Comparison of Repair between English and Japanese Discourse:
From a Cognitive Perspective

Keiko SATO and Toshiko ABE *

1. INTRODUCTION

Conversational discourses occurring in authentic situations are characterized by forms not necessarily grammatical, correct, or unmodified, as well as sounds that are not clear or articulate. A speaker may correct word(s) that he/she has just uttered, or restart what he/she has just begun during a natural flow of speech.

There are a number of studies which have investigated such phenomenon, repair. Among them, Sheglof, Jefferson, and Sacks (1977) investigated repair in their seminal study from conversational analysts' viewpoints. Many others have taken similar approaches (Sheglof, 1979; Hayashi, 1994; Fox, Hayashi, & Jaspersson, in press). This theme has been also studied from different perspectives, namely, from cognitive, psycholinguistic and sociocultural perspectives. Among the studies by the cognitive approach are Levelt (1983) and Wijk and Kempen (1987). Levelt attempted the theory of monitoring including making repairs, using data elicited by an experimental design. Wijk and Kempen also presented a global model of self-repair production, based on Levelt’s reformulation model but added phonological substitution module. In our previous study (to appear), we compared the self-repairs by native English and Japanese speakers in naturally occurring conversations. In this paper, we attempt to shift our viewpoints from conversation analysts’ to psycholinguists’ for exploring self repairs from the same intercultural data set.

1.1 Theoretical Framework of Data Analysis

Levelt notes close structural relationship between repairing, on the one hand, and coordinating and question answering, on the other. He suggests, quoting Scheglof et al (1977), that the ways in which natural language handles its intrinsic troubles may, after all, not be so very different from the ways in which it generally handles coherence and fluency in discourse.

The present study adopts Levelt’s processing components of the perceptual theory of monitoring as our theoretical framework of analysis. He posits five components of language processing:
A. Message construction: This component deals with generation, order, and delivery of elementary intentions or messages to be formulated.

* Eichi University
B. Formulating: This deals with articulation to be produced. Here are four subcomponents.

B1. Lexicalization: Retrieving phonologically unspecified lexical items.
B2. Functional frame building: Retrieving word forms.
B4. Phonetic coder: Creating a ‘phonetic string’ on the basis of B3’s output.

C. Articulating: Translating phonetic strings into overt speech.

D. Parsing: Drawing on overt, auditorily available speech as well as parsing inner speech.

E. Monitoring:

Matching function: Comparing parsed aspects of inner and outer speech with the intentions.

Standards of production: Comparing parsed aspects of inner and outer speech with standards of production.

1.2 Definition

In the following discussion, we adopt the definitions of terms and procedures of analysis employed by conversational analysis. “Repair” is defined as any instance in which an emerging utterance is stopped in some way, and is then aborted, recast, continued, or redone (Fox, Hayashi, & Jasperson, to appear). Repair is not interpreted as error correction, but as having an important role for better communication. Repair can be produced either by the speaker of the repairable, “self-repair,” or by the recipient of the repairable, “other repair,” (Fox et al.). Self-repair occurs most frequently because the speaker usually knows the responsibility for better communication is on him/herself. It is natural that other-repair is much less occurred because the act of repairing others’ utterances is face-threatening. “Recycling” means the repeating, either with no apparent changes or with some additions or deletions, of the repaired segment (Fox et al.). Recycling has subcategories such as repetition, addition, and deletion.

1.3 Data

The data we used in this study are two sets of audio taped interactions. One is a 20-minute conversation between two native speakers of English. H is an Englishman, aged 34, who has been living in Japan for six years, and M is an American, aged 35, who has been living in Japan for seven years. They are talking about a study-abroad tour to England while looking at some pictures taken on the previous tour. The other is also a 20-minute conversation among three native Japanese speakers. The conversation takes place at lunchtime chatting in the lecturers’ room on the naming of the baby that one of them, N, is expecting. Other participants are T, in his 50’s, and A, one of the researchers of this study.

