Forward-oriented Medium Repair in Japanese/English Bilingual Interaction

日本語と英語 の二言語会話における前向き手段修復

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This study focuses on how bilingual speakers of English and Japanese use elements of other medium in forward-oriented repair sequences, such as word searches. When the production of a sequentially due element of a turn-in-progress is delayed, monolingual speakers may insert a stand-in word like "the watchamcallit" or else provide a brief circumlocution that formulates the missing item in other words. In addition to these interactional practices, bilingual speakers also have the option of formulating the due item in their other language. If either the speaker or the recipient treats this practice as deviating from the current medium of talk, it can be considered medium repair. This study uses the data driven approach of Conversation Analysis to conduct a detailed micro-analysis of both explicitly and implicitly stated instances of such code-switching in English/Japanese bilingual interaction.

本研究は、英語と日本語のバイリンガル話者による日英バイリンガル会話データにみられるコードスイッチングを含む前向き手段修復 (forward-oriented repair)の使用を考察する。ターン内の連続した発話が遅延した場合、コードスイッチングを含まない単一言語データにみられる修復では「なんとかかんとか」などのフィラーを挿入するか、代理としての短い婉曲表現を提供することができる。このような相互行為に加えて、バイリンガル話者はさらに発話における問題の解決方法としてコードスイッチングを有効な手段として使用することができる。もし、コードスイッチング自体がそれまでの会話で使用していたコードからの逸脱として会話参加者に扱われるなら、それは"medium repair"として解釈される。本研究は会話分析(Conversation Analysis: CA)の手法を用いて上記のような日英バイリンガル話者の実際の言語使用を観察した。本論では日英二か国語会話での自然な会話をオーディオレコーダーで録音し、その会話を聞きおこしたトランスクリプトに基づき、そこにみられる修復やリフォーミュレーションの連鎖組織(sequence organization)内におけるコードスイッチング(code-switching)のデータ分析を微視的(micro-analysis)に行った。

Introduction

Bilingual people frequently alternate back and forth between their languages, either between or within utterances, and this phenomenon, generally known as code-switching, has been researched from a variety of perspectives, including syntactic (Poplack, 1980), interactional (Blom & Gumperz, 1972; Gumperz, 1982), socio-psychological (Myers-Scotton, 1988), sequential (Auer, 1984) and ethnographic (Zentella, 1997). One theme that is common throughout this research is that the code-switching, or bilingual interaction as we will also call it, is an orderly practice. There are systematic grammatical rules for incorporating one language (or "medium") into another, and code-switching can routinely play a part in the way that bilingual people accomplish certain socio-pragmatic actions. The current study is centered on one such action, *forward-oriented repair*, i.e., when a speaker displays difficulty in accessing some upcoming element within an incomplete turn.

Our research here undertakes a micro-analysis of bilingual interaction using the Conversation Analysis (CA) approach. The focus is on mundane interaction between competent bilinguals[1] outside of language classroom environments and the data consist of audio recordings of naturally-occurring English/Japanese bilingual talk. The intention was to capture episodes of bilingual interaction in commonplace settings and account for them in terms of the way the speakers themselves dealt with them in that time and place.

In particular, the study aims to demonstrate how Japanese/English bilingual speakers accomplish *medium repair* in word search sequences, where the trouble source (some sequentially due element of the turn-in-progress) is left unspoken in the current medium and instead gets produced in the other medium. In this sense, the speakers orient forward to the yet-to-be-produced turn element, rather than backward to some trouble source that has already been spoken (Carroll, 2005; Greer, 2013; Schegloff, 1979). Orienting to such deviations in the ongoing talk provides evidence of the participants' understandings of the current medium, be it English, Japanese or a combination of both languages.

Following a review of the CA approach and its treatment of repair in monolingual talk, we review the CA literature on code-switching with a particular focus on Gafaranga's notion of medium repair. We then go on to examine a number of instances of forward-oriented medium repair taken from our corpus of Japanese/English bilingual interaction.

Repair in Conversation Analysis

What is Conversation Analysis?

Conversation Analysis is an empirically grounded analysis of sequences of natural interaction. First developed by sociologists Sacks, Schegloff and Jefferson in the 1960s and 70s (Sacks, Schegloff & Jefferson, 1974; Schegloff, Jefferson & Sacks, 1977), one of the defining features of CA is its focus on naturally occurring data—actual occurrences of unscripted talk, rather than talk that has been removed from its social and sequential contexts or produced artificially, such as those collected by means of experiments or in hypothetical situations like discourse completion tests.

