

CODE-SWITCHING IN TRI-GENERATIONAL FAMILY CONVERSATIONS AMONG CHINESE IMMIGRANTS IN NEW ZEALAND

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This is a study of Chinese-English code-switching (CS) by grandparents, parents, and grandchildren in family conversations. Based on a 30,000-word corpus of New Zealand Chinese family conversations, 1,091 tokens of CS were retrieved and coded as “between-turns” CS and “within-turn” CS on the basis of structural form. The results generally supported three hypotheses proposed on the bases of Communication Accommodation Theory and the contrasting bilingual competence across the three generations. Between-turns CS occurred more often than within-turn CS (Hypothesis 1), and the ratio of between- to within-turn CS was higher for grandchildren than for either parents or grandparents (Hypothesis 2a). Parents used more within- than between-turns CS, and their propensity for within-turn CS was significantly greater than that of grandchildren but not of grandparents (partial support for Hypothesis 2b). The interpretive function of CS was then examined to identify tokens of CS that facilitated family members communicating with each other despite language barriers. Parents were found to be the main users of interpretive CS. Four tokens of interpretive CS (from a total of 69) were presented to illustrate the kinds of communication problems that occasioned the use of interpretive CS, and the turn-by-turn dynamics in which the interpretive function was collaboratively enacted.

Keywords: *code-switching; inter-generational communication; acculturation; New Zealand Chinese*

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Code-switching (CS), the alternation between two (or more) languages in conversations, has long existed as a result of language contact and occurs commonly in bilingual settings. As the title of Jacobson's (1989) volume has so aptly described, CS is a "worldwide phenomenon." Apart from its prevalence, CS is an important area of study because of its multifunctionality. For example, CS may serve to translate, clarify, elaborate, or emphasize a message that has been previously expressed in another language. Strategically, a speaker may switch to a particular language so as to select an addressee as the recipient of the message or as the next speaker. In intergroup settings, a speaker may signal in-group solidarity and to differentiate "we" from "they" by switching toward the in-group language. For these and many other functions (see summary in Romaine, 1989), the study of CS has much to contribute to the understanding of language-mediated behavior and its social psychological dynamics.

English, aided by the expansion of the British Commonwealth and later the ascent of the United States to world stage, has penetrated numerous non-English-speaking communities. As a result, nowadays the most common bilingual setting, and hence the most common form of CS, is Other+English, where the "other" may be Egyptian, Dutch, Hindi, Maori, Korean, Chinese, and so forth. The present article is concerned with the Chinese+English variety of CS that occurs at the homes of New Zealand Chinese immigrants.

DISTRIBUTION OF BILINGUAL COMPETENCE AMONG FAMILY GENERATIONS

In the New Zealand Chinese families that we have studied, bilingual ability is most strongly correlated with generations in a way similar to non-English immigrants to the United States. As Edwards (1994, p. 83) has noted, in the United States, "bilingualism is a generational way-station on the road between two unilingualisms. The classic pattern for newcomers to the United States . . . was bilingualism . . . by the second generation and English monolingualism by the third." Similarly for Chinese in New Zealand, grandparents and grandchildren are limited bilinguals with the former fluent only in Chinese and the latter in English. Middle-aged parents are bilingually the most proficient and can converse in either language, although Chinese remains for them the more common language used at home. Given this pattern of bilingual distribution among generations, CS is both a consequence of and a resource for tri-generational communication. To understand this dual nature of CS, first we need to develop a typology of CS that is theoretically meaningful and appropriate to the local context.

BETWEEN- AND WITHIN-TURN CS

In principle one may distinguish two structural forms of CS. A speaker may start a conversational turn by speaking in a language different from the one used by the addressee in the immediate prior turn. This will be referred to as *between-turns CS*. After a speaker has started a turn in one language, he/she may switch to another language for one or more segments of the remaining turn. The switch internal to a turn will be called *within-turn CS*. For theoretical reasons that will be made clear soon, we shall adopt the relatively simple typology of *between- and within-turn CS*, while acknowledging that more fine-grained distinctions can be made (see Auer, 1984).

Since the early works of Ferguson (1959) and others (e.g., Blom & Gumperz, 1972), the study of CS has received considerable attention from anthropological linguists and sociolinguists (for reviews, see Milroy & Muysken, 1995; Myers-Scotton, 2002). As yet it has remained a relatively underdeveloped area of study in social psychology, in part due to the reluctance of social psychologists to engage in field or ethnographic observation of CS behavior. However, a social psychological perspective already exists and, as we shall argue, is useful for the light it sheds on *between- and within-turn CS*.

