

Analysis of parenthetical clauses in spontaneous Japanese

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Abstract

In this paper, I will discuss the functional aspects of parenthetical clauses and sentences in spontaneous Japanese monologues. Parentheticals can be defined as syntactic elements that are instantly inserted in the middle of an ongoing utterance to add supplemental information and thus interrupts the fluent flow of speech production. Examples of parenthetical clauses/sentences that appeared in the *Corpus of Spontaneous Japanese* were examined and then classified into three types. These types differ in their contextual functions, but share a commonality in that they present multiplex information simultaneously in the process of producing spontaneous speech.

Index Terms: parenthetical clause/sentence, Corpus of Spontaneous Japanese, contextual functions

1. Introduction

Since utterance productions are carried out linearly, a speaker must keep producing syntactically well-formed structures instantly in real time, and such a constraint sometimes causes disfluent phenomena in spontaneous speech. A parenthetical structure is one example of such disfluency, where the insertion of some syntactic unit interrupts the fluent flow of the ongoing utterance.

In parenthetical structures, various syntactic categories can be inserted into the original utterance (or “main clause”). Burton-Roberts [1] shows some examples of parentheticals:

- (1) It was dawn, about quarter to six, when they arrived.
- (2) It will stop raining, I expect, before Sunday.
- (3) The main point —why not have a seat?— is outlined in the middle paragraph.

Example (1) shows the case of appositive parentheticals, (2) shows the insertion of a comment clause, and (3) shows a completely isolated utterance that is inserted within the main clause. In any case, parentheticals have no syntactic relation to the structure of the original utterance [1].

In the analyses of written language, parentheticals can be regarded as a kind of rhetorical technique. In spontaneous speech, however, they often interrupt the normal flow of the syntactic structures and thus bring disorder on the ongoing speech as in (3). And there is no previous studies that investigate the actual state of parentheticals in spontaneously spoken Japanese from qualitative and/or quantitative viewpoint.

Thus, following are the research questions for this paper: (1) investigate the frequencies of Japanese parenthetical clauses/sentences and their forms, and (2) examine them from the viewpoint of their contextual functions. To achieve these goals, it is necessary to examine the corpus of spontaneous speech, annotate the extent of parentheticals, and analyze the function of each example.

Section 2 introduces the Corpus of Spontaneous Japanese (CSJ) and the annotation criteria for parentheticals. Section 3 illustrates the results of the annotation and the classification of parentheticals into three types according to their contextual functions. Section 4 discusses the nature of parentheticals by applying the “disruption schema” proposed by Clark [2].

2. Data

2.1. CSJ: Corpus of Spontaneous Japanese

Released in 2004, CSJ is a large-scale and richly annotated spontaneous speech corpus of common Japanese [3]. It consists of 662 hours of speech including 7.5 million words, collected from 3,302 speeches by 1,417 speakers. Most of the speeches consist of spontaneous monologues, which are classified into two types: “Academic Presentation Speech (APS)” and “Simulated Public Speaking (SPS).” APS comprises live recordings of academic presentations in various academic societies. SPS, on the other hand, includes general speeches or comments by laypeople on everyday topics such as “a joyful memory of my life,” “the town I live in,” and “commentary on recent news.” Most monologues in APS and SPS are 10–15 min long.

A speaker of a monologue is required to continue speaking spontaneously for a long time; therefore, various disfluencies can be observed. Thus, CSJ offers appropriate data to examine the process of the dynamic construction of natural speech in real time. Table 1 shows the data size of the “Core,” a part of CSJ with richer annotations, which is used in this study.

Table 1: Data size of “CSJ-Core”.