A CA approach is data-driven, meaning that the research questions do not pre-exist the data, but instead emerge from the talk itself after prolonged researcher involvement in the form of grounded observations and bottom-up collection of similar cases of interactional phenomena (ten Have, 1999). Utilizing the audio and visual data they have collected, CA researchers conduct an empirical form of qualitative research by collecting and grouping similar phenomena ("interactional practices") that have been noticed through extended engagement with the data. In addition, where multiple examples of a phenomenon do not exist in the data set, the researcher is also justified in referring to other relevant CA investigations documented in the literature. CA adopts a "radically emic approach" (Markee & Kasper, 2004), meaning that the data are analyzed

from the insider's point of view, not in the ethnographic sense of participant observation, but through the notion of procedural consequentiality (Schegloff, 1992), in which any findings about a turn-at-talk are based on how the recipient reacts to it at that time and place. For example, an analyst is justified in calling a turn an invitation if a recipient responds to it as one within the talk, such as with an acceptance or a refusal in next turn. Conversation analysts are therefore interested in the micro-social organization of talk, including turn-taking, sequence, preference, epistemics and interactional repair (see Sidnell, 2010 for a detailed explanation of these topics).

Repair and intersubjectivity

The interactional organization of repair constitutes a set of practices for pointing out problems in speaking, hearing, or understanding in interaction. Duranti (1997) notes that repair includes a range of techniques that participants use to solve whatever aspect of the talk they orient to as a problematic. The trouble source need not be an error since "any utterance can be turned into a repairable" (ten Have, 1999, p. 116) and repair is potentially relevant to any turn element (Schegloff, 1979). On the other hand, speakers do not treat all errors as problematic, and in such cases the practices of repair do not come into play.

In other words, a repair sequence only starts when a trouble source is identified and made relevant to the ongoing talk by the interactants. Repair initiation marks the trouble source, and the trajectory of the interaction is put on hold until the repair segment reaches an outcome, "whether solution or abandonment" (Schegloff, 2000). This repair initiation can be self- or other-initiated depending on which participant interactionally notices the repairable. If the speaker of the trouble source carries out the repair, as in Excerpt 1, it is considered "self-repair".

Excerpt 1   [SFD Materials: IV71] (Jefferson, 1974)

```
    Desk:      He was here lay- uh earlier, but 'e left.
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In this instance, the possible beginning of "later" is repaired by the current speaker into "earlier" after "lay-" has been produced. This illustrates an example of self-initiated, self-repair in which the speaker orients to a trouble source in some just-produced element of the talk. In this sense the repair is also *backward-oriented* (Schegloff, 1979). By comparison, a situation such as a word search sequence, in which the trouble source is in some yet to be produced element of talk, can be thought of as *forward-oriented repair* (Carroll, 2005). In backward-oriented repair the speaker typically deals with the trouble as soon as possible, such as through cut-offs like the one in Excerpt 1; however, forward-oriented repair is just the opposite, with the speaker delaying the production of the sequentially due element through hesitation markers (like *umm* or ええと), sound stretches or stand-in words (like "the watchamcallit" or あれ), or else providing a brief circumlocution that formulates the missing item in other words. In addition to these monolingual practices, bilingual speakers may also choose to specify the trouble source by using a word from the other language in place of the sequentially due item (Greer, 2013).

This notion of repair is no trivial matter; its practices are the means by which humans adjust the way their thoughts are delivered, and repair therefore "offers participants an important secondary device for achieving intersubjective understanding" (ten Have, 1999, p. 119).[2] Each response displays an analysis of a preceding utterance, so intersubjectivity is always demonstrated, checked or repaired. Schegloff (1992) states that a three-part sequence as simple as "How are you?" "Fine," "That's good," can manifest understandings, such as when the turn was finished, whether the prior turn was a question, and whether or not the next turn was a response.

In short, mutual understanding is achieved interactionally and sequentially, and as Schegloff argues "intersubjectivity is locally managed, locally adapted, and recipient designed"

(1992, p. 1338). Repair is therefore one of the key interactional means through which understanding is accomplished.

The CA approach to code-switching
Perhaps the most general definition of code-switching is "the use of two language varieties in the same conversation" (Myers-Scotton, 2006, p. 239). As such, code-switching is a practice that is fundamentally social.

The CA approach to code-switching is to observe language alternation from the participants' own perspectives (Gafaranga & Torras, 2002). It therefore establishes the meaning and function of any given instance of language alternation by grounding it within the interaction between participants (Li Wei, 2002, 2005). Li Wei maintains that "(m)eaning emerges as a consequence of bilingual participants' contextualization work and thus is "brought about" by speakers through the very act of code-switching" (Li Wei, 2002, p. 167).

Conversation analysis is a sequential approach that focuses on co-constructed interaction between the participants (Auer, 1984). Although this approach does not analyze code-switching from the perspective of sociolinguistic norms, the CA approach to code-switching is able to observe and account for the phenomenon in its natural habitat. Thus, focusing on "naturally occurring" statements (Li Wei, 2002) and answering the question "Why that, now?" in code-switching are the two most distinctive features of the CA approach.

Medium Repair
In his 2000 paper, Gafaranga contends that language choice among bilingual speakers must be seen as an orderly form of practical social action. This is not an external prescriptive rule, but one that is accomplished through interaction itself: as Gumperz (1982) notes, speakers do not attend to the grammarian's notion of language but to their "own notion of code". For the participants in a conversation, the notion of code is different to that of language. To avoid any confusion between these two concepts, Gafaranga adopts the term "medium" to refer to the scheme of interpretation speakers themselves orient to while talking.[3]

The medium of a conversation, therefore, does not limit itself to one language; at any point in a sequence of bilingual interaction language alternation itself may be the current medium. In order to classify an instance of language alteration as code-switching, one must first discover the medium of the conversation. The medium can be identified by examining which language(s) the speakers adopt in a specific instance of bilingual conversation. Gafaranga sets two activities that reveal the medium to which the speakers are attending. He calls them "medium repair" and "other language repair".

In medium repair, the speaker treats the trouble source as something that has deviated from the normatively understood language (or medium) in which any given conversation is taking place. Excerpt 2 is an instance of medium repair from Gafaranga's work.

Excerpt 2   (Gafaranga & Torras, 2002) –modified

