko kara* ‘from here’ in this example is assumed to be a case of further specification; this assumption is confirmed by the preceding explicit sign of understanding from the father.

In addition, regardless of the values for Newness and Joint Attention, a nominal that was not separated by the listener’s response was regarded as SP when an element was paraphrased in some way in the RD phrase, considering a paraphrase as a case of elaboration or further specification. Such a case is exemplified in (26).

- (26) <Jun, 2;9.29>
 Ojisan ni **taiya** naoshite-morawa-na akan wa, **torakku-no taiya.**
 uncle by tire fix-CAUS- not bad PCL truck-GEN tire
 ‘We have to have the tire fixed by the man, the truck’s tire.’

Here Jun repeats the NP *taiya* ‘tire’ in the RD phrase, but with a modifying NP, so this RD is used for elaboration or further specification.

3.4.4 GRAMMATICALIZED DEMONSTRATIVES. GD was relatively easy to recognize, because the right-dislocated element is limited to a demonstrative, or an adjectival demonstrative followed by a noun. However, since demonstratives can also be used in the other four types, two other conditions were added to confidently sort out only GD. First, it had to be the case that the right-dislocated element was not separated from the main sentence by the listener’s response. This is natural because GD is supposed to occur without even a prosodic break. Second, the right-dislocated element had to be uninformative, i.e., both old and jointly attended to, because informative demonstratives were classifiable as PR. Though it is quite conceivable that partly informative (i.e., either new or not jointly attended to) demonstratives are used as GD, this study again took a conservative approach. A typical example of GD is (27).

(27) <Tai, 1;11.1>

Mot: Is Dakkochan delicious?

Tai: It's good.

Tai: Oishii yo **kore**.
 good PCL this
 'Good, this one.'

In this situation, Tai is pretending to eat toys in front of him. His mother asks whether *Dakkochan* (a doll) is delicious, and Tai responds using RD. Here the right-dislocated element *kore* 'this' refers to the doll. It is clearly an uninformative element that does not provide any new or further specified/elaborated information. Therefore it was classified as GD.

4. RESULTS AND DISCUSSIONS. In this section, the basic results are reported first: the children's and adults' RD rates and the kind of elements (demonstratives, other NPs, or non-NPs) that are likely to be right-dislocated at different stages. Then I go on to the detailed results, showing the rates of each type of RD at different stages.

4.1 BASIC RESULTS. Tables 3A and 3B show the number of canonical and right-dislocated utterances observed for each child in each month. As mentioned in the last section, each month typically contains four 60-minute recording sessions, and the very first analyzed sessions for both Jun and Tai (2;1.8 and 1;9.3, respectively) include only one RD utterance each. The rightmost column in each table shows the RD rate calculated by dividing the number of right-dislocated utterances by the sum of canonical and right-dislocated utterances.

TABLES 3A & 3B. The RD rates for the children (by month) and the adults (total).

A. Jun				B. Tai			
Age	Canonical	RD	RD rate	Age	Canonical	RD	RD rate
2;01	106	25	19.1%	1;09	317	20	5.9%
2;02	268	64	19.3%	1;10	384	55	12.5%
2;03	424	152	26.4%	1;11	594	51	7.9%
2;04	372	133	26.3%	2;00	594	12	2.0%
2;05	419	139	24.9%	2;01	969	38	3.8%
2;06	803	276	25.6%	2;02	703	43	5.8%
2;07	953	256	21.2%	2;03	830	66	7.4%
2;08	497	99	16.6%	2;04	604	49	7.5%
2;09	1059	339	24.2%	2;05	654	33	4.8%
Total	4901	1483	23.2%	Total	5649	367	6.1%
Fat	1599	276	14.7%	Mot	1648	404	19.5%

The first thing to note about these tables is that the four people differ in RD rates to a great extent. In fact, the differences between Jun and Tai, Jun and Fat, Tai and Mot, and Fat and Mot are all highly significant (all $p < .001$, Fisher's Exact). Turning to the children's month-by-month RD rates, we do observe developmental changes. Chi-square tests detected a significant relation between Age and Word Order (Canonical vs. RD) for both children (Jun: Chi-square = 32.67, $df = 8$, $p < .001$; Tai: Chi-square = 69.75, $df = 8$, $p < .001$). Since the primary purpose of this paper is to draw generalizations about the emergence and development of different types of RD, I will not examine these individual differences and developmental changes in detail now. However, possible explanations for the individual differences are discussed in §4.3.