Conversation, as Clark (1985) has reminded social psychologists, is the most primitive and common form of human social interaction and social coordination. For a discipline that is centrally concerned with social interaction and how participants coordinate (or fail to coordinate) their interactions, social psychology should, at least in principle, have much to offer for understanding CS. The case in point is Communication Accommodation Theory (CAT) (Giles, Coupland, & Coupland, 1991). CAT deals with how individuals adjust (or do not adjust) their communication behaviour toward one another, why, and with what effects. Where the adjustment involves switching between two languages, this would amount to precisely the same form of communication behaviour that underlies CS. Such studies, though available (e.g., Bourhis, Giles, Leyens, & Tajfel, 1979; Genesee & Bourhis, 1982), are rare under the rubric of CAT or its predecessor, the Speech Accommodation Theory. Most of the empirical studies instead focus on shifts within a single language, such as speech accents (e.g., shifting from one British accent to another) or, more recently, stylistic modes of speaking (e.g., shifting from the "normal" mode of adult-to-adult talk to elderspeak when addressing elders). Nonetheless, some of the general theoretical notions are applicable to CS between languages.

CAT makes a fundamental distinction between divergent and convergent accommodation strategies. Language divergence is a marker of social disapproval, distancing, or disidentification, and is often perceived as such for the lack of solidarity and respect that it conveys. Language convergence, by contrast, conveys social approval of and

identification with the addressee. Divergence and convergence are influenced by a host of situational, attitudinal, motivational, cognitive, language competence, and other factors¹ (see Shepard, Giles, & Le Poire, 2001).

The concepts of divergence and convergence suggest that in the intimacy of family conversations, there will be social pressure toward convergence and away from divergence. Such pressure is expected to reduce CS because each instance of CS has the potential of conveying social disrespect and psychological distance associated with divergence. But because CS is necessitated by the uneven bilingual distribution referred to earlier, and hence cannot be avoided completely, the question arises as to how do family members code-switch while reducing the potential of CS to put family solidarity and social approval at risk. The answer we propose is this: code switch within a turn and only sparingly between turns.

Our rationale is that whereas there is an irreducible element of divergence in all CS, its effect is accentuated in *between-turns* CS and attenuated in *within-turn* CS. In the former, divergence at the start of a turn is immediate and unaccommodating. By contrast, a speaker who code switches within-turn would have started the turn in the same code as the addressee's. The same-code preface that precedes the *within-turn* CS is a marker of accommodative effort to converge toward the addressee, and for this reason may invite a benign excuse of the *within-turn* CS that follows. For example, the addressee may attribute the cause of the within-turn CS to "the speaker just can't find the right word in my language" or "the speaker is switching to another language in order to help me understanding better," rather than to "deliberately trying to be different from me" or "not respecting me."

If our theoretical consideration were valid, then we would expect fewer tokens of *between-turns* than *within-turn* CS. We would argue further that the hypothesized main effect of CS form is likely to be qualified by the uneven bilingual competence among family generations. As grandchildren use English the most often and Chinese the least often among the three generations, they will, simply in following their preferred language, end up code switching from the home (Chinese) language (except when addressing another English-speaking family member, usually a sibling). Compared to grandchildren, parents and grandparents use Chinese more often, which is the home language in family conversations, and for this reason would have a lower probability of *between-turns* CS. *Within-turn* CS, on the other hand, depends on and will increase with bilingual competence. As Sebba (1998, p. 15) has put it, "It is maximally fluent bilinguals, then, who should show the greatest propensity for code-switching and the minimum of syntactic constraints which block it." Hence we would expect the probability of *within-turn* CS to be higher among parents (more fluent bilinguals) than among the other two generations (less fluent bilinguals). For

these reasons, we propose that the main effect of CS form (*between-turns CS* is less frequent than *within-turn CS*) will be qualified by an interaction effect between CS form and generation.

INTERPRETIVE CS

Variations in bilingual competence across generations within the family not only will affect the frequency distribution of CS but will also pose problems of nonunderstanding. What is said in a particular language may be incomprehensible to the hearer not knowledgeable in that language. Similarly, a speaker may have difficulty in expressing an idea in an unfamiliar language. When such problems arise, the speaker concerned may try to explain, or another party may intervene, to repair or realign the conversation. Either form of repair work may involve the use of CS, although this is not always required. A CS that performs this particular function of resolving problems of nonunderstanding will be referred to as *interpretive CS*.

