

## **TALKING ABOUT PAST EVENTS IN CONVERSATION: AN ANALYSIS OF MANDARIN MOTHER-CHILD AND ADULT-ADULT DISCOURSE<sup>1</sup>**

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### **ABSTRACT**

This study explored three-year-old Mandarin-speaking children's abilities to talk about past events, focusing on how past reference was maintained in mother-child conversation. For comparison, adult-adult conversation was also examined. The analysis showed that while the children relied heavily on maternal scaffolding when referring to the past, the children's emerging abilities to express temporal relations also shaped the mothers' speech in conversation. It was also found that in the children's still-primitive narratives, temporality was marked mostly for local considerations rather than for an attempt to organize global structures of discourse. In contrast, in the adult-adult discourse, the analysis demonstrated how temporal and aspectual markers contributed to a greater temporal complexity.

### **1. INTRODUCTION**

In successful conversational discourse, it is important that the interlocutors establish and maintain the time frames of the events mentioned (Andersen 1999). In mother-child conversation, the time frame is usually the speech time. As noted by many studies, children's speech at the early stage of development is restricted to the 'here-and-now' (Brown 1973; Sachs 1983; Eisenberg 1985; Huang 2000). Thus, one of the major growing points in child language is the emergence of displaced speech. That is, children begin to go beyond the here-and-now and refer to the there-and-then. Therefore, to become competent speakers, it is essential that children acquire the discourse skills of establishing and maintaining past time reference in conversation.

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Many previous studies on children's acquisition of temporality have focused mainly on the emergence of the morphological marking of tense and aspect. These studies investigated the relationship between the initial tense-aspect marking and children's conceptual development of temporal/aspectual distinctions (Bronckart and Sinclair 1973; Antinucci and Miller 1976; Bloom, Lifter and Hafitz 1980; Shirai and Andersen 1995; Li and Bowerman 1998). Other studies, rather than studying the linguistic means for marking temporality, examined children's abilities to talk about past/future events, focusing on the content of the conversation, the role of an adult conversational partner, or the context in which such talk occurs (e.g., Sachs 1983; Eisenberg 1985; Lucariello and Nelson 1987).

Sachs (1983) reported the emergence of displaced reference in her daughter's utterances in English. The author made tape recordings of parent-child interaction when her daughter was between 1;5 and 3;0, and found that the first reference to the past was produced at 1;10. In this particular utterance, the topic concerned an event that had just occurred. At 2;3, the topics broadened to include activities and events that had occurred within the current day. Future reference and more distant past reference did not begin to appear until about 2;8-3;0. The author also found that the parents used numerous questions and comments to encourage maintenance of displacement topics.

The role of an adult conversational partner was also reported in Eisenberg (1985). Eisenberg (1985) examined conversation between two Spanish-speaking girls (1;9-2;7 and 2;0-3;2) and their families, focusing on the development of the children's ability to discuss past experiences. The author identified three phases of development. In the first phase, the most characteristic feature of the conversations was the dependency on adult participation. The children rarely introduced a past event as the topic and only produced two or more utterances about a topic when requested to do so. In the second phase, only half the children's descriptions of past events were elicited. Most of the events that the children described were highly familiar to the children. In the third phase, very few of the children's descriptions of the past had to be elicited. The children began to talk about unique occurrences, but had difficulty in planning a lengthy discourse.

By examining ten English-speaking children's (2;0-2;5) interaction with their mothers, Lucariello and Nelson (1987) demonstrated that talk involving temporal displacement occurred almost exclusively in the scripted (or

routine) context and its topics were predominately based on other routine activities. The authors suggested that the dyad shared event knowledge for the scripted context and that such knowledge created a context for the occurrence of temporal displaced talk. Maternal talk was characterized by the use of adverbial temporal markers, hypothetical and conditional expressions, conversational routines, and *wh*-questions. The authors argued that these aspects of maternal speech indicated scaffolding and may facilitate children's acquisition of temporal displaced talk.