Tables 4A and 4B show the month-by-month rates for different types of right-dislocated elements (demonstratives, other NPs, and non-NPs). Bolded periods have significantly higher rates than the adjacent periods when the numbers are collapsed within them.

TABLES 4A & 4B. Different types of right-dislocated elements.

A. Jun

Age	Demonstratives	Other NPs	Other
2;01	64.0% (16/25)	32.0% (8/25)	4.0% (1/25)
2;02	84.4% (54/64)	14.1% (9/64)	1.6% (1/64)
2;03	76.3% (116/152)	17.8% (27/152)	5.9% (9/152)
2;04	45.9% (61/133)	49.6% (66/133)	4.5% (6/133)
2;05	50.4% (70/139)	43.9% (61/139)	5.8% (8/139)
2;06	54.0% (149/276)	40.2% (111/276)	5.8% (16/276)
2;07	45.3% (116/256)	45.7% (117/256)	9.0% (23/256)
2;08	49.5% (49/99)	41.4% (41/99)	9.1% (9/99)
2;09	66.7% (226/339)	23.9% (81/339)	9.4% (32/339)
Total	57.7% (841/1483)	35.2% (513/1483)	7.1% (104/1483)
Fat	49.6% (137/276)	27.9% (77/276)	22.5% (62/276)

B. Tai

Age	Demonstratives	Other NPs	Other
1;09	75.0% (15/20)	20.0% (4/20)	5.0% (1/20)
1;10	83.6% (46/55)	14.5% (8/55)	1.8% (1/55)
1;11	96.1% (49/51)	3.9% (2/51)	0.0% (0/51)
2;00	41.7% (5/12)	33.3% (4/12)	25.0% (3/12)
2;01	39.5% (15/38)	44.7% (17/38)	15.8% (6/38)
2;02	41.9% (18/43)	34.9% (15/43)	23.3% (10/43)
2;03	53.0% (35/66)	28.8% (19/66)	18.2% (12/66)
2;04	40.8% (20/49)	42.9% (21/49)	16.3% (8/49)
2;05	60.6% (20/33)	27.3% (9/33)	12.1% (4/33)
Total	60.8% (223/367)	27.0% (99/367)	12.3% (45/367)
Mot	32.9% (133/404)	44.8% (181/404)	22.3% (90/404)

I predicted in §2.4 that the emergence order would be GD>PR>GR>SP. For both Jun and Tai, the rates seem to be roughly consistent with the predictions. At early stages, demonstratives appear at very high rates for both children (64.0%-96.1%), which implies that GD is predominant. After about three months of predominance, demonstratives decrease (Jun: 2;1-2;3 > 2;4-2;9, $p < .001$, Tai: 1;9-1;11 > 2;0-2;4, $p < .001$; both Fisher's Exact), and are at the same time replaced by other types of NPs. The increase in other NPs is significant for both children (Jun: 2;1-2;3 < 2;4-2;8, $p < .001$; Tai: 1;9-1;11 < 2;0-2;5, $p < .05$; both Fisher's Exact). That the children began to RD non-demonstrative NPs may mean that they have started to use RD for pragmatic repair. Another thing to note about demonstratives and other NPs is that Jun's rates for demonstratives and other NPs appear to switch again at 2;9 (demonstratives: 2;4-2;8 < 2;9, $p < .001$; other NPs: 2;4-2;8 > 2;9, $p < .001$; both Fisher's Exact), for a reason considered in §4.2. Finally, other elements (non-NPs like adverbs, adjectives, and conjunctions) are very infrequent at early stages. The children begin to productively RD these elements only later. The rates for both Jun and Tai seem to increase at the same time as non-demonstrative NPs increase. However, the significant change for Jun occurs

much later. Fisher's Exact tests detected a significant increase at 2;7 for Jun (2;1-2;6 < 2;7-2;9, $p < .01$), and at 2;0 for Tai (1;9-1;11 < 2;0-2;5, $p < .001$).

Although these rates appear to be consistent with the predictions, it is still difficult to say that the predictions are confirmed. Though the high rate of demonstratives at early stages is suggestive of the predominance of GD, demonstratives can be used for the other types as well. Also, these rates cannot sort out GR because they do not provide any information about repetitions of NPs or the addition/replacement of grammatical markers. The next subsection reports the results of an analysis based on the criteria posited in §3.4.

4.2 EMERGENCE ORDER. Tables 5A and 5B show the rates for different types of RD sorted out using the criteria in §3.3. The month in which each type of RD is assumed to have been acquired (see below) is marked with a # sign. The bolded periods are significantly higher than the adjacent periods, according to Fisher's Exact tests.