```
1  A:    no (.) I'm going to give this mmm (.) eh today (.)
2        maybe today or tomorrow you will be inscribed
3  B:    uh
4  A:    matriculated (.) and after this eh it has to wait
5  →     (.) four five six JOURS eh six
6  B:    days
7  A:    days (.) after being
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```
4 A:   matriculated (.) and after this eh it has to wait
5   →   (.) four five six DAYS eh six
```

Gafaranga and Torras state that the medium in this instance is English. The evidence for this choice of medium is that the French expression in line 5 ("JOURS") is treated as problematic by the speaker and is immediately repaired by participant B in next turn. This suggested repair by B is then accepted by A in line 7. As is evident from the transcript, the word *jours* is not problematic for B in terms of understanding, since she immediately provides an English equivalent; rather it is the fact that A uses French in an otherwise English conversation that the participants treat as problematic, and this leads them to repair the medium of the interaction. Medium repair therefore is similar to other repair practices found in monolingual talk, where the trouble source is usually related to hearing, production or understanding. In medium repair, the problem seems to be one of production, specifically that the speaker has formulated some element of the talk in a language or medium that departs from the current medium.

The other type of repair Gafaranga identifies is called other-language repair. In contrast to medium repair, the speaker does not address the repair as deviating. Since the otherness of language alternation is not signaled, one can assume that the medium of conversation is not restricted to one language.

Excerpt 3   (Gafaranga, 2012) -modified