Wanska and Bedrosian (1986), on the other hand, compared thirty pre-operational level children's skills in here-and-now, fantasy, and displacement topics. The results showed that topic maintenance was significantly greater for here-and-now and fantasy topics than for displacement. The children maintained fantasy and displacement topics primarily by responses to mothers' questions. It was suggested that displacement topics may be the most difficult of the topic categories examined in that they required more sophisticated cognitive and linguistic skills.

As reviewed above, previous studies have identified several characteristics of children's initial conversation about displaced temporal reference: the predominance of adult scaffolding, reference to routine events, and reference to the immediate past. These studies have focused primarily on English or other European language speaking children. To date, little has been done to explore how the ability to refer to the there-and-then is acquired by children learning Mandarin Chinese, a language without obligatory tense marking.

It is well accepted that Mandarin Chinese does not have tense markers. That is, in the Mandarin temporal system, no grammatical morphemes are used to signal the time of a reported event relative to the time of speaking (Li and Thompson 1981; Smith 1997). Temporal frames are often inferred from the contexts. However, Mandarin Chinese possesses other devices to mark the temporal properties of an event, including aspect markers, temporal adverbs and temporal adverbial clauses. The aspect markers include the perfective marker *-le*, the imperfective markers *-zhe* and *zai*, and the experiential marker *-guo*. The temporal adverbs include three types: aspectuals, connectives and temporals (Erbaugh 1985). Aspectuals such as *hai* 'still' note the internal contour of events; connectives such as *yihou* 'later, after' link events, and temporals specify local situations in time.

Temporals can be deictics (e.g., *zuotian* ‘yesterday’) or they can have an external reference (e.g., *xingqitian* ‘Sunday’) (Berman and Dromi 1984). Mandarin temporality can also be conveyed by temporal adverbial clauses such as the *shihou*-clause, which is approximately equivalent to the English when-clause.

Wu (2002) investigated temporal reference in Mandarin (adult-adult) conversation, and found that the great majority of the clauses in her data were not marked with any temporal devices. Instead, the speakers relied mainly on discourse-pragmatic principles to establish and switch time frames. In non-narratives, the speakers tended to rely on the inherent semantics of the verbs to establish the time reference. In narrative contexts, on the other hand, temporal reference was established at the beginning of the story and was subsequently maintained, provided that there was a continuity of action across the verbs. In addition, it was found that linking devices such as *jiu* and *ranhou* (‘then’) were used systematically in foregrounded clauses to help reinforce the sequentiality of a narrative.

The purpose of this study was to investigate how Mandarin-speaking children talked about past events in mother-child conversation, focusing especially on how past reference was maintained in conversational interaction. In addition, analysis was also conducted to examine mothers’ conversation with their friends. By comparing mother-child and adult (mother)-adult conversation, the findings demonstrated what the children were able to do and how far they had to advance in order to become competent speakers.

## 2. METHODS

### 2.1 Subjects and Data

The subjects of this study were two Mandarin-speaking children, Weiwei and Tingting (pseudonyms), and their mothers, who live in Taoyuan, Taiwan. At the time of data collection, Weiwei, a boy, was 3 years and 3 months old, and Tingting, a girl, was 3 years and 2 months old. Data collection was conducted at the subjects’ homes. Natural interactions between the children and their mothers were audio- and video-taped. For each dyad, six hours of recording was conducted within a two-week period.

Three-year-old children were chosen because this age of development is critical in terms of temporality. As revealed in previous studies, three-year-olds begin to incorporate the perfective, imperfective and experiential aspect markers in their speech. Temporal adverbials also emerge at about this age. In addition, three-year-old children begin to demonstrate sequenced temporal relations; they begin to produce narratives in a primitive form. Therefore, the analysis of three-year-old children's speech can reveal how children begin to use various linguistic and extralinguistic means to organize their speech in on-going conversation.

For comparison, adult-adult conversation was also collected in the study. The adult data consisted of each mother's conversation with a friend. Each mother-friend dyad was audio-taped for 1.5 hours at the subject's home or work place. Thus, a total of 3 hours of adult-adult conversation data were collected.