There are approximately 180 instances of repair in the two sets of data, of which over 160 are cases of self-repair. We focus on the classification and characterization of self-
1.4 Notation

When examples are shown from the transcript, the line containing a referred segment is indicated with an arrow. The repairable is marked with brackets, with an asterisk at the right side indicating the position beginning repair and the repair initiation is indicated in boldface. Repair formulas and discourse markers are indicated in italics. More detailed notational conventions in transcripts are given in Appendix A.

1.5 Structure of Repair

A repair range consists of three parts: an original utterance, an editing term, and the repair proper. Although Shegloff and other conversationalists use other terminology such as the repairing, the repaired, or discourse markers, we use cognitivists’ terminology. An example structure of repair is shown in the following figure.

```
moment of interruption

# original utterance      editing phrase      repair proper      #
We took an umbrella  er  a Japanese umbrella
repandum      editing term      alternation by addition
```

Figure 1 Structure of Repair
(Adapted from Levelt(1983),p.45)

2. PROCESSES OF MONITORING FOR REPAIR

Levelt raises a question “How does the speaker come to detect a source of trouble in what he is saying?”(Levelt,1983,p.46). He admits that there are two different theories, which he named as the 'production theory of monitoring' and the 'perceptual theory of monitoring', the latter of which he takes as his viewpoint. We will testify his framework of processing components using our comparatively natural data.

In the analysis of our Japanese data, we look at them, first focusing on the Monitoring, one of his five components of language processing, and next at how the left-branching of the Japanese language, as constructed with the right-branching of English, affects the self repair in Japanese conversation.

The monitor performs two functions, namely, checking whether what was said corresponds to what was intended (Appropriateness repair), and checking its linguistic correctness (Error repairs). It is part of “perceptual loop” (Levelt,1983,p.50) which is involved in repairing of speech. These two types of self-repair are further categorized by the way in which such a repair is made.
2.1. Instant Replacement

There is a single trouble word, and the speaker retraces to just that word and replaces it by a new item. This type may be represented by immediate interruption or by delayed interruption. The following (1), (2), and (3) are English examples and (4) and (5) are Japanese examples of immediate interruption.

(1) → M: They look [sc...] delicious.

We are not sure what word M was going to utter. He made a replacement of the word he had in mind by the repairing “delicious”.

(2) → M: I thought the hippies were having ah um (0.4) [sex*] sexual orgies at the at the er on the solstice or something

The speaker seemed to intend to use the noun “sex” first, but changed his mind to use the adjective “sexual” preceding the noun “orgies”. He could add morphological element “ual” after some pause, but he chose to restate the word “sexual” from the beginning immediately after he uttered and retraced to the trouble word sex.

There are a number of cases in which an editing term such as or, oh no, or I mean is uttered before a repair like in (3).

(3) → M: I’m going to Bath [next year*] or this year actually

(4) → A: IYAH ANONE: NANKA ANO MONOSUGOKU [KERU*] UGOKU-DESHO? = uhm uhm uhm uhm a lot kick move-FP

(Well, well. I bet he moves and kicks you a lot.)

(5) → A: UHM [WARITO*] CHOTTO ARE ANO MEZURASHII-KANJI-NA-MONO-DESU-KARA somewhat a little uhm rare character be because

(Because it’s sort of a rare character.)

Next two examples are repaired by immediate interruption but by additional insertion.

(6) H: ...and here we are actually we’ve arrived in er good old London now and this → is the [Hilton Hotel*] Kensington Hilton

Both the repairable and the repairing refer to the same hotel. The speaker, however, wanted to restate it using more specific words because there are some other hotels with the same name elsewhere. This is a replacement for the more detailed. The form of addition can be used for the more detailed as follows.
(7) H: These girls were dead thrilled because we took a we took [an umbrella] er  
→ a Japanese umbrella ...

There are subtle instances for which it is difficult to judge whether it is self-repair or  
other-repair. We interpreted it as self-repair.

(8) H: What are those guys crossing the road there that [one’s got] =  
M: = One’s barefoot  
→ H: Got no shoes on yeah got ur incredible, isn’t it

H might have produced his natural flow of utterance unless M interrupted before H’s  
turn had finished. Consequently, H had to reproduce the continuing sequence by getting  
back the initial point of the related verb unit. M might have tried a cooperative help  
with their smooth conversation by inferring what H wanted to say. However, probably,  
since H was not searching for a word, he neglected M’s help and continued his turn.  
An example of instant replacement by delayed interruption is as follows.