Interpretive CS can be viewed as a special case of the interpretability function in CAT (Coupland, Coupland, Giles, & Henwood, 1988; Gallois, Giles, Jones, Cargile, & Ota, 1995). Its study, as attempted here, can in turn enrich CAT with respect to the need of clarifying the relationship between speech divergence (defined on objective grounds such as between-turns CS) and psychological accommodation. All instances of CS are by definition acts of divergence. Interpretive CS, however, is accommodative by its very function and will be felt as such. Thus speech divergence and psychological accommodation are not necessarily mutually exclusive, a point noted by reviewers (e.g., Krauss & Chiu, 1998) and acknowledged in recent developments of CAT (e.g., Shepard et al., 2001). By studying interpretive CS, we hope to further substantiate and explicate the pragmatic link between speech divergence and psychological accommodation.

Unlike the first part of the study, which is quantitative and hypothesis-testing, the study of *interpretive CS* is descriptive and qualitative, the aim of which is to sketch a picture of how family members collaborate in using bilingualism to solve problems of nonunderstanding caused by bilingualism. Acting bilingually in this way has less to do with signaling meanings such as social identities and language attitudes, and more with providing a bilingual contextualisation cue for performing conversational work that is essential to the ongoing flow of the conversation (e.g., Auer & Di Luzio, 1992; Li, 1998). The former functions of CS are just as important and deserve attention on their own right but for present purposes are less centrally relevant. To describe and understand interpretive CS, we shall in the main conduct

a turn-by-turn sequential analysis to identify how a problem of nonunderstanding is occasioned, and how the speaker concerned or another party may attempt to resolve the problem in ensuing turns.

In sum, the aims of the study are:

To test the hypotheses (1) that *between-turns CS* will be less frequent than *within-turn CS*, but (2) that the main effect of CS form will be qualified by Chinese competence and Chinese-English bilingual competence. Specifically, (2a) the ratio of *between-to within-turn CS* will be higher among grandchildren (not competent in Chinese) than among parents or grandparents (competent in Chinese), whereas (2b) the ratio of *within-to between-turns CS* will be higher for parents (high bilingual competence) and lower for the other two generations.

To describe how family members collaborate in the use of “interpretive CS” to solve problems of nonunderstanding arising from variations of bilingual competence among family members.

METHOD

The present study takes a corpus-based approach (Sebba, 1999) to CS analysis that involves both quantitative data retrieval of different structural types of CS and the qualitative description of conversation sequences in which CS is embedded. The quantitative part of the research makes use of recent developments in computerized corpus retrieval tools such as MicroConcord and WordSmith.² The qualitative part of the study is carried out by the sequential analysis model advocated by Auer (1991), who points out that the sequential organization of language choice can provide a frame of reference for the interpretation of functions or meanings of conversational code-switching.

Data Collection

Four predominantly Chinese-speaking bilingual families (eccf2, eccf12, eccf13, eccf17) from a larger sample of families (see Ng, Loong, He, Liu, & Weatherall, 2000) were selected on the basis of the following bilingual criterion: At least 30% of the utterances (words) in each family must be in English. Each family conversation consists of a sample of 30 minutes of conversational interaction. The overall 120-minute corpus comprises 30,302 transcribed words. Each conversation involves six speakers, two each in the young, mid-, and old generations. The age bands are respectively 10 to 25, 30 to 59, and beyond 60 years. Note that the three generations are family (genealogical) generations and should not be confused with the sociological generations that Li (1994) used to describe the Chinese community in Britain.

Classification of CS

To retrieve quantitative data from the corpus by computer, instances of CS need to be identified and coded. For this purpose, CS is defined by form (and not by function), as follows:

In a continuous sequence of conversation, there is a speech segment spoken in a language that is different from that before it, regardless of the segment's length and whether it overlaps with another speaker's speech.

Any instance of CS, defined above, is coded under one of two types:

Between-turns CS: The second speaker initiates his/her turn in another language. Note that starting a turn with a particle (or a backchannel) in another language, unless this is continued by a speech segment in the same language as the particle, does not count as a between-turns CS.

Within-turn CS: The current speaker changes the language within his/her turn, no matter how long it is.

Next, for the purpose of studying the interpretive functions of CS, a third type of CS is identified by the following definition:

Interpretive CS: The current speaker interprets other's speech or his/her own previous speech in another language.

Illustrations of the Three Types of CS in Conversations

In the following illustrations, the dots (. . .) and the slashes (\ \ \) indicate different languages; A and B are different family members, A is the addressee to whom B's turn is directed, and it is B's utterance that is the focus of the coding.

(1) *Between-Turns CS*

- i) A: ii) A:
 B: \ \ \ \ \ B: \ \ \ . . .