```
1 A:   n'ibintu by mu Rutonde bavugango bakore
2      ikinyarwandaaa (.) kitagize-
3 B: → [pure
4 C: → [pure
5 A:   umh ibyo narabirwayaga dès le début
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1 A:   like the the commission of Rutonde who were
2      developing Kinyarwandaaa (.) which was-
3 B: → [pure
4 C: → [pure
5 A:   I was against that from the very beginning
```

The transcript above is an example of other-language repair from Gafaranga's corpus. The conversation is carried on in Kinyarwanda until lines 3 and 4 where other participants offer the French word to assist participant A. The focus of this example is line 5 after the French word has been introduced. There are no orientations to the other-languageness, but the speaker actually confirms the repair by picking up and resuming the interaction prior to the repair.

However, in more recent work Gafaranga does state that "there is a need for a more systematic examination of the relationship between language alternation and conversational repair" (Gafaranga, 2012, p. 8). Additionally, Gafaranga points out that the placement of repair, the person who initiates repair, who affects it, and the outcome of the repair are important. Various aspects of bilingual interaction have also been analyzed by other CA researchers, including Auer (1984, 2000), Cromdal (2001, 2004, 2005) and Greer (2008, 2010, 2013).

The analysis in the current research is based on repair segments conducted with language alternation, and works with the notion of medium repair discussed in this section. In order to take a closer look into significant dimensions in repair organization it is crucial to consider directionality in addition to the initiator and the outcome of repair.

Background to the data

This section presents an overview of the conversational data on which our analysis is based. The data to be analyzed are audio recordings[4] of naturally occurring conversations that took place in English and Japanese.

The corpus from which the data segments are taken consists of fifteen episodes of bilingual interaction that took place during a variety of casual conversations. A summary of the data set is provided in Appendix 1. The participants engage in bilingual talk in settings varying from a conversation between family members at home to an instructional conversation at a workplace. The length of the recording sessions varies from one minute to more than one hour at the longest, adding up to over eight hours of data. The sessions were recorded with a portable digital media player (Sony Walkman NW-S745). An external recording device was attached to the Walkman, and the conversations were digitally recorded via this microphone (Sony stereo microphone ECM-NW10). Although video recordings would have undoubtedly provided a more thorough account of the embodied aspects of the interaction, it was decided that the portability of the Walkman would better allow for ad hoc data collection in an unobtrusive manner.

The data were collected with the participants' oral consent and, in the case of minors, also with that of their parents. The participants were informed that the recorded data would be used only for research purposes and pseudonyms would be used to protect their identities. A total of 18 participants took part in the recordings and their background details are listed in Appendix 1.

The data have been transcribed according to the conventions originally developed by Gail Jefferson (as outlined in Schegloff, 2007). A key to the transcription notation is included in Appendix 2. The transcriptions are rendered in both Japanese and English scripts. Any information that may lead to the identification of the participants in the transcripts has been altered to pseudonyms.

Due to the nature of the data, many instances of language alternation were recorded. The total of 8 hours 22 minutes of recorded conversations resulted in 93 pages of transcripts. The instances of code-switching were noted and categorized into collections. Similarly, sequential patterns of language alternation of conversational excerpts collected from the data were analyzed.

Analysis

This section outlines the study's findings, focusing on English and Japanese language alternation in the phenomenon of repair in conversation. The analysis will introduce several instances of language alternation as medium repair. In total, 16 cases of repair segments involving language alternation were identified, of which five will be discussed in detail here.

As discussed above, the notion of code-switching as medium repair was originally put forward by Gafaranga (2000). This repair practice occurs when the language (medium) itself is the trouble source. The participants orient to the trouble source and its "other languageness", either in an explicit manner (Gafaranga, 2000, p. 336) or in an implied way.[5] In the corpus for this study, five instances of forward oriented self-initiated self-repair correspond to what Gafaranga describes as medium repair. They follow the sequence of forward-oriented self-initiated self-repair in the same turn.

Medium repair explicitly stated

The most obvious cases of medium repair are when the other languageness is explicitly stated by the participants. We begin by examining two cases where the language used to solve the problem was pointed out as deviating from the current medium. Excerpt 4 shows a clear example where the speakers orient to the other languageness in a word search sequence. In this excerpt, the participants are playing the board game Monopoly. Goro is a Japanese boy who is in the third grade and Mami is his tutor.

Excerpt 4   Goro & Mami (2010/10/23 17:30)

```
 1  Mami:   three dollars.
 2  Goro:   WH::Y?
 3  Mami:   three dollars. you hav- ah, no. yeah, you have to pay.
 4          (0.5)
 5  Mami:   free じゃないもん.(0.2) >th-three (.) three. a-no< two
 6          sorry.(0.4) ゜はい.゜
 7          (1.0)
 8  Goro:   I (0.5) DO it this. .hh n-why I want
 9      →   to (.) n-あの (0.5) だから:>こういう
10      →   こと.< .hh なんで君に払わないといけないのってこと.
11  Mami:   $.hh sorry.$
12  Goro:   わかっ[た?
13  Mami:        [$sorry, my mistake.$
14  Goro:   銀行に送ったじゃない.
15          ((roll of the dice)) (1.1)
16  Goro:→ ゜日本語じゃないとうまく言えない.゜
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```
 1  Mami:   three dollars.
 2  Goro:   WH::Y?
 3  Mami:   three dollars. you hav- ah, no. yeah, you have to pay.
 4          (0.5)
 5  Mami:   free *it isn't*.(0.2) >th-three (.) three. a-no< two
 6          sorry.(0.4) ゜*here you are*.゜
 7          (1.0)
 8  Goro:   I (0.5) DO it this. .hh n-why I want
 9      →   to (.) n-*um* (0.5) *so*:>*it's like*
10      →   *this*.< .hh *why do I have to pay you*.
11  Mami:   $.hh sorry.$
12  Goro:   *understa*[*nd*?
13  Mami:        [$sorry, my mistake.$
14  Goro:   *I sent it to the bank*.
15          ((roll of the dice)) (1.1)
16  Goro:→ ゜*I can only say it well in Japanese*.゜
```

Goro's turn in lines 8-10 constitutes a complaint sequence regarding the rules of the game. The interactional trouble begins in line 9 when Goro abandons his unfinished English turn and switches instead to Japanese. Here, Goro is orienting to some yet-to-be-produced element of the turn-in-progress and thus self-initiating repair through hesitations and restarts, and treating the completion of the turn-in-progress as problematic. At a point in the turn when a verb such as "pay" is sequentially due, Goro restarts the entire turn in Japanese by switching to that language after the 0.5 second pause. The repair proper appears on line 10 "なんで君に払わないといけないの (*nande kimi ni harawanai to ikenai no*/why do I have to pay you?)". Note that this addresses not just the sequentially due word "pay" but also abandons the entire English turn-in-progress by using Japanese to repeat elements that have already produced in English, such as "why" and "you".

Greer (2013) has shown that bilingual Japanese/English speakers can formulate part of their turn in other-medium during word search sequences to specify the word that it is sequentially due. Code-switching is therefore a useful tool for dealing with interactional trouble;

monolinguals also regularly word search, but do not have the means to specify the word they are looking for in another language.

In line 11, Mami acknowledges the repair by producing a type-related second pair part (an apology to Goro's complaint). Even though the recipient accepts the mixed-language formulation of the first turn, this can be viewed as an example of medium repair due to the fact that at line 16 Goro himself produces a retro sequence (Schegloff, 2007) that treats the repair as something deviant from the preceding medium (English) by explicitly stating that Japanese was the only language available to express what he wanted to say. In other words, the medium repair is followed by an account that makes it clear that the speaker himself has noted his departure from the current medium.

However, explicit statements about the other language can be initiated by other participants as well. In the case below, a word search sequence likewise exhibits forward-oriented self-initiation of self-repair. Language alternation is treated as the trouble source and oriented to as such; that is, language itself is the problem rather than understanding or hearing. However, what is different from Excerpt 4 is that the participant who points out the problem with language is the hearer, Mami. The two participants, Mami and Yuri, have been engaged in constructing a puzzle. In this segment they are talking about a just-prior topic (discrimination) in a playful manner, so although the content appears at first to be serious it is in fact delivered in a light-hearted way.

<u>Excerpt 5</u>   Mami & Yuri (2010/09/24 39:08)