TABLES 5A & 5B. The month-by-month rate of each RD type for Jun and Tai. Bolded numbers show significantly high periods. The # signs show the putative points of acquisition.

A. Jun

Age	PR (Pragmatic repair)	GR (Grammatical repair)	SP (Sophisticated pragmatics)	GD (Grammaticalized demonstratives)	Unclassified
2;01	# 16.0% (4/25)	0.0% (0/25)	4.0% (1/25)	# 28.0% (7/25)	52.0% (13/25)
2;02	25.0% (16/64)	0.0% (0/64)	# 9.4% (6/64)	29.7% (19/64)	35.9% (23/64)
2;03	19.7% (30/152)	0.7% (1/152)	7.9% (12/152)	14.5% (22/152)	57.2% (87/152)
2;04	9.0% (12/133)	# 3.8% (5/133)	9.8% (13/133)	15.0% (20/133)	62.4% (83/133)
2;05	15.1% (21/139)	2.2% (3/139)	12.2% (17/139)	17.3% (24/139)	53.2% (74/139)
2;06	14.9% (41/276)	2.9% (8/276)	10.5% (29/276)	31.5% (87/276)	40.2% (111/276)
2;07	14.8% (38/256)	2.3% (6/256)	14.1% (36/256)	25.4% (65/256)	43.4% (111/256)
2;08	14.1% (14/99)	2.0% (2/99)	16.2% (16/99)	19.2% (19/99)	48.5% (48/99)
2;09	7.1% (24/339)	1.8% (6/339)	13.6% (46/339)	34.2% (116/339)	43.4% (147/339)
Total	13.5% (200/1483)	2.1% (31/1483)	11.9% (176/1483)	25.6% (379/1483)	47.0% (697/1483)
Fat	4.0% (11/276)	0.7% (2/276)	20.7% (57/276)	29.7% (82/276)	44.9% (124/276)

B. Tai

Age	PR (Pragmatic repair)	GR (Grammatical repair)	SP (Sophisticated pragmatics)	GD (Grammaticalized demonstratives)	Unclassified
1;09	5.0% (1/20)	0.0% (0/20)	5.0% (1/20)	# 20.0% (4/20)	70.0% (14/20)
1;10	# 12.7% (7/55)	0.0% (0/55)	1.8% (1/55)	20.0% (11/55)	65.5% (36/55)
1;11	15.7% (8/51)	0.0% (0/51)	0.0% (0/51)	51.0% (26/51)	33.3% (17/51)
2;00	25.0% (3/12)	0.0% (0/12)	# 25.0% (3/12)	8.3% (1/12)	41.7% (5/12)
2;01	5.3% (2/38)	0.0% (0/38)	18.4% (7/38)	18.4% (7/38)	57.9% (22/38)
2;02	14.0% (6/43)	0.0% (0/43)	25.6% (11/43)	16.3% (7/43)	44.2% (19/43)
2;03	12.1% (8/66)	# 1.5% (1/66)	25.8% (17/66)	18.2% (12/66)	42.4% (28/66)
2;04	8.2% (4/49)	4.1% (2/49)	24.5% (12/49)	14.3% (7/49)	49.0% (24/49)
2;05	0.0% (0/33)	0.0% (0/33)	12.1% (4/33)	39.4% (13/33)	48.5% (16/33)
Total	10.6% (39/367)	0.8% (3/367)	15.3% (56/367)	24.0% (88/367)	49.3% (181/367)
Mot	5.4% (22/404)	0.7% (3/404)	23.0% (93/404)	19.3% (78/404)	51.5% (208/404)

The first thing to note is that about a half of the right-dislocated elements were left unclassified. This is because the criteria for identifying each type were very strict and conservative in order to ensure that the right-dislocated elements were classified correctly into each type.

Turning to the development of each type, the rates show that PR develops quite early. The first examples are observed in the first month for both Jun and Tai. Judging from the number of instances, it may be said that PR becomes productive in the first month for Jun (4/25 at 2;1), and in

the second for Tai (7/55 at 1;10). Another notable thing is that the rate drops in the last months for both children (Jun: 2;1–2;8 > 2;9, $p < .001$; Tai: 1;9–2;4 > 2;5, $p < .05$, both Fisher's Exact). Since the adult rates are quite low (Jun's father: 4.0%; Tai's mother: 5.4%), these drops are not surprising. As their pragmatic skills develop, the need for pragmatic repair diminishes.