Note: Whenever B's initial utterance is in a language different from A's turn ending, it is categorized as a *between-turns CS*, regardless of whether the ensuing utterance remains in that language for the full turn (as in [i]), or changes to another language (as in [ii]). A *between-turns CS* may occur no more than once in any single turn.

(2) *Within-Turn CS*

- i) B: . . . \ \ \ ii) B: \ \ \

Note: So long as a different language is used in the nonturn initial place, it is categorized as a *within-turn CS* case, regardless of whether it occurs sooner (as in [i]) or later (as in ([ii]) after the turn has started. In principle, *within-turn CS* may recur in the same turn, and may co-occur with a *between-turns CS*, even though in practice such occurrences are rare.

(3) Interpretive CS

- i) A: (. . .) ii) A: . . . (. . .) . . . iii) B: . . . (. . .) (\ \ \) . . . iv) B: . . . (. . .) . . . v) B: . . . (. . .) . . .
 B: (\ \ \) B: (\ \ \) A: A: \ \ \
 B: (\ \ \) B: (\ \ \)

Note that (. . .) and (\ \ \) indicate that the two parts are similar in meaning but different in language codes, regardless of whether it is a *between-turns CS* (see [i] and [ii]), or a *within-turn CS* (see [iii]), or a CS the interpretive content of which refers back to the speaker's previous turn (see [iv] and [v]). An *interpretive CS* is either a between- or a within-turn CS, except for pattern (v).

(4) Examples of Coded CS Instances

In the computerized transcript,³ between-turns CS, within-turn CS, and interpretive CS were marked respectively by the symbols #, &, and @. The appendix lists other symbols of transcription.

Example 1: (Original Chinese utterances are omitted; their English translation is presented immediately below)

- 0880 m [] (.) []
 → 0881 d [what a]
 0882 d *good mother you are not thin what*
 → 0883 d (unclear) *father* &
 0884 m [] (.)

English translation (translated segments are in **bold** type, English in the original is preserved in *italics*):

- 0880 m: [**you tell tell**] **grandma something** (.) [**you speak**]
 → 0881 d: #[what a]
 0882 d: *good mother you are not thin what*
 → 0883 d: (unclear) *father* & **am I right**
 0884 m: [**you should speak speak in Chinese**] (.)

Here, the daughter responds in English to the mother's Chinese inquiry, hence a *between-turns CS* (computer coded as # in line 0881), but she ends her own turn with a Chinese tag, hence a *within-turn CS* (computer coded as & in line 0883).

Example 2:

```

0001 f          [ : ]
0002 s          [ (.)]
→ 0003 s  (.)[ :::]  &@America
0004 m          [ : ]
→ 0005 f  @      :
0006 gf       :
```

English translation:

```

0001 f:  ask grandpa if it was good to go to America America
         [could you]
0002 s:  [went (.)]
→ 0003 s: went to Amer (.) [went:::] grandpa went to &@America
         was it good
0004 m:  [address grandpa first]
→ 0005 f: he asked if it was good to go to @America:
0006 gf: Oh: America is good
```

Here, the son has a *within-turn CS* (computer coded as & in line 0003), which is also an *interpretive CS* (computer coded as @), because he is interpreting his own Chinese word into English. The father repeats the son's speech by changing them fully into Chinese in line 0005, hence another case of *interpretive CS* (computer coded as @).

RESULTS AND DISCUSSION

The first output file retrieved from the CS-coded corpus reveals the frequency distribution of CS as follows.

Table 1 shows that CS is a common way of communicating in these Chinese-immigrant family conversations. With regard to the distribution of between-turns and within-turn CS, on average there is slightly more than one occurrence of CS in every other turn. Note that in Table 1, the 69 tokens of *interpretive CS*'s, which are identified by content and function (not by form), overlap with some *between-turns* or *within-turn CS*'s but also includes 26 tokens, which are neither between-turns nor *within-turn CS*'s (see pattern (v) of *interpretive CS* defined in the previous section).

Between- and Within-Turn CS

The frequency of between-turns and within-turn CS spoken by the three generations is shown in Table 2. Note that the CS's were nested within speakers and, in this sense, were not entirely independent

Table 1
Frequencies of Between-Turns, Within-Turn and Interpretive CS in Each of the Four Families

Family	Total Turns	Between-Turns CS	Within-Turn CS	Interpretive CS
eccf2	440	104	99	8
eccf12	540	139	172	39
eccf13	388	157	88	12
eccf17	482	95	237	10
Total	1,850	495	596	69

observations. The statistical problem posed by dependent observations was deemed nonserious on the ground that the CSs were turn-based observations and that in the present coding system no single turn could produce more than one between- or one within-turn CS. After one speaking turn, the same speaker could only start another turn when one or more other speakers have spoken. The intervening turn or turns would thus provide some degree of buffer against dependence of observations.