Type of talk	Sex	# of talks	# of words	Hours
APS	Male	46	137,821	11.75
	Female	24	80,339	9.66
SPS	Male	53	116,643	10.08
	Female	54	108,929	9.1
Total		177	443,732	41.30

2.2. Annotations

We have annotated 684 of the parenthetical clauses and sentences from CSJ-Core. The criteria for annotating parenthetical clauses/sentences are as follows:

1. There must be a dependency relation between the elements before and after the parenthetical.
2. The parentheticals must make no syntactic contribution to the main clause.
3. The parentheticals must end with sentence-final forms or conjunctive particles *ga*, *keredomo*, *keredo*, *kedomo*, and *kedo*.

Conjunctive particles *ga* and *ke(re)do(mo)* function as head words of coordinate clauses, which show high dependency from the main clause.

Table 2: Frequency of parenthetical clause/sentence (per 100K words)

		Total	ga	keredomo	keredo	kedomo	kedo	sentence
APS	Male	126.3	65.3	19.6	0.0	17.4	1.5	21.8
	Female	64.6	22.5	26.9	0.0	2.9	4.4	7.3
SPS	Male	185.8	31.9	29.8	0.7	29.0	54.4	20.3
	Female	148.7	34.8	46.4	4.4	12.3	32.7	9.4

Some examples of parenthetical clauses/sentences are shown below. Boldface shows the extent of parentheticals, : elongated point, and (**) pauses longer than 0.2 sec.

- (4) *kanai wa*: (0.42) **ano: nanto ii masyooka** (0.99) *moo*
 my wife -TOP FP how to say already
nobite masita ne
 groggy -PAST
 “my wife was, **uh how can I say that**, already groggy”
- (5) *hoteru no* (0.3) *heya no naka mo sassoku ano*
 hotel -NOM room -NOM inside -OBJ soon FP
yoru tuita ndesu kedomo *chekku simasita*
 night arrived check -PAST
 “we checked, **uh we arrived there in the night**, inside the room of the hotel”
- (6) *osake to* (0.27) *menyuu wa sukunai ndesu ga*
 liquor and menu -TOP few
syokuji ga oitearimasu
 meal -SUBJ served
 “liquor and, **though the menu is limited**, meals are served”

In (4), the first noun phrase, *kanai wa* (my wife), is dependent on the predicate *nobite masita ne* (was groggy), and the parenthetical sentence *ano nanto ii masyooka* (uh, how can I say that) including the sentence-final form *masyooka* is inserted between the two. Examples (5) and (6) show cases of clauses *ano yoru tuita ndesu kedomo* (uh we arrived there in the night) and *menyuu wa sukunai ndesu ga* (though the menu is limited), which interrupt the flow of the main clauses. In each case, the parentheticals make no syntactic contribution to their main clauses, but are inserted instantly and thus suspend the original utterance, which brings disfluency to the flow of the ongoing narrative.

3. Analysis

3.1. Distribution of parentheticals

Previous studies found that there is clear prosodic/linguistic difference between APS and SPS, and male and female [4, 5]. In this study the entire CSJ-Core was divided into four groups, according to speech types by APS and SPS, and sex by Male and Female. Table 2 shows the frequency of parentheticals per 100K words in four groups.

Table 2 indicates significant differences among the four groups: parentheticals occur more frequently in SPS than APS, and more in the male group than the female group. Since SPS is a collection of casual speech, such a spontaneous speaking style may influence the frequent appearance of parentheticals.

Turning our attention to each conjunctive particle, *ga* appears more frequently than *ke(re)do(mo)* in the APS-male group, while it appears less frequently in the APS-female group. This result indicates that there is a different preference for using *ga*-clauses as parentheticals, depending on the speaker’s sex.

On the other hand, the four allomorphs of *ke(re)do(mo)* appear more frequently than *ga* in the SPS group. In particular, *keredomo*, *kedomo*, and *kedo* show noticeably different distributions between males and females and between APS and SPS. This result also indicates that there is some preference for choosing the *ke(re)do(mo)* allomorphs as parentheticals on the basis of sex and speaking style, especially in formal contexts.

Two questions arise here. One concerns the entire frequency of each conjunctive particle in the corpus, and the second relates to how frequently each clause is used as a parenthetical. Figure 1 shows the total frequency of each clause in the whole CSJ-Core per 100K words. Figure 2, on the other hand, shows the ratio that how much each clause is used as a parenthetical.