## **2.2 Coding Procedures**

The children's past time utterances were identified. Each past time utterance was coded as *establishment* or *maintenance*, i.e., whether the utterance introduces a new past time frame or sustains an established one. Each utterance for maintenance was then coded as *elicited* or *spontaneous*, i.e., whether the utterance was a response prompted by the mother's elicitation or an utterance produced by the child spontaneously. Each elicited response was further coded according to the different ways of elicitation as *answer to question*, *response to verbal reflective utterance*, or *repetition*. In addition, each utterance for maintenance was also coded for the temporal devices used in the utterance, including *unmarked*, *temporal connective*, *aspect marker*, *temporal adverb*, *temporal clause*, and *reported speech*. Furthermore, the mothers' child-directed and adult-directed speech was also coded for the temporal devices used in maintaining past reference.

## **3. ANALYSIS**

### **3.1 Mother-child Conversation**

As seen in Table 1, Weiwei produced 2491 utterances in total, among which 271 utterances (11%) referred to the past. Tingting produced 2423 utterances, among which 634 utterances (26%) referred to the past. Thus, the children had demonstrated the ability to talk about events beyond the here-and-now. We also observed that the children were able to use the past time utterances to establish or maintain past reference.

Table 1: Children's total utterances, past time utterances, utterances for past reference establishment and maintenance

	Weiwei	Tingting
Total utterances	2491	2423
Past time utterances	271	634
establishment	51	51
maintenance	220	583

Further analysis was conducted to examine how the children maintained past reference in conversation<sup>2</sup>. It was found that both Weiwei and Tingting relied heavily on the mothers' elicitation to maintain past reference. As seen in Table 2, 81% of Weiwei's maintenance utterances and 69% of Tingting's were elicited. In other words, in the mother-child conversation about the past, the children contributed to the interaction mainly by responding to the mothers' elicitation. It appeared that maternal scaffolding played an important role in engaging the children in conversation<sup>3</sup>.

Table 2: Children's elicited vs. spontaneous utterances for past reference maintenance

	Weiwei	Tingting
Elicited	179 (81%)	401 (69%)
Spontaneous	41 (19%)	182 (31%)

<sup>2</sup> For the analysis of the children's establishment of past reference, see Huang (2000) and Huang (2003).

<sup>3</sup> Although maternal scaffolding is a characteristic of mothers' child-directed speech in general, it has been shown in Huang (1997) that children rely even more heavily on maternal scaffolding when referring to the past.

Total	220 (100%)	583 (100%)
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The children's elicited responses can be further classified into the following categories: *answers to the mothers' questions*, *responses to the mothers' verbal reflective utterances*, and *repetitions of the mothers' utterances*. Table 3 shows that both Weiwei and Tingting referred to the past largely by responding to the mothers' questions (84% and 76%). Since questions explicitly requested responses, they served as an effective way to involve the children in conversation. The children also frequently responded to the mothers' verbal reflective utterances (14% and 21%). In verbal reflective utterances, the mothers echoed, paraphrased, or expanded the children's previous utterances to show acknowledgment or to seek clarification. The results showed that the children often responded to such acknowledgment or clarification. In addition, the children's elicited responses also included repetitions. That is, the children repeated the utterances that the mothers demonstrated (2% and 3%).

Table 3: Types of elicited utterances in children's speech

	Weiwei	Tingting
Answers to questions	150 (84%)	305 (76%)
Responses to verbal reflective utterances	25 (14%)	84 (21%)
Repetitions	4 (2%)	12 (3%)
Total	179 (100%)	401 (100%)

Further analysis revealed that the elicitation-response exchanges in the mother-child conversation followed routinized turn-taking sequences. There were mainly four types of turn-taking sequences. In the first type of sequence, the mother asked a question and the child answered (*question (M) → answer (C)*). In the second type of sequence, the mother added a verbal reflective utterance after a question-answer sequence (*question (M) → answer (C) → verbal reflective utterance (M)*). In the third type, the child responded to the mother's verbal reflective utterance that followed a question-answer sequence (*question (M) → answer (C) → verbal reflective utterance (M) → confirmation (C)*). In the fourth type, the mother asked the child to repeat an utterance she demonstrated (*demonstration (M) → repetition (C)*). It appeared that such routinized turn-taking sequences made

the interaction easier for the children to cope with and helped the children successfully participate in the conversation.