(9) H: ...she knew [everybody] in Bath everywhere we went she knew I mean in  
→ in fact in fact that’s not quite true the half of everyone we ever met  
because she only knew the man she knew every man she knew these two  
guys for example

An example of repair for what the speaker has not yet uttered but has in mind is the fol-
lowing. Leveilt calls this type as Covert repair.

(10) → H: On the way back to oh no it’s not it’s Stonehenge sorry

2.2. Anticipatory retracting
The speaker retrace to and repeats earlier words. Leveilt points out that “speakers  
almost always restart at phrase or constituent boundaries ...” (p.75) because of the syn-
tactic structure of right-branching language like his subjects’ native language, Dutch. In  
English the same behavior is seen.

(11) → H: [She’ll] [she’ll know] she knows everything about English

The speaker intended to tell in the future tense at the beginning, but while repeating it  
twice with the addition of a lexical verb, he changed his mind and converted the tense  
into the present. At first he may have intended to use “will” with a role of guessing, and  
finally he decided to express it as the definite fact.

In a left-branching language like Japanese, the retracting is not “anticipatory” at all,  
rather the speaker may retrace to a word, but ends his repairing with a topic particle at
a constituent boundary in a similar way as in “anticipatory retracing.” This is just the opposite of the phenomenon in which “endings but not beginning of embedded phrases tend to coincide” (Levett, 1983, p.75).

     now uhm long time ago-TP earlier-TP very common -P
     (Well, there were times when it sounded to me too common.)

The speaker restarts with a word SAISHO, and ends with WA making it a phrasal repair.

2.3. Fresh Starts

This category is where the speaker does not instantly replace a trouble word by a new word, nor retraces to part of original utterance. There are two variants: one by making new construction and one by using part of the original utterance.

A) The speaker restarts by making new construction which does not copy part of the original utterance.

(13) → N: huh [MIKI-NANTE]››ATASHI «MIKI >>UTSUKUSHII-NI-
     MIKI-QT I Miki beautiful-and
     ITOHEN-NO KINAN-DESU KEDOMO SU(hhh) GU DETE- KIMASU-YO
     itohen-of ki be •but instantly appear come •FP
     hu hu hu hu
     (Miki is, my name that is, mi meaning beauty and ki with an Ito left-hand
      radical. You can get it right away with a single click.)

After a short interruption after <MIKI>, the speaker restarts by making a new construction UTSUKUSHII-NI ITOHEN-NO KI-NAN-DESU-KEDOMO.

(14) → M: What kind of bird is that |do you’| [would you’] is it a crow?

The speaker was wondering what structure he should select; whether he would start with a be-verb or with a do-verb; whether he would select the pronoun of the referent or the other party of the interaction. He tried three times, and on the third time he decided the structure which is consistent with the prior question. The following is another similar example.

(15) → H: Er I mean [I was’] it was the first time I’ve been to Stonehenge actually.

There are some instances in which the grammatical voice first attempted is converted to the other type of voice finally.
(16) → H: Um these [three girls’] these pictures are taken at the air port? and you can see they’re all terribly happy.

Since H starts with three girls as subject, he seems to use active voice. However, he changes the words to these pictures, consequently changes the voice to passive voice.

(17) → H: Yes [it was organized’] or I mean the woman in charge (0.4) um is is tremendously good at organizing

There are some instances in which an affirmative structure first intended is converted to a negative structure, and vice versa.

(18) → M: Well it’s ah is it a building or is it a whole series of building.
(19) H: [Not the day we were there’] no perhaps [we weren’t there on the right day’] → or perhaps we got there a bit late or something

This type includes a great number of structural repairs.

B) Pre-specification
The speaker uses parts of the original utterance, but led in by a fresh beginning.