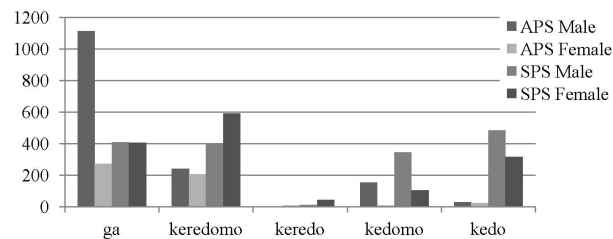


Figure 1: Frequency of each clause (per 100K words).

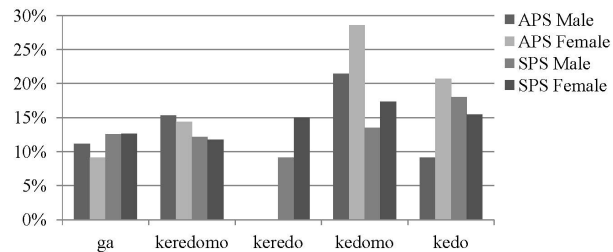


Figure 2: Ratio of each clause that is used as a parenthetical.

Figure 1 shows that the total frequencies of each clause are remarkably different from each other among the four groups. Thus, the different distribution observed in Table 2 can be regarded as it reflects the whole distribution of each clause. Figure 2 shows the different distributions of ratio that stands how much each clause is used as a parenthetical. The distributions in *ga* and *keredomo* are rather flat among the four groups, while the cases of *kedomo* and *kedo* vary widely. This indicates that the selection of *kedomo* and *kedo* as parenthetical clauses is affected by the speaker’s sex and speaking style.

3.2. Classification of parentheticals

At this point, let us consider the motivation when parenthetical clauses/sentences are used in spontaneous monologues. A parenthetical interrupts the flow of an ongoing utterance, some syntactic unit is inserted, and then the original utterance restarts. With this procedure, the speaker shows multiplex information simultaneously; he/she may express his/her attitude or background knowledge on the topic, or add some explanatory information to the ongoing utterance. By examining each example and its contextual function, I classified parentheticals into three types, A, B, and C.

3.2.1. Type A: Explaining background knowledge

Parentheticals of type A are used to explain background knowledge or a presupposition related to understanding the current utterance. Example (5) corresponds to type A, where the parenthetical just supplements the information on time of arrival, which supports the understanding of the content of the utterance. I also classify example (4) as type A, which shows the speaker's attitude (hesitation) toward the utterance. Another example of type A is shown in (7), which is used to clarify the information on a projected slide.

- (7) *ironna pataan wo* (0.3) *koko ni kaitearu suuji wa*
 various pattern -OBJ here written number -TOP
hindo desu ga: takusan atsumete mimasita
 frequency a lot gather -PAST
 "we gathered, **the number of written here shows the frequency**, a lot of various patterns"

3.2.2. Type B: Supplement to what the speaker has just said

Parentheticals of type B are used to supplement what the speaker has just said.

- (8) *daigaku: no ninen no toki ni e:to*
 university -NOM 2nd year -NOM when FP
19: (0.7) 96 nen no 7 gatu desu (0.53) *e: (0.7) nakama*
 1996 -NOM July FP friend
to issyo ni kyanpu ni (0.31) *itta*
 together camp went
 "when I was in my second year at the university, **uh it was July of 1996**, I went to camp with my friends"

- (9) *gakubu: (0.21) watasi kookakubu datta ndesu kedo*
 department I engineering department
sotira no benkyoo wa (0.4) *hotondo siteorimasende*
 there -NOM study -TOP hardly did not do
 "department, **I used to belong to the engineering department**, I hardly studied there"

In (8) the speaker first said *daigaku ninen no toki ni* (when I was in my second year at the university), and then saw a need to supplement the precise year, thus inserting *eeto 1996 nen no 7 gatu desu* (uh it was July of 1996) with sentence-final form *desu*. Then, she restarted her original utterance. The speaker of (9) first uttered *gakubu* (department), and then suddenly noticed the lack of concrete information, so he instantly inserted *watasi koogakubu datta ndesu kedo* (I used to belong to the engineering department) as a supplementation.