The following examples demonstrate the different types of elicited utterances and routinized turn-taking sequences in the mother-child conversation. Example 1 is from Weiwei-mother conversation.

Example 1: (MOT: mother; WEI: Weiwei)

- 1     \*MOT:   mama     shangci   dai     ni     zuo     huoche   zuo-  
              Mommy   last time   take    you    take   train    take-  
  
              dao       nali       qu?  
              arrive   where     go  
  
              ‘Where did we go last time when Mommy took you to take  
              the train?’
- 2     \*WEI:   da       gugu    jia.  
              big     auntie   house  
              ‘Big Auntie’s house.’
- 3     \*MOT:   da       gugu    jia     zhu     nali?  
              big     auntie   home   live    where  
              ‘Where did Big Auntie live?’
- 4     \*WEI:   zhu     Taibei.  
              live    Taipei  
              ‘(She) lived in Taipei.’
- 5     \*MOT:   zhu     Taibei   ou.  
              live    Taipei   PRT  
              ‘(She) lived in Taipei.’
- 6     \*WEI:   en.  
              yes  
              ‘Yes.’
- 7     \*MOT:   Taibei   you     shenme       haowan       ne?  
              Taipei   have    what        fun           PRT  
              ‘What was fun in Taipei?’
- 8     \*WEI:   you   #           bingbang       haochi       a.



- there be            popsicle            yummy            PRT  
'There were yummy popsicles.'
- 9    \*MOT: ou    Taipei   you            bingbang   haochi   ou.  
PRT Taipei there be    popsicle    yummy   PRT  
'Oh, there were yummy popsicles in Taipei.'
- 10   \*MOT: ou    na        ni        qu    Taipei    you meiyou        qu  
PRT then    you    go    Taipei            Q            go  
  
chi    bingbang    a?  
eat    popsicle     PRT  
'Did you go eat popsicles when you were in Taipei?'
- 11   \*WEI: you    a.  
yes        PRT  
'Yes.'
- 12   \*MOT: chi        ji                            zhi?  
eat        how many            CL  
'How many did (you) eat?'
- 13   \*WEI: yi        zhi.  
one        CL  
'One.'
- 14   \*MOT: shei    mai    de                            bingbang?  
who    buy    NOM                    popsicle  
'Who bought the popsicle?'
- 15   \*WEI: baba.  
daddy  
'Daddy'
- 16   \*MOT: baba    mai    de                            ou.  
daddy    buy    NOM                    PRT  
'Daddy bought the popsicle.'
- 17   \*MOT: ni        you meiyou    chi-wan?  
you            Q            eat-finish  
'Did you finish the popsicle?'
- 18   \*WEI: meiyou

no  
'No.'

In line 1, the mother used a temporal adverb *shangci* ('last time') to establish a past time frame, thereby explicitly placing the events mentioned in the past. The mother and the child then continued the conversation about the events. We noted that temporal reference was not subsequently marked in the conversation exchanges until line 10, where a temporal expression 'when you were in Taipei' explicitly re-set the time frame. Since Mandarin Chinese has no obligatory tense marking, once a temporal frame is established the interlocutors often infer that the time frame is sustained until indicated otherwise.

In Example 1, the past reference was maintained by the mother's elicitations and Weiwei's responses. The mother used various types of questions to elicit responses from Weiwei. The questions included two where-questions in lines 1 and 3, one what-question in line 7, two A-not-A questions in lines 10 and 17, one 'how many'-question in line 12, and one who-question in line 14. As seen in the example, Weiwei was able to provide appropriate answers to these questions. In addition to these questions, the mother also used verbal reflective utterances in lines 5, 9 and 16 to maintain the past reference. In these verbal reflective utterances, the mother echoed or expanded Weiwei's previous utterances in lines 4, 8 and 15. Weiwei in line 6 responded to the mother's verbal reflective utterance with a confirmation.