```
1  Mami:    ugh. (1.6)°that's discrimination.°
2           (2.1)
3  Mami:    I'll sue.
4           (3.7)
5  Yuri: →  <you, discrriminated>, (0.5) me, (1.0) 先日.
6           (1.0)
7  Mami: →  hhhhhh.$言えなかっ[た,そこ言えなかった.$
8  Yuri:                   [     hhhhhhh.
9  Mami:    .hhhhh, ahhh, >so funny.<
```

```
5  Yuri: →  <you, discrriminated>, (0.5) me, (1.0) the other day.
6           (1.0)
7  Mami: →  hhhhhh.$you couldn't sa[y, you couldn't say that
           part.$
```

Yuri starts line 5 in English, delivering it not in her own voice but in what appears to be a 'mock-middle Eastern voice' (i.e. one that is a 'non-native' speaker of English). The pace of delivery is slower than the surrounding talk and the pronunciation of the word "discriminated" exhibits features of 'broken English', including two silences; a 0.5 second pause, followed by the word "me" and then a longer 1.0 second pause. Together with the absence of the preposition "against", the construction of this turn conveys the hyper-stylized character of a novice English speaker. The mid-turn pauses and the continuing intonation that proceed them indicate that Yuri is conducting a word search (i.e. self-initiating forward-oriented repair). The trouble source here turns out to be "先日 (*senjitsu*)" in line 5, or more specifically its English equivalent, "the other day". In line 7, Mami orients directly to the Japanese element of the prior turn "先日 (*senjitsu*)", stating clearly that Yuri was unable to say that word in English, "言えなかった (*ienakatta*)". The fact that the repairable word was produced in Japanese while the remainder of the turn was produced in English (the current medium) implies that it was the English equivalent of the Japanese word that could not be delivered in a timely fashion. After Mami signals the otherness

of the word in line 7, Yuri then joins in the laughter in line 8, rather than objecting to Mami's assessment. In this situation therefore, the participants treat the language alternation as something that would have been unnecessary if that word were available in English.

Medium repair implied

However, the "otherness" of the element need not be pointed out explicitly. This section examines three cases where language choice is implicitly marked as deviating from the current medium. The first case is where the other languageness is implicitly addressed by the speaker. Excerpt 6 shows an instance where the word search sequence occasions the medium repair. The excerpt is part of a tutoring session between Chihiro and Mami. Chihiro is a 6th grade girl who attends an international school. Here, Chihiro and Mami are talking about computers.

Excerpt 6   Chihiro & Mami (2010/04/19 12:15)

```
1  Chihiro:    外国人マックの方が多いんじゃない?
2              (1.5)
3  Mami:       hmmmmmm, um ah-the ahn exchange student was sitting
4        →     next to me but she didn't seem so:::, (1.0) >you know<
5        →     (0.6) めっちゃ慣れてた with the Macintosh.
6              (2.2)
```