The overall frequency of *between-turns CS* (495), as predicted in Hypothesis 1, is significantly lower than that of *within-turn CS* (596) when the null hypothesis was tested against an equiprobability model (nonparametric Chi-squared = 9.35, $p = .002$). The variation of CS types across generations is consistent with Hypothesis 2a. That is, the ratio of *between-* to *within-turn CS* among grandchildren (260:181) is significantly higher than either that of parents (Likelihood ratio Chi-squared in logistic regression = 48.541, $p < .0001$) or grandparents (Likelihood ratio Chi-squared = 26.583, $p < .0001$). On the other hand, Hypothesis 2b, which predicted the highest ratio of *within-* to *between-turns CS* among parents (256:135), is supported when tested against grandchildren (Likelihood ratio Chi-squared = 48.541, $p < .0001$) but not against grandparents.

To shed light on possible generational differences in *between-turns CS*, the language in which the switch was spoken is identified. The results show, as expected, an opposite pattern between grandchildren and grandparents. For grandchildren, 90% of their *between-turns CS*'s were in English, whereas 91% of grandparents' *between-turns CS*'s were in Chinese. Thus, the reason behind grandchildren's and grandparents' *between-turns CS*'s would have less to do with motivated intergenerational divergence, and more to do with their monolingual ability: they simply continued using their respective dominant language when addressing other family members. This form of *passive* *between-turns CS* would occur when the addressee had spoken in a mismatched language prior to the speaker's current turn, that is, the addressee had spoken in Chinese prior to the grandchild's turn (mostly spoken in English), but in English prior to the grandparent's turn (mostly spoken in Chinese). Further analysis, summarized in Table 3,

Table 2
Frequency of Between-Turns and Within-Turn CS Spoken by Grandchildren, Parents, and Grandparents

	Between-Turns CS	Within-Turn CS	Total
Grandchildren	260	181	441
Parents	135	256	391
Grandparents	100	159	259
Total	495	596	1,091

confirms this. Grandchildren's *between-turns CSs* ($n = 260$) were directed mostly to (Chinese-speaking) parents ($n = 148$) and grandparents ($n = 100$), and only rarely to their (English-speaking) siblings ($n = 12$). That is, provided that a grandchild had made a between-turns CS, the (conditional) probability of the CS being directed to a parent ($148/260$) or a grandparent ($100/260$) was much higher than that directed to another grandchild ($12/260$). Note that the conditional probabilities above ignore the fact that in a 6-member family conversation, a grandchild could only talk to one other grandchild whereas he/she could talk to two parents or two grandparents. Thus the conditional probability of CS addressed to grandchildren was an underestimate. But even doubling the conditional probability of CS directed to another grandchild, the figure ($24/260$) is still substantially less than the conditional probabilities of CS addressed to parents or grandparents. With respect to grandparents' between-turns CS, which were mostly spoken in Chinese as we have already noted, they were overwhelmingly directed to (English-speaking) grandchildren (conditional probability = $71/100$).

The between-turns CS of *parents* are interesting as the main reason for switching could not be the lack of bilingual ability because parents were clearly able to accommodate to the language of their addressees. As shown in Table 3, parents code switched a lot to both grandchildren ($n = 100$) and grandparents ($n = 31$). Further inspection of the particular languages used in switching show that Chinese was used mainly when the CS was directed to grandchildren, and English when the CS was directed to grandparents. These results suggest that for parents, their use of between-turns CS was goal-seeking and addressee-specific rather than, as was the case of the two other generations, passive or generalized. One goal might be intergenerational linking: to address one generation (e.g., a grandchild) on behalf of another (e.g., a grandparent) so as to mediate a dialogue between them, by using the language of the latter as a marker (or incentive) of this mediation intent. This usage of between-turns CS to mark intergenerational linking is visible in Case 2 below, where Mother in line 0132 attempts to forge a dialogue between grandson and grandfather by using grandfather's language (Chinese) to address grandson. Another goal, to be presented below, was to carry out interpretive work.

- 0004 m: [address grandpa first]
 → 0005 f: **he asked if it was good to go to @America:**
 0006 gf: **Oh: America is good**

Father (f) tells grandson (s) to ask grandfather about his experience in America (L001). Grandson first uses Chinese but fails to complete the question; then he shifts to English (L0003). However, grandfather does not respond, at which point father interprets grandson's English into Chinese (L0005). Grandfather understands this time and makes a response immediately. In this case, the grandson makes the first interpretive CS in L0003 and the father makes the second on L0005.