In Example 1, three types of turn-taking sequences were observed. The *question-answer* sequences included lines 1-2, lines 10-11, lines 12-13, and lines 17-18. The *question-answer-verbal reflective utterance* sequences included lines 7-8-9, and lines 14-15-16. The *question-answer-verbal reflective utterance-confirmation* sequence was observed in lines 3-4-5-6.

Example 2 presents the elicitation-response exchanges in Tingting-mother conversation.

Example 2: (MOT: mother; TIN: Tingting)

- 1 \*MOT:   ni       gangcai   zuo   bubuche   qu   nali?  
          you     just now   take   car       go   where  
          'Where did you go by car just now?'
- 2 \*TIN:   qu #    yifu    nali.

- go clothes there  
'(I) went to a clothes place'
- 3 \*MOT: yifu nali.  
clothes there  
'A clothes place.'
- 4 \*MOT: shangdian  
store  
'Store.'
- 5 \* TIN: shangdian.  
store  
'Store.'
- 6 \*MOT: shangdian mai shenme?  
store buy what  
'What did (we) buy in the store?'
- 7 \* TIN: mai yifu.  
buy clothes  
'(We) bought clothes.'
- 8 \*MOT: mai sheide yifu?  
buy whose clothes  
'Whose clothes did (we) buy?'
- 9 \* TIN: jiejie de.  
older sister GEN  
'Older sister's (clothes).'

In Example 2, the mother also used questions to maintain past reference. The questions included one where-question in line 1, one what-question in line 6, and one whose-question in line 8. Line 3 was the mother's verbal reflective utterance, which echoed Tingting's preceding utterance in line 2. Interestingly, in line 3 the mother echoed Tingting's preceding utterance even though Tingting's utterance *yifu nali* ('a clothes place') was not a correct expression. Thus, the mother's verbal reflective utterance in line 3 functioned as an acknowledgment of what Tingting had just said. In line 4, the mother demonstrated the correct expression *shangdian* ('store') for Tingting to repeat in line 5.

As for the turn-taking sequences in Example 2, we observed that lines 1-2-3 formed a *question-answer-verbal reflective utterance* sequence. Lines 4-5 constituted a *demonstration-repetition* sequence. Lines 6-7 and lines 8-9, on the other hand, were *question-answer* sequences.

The above examples show that in the mother-child conversations, the children's past time utterances were elicited mostly by the mothers. To maintain past reference, the mothers employed various strategies to elicit responses from the children.

Since the children generally supplied only simple responses to the mothers' elicitations, the temporal structures of the conversation were defined largely by the mothers' elicitations. As seen in the analysis, the mothers' elicitations often focused on information about places, persons and behavioral situations. Thus, there were usually no temporal sequences or aspectual perspectives involved in the elicitation-response exchanges. Therefore, there was usually no temporal or aspectual marker used in the mothers' elicitations and the children's responses. The established past reference was maintained mostly by unmarked utterances.

Table 4 demonstrates the temporal devices used in the children's and the mothers' utterances for past reference maintenance. As we would expect, most of these utterances were unmarked.

As seen in Table 4, most of the children's and the mothers' maintenance utterances were unmarked. In Weiwei's speech, as many as 95% of his maintenance utterances were unmarked. In Tingting's speech, it was 90%. As for Weiwei's and Tingting's mothers, it was 88% and 90% respectively.

Table 4: Temporal devices used by children and mothers to maintain past reference

	Weiwei	Mother	Tingting	Mother
Unmarked	209 (95%)	266 (88%)	524 (90%)	480 (90%)
Temporal connectives	3 (1%)	9 (3%)	31 (5%)	16 (3%)
Aspect markers	4 (2%)	9 (3%)	12 (2%)	11 (2%)
Temporal adverbs	1 (1%)	18 (6%)	4 (1%)	26 (5%)
Temporal clauses	3 (1%)	0 (0%)	0 (0%)	0 (0%)
Reported speech	0 (0%)	0 (0%)	12 (2%)	0 (0%)
Total	220 (100%)	302 (100%)	583 (100%)	533 (100%)