```
1  Chihiro:    don't foreigners use more Mac?
2              (1.5)
3  Mami:       hmmmmmm, um ah-the ahn exchange student was sitting
4        →     next to me but she didn't seem so:::, (1.0) >you know<
5        →     (0.6) very used to with the Macintosh.
6              (2.2)
```

As the English tutor, in this conversation Mami speaks primarily in English, so when Mami responds to Chihiro's Japanese question (line 1) in English (line 3), neither of the participants treats this as particularly unusual. However, within her response Mami formulates part of the turn in Japanese. In line 4, Mami initiates repair on her own turn-in-progress (i.e. self-repair), using hesitation markers such as a sound stretch ("so:::,") and pauses, which points to the phrase "めっちゃ慣れてた(*meccha nareteta*)" in line 5 as the trouble source. Through this word search, the trouble source is repaired and produced as the Japanese form in line 5. There is no orientation to this language alternation from the other participant (Chihiro), but the hesitation markers preceding this language alternation signal that the outcome and the language choice of the repair are treated as inadequate by the speaker (Mami). This is a case where the language alternation is not mentioned explicitly as the trouble source but is treated as repairable nonetheless, in that the production of the other-medium candidate is significantly delayed.

Another example of an implied medium repair is similar to Excerpt 6 in that it again involves a word search sequence. Here however, there is an orientation to the choice of language not only from the speaker, but also the other participant as well. The participants are a teacher and a former student. The topic is about school life in general. The student is a 7th grade female studying at an international school.

Excerpt 7   Student & Teacher (2010/11/06 03:00)

```
1  S:                              [白井先生嫌いだ.
2  T:       ohhhh, why?
3          (1.2)
```

```
 4  S:      'cuz I don't like her.
 5  T:      maybe because you don't like P.E. so much,
 6          like me? $hhaha$.
 7          (0.7)
 8  S:→     no. [umm, but,(2.6)]ummm, (0.8) なんか,体質が嫌い.=
 9  T:          [>°(you) really like< P.E.°]
10  T:→     =OH?.[$hhahahaha$ what do you mean,体質(とか).]
11  S:→          [$hhha$ あの,筋肉モリモリっていうのが.]
12          (0.2)
```

```
 1  S:                              [I don't like Ms. Shirai.
 2  T:      ohhhh, why?
 3          (1.2)
 4  S:      'cuz I don't like her.
 5  T:      maybe because you don't like P.E. so much,
 6          like me? $hhaha$.
 7          (0.7)
 8  S:→     no. [umm, but,(2.6)]ummm, (0.8) well, I don't like
 9          the way she's built.=
10  T:          [>°(you) really like< P.E.°]
11  T:→     =OH?.[$hhahahaha$ what do you mean, her physique
12          (or something).]
13  S:→          [   $hhha$ that, she's all muscular.]
14          (0.2)
```

Here the trouble source is the segment of the turn that comes after the 0.8 second pause in line 8. In that line, there is a longer 2.6 second pause accompanied by hesitation markers such as "umm" and "なんか (*nanka*) ", indicating that the student is having trouble saying what she is trying to say in English. She thus initiates self-repair in the remainder of the utterance in the other language "体質 (*taishitsu*)". The solution that the student utilizes here is switching to the other language, and the use of a the Japanese hesitation marker *nanka* may help alert the recipient to the possibility of that switch.

However, the teacher responds to this with a louder stressed turn, followed by a laugh signaling the otherness of the language usage.[6] At the same time in line 10, the teacher orients to the student's just-prior utterance by pointing out that even though the student uses Japanese to convey meaning there is still a need for further clarification; ("what do you mean *taishitsu*? "). To answer that question, the student then needs to give additional information, which she does in line 11.

In Excerpt 8 below, we can see a word search sequence very similar to the instances of forward oriented self-initiated self-repair presented in this section. However, in this case it is only after the word search sequence is complete that the issue of language comes up. All of the participants are aware that everyone speaks Japanese and English. Miori has lived in England, Mami has lived in the U.S., and Sean is an Australian who has been living in Japan for a number of years.

Excerpt 8   Mami, Miori & Sean (2010/10/30 03:43)

```
 1  Miori:    yeah. (.) >it's like,< ラーメン. I always put it, all
 2       →     on the->what do you call it?< めんま? no it's not めんま.
 3  Mami: →   れんげ?
 4  Miori: →  れんげ.
 5  Sean: →   the spoon.
```

```
6  Miori:    yeah, then eat it.
7              (3.0)
```

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1  Miori:    yeah. (.) >it's like,< ramen. I always put it, all
2       →    on the->what do you call it?< menma? no it's not menma.
3  Mami: →   Chinese style spoon?
4  Miori: → Chinese style spoon.
5  Sean:  →  the spoon.
```

In this example, the word search sequence starts in line 2 where Miori self-initiates repair. As a second pair part to the question Miori raised with a wh-interrogative ("what do you call it?"), another participant (Mami) offers a candidate solution in line 3 marked as only a possibility with upwards intonation. In line 4, Miori provides receipt of this through repetition.[7] The other languageness is then pointed out by Sean in line 5 where he translates "れんげ (*renge*)" as "the spoon". Since "れんげ (*renge*)" (which refers to the sort of spoon used for eating ramen) and "spoon" are not completely equivalent, the semantic scope gets broadened from a specific kind of utensil to a general term. Taking this into account along with the fact that this other-medium version was introduced after the speaker (Miori) accepted the Japanese version in line 4, this instance constitutes another example of medium repair. The referent "the spoon" is less specific than the first version; however the participants treat it as worthy of repair because it is produced in the current medium, which is English. Here, Sean's repair in line 5 clearly signals the other languageness of the formulation and can be considered as a case of medium repair.