CASE 2

- 0130 gf
 → 0131 s2 *um eight um*
 → 0132 m [*]*
 0133 f [*]* ^ ^]
 0134 s2 [*okay]*eighty: six]
 0135 s1 *um*^
 0136 m :[]
 0137 s2 [eighty seven]
 0138 gf [eighty six]
 → 0139 f *eighty seven (0.5)@* []
 → 0140 gf [] [:]

English translation:

- 0130 gf: **so how many items of exercise have you solved**
 → 0131 s2: *um eight um*
 → 0132 m: **speak English if you can't express it in Chi*[nese]***
 0133 f: [*ha]*haha^ ha^ha]
 0134 s2: [*okay]*eighty: six]
 0135 s1: *um*^
 0136 m: **how many items were solved by the highest scorer:
 [I mean by your brightest classmate]**
 0137 s2: [eighty seven]
 0138 gf: [eighty six]
 → 0139 f: *eighty seven (0.5) @ I mean [eighty six items]*
 → 0140 gf: [well that is quite] high a
figure in [that case]

In Case 2 above, grandfather asks grandson (s2) in Chinese how many mathematics exercises has he completed (L0130), to which s2 responds in English but hesitantly (L0131). Mother, switching to Chinese, encourages s2 to complete the answer in English (L0132). In the ensuing turns, mother and s2 collaborate in trying to construct an answer, which however is not entirely clear to grandfather. Father, in

L0139, code switches within-turn to interpret the answer to grandfather.

CASE 3

1724 d -*christmas***mum** *happy* (unclear)
 → 1725 gm ^
 1726 d *healthy*=
 1727 gm =
 1728 d = [*healthy*] *health*
 1729 f [*health*]
 → 1730 gm ^
 → 1731 f @[] :
 → 1732 m @[]
 → 1733 s *yeah*: [(.)] @*healthy body* =
 1734 d []
 1735 d = *yeah* [*yeah*(unclear)]
 → 1736 gm []

English translation:

1724 d: -*christmas***mum** *happy*(unclear)
 → 1725 gm: **what**^
 1726 d: *healthy* =
 1727 gm: =**hahaha** =
 1728 d: = [*healthy*] *health*
 1729 f: [*health*]
 → 1730 gm: **what**^
 → 1731 f: @ [**body**] **healthy**:
 → 1732 m: @ [**healthy**]
 → 1733 s: *yeah*: [(.)] @*healthy body*=
 1734 d: [**what does healthy mean**]
 1735 d: = *yeah*[*yeah*(unclear)]
 → 1736 gm: [**that's healthy**] **hahahaha**

Granddaughter (d) in Case 3 says some congratulating words mainly in English (L1724) but her grandma fails to understand it (L1725, L1730). Granddaughter continues with the word “healthy” (L1726), which gets repeated by granddaughter (L1728) and father (L1729), but grandma still cannot understand and shows this with a “what^” in L1730. At this point, father and mother, simultaneously in the same next turn, interpret ‘healthy’ into Chinese (L1731, L1732). Grandson also interprets his parents’ words immediately into English in L1733, which helps granddaughter understand the equivalent words (L1734-5). Finally grandma understands her granddaughter’s congratulation happily. In this sequence, CS occurs between turns on the same content but by different speakers, indicating family members’ *collaborative* enactment of interpretive CS. Such collaborative

work by multiple parties adds a group dimension to the essentially dyadic nature of the interpretability function in CAT.

CASE 4

0319 gf [: :: :]
 0320 m [yeah]
 0321 f :(.)
 0322 m =
 → 0323 s = what's that
 0324 f auckland(.) : : [v]
 → 0325 s [racing] cars or whatever (.)[dad^]
 0326 m []
 0327 f []
 0328 gm []
 [:](.) []
 → 0329 s [dad:]
 0330 f [^]
 → 0331 s [what's that-what's-]
 0332 gm []
 → 0333 f @ [roller coaster]
 → 0334 s oh: roller coaster is fun

English translation:

0319 gf: **the roller coaster that [that kind of: entertainment is very::: very nice] yeah**
 0320 m: [*yeah* **playing with roller coaster is terrific each of them had played several times**]
 0321 f: **it means the roller coaster here is not that exciting**
 0322 m: **no=**
 → 0323 s: = *what's that*
 0324 f: **in auckland(.) the roller coaster is not the same as those in other countries [isn't it]**
 → 0325 s: [*racing*] cars or whatever (.) [dad^]
 0326 m: [**not that**] many loops
 0327 f: **it only has two loops [and that's all]**
 0328gm: [**in our Yuexiu mountain**] the very first one [**already had:**] [(.)] [**got two loops**] hadn't it
 → 0329s: [dad:]
 0330f: [**what^**]
 → 0331s: [*what's that—what's—*]
 0332gm: [**haha**]
 → 0333f: @ [*roller coaster*]
 → 0334s: *oh: roller coaster is fun*

In Case 4, father, mother, and grandpa are talking about roller coaster in Chinese (L0319-0322). Grandson (s) does not understand

the term in Chinese, so he asks father repeatedly: “what’s that” (L0323), “racing cars or whatever” (L0325), “dad” (L0329) and again “what’s that” (L0331). Concurrently, the three adults continue their conversation among themselves in Chinese, showing much enthusiasm and arousing increasing curiosity in grandson. Finally, father interprets into “roller coaster” (L0333) in English. This immediately opens up the topic to grandson, who joins in with interest (L0334).

The cases above show that there are at least three ways of enacting an *interpretive CS*:

- A family member interprets his/her own speech in another language (see Case 1).
- A family member interprets another family member’s speech in another language (see Cases 1, 2, and 4).
- Two or more family members interpret one family member’s speech in another language (see Case 3).

CONCLUSION

The analysis of *between-turns*, *within-turn*, and *interpretive CS* presented here is based on a small number of tri-generational families drawn from only one city in New Zealand. Within this limited and unrepresentative sample, the corpus of speech segments is relatively large to warrant meaningful analyses, both quantitative and qualitative, to be carried out. But still, conclusions can be drawn only where the results are pointing in the same direction; even then, they remain tentative and are in need of future confirmation.

Code-switching in the families that we have studied was a consequence of contrastive bilingual abilities across generations and in turn provided a resource for assisting communication across generations. Its use was not haphazard but varied predictably with CS form (*between-* versus *within-turn CS*) and generation. In support of Hypothesis 1, *between-turns CS* occurred less often than *within-turn CS*. The ratio of *between-* to *within-turn CS*, in accordance with Hypothesis 2a, was higher for grandchildren than for either parents or grandparents. Parents used more *within-* than *between-turns CS*, but the propensity for *within-turn CS* was significantly greater than that of grandchildren only (partial support for Hypothesis 2b).

The variables of CS form and generation are methodologically useful for capturing, in the former case, simple yet important structural features of CS, and in the latter case, contrastive roles that are closely linked to generational membership. Furthermore, they are useful conceptually for forging a theoretical understanding of CS through communication convergence/divergence and bilingual competence.

Of the two theoretical constructs, bilingual competence has figured more extensively than convergence/divergence in the CS literature. Consistent with the works of Sebba (1998) and Gibbons (1987), in the present study bilingual competence (as represented by generational membership) was found to facilitate the enactment of within-turn and interpretive CS. Because of the central relevance of bilingual competence to CS, its roles are likely to be more extensive than those envisaged in the present study. In a similar vein, Milroy and Li (1995) have shown that the explanatory power of bilingual competence can be increased by combining it with other variables to index interlocutors' embeddedness in their ethnolinguistic communities, as measured by the strengths of their "social network." Communication convergence/divergence, though less frequently applied in the CS research, has the potential of linking CS with important social psychological principles such as group solidarity and social approval. But as the present study did not take direct measures of these principles, the results are indirect evidence only and are in need of future corroboration.

An intriguing finding was parents' deliberate use of *between-turns* CS to mismatch, on the one hand, English-speaking grandchildren (addressing them in Chinese), and on the other hand, Chinese-speaking grandparents (addressing them in English). This is intriguing because parents, being competent bilinguals, would have been perfectly capable of linguistically matching, rather than mismatching, their addressees. One reason for this paradox, as already mentioned under the previous section, is that parents were trying to forge a dialogue between the addressee (e.g., a grandchild) and a third party (e.g., a grandparent). The proposed intergenerational linking work is consistent with the active role played by parents in the use of *interpretive* CS to facilitate communication between the two other generations. Assuming that the prevailing goal in the family conversation is intergenerational linking and not convergence per se, it becomes obvious that choosing the third party's language over the addressee's language would in fact have two tactical advantages: It invites the attention of the third party and cues the addressee to adopt the third party's language when responding. Beyond these advantages of a tactical nature, choosing the third party's language over the addressee's may also serve an interpretive function. For example, by responding to grandson's English turn in Chinese, mother would enable grandfather to understand better what she and grandson are talking about, and hence makes it more possible for grandfather to join in. From the present data alone, we cannot be certain that parents were indeed oriented toward intergenerational linking or doing interpretive work as we have proposed, nor can we assess the extent to which the tactical interpretive advantages of CS have been translated into intergenerational

linking. To do so would require a larger study of its own (see Ng, He, & Loong, in press).