(20) T: BIKKURI-SHITAMON-NA: [UCHUU-NO CHUU’]-TOYUU JI-O KAITE

surprise did -FP uchuu (space)-of chuu-QT character-OP writing

→ CHUUGAERI-NOCHUU = DE KOSUMO-TO ha ha ha YOMASERU
chugaeri -of chuu CHUU = by Cosmo-QT read-let it be
(...I was puzzled to hear that name... They let the character chuu in Uchuu
(cosmos) or in chugaeri (somersault) read as Kosumo)

In (20), the speaker repeats CHUU picked up from the original utterance, but followed by a new element “DE KOSUMO-TO ha ha ha YOMA-SERU.”

As shown in Tables 1 and 2, the tokens of appropriateness-repair (38 for English and 25 for Japanese) are more than those of error-repairs (19 and 16 for English and Japanese respectively). This tendency is different from Levelt’s results in which they found more error-repairs (399) than appropriateness-repairs (290). The difference might be explained by the experimental design to elicit data with Levelt’s study, and for that reason presumably more stressful setting of Levelt’s study in which the repairs were investigated. Our English and Japanese data were taken from a relaxed, natural conversation, although our informants made an effort to speak constantly. The difference in frequency between English and Japanese data can be explained by an individual personality. H in English data tends to retrace ‘inner speech’.

— 239 —
Table 1  Ways of Restarting for Appropriateness- and Error-Repairs in English

<table>
<thead>
<tr>
<th></th>
<th>Instant repairs</th>
<th>Anticipatory retracing</th>
<th>Fresh start</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriateness-repairs</td>
<td>12(32%)</td>
<td>16(42%)</td>
<td>10(26%)</td>
<td>38(100%)</td>
</tr>
<tr>
<td>Error-repairs</td>
<td>6(32%)</td>
<td>1(5%)</td>
<td>12(63%)</td>
<td>19(100%)</td>
</tr>
</tbody>
</table>

Table 2  Ways of Restarting for Appropriateness- and Error-Repairs in Japanese

<table>
<thead>
<tr>
<th></th>
<th>Instant repairs</th>
<th>Anticipatory retracing</th>
<th>Fresh start</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriateness-repairs</td>
<td>3(12%)</td>
<td>10(40%)</td>
<td>12(48%)</td>
<td>25(100%)</td>
</tr>
<tr>
<td>Error-repairs</td>
<td>2(13%)</td>
<td>6(38%)</td>
<td>8(50%)</td>
<td>16(100%)</td>
</tr>
</tbody>
</table>

3. DISCUSSION AND CONCLUSION

It is interesting but difficult to classify self-repairs in terms of cognitive processes, since there is a potential problem that the decision to categorize all repairs in given types subjectively has low reliability. In addition, there are some instances for which it is not possible to be categorized. In our English repair samples, H frequently repeats words or phrases before he chooses final forms. However, it was difficult for us to determine what H was monitoring for. We counted such samples as covert repairs (45, 44% of the whole number of repairs made).

In Levelt’s corpus, appropriateness repairs mainly represent fresh start (44% of the case) and error repairs represent instant repairs and anticipatory retracing (51% and 41% respectively of the case), while in our data, appropriateness repairs are realized as anticipatory retracing in English (42%) and fresh start and anticipatory retracing in Japanese (48% and 40% respectively), and error repairs are as fresh start both in English and Japanese (63%, 50% respectively). In Levelt’s data, there are very little realizations of fresh start of error repairs. On the contrary, in our data, error repairs concentrate on fresh start. There seems to be no explanation of this difference but the difference of data elicitation methods.

There is a similar tendency to make repairs observed both in English and Japanese in
our data. As mentioned earlier, the concentration of error repairs on fresh start is outstanding. However, there is some small difference between English and Japanese. While English speakers make instant repairs considerably a lot (32% for both appropriateness and error repairs), Japanese speakers make very few instant repairs (12% and 13% for appropriateness and error repairs respectively). This difference might be explained by the difference of language configuration; the left and right branching.

REFERENCES


APPENDIX A (Notational Conventions in Transcripts)

(0.0) length of silence in tenths of a second.
underlining relatively high pitch
:: lengthened syllable
= ‘latched’ utterances, without no usual beat of silence
? rising intonation
hh audible outbreath
(hh) laughter within a word
\textgreater \textless increase in tempo, as in a rush-through
\textless \textgreater decrease in tempo, as in a markedly slow talk
\textbackslash weaker than question mark, but stronger raise