As seen in these instances medium repair can be either explicitly stated or implied. This follows Gafaranga's notion of signaling the other language as a deviance from the current medium (Gafaranga & Torras, 2002). In his work Gafaranga calls for a more systematic examination of the relationship between language alternation and conversational repair (Gafaranga, 2012). What Gafaranga has not mentioned, and what has become apparent from the analysis of the current data set is that medium repair frequently follows sequences of forward oriented self-initiated self-repair. Factors such as who initiated repair, and how that affects the outcome of the repair have been stated as significant to repair involving language alternation (Gafaranga, 2012). In addition to that, by looking at the direction of the speaker's orientation to the trouble source, the term "medium repair" applies to forward oriented self-initiated self-repair.

Concluding Discussion

Summary of analysis
In this paper, we have analyzed the practice of repair in English and Japanese bilingual interaction. The instances of repair were categorized by their sequence in repair following CA principles. The instances of forward oriented self-initiated self-repair was examined in relation to Gafaranga's notion of medium repair. If it is self-repaired, medium repair seems to be forward oriented and self-initiated. However, when it is the other participant that signals the other languageness, there is a possibility that the sequence need not be forward oriented and self-initiated.

When dealing with problems of understanding, these repairs in bilingual interactions utilize the other language as a resource to overcome these problems. This analysis that other language repairs are used as an efficient practice brings to mind Grice's maxim of quantity (Grice, 1975). The maxim of quantity is violated when trying to convey as much information but keeping it no more informative than needed, however repair in other language might be a way around this maxim. In the data we have examined, the participants were able to reach a repair outcome by resorting to the other language.

Findings on sequence and placement of repair

After raising the notion of medium repair, in his recent work Gafaranga focuses on the placement of language alternation in a repair sequence (Gafaranga 2011, 2012). He discusses phenomena such as transition space medium repair, and language alternation and/in repair initiation and repair ratification. Gafaranga's studies observed three situations where language alternation itself is the repairable (medium repair), language alternation is the repairer, and language alternation indicates the failure of repair.

However, Gafaranga's research does not adequately take into account the participants' orientation to the sequential placement of the trouble source. The present study has highlighted the importance of orientation and sequence in repair that involves language alternation. Through this analysis, the nature of medium repair has become more apparent. Under Gafaranga's classification, a repair involving language alternation can be considered as medium repair when there is a signaling towards the other languageness (either explicit or implicit), and when language alternation is used as a resource to solve self-initiated other-repair problems (Gafaranga, 2000).

Nevertheless, in his more recent work, Gafaranga finds this concept less satisfactory and opts to name the sequence "other language repair initiation" (Gafaranga, 2012). Analysis of the data in the current study has found that the sequence of forward oriented self-initiated self-repair was more suitable to the term medium repair. This sequence seems to cover the overall practice of medium repair.

Although there have previous studies conducted on repair and bilingual interaction, as Gafaranga (2012) points out, it was not clear whether the researchers actually refer to the same phenomena or not. In this study, by observing the sequence of repair involving language alternation, it has become even more evident that different categories implement different practices. The current study looked at cases where language alternation itself was the problem and where language alternation was used as a useful resource. These are practices that bilingual people do every day. To someone not familiar with code-switching and the way bilingual speakers interact with each other, these episodes of language alternation and repair might seem like an incoherent or arbitrary choice of words. However, this study has revealed a systematic organization for language alternation in forward-oriented repair. While beyond the scope of the current study, there are undoubtedly a host of other interactional functions of code-switching that could benefit from the kind of close sequential analysis that CA offers.