3.2.3. Type C: Supplement to what the speaker is about to say

Parentheticals of type C provide prefatory information about what the speaker is about to say. In (6), the speaker tried to say *syokuji* (meal), and before that she inserted *menyuu wa sukunai ndesu ga* (though the menu is limited) as a proviso. Note that this *ga*-clause is inserted within a noun phrase, *osake to syokuji* (liquor and meal). Another example is shown in (10). The speaker provides a preface *ma kore wa toozen desu ga* (uh this is natural) before he states the conclusion *nagai* (long).

- (10) *bimyoona mono yorimo ma kore wa*
 subtle than FP this -TOP
toozen desu ga (0.27) *e nagai keekoo ni aru*
 natural FP long tendency be
 "rather than something subtle, **uh this is natural though**, it tends to be long"

A total of 684 parenthetical clauses and sentences were examined and then classified into three types. Figure 3 shows the frequency of each type per 100K words in the four groups.

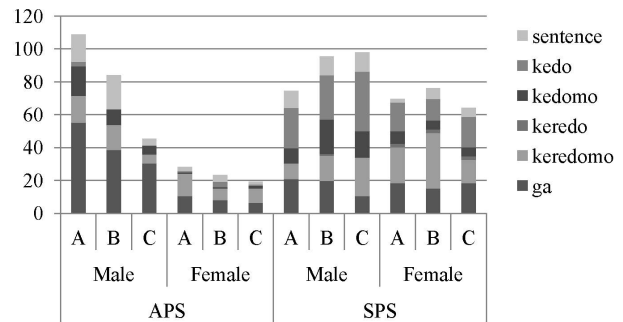


Figure 3: Frequency of types A, B, C (per 100K words).

Figure 3 shows a contrastive distribution between APS and SPS. In the APS group, type A's frequency is the highest and type C's is the lowest. On the other hand, in the SPS group, type C is the highest except for the females, and type A is the lowest. This result indicates that the speakers in APS tend to explain background knowledge, a presupposition, or the speaker's attitude by parentheticals, while in SPS, the speakers tend to add some supplementary comments instantly with parentheticals.

4. Discussion

4.1. Formula of parentheticals

The strategy of using parentheticals, which inserts isolated clauses or sentences in the middle of an ongoing utterance, sometimes causes a syntactically ambiguous structure and creates confusion and disorder for the listener. Nonetheless, we use parentheticals to add some comments while speaking, because such an insertion serves at that time to convey sufficient information to the listener in an efficient way. That is the nature of general disfluent phenomena and their repairs, such as filled pauses, repetitions, and self-repairs.

As many previous studies have already indicated, there are some characteristic structures around disfluencies, especially self-repairs, which can be formalized into three parts [6, 7, 8]. Clark [2] proposed a *disruption schema*, which also consists of three intervals, as shown in Figure 4. He also proposed the "suspension device (pause, word cut-off, elongation, nonreduction, filler)," "hiatus contents (no pause, pause, filler, editing expression, elongation, iconic gesture)," and "resumption type (continuation, repetition, substitution, deletion, addition)."

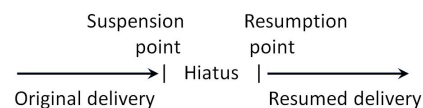


Figure 4: "Disruption schema".

Below, I will examine the formula of parenthetical clauses, applying the disruption schema to the examples.

4.1.1. Suspension

Suspending the ongoing utterances, various suspension devices appear in the examples cited above: elongations appear in (4) and (9); short pauses in (4), (6), (7), and (9); and fillers in (4), (5), (8), and (10). These can be regarded as devices to help listeners notice that the current utterance is suspended and that the deviation with a parenthetical has started (or, will start).