CS research, as the present study has demonstrated (see also Burt, 1992), benefits from Communication Accommodation Theory and in turn can contribute to its development. Mention has been of the possibility that convergence may not be the only or the major orientation in conversations because intergenerational linking via CS (divergence) may become a salient concern as the conversation unfolds. As an evolving theory, CAT has been adept in incorporating new forms of communication behavior beyond simple convergence and simple divergence in dyadic settings. For example, the more recent version of CAT (e.g., Shepard et al., 2001; see also Gallois et al., 1995) has incorporated the idea that a speaker in a group setting can engage simultaneously in convergence and divergence. Thus, a speaker who stylistically diverges from the addressee may at the same time converge toward a third party. CS in family (group) settings can provide precisely this kind of multiparty frame for developing a truly group-based new look at convergence/divergence and their complex relationship with psychological accommodation (see also Krauss & Chiu, 1998).

The positive function of *interpretive CS* is clear evidence that CS can serve as a resource for moving bilingual communication along despite problems of incomprehensibility. The present study has illuminated the pragmatics of doing interpretive work through CS, by identifying some of its occasioning conditions and describing its sequential enactment. It thus provides a fuller description of the interpretability function in CAT. Furthermore, through observing the joint effort of two or more family members in enacting an interpretive CS, the present study adds a dimension of coordinated group work to the interpretability function in CAT, which has been premised on the individual effort of a single person alone.

As CS becomes more world-wide, it is all the more important to understand this positive function of CS and its enactment in group settings, as well as other functions of a similar nature (see Ben-Rafael, 2001). Such effort would be particularly relevant to Mandarin Chinese (Putonghua) in the future because large numbers of mainland (Putonghua-speaking) Chinese will find themselves in this situation. Reciprocally, increasing numbers of native English-speakers in commercial, educational, and various other sectors may find that much of their English-Chinese communication actually takes place in and through code-switching.

APPENDIX

Transcription symbols

- (.) A dot within a bracket indicates a noticeable pause in the talk of less than 0.5 second.
- (.5) The number within a bracket is an estimate of the pause in tenths of a second.
- [] Square brackets on adjacent lines indicate the onset and end of overlapping speech between two (or more) speakers.
- * * Mark the exact boundary of an overlap that is embedded in a larger overlap (marked by square brackets as shown above)
- :
- : Colons indicate that the preceding word has been stretched. The more colons the longer is the stretching.
- () Empty brackets indicate an unclear sound on the tape.
- v A marked falling intonation shift.
- ^ A marked rising intonation shift.
- = Contiguous utterances.

NOTES

1. Because of its close affinity to Social Identity Theory (Tajfel & Turner, 1979), CAT makes special reference to intergroup factors (e.g., group stereotypes, group-based social identity, and psychological distinctiveness) in explaining divergence and convergence. One of the insights of CAT is that seemingly interpersonal encounters may in fact be intergroup. Applying the same insight to intergenerational communication in families, CS across generations may be viewed as the result of intergroup factors. For example, a grandson may use English to address his grandma who has just spoken in Chinese because he wants to assert his social identity as a member of the young, acculturated generation in contradistinction to old-fashioned, Chinese-speaking grannies. Intergroup divergence and other intergroup processes can thus offer an interesting angle within CAT for viewing CS. However, their influence on tri-generational communication among Chinese immigrants in New Zealand is likely to be submerged under family solidarity and similar other contextual factor that attenuate the salience of intergroup processes. In the specific case of between-turns CS, lack of bilingual competence on the part of grandchildren and grandparents offers a much more straightforward explanation than intergroup divergence because the lack of bilingual competence is already a fact (see Results below), whereas contextual factors conducive to intergenerational divergence remain doubtful under family solidarity. It is the general notions of divergence and convergence in CAT, rather than specifically intergroup notions of intergroup divergence that are most relevant to the present research.

2. The two corpus searching tools were published by Oxford University Press and can be accessed through <http://www.liv.ac.uk/~ms2928/homepage.html>

3. In the examples below and cases later on, the 4-digit number before a line is the line number of the corpus. After a number is the speaker's identity: d = (grand) daughter, s = (grand) son, m = mother, f = father, gm = grandmother, gf = grandfather.

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