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Appendix 1: A summary of the corpus from which the data excerpts were taken

Date	Participants	Language proficiency	Situation	Length
2010/04/14	T: JPN , Adult, Female S: JPN, 7th grade, Female	T: proficient bilingual S: bilingual dominant in Japanese	Tutoring session at a coffee shop	08:14 45:57
2010/09/06	M: JPN, Adult, Female Y: JPN, Adult, Female G: JPN, 3rd grade, Male	M: proficient bilingual Y: bilingual slightly dominant in Japanese G: bilingual dominant in Japanese	Lunchtime at home	01:34 03:12
2010/09/06	M: JPN, Adult, Female Y: JPN, Adult, Female G: JPN, 3rd grade, Male	M: proficient bilingual Y: bilingual slightly dominant in Japanese G: bilingual dominant in Japanese	At home	09:45
2010/09/11	M: JPN, Adult, Female N: JPN, College, Female C: USA, Adult, Female	M: proficient bilingual N: proficient bilingual C: bilingual dominant in English	Lunch time at workplace	20:26
2010/09/11	M: JPN, Adult, Female N: JPN, College, Female	M: proficient bilingual N: proficient bilingual	Break time at workplace	22:42
2010/09/11	M: JPN, Adult, Female R: JPN, College, Female	M: proficient bilingual R: bilingual slightly dominant in English	Chat at a coffee shop	14:15 16:14
2010/09/18	Ma: JPN, Adult, Female Mi: JPN, College, Female	Ma: proficient bilingual Mi: proficient bilingual	Discussing lesson plans at work	36:01
2010/09/24	M: JPN, Adult, Female Y: JPN, Adult, Female	M: proficient bilingual Y: bilingual slightly dominant in Japanese	Working on a puzzle at home	42:57
2010/10/23	M: JPN, Adult, Female G: JPN, 3rd grade, Male	M: proficient bilingual G: bilingual dominant in Japanese	Playing games at home	25:47 29:18
2010/10/24	M: JPN, Adult, Female G: JPN, 3rd grade, Male	M: proficient bilingual G: bilingual dominant in Japanese	Playing games at home	34:13
2010/10/30	Ma: JPN, Adult, Female Mi: JPN, College, Female Se: AUS, High school, Male	Ma: proficient bilingual Mi: proficient bilingual Se: bilingual dominant in English	Lunchtime at workplace	09:34
2010/11/06	T: JPN, Adult, Female S: JPN, 7th grade, Female	T: proficient bilingual S: proficient bilingual	At workplace, taking place before class.	09:42
2011/02/12	M: JPN, Adult, Female Y: JPN, High school, Female	M: proficient bilingual Y: proficient bilingual	Break during work	30:35
2011/07/23	E: JPN, College, Female S: JPN, High school, Female	E: proficient bilingual S: bilingual dominant in Japanese	Casual conversation while working	1:28:06
2011/09/13	Sa: JPN, Adult, Female De: SWE, Adult, Male Ma: JPN, Adult, Male Mu: JPN, Adult, Female Du: GBR, Adult, Male Ri: BEL, Adult, Female	S: proficient bilingual De: proficient multilingual Ma: proficient bilingual Mu: proficient bilingual Du: proficient multilingual R: proficient multilingual	Instructions on how to use the new computer system	26:24
	Total 18 individuals			Total 8:22:13

Appendix 2: Transcript conventions

The following is a list of the transcription conventions and conversation analytic symbols used in this paper, based on Jeffersonian transcription conventions as outlined in Wong & Waring (2010).

.	(period)	falling intonation
?	(question mark)	rising intonation
-	(hyphen)	abrupt cut-off
::	(colon(s))	prolonging of sound
word	(underlining)	stress and/or increased volume
WORD	(all caps)	loud speech
°word°	(degree symbols)	quiet speech
>word<	(more than less than)	quicker speech
<word>	(less than more than)	slower speech
hh	(series of h's)	aspiration
.hh	(h's preceded by dot)	inhalation
[word] [word]	(set of lined brackets)	beginning and ending of simultaneous or overlapping speech
(0.4)	(number in parentheses)	length of silence in tenths of a second
(.)	(period in parentheses)	micro-pause: 0.2 second or less
(word)	(word in parentheses)	uncertain transcription
$word$	(dollar signs)	smiley voice

[1] By bilingual we mean people who routinely use two languages (Japanese and English in the current analysis) in their daily lives. They may not necessarily be "fluent" and in fact in most cases individuals tend to be stronger in one language or the other, but they should be "competent", meaning that they can carry out a conversation in both languages and do so regularly outside of language learning contexts for real communicative purposes.

[2] Sidnell (2010) defines intersubjectivity as a joint or shared understanding between persons.

[3] See also Auer (2000) for a discussion of the "base language".

[4] The authors recognize that video recordings of the conversations would have provided a deeper understanding of the interaction; however, we were unable to gain permission from all the participants to video the conversation. This is one of the limitations of the current study.

[5] Gafaranga (2000) gives examples of approximation ("it's like"), translation, treating the language alternation as other people's words ("they say"), for signaling the other languageness.

[6] See works by Jefferson (1972, 1979) for the analysis of laughter.

[7] See Svennevig (2004) and Greer *et al* (2009) for more on receipt through repetition, an uptake practice that make it clear to the prior speaker just what the recipient has understood.