GR is a apparently late development. Jun produces the first instance in the third month (2;3) and Tai in the seventh (2;3). Fisher's Exact tests detected a nearly significant increase at 2;4 for Jun (2;1–2;3 < 2;4–2;9, $p = .065$), but Tai did not show a significant increase at any point.

As predicted, GR was not frequent in the speech of either child. Tai produced only three instances during the entire observation period. Jun produced 31 instances, but his rates are at most 3.8% of all the right-dislocated utterances (2;4) in total. The late appearance of the first instances and the low frequency together confirm the prediction that the motivation for GR is low and that GR is quite demanding for two-year-olds. However, Jun's GR does tell something about the development of his grammar. First, the case markers and postpositions that appeared in the RD position were all appropriately used. This implies that children might need some time in real-time conversations to activate correct/adult-like usage. That is, children first produce an utterance in whatever way they can, even if it deviates from the adult-like usage. If the adult-like usage becomes activated before they finish the utterance, they go on to repair. Second, although the first instance of GR occurs at 2;3, clear replacement of a case marker/postposition does not occur until 2;6. In other words, all the instances of GR up to 2;5 only involve addition of a case marker/postposition to a repeated NP. Third, the instances of RD between 2;3 and 2;5 involve postpositions or the topic marker *-wa*, but not case markers. It is known from a previous study (Nomura 2005) that Jun's rate of the overt use of the nominative marker leaps at 2;5. Considering the second and third facts together, we might be able to say that a 'robust grammar' is not available until children start to use case markers. In order to confirm this hypothesis, however, a more extensive study on the use of case markers is necessary.

SP shows a somewhat complicated pattern. The first instances appear in the first months for both Jun and Tai. However, Jun produces only one instance in that month (1/25), and Tai produces only two in the first three months (2/126). It appears difficult to say that SP is productive at these early stages. In fact, though these three early instances by Jun and Tai were all classified as adverbials, they were not typical ones—a demonstrative adverb *koo* 'this way', an adverbial clause after a long pause (some prosodic breaks are coded in the transcripts), and a floating quantifier *ippai* 'many/much'. Therefore, it is perhaps safer to say that SP was acquired in the second month (2;2) by Jun, and in the fourth month (2;0) by Tai. In these months Jun produced six instances (out of 64 right-dislocated elements), and Tai produced three (out of 12). Statistically Jun's rate increases significantly at 2;5 (2;1–2;4 < 2;5–2;9, $p < .05$, Fisher's Exact), and Tai's rate does so at 2;0 (1;9–1;11 < 2;0–2;5, $p < .001$, Fisher's Exact).

GD occurs quite frequently from the beginning. In the first month Jun produces seven instances (out of 25), and Tai produces four (out of 20), and they keep producing this type of RD throughout the observed periods. However, what is also notable is that both Jun and Tai show a high-low-high pattern. Jun's GD rate at 2;3–2;5 is significantly low (2;1–2;2 > 2;3–2;5, $p < .001$; 2;3–2;5 < 2;6–2;9, $p < .001$, both Fisher's Exact), and Tai's rate is also low at 2;0–2;4 (1;9–1;11 > 2;0–2;4, $p < .001$; 2;0–2;4 < 2;5, $p < .01$, both Fisher's Exact). These low rates in the middle of the observed periods were possibly caused by the changes observed in PR and SP. That is, they began with easy GD, but then their "focus" shifted to PR and SP, which pushed down the GD rate. At the end of the observed periods, SP was still under development and was produced frequently, but PR went down because their utterances became more adult-like (as reported above) and pragmatic repair was necessary less frequently. So the children went back to GD.

The # signs in Tables 5A and 5B show that, though we cannot decide whether Jun first acquired PR or GD, the children acquired the different RD types in almost the same order: $GD \geq PR > SP > GR$ (where the \geq sign means 'earlier than or simultaneously with'). The observed emergence order is consistent with the prediction that GD and PR are acquired earlier than GR and SP. However, the detailed predictions were not borne out. Although the prediction was that GD would occur earlier

than PR, in fact they appeared almost at the same time, in the first or second month. This suggests that, although grammaticalized demonstratives are quite easy to acquire and appear early, the need for pragmatic repair is also strong enough to cause children to use PR from very early stages. Another difference from the prediction is that SP was acquired earlier than GR. This sounds a little surprising, but the fact might be that children are pragmatically more sophisticated than I assumed. Taking into account the fact that both pragmatic repair and sophisticated pragmatics tended to appear earlier than were predicted, I might be able to say that it is children's pragmatic need that drives them from the one-word stage to the two-word stage, and possibly to the multiword stage. That is, at some early point children recognize that they cannot successfully communicate with adults with only one word, and so they start to produce a second word, often using PR. After they become able somehow to produce two words, they start to focus on adult-like sophisticated pragmatics and grammatical marking with case markers and postpositions. This speculation may be worth pursuing in the future research.