Although past reference was maintained largely by unmarked utterances in the mother-child conversation, we noted that the children nevertheless were able to employ a few temporal devices. These devices contributed to the temporal complexity of the discourse. We see that 1% of Weiwei's maintenance utterances and 5% of Tingting's were marked with temporal connectives. In addition, 2% of Weiwei's maintenance utterances and 2% of Tingting's were marked with aspect markers. These temporal and aspectual markers occurred mostly in those episodes in which the children contributed more information than simple answers. In these episodes, the children produced mostly spontaneous utterances to maintain temporal reference, revealing their ability to mark temporal relations and aspectual perspectives.

In addition, it was found that when the children contributed mostly spontaneous utterances for past reference maintenance, the children often talked about the past experience with strong emotional involvement. They seemed eager to talk to their mothers about the events. These episodes often involved 'child reports' (i.e., events experienced only by the child) rather than 'joint reports' (i.e., events experienced by both the mother and the child). Therefore, in these episodes, the child's role was to share with the mother something that only the child, but not the mother, knew about.

The following examples demonstrate how the children spontaneously contributed to past reference maintenance. In addition, these spontaneous episodes also revealed how the children used the various temporal devices.

In Example 3, Weiwei and the mother were reading a storybook. Weiwei saw a picture of fish in the book and said that he didn't like fish. He then told the mother about a fishing trip he went on with his grandfather. This episode was a child report since the event was experienced only by the child but not by the mother.

Example 3:

- |   |       |                             |      |     |         |
|---|-------|-----------------------------|------|-----|---------|
| 1 | *WEI: | agong                       | diao | de  | shihou. |
|   |       | grandpa                     | fish | NOM | when    |
|   |       | 'When Grandpa was fishing.' |      |     |         |
| 2 | *WEI: | hui                         | tiao | ou. |         |
|   |       | will                        | jump | PRT |         |
|   |       | '(Fish) would jump.'        |      |     |         |

- 3 \*WEI: tiao-dao shui.  
jump-arrive water  
'jumped into the water.'
- 4 \*MOT: ha?  
what  
'What?'
- 5 \*WEI: ta yizhi tiao ou.  
3sg continuously jump PRT  
'It kept jumping.'
- 6 \*WEI: tiao wo de kuzi dou shishide.  
jump I GEN pants all wet  
'(It) jumped and my pants got all wet.'
- 7 \*MOT: ou yu yizhi tiao.  
PRT fish continuously jump  
'Oh, the fish kept jumping.'
- 8 \*MOT: tiao de ni kuzi dou shishide ou.  
jump CSC you pants all wet PRT  
'(It) jumped and your pants got all wet.'
- 9 \*WEI: dui.  
yes  
'Yes.'
- 10 \*WEI: agong zhuang shui shihou tiao de.  
grandpa fill-in water when jump NOM  
'(It) jumped when Grandpa filled (the bucket) with water.'
- 11 \*WEI: yu tiao de shihou.  
fish jump NOM when  
'When the fish jumped,'
- 12 \*WEI: tiao wo de kuzi dou shishi.  
jump I GEN pants all wet  
'(It) jumped and my pants got all wet.'
- 13 \*MOT: ou agong diaoyu diao-dao de shihou.  
PRT grandpa fish fish-arrive NOM when

‘Oh, when Grandpa caught the fish,’

14 \*MOT: ranhou ba yu na-dao tongzi limian.  
afterwards BA fish take-arrive bucket inside  
‘afterwards, (he) put the fish into the bucket.’

15 \*MOT: na yu jiu yizhi tiao yizhi tiao  
that fish then continuously jump continuously jum  
shi bu shi?  
right not right

‘Then the fish kept jumping, right?’

16 \*MOT: jieguo tiao-dao na shui jian qilai.  
result jump-arrive that water splash up  
‘It turned out that (it) jumped and the water splashed up.’

17 \*MOT: jian-dao ni de kuzi jiu shishi  
splash-arrive you GEN pants then wet  
dui bu dui?  
right not right

‘The water splashed on your pants and then your pants got wet, right?’