4.1.2. Hiatus

The whole extent of parenthetical clauses/sentences corresponds to “editing expressions” in the disruption schema. Example (11) shows an editing expression [2, p.274], which can be classified as a parenthetical of type B in this paper.

- (11) We hear now a song from the new Columbia album featuring Very Jail... **Oops, I ought to be in jail for that slip...** of course, I mean Jerry Vale!

A parenthetical of type B makes an edit to what the speaker has just said, as in (11), which fits well with the case of self-repair. Type C is a case of a previous edit to what the speaker is about to say next. Type A edits the action of the utterance itself, because it adds a presupposition or the speaker’s attitude with parentheticals.

4.1.3. Resumption

After the insertion of a parenthetical, the speaker must restart the original utterance. There are some linguistic strategies to mark the end of parentheticals, such as pauses in (4), (8), and (10); fillers in (8) and (10); and an elongation at the end of the parenthetical in (7).

Example (12) shows resumption with repetition, and (13) shows repetition and demonstrative *sotirano* (that), which refers to the preceding context. Both repetitions work as signals to show the point at which the original utterance is restarted.

- (12) *ato syujin ni kekkon siteru ndesu ga*
and husband -DAT I’m married
syujin ni anda koto mo atte
husband -DAT have knitted
“and for my husband, **I’m married**, I have knitted for my husband”

- (13) *kaisya ga e:to juugo nen tutometa ndesu kedo*
company -SBJ FP 15 years have worked
sotirano kaisya ga iten simasite
that company -SBJ moved
“the company, **I’ve worked for 15 years**, that company had moved”

In (14), the parenthetical sentence *kotira desune* (this is it) is inserted within a noun phrase, *kankee o* (relation -OBJ), and the isolated *o* is pronounced with a high pitch. In this case, the prominent pitch on the isolated particle works as a cue to restart the original utterance.

- (14) *taimingu to simpukuhi kankee kotira desune*
timing and amplitude -NOM relation this is it
o moderu no koosoku jooiken tosite kuwaeta
-OBJ model -NOM as condition add
“the relation of timing and amplitude ratio, **this is it**, we added as a condition of the model”

Figure 5 shows the directions of types A, B, and C for adding comments to the main clause in the disruption schema.

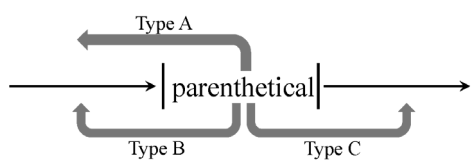


Figure 5: Three types of parentheticals in the disruption schema.

4.2. Further issue

I have examined parenthetical clauses/sentences and their contextual functions in this paper. As for issues that should be examined in the future, it is first necessary to investigate the prosodic characteristics around parentheticals, as is partly done in (14).

Second, the target of this study is limited to monologues. However, there may be different linguistic/interactional strategies of parentheticals in dialogues, such as “other-initiated” parentheticals. Extending the range of the target data is also an issue for further study.

5. Concluding remarks

This paper examined parenthetical clauses and sentences in spontaneous Japanese monologues, especially their quantitative and functional aspects. A total of 684 examples of parenthetical clauses/sentences were retrieved from the richly annotated corpus CSJ, and the distribution of each clause was shown from the viewpoint of the speakers’ sex and the formality of their speaking style. I also investigated parentheticals and classified them into three types according to their contextual functions. Last, I examined the structure of the parenthetical with the “disruption schema,” showing some common aspects they have with self-repairs.

The formal and functional variations of parentheticals reflect the speaker’s mental process of linearizing some information in the discourse. The speaker constructs a multiplex information structure by parentheticals under the constraint that an utterance must be produced linearly. This can be regarded as an efficient strategy of spoken language to convey sufficient information to the listener in real time.

6. References

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