4.3 ON INDIVIDUAL DIFFERENCES. Before concluding this study, I consider possible explanations for individual differences. In §4.1 it was reported that Jun's overall RD rate was much higher than Tai's (23.2% vs. 6.1%). The adults show the opposite pattern; Jun's father produces RD less frequently than Tai's mother (14.7% vs. 19.5%). Male-female differences in RD have sometimes been reported in the literature (e.g., Takahara and Peng 1981), and the adult difference observed in this study is consistent with these reports. However, there is no study on individual differences in children's RD.

One possible explanation is the difference between risk-taking and cautious children (Ferguson 1979). Of the two children analyzed in this study, Jun appears to be more risk-taking. This is shown by the fact that, if the numbers are collapsed between the two kinds of repair (pragmatic repair and grammatical repair), these children turn out to be significantly different ($p < .05$, Fisher's Exact). That is, Jun repairs his speech more frequently than Tai does. It might be the case that Jun is relatively more inclined to produce utterances in any form he can, and then repair them afterwards using his developing grammar. It is also conceivable that Jun shows more explicitly his struggles with the grammar that he is acquiring. Although his GR rate does not show a significant difference from that of Tai ($p = .128$, Fisher's Exact), Nomura (2005) reports that (i) his RD rate for utterances with subjects significantly increased right after he began to use the nominative marker productively, and (ii) his VS rate for utterances with new verbs was significantly higher than for those with old verbs at 2;6–2;7. These facts both imply that his RD is sensitive to developmental changes in his grammar.

Another possible explanation for the difference between Jun and Tai is the fact that Jun was talking mainly with his father, who was a secondary caregiver, while Tai was communicating with his mother. If we assume that a secondary caregiver understands the child less well, the child may find more frequently that his/her utterance is not understood by the listener, leading to a high frequency of repairs and afterthoughts. As reported above, Jun repairs his utterances more often than Tai does.

These two explanations are still no more than speculation, but they may be promising directions in which this line of research can develop.

5. SUMMARY AND CONCLUSION. The primary purpose of this study was to propose, based on O&S's classification, an emergence order for different types of RD. For this purpose, transcripts of two Japanese-speaking children's speech selected from the CHILDES archives were analyzed. Although previous studies claim that the presence/absence of a prosodic break before the RD phrase is important in distinguishing two broad categories of RD, this study took a different approach and focused on text data. Instead of using audio or video files to code prosodic information, each RD utterance was coded for several features (Grammatical Type of the right-dislocated element, Repetition, Separation, Newness and Joint Attention). Then strict and conservative criteria were used to classify right-dislocated utterances to different RD types.

The results showed that, although about a half of the right-dislocated utterances were left unclassified because of the strict criteria, the two children acquired different types of RD in basically

the same order: $GD \geq PR > SP > GR$. The main difference from the prediction was that PR and SP were acquired earlier than expected. It was suggested that this early development of pragmatic awareness might be one force that guides children's grammatical development. In addition to these results, two possible explanations for the great difference in the RD rates between the two children were proposed: differences between risk-taking and cautious children, and between primary and secondary caregivers.

One direction in which this line of research should develop is to use audio files to confirm the findings in this study. Coding for prosodic breaks should make it possible to classify much of the remaining half of the right-dislocated utterances. It will also be possible to distinguish between the two types of SP, which were combined in this study. Since audio files for Tai and video files for Jun are available, I will work on them in the near future. Another thing that should be done is to analyze more children. As most publicly available data are text-based, the criteria established in this study will be useful. In addition to these, two possible directions were implied in §4.3. One is to pursue the relation between grammatical development and RD in different types of children. The other is to examine how children's speech changes when they speak with their primary caregiver and secondary caregiver. For these two purposes, cross-sectional control studies using a "primary caregiver group" and a "secondary caregiver group" may turn out to be useful.

As I discussed in §2, there have been few serious and comprehensive studies on children's RD. It is hoped that this study showed how RD could sensitively reflect the development of children's pragmatic and grammatical awareness.

LIST OF ABBREVIATIONS

ACC: accusative	PCL: sentence-final particle
CAUS: causative	PRG: progressive
COP: copula	Q: question
GEN: genitive	TOP: topic
NOM: nominative	

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