In this example, Weiwei used a temporal adverbial clause (‘when Grandpa was fishing’) to establish a past time reference in line 1. He then maintained the past reference mostly by spontaneous utterances. Several temporal and aspectual markers were used by Weiwei in maintaining the past reference. In line 5, we observed that Weiwei used an aspectual adverb *yizhi* (‘continuously’) to signal a durative aspectual perspective and indicate the internal structure of the event. In line 6, Weiwei expressed a sequential and causal relation between the fish’s jumping and his pants’ getting all wet. In line 10, he used an adverbial clause (‘when Grandpa filled the bucket with water’) to anchor the fish-jumping event in a more specific time frame. In addition, in line 11, another temporal clause (‘when the fish jumped’) was used to set a specific time frame for the event concerning his pants’ getting wet. Furthermore, in line 12 the sequential and causal relation between the two situations was mentioned again. Therefore, the example shows that

Weiwei demonstrated the ability to shift from an external perspective to an internal one, to re-set a temporal frame to a finer grained one, and to relate events in sequence. In other words, it appeared that Weiwei was able to express rather complex temporal and aspectual structures. However, further analysis revealed that Weiwei's ability to express complex temporal and aspectual relations was still very limited. We noted that in this example, Weiwei's use of the temporal and aspectual expressions was largely based on local considerations, rather than based on an attempt to organize the whole story. As a result, his account of the story did not establish a clear and unified narrative thread. In contrast, in the mother's recapitulation of the story from line 13 to line 17, we observed a clear event line. In the mother's description, the temporal sequence of the events was presented not only by the order of the utterances but also by the explicit marking of temporal connectives. These temporal connectives included *ranhou* ('afterwards') in line 14, *jiu* ('then') in line 15 and line 17, and *jieguo* ('as a result') in line 16. These temporal connectives explicitly marked the progress of the narrative time.

Example 4 illustrates Tingting's spontaneous maintenance of past reference. In this conversation, Tingting was telling her mother what had happened earlier that day when a repairman came over to fix the TV set. The conversation was also a child report since the mother was not present when the event occurred. This example was taken from the middle of the conversation when Tingting was talking about what the repairman did with the TV set.

Example 4: (SIS: Tingting's elder sister)

- 1 \* TIN:      na      ge      jiu #      zhuan      a      zhuan.  
                 that      CL      then      turn      PRT      turn  
                 '(He) turned and turned that part.'
- 2 \* TIN:      zhuan-hao      le .  
                 turn-finish      PFV  
                 'After (he) finished turning (it),'
- 3 \*TIN:      jiu #      keyi      ting  
                 then      able      listen  
                 'then (we) were able to listen (to the TV).'



- 4 \* TIN: na diban hao angzang ou.  
that floor very dirty PRT  
'The floor was very dirty.'
- 5 \*MOT: ta ba diban nong de hao angzang?  
3sg BA floor make CSC very dirty  
'He made the floor very dirty?'
- 6 \* TIN: <dui> [>].  
yes  
'Yes.'
- 7 \*SIS: <dui> [<].  
yes  
'Yes.'
- 8 \*MOT: zenmehui ne?  
how come PRT  
'How come?'
- 9 \*SIS: wo han agong jiu sao di.  
I and grandpa then sweep floor  
'Grandpa and I then swept the floor.'
- 10 \*MOT: na houlai ne?  
then afterwards PRT  
'Then what happened afterwards?'
- 11 \* TIN: ranhou jiu # zoudiao le.  
afterwards then leave PFV  
'Then (he) left after that.'
- 12 \*MOT: ranhou jiu zoudiao le ou.  
afterwards then leave PFV PRT  
'Then (he) left after that.'
- 13 \* TIN: dui.  
yes  
'Yes.'
- 14 \* TIN: xiu-hao le.  
fix-finish PFV

- ‘(The TV) was fixed.’
- 15 \* TIN: hao dasheng ou.  
very loud PRT  
‘(The TV) was very loud.’
- 16 \*MOT: xiu-hao le jiu bian hao dasheng.  
fix-finish PFV then become very loud  
‘After (the TV) was fixed, then it became very loud.’
- 17 \* TIN: baba zhuan hao dasheng ou.  
daddy turn very loud PRT  
‘Daddy turned it up very loud.’
- 18 \* TIN: hai wo xiadao  
make I scare-arrive  
‘It scared me.’
- 19 \* TIN: jiu # baba ni you hao dasheng ou  
then daddy you again very loud PRT  
‘And then (I said), “Daddy, you turned it up very loud again.”’

We observed that in this example Tingting demonstrated the ability to relate events in sequence. In line 2, Tingting marked the resultative verb *zhuan-hao* (‘turn-finish’) with a perfective marker *-le* to indicate the completion of the action. After marking the end boundary of *zhuan-hao*, Tingting used a temporal connective *jiu* (‘then’) in line 3 to explicitly order the event in line 3 subsequent to the event in line 2. Line 4 described a stative situation, serving as the background of the on-going narrative. In line 10, the mother’s question ‘*na houlai ne?*’ (‘Then what happened afterwards?’) concerned a temporal sequence. The question constrained Tingting’s response in line 11 to refer to a subsequent event. In fact, questions concerning temporal sequences, like the one in line 10, rarely occurred in the mother-child conversation. As we have discussed above, most of the mothers’ questions were about persons, places, and behavioral situations, without involving temporal relations. Thus, it appeared that the mother’s question in line 10 was shaped by Tingting’s attempt to narrate the story. In other words, Tingting’s emerging ability to describe sequenced events also influenced how the mother interacted with her. In her response in

line 11, Tingting explicitly marked the temporal sequence. She used two temporal connectives, *ranhou* ('afterwards') and *jiu* ('then'), to temporally relate the event in line 11 to the preceding discourse. In addition, the punctual verb *zoudiao* ('leave') was marked with the perfective marker *-le*, indicating the end point of the event. Another sequential relation was presented in line 14 and line 15. In line 14, the perfective marker *-le* was used to mark the completion of the event denoted by the resultative verb *xiu-hao* ('fix-finish'). The event in the next line, line 15, was thus inferred as a next event. That is, the TV was very loud after the TV was fixed. In fact, the mother's paraphrase in line 16 gave a more explicit temporal relation between the two situations. In addition to marking the resultative verb *xiu-hao* ('fix-finish') with the perfective marker *-le* to signal the end point, the mother also supplied a temporal connective *jiu* ('then') to explicitly indicate the sequential relation. Furthermore, we noted that the mother changed the stative predicate in Tingting's utterance in line 15 ('The TV was very loud') into a punctual/inceptive predicate ('The TV became very loud'). Therefore, in line 16, the mother related the two situations as happening in succession by explicitly indicating the end point of the first situation, the beginning point of the second situation, and the sequential relation between the two situations. Tingting's ability to relate events was also observed from line 17 to line 19. The event in line 18 was inferred as occurring after the event in line 17, according to the order of the two utterances. Thus, Tingting was scared after her father turned up the TV. Line 19, on the other hand, was connected with line 18 by the temporal connective *jiu* ('then'). Therefore, Tingting uttered the complaint 'Daddy, you turned it up very loud again' (line 19) after she was scared by the high volume of the TV (line 18).

In Example 4, we see that Tingting used reported speech in line 19 to maintain past reference. In fact, the data revealed that Tingting was rather capable of using reported speech to describe her past experience, as shown in Example 5.

Example 5:

- 1 \*MOT:    gangcai     ayi     da dianhua   lai   shi bu   shi?  
              just now    auntie   dial telephone   come be   not   be  
              'Auntie called just now, right?'

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- 2 \*TIN:        dui.  
                 right  
                 'Right.'
- 3 \*MOT:        ni        gen        ayi        jiang        shenme?  
                 you        with        auntie        say        what  
                 'What did you say to Auntie?'
- 4 \*TIN:        qingwen        zhao        shei?  
                 may I ask        look for        who  
                 "May I ask who you would like to talk to?"
- 5 \*TIN:        xian        deng        yixia.  
                 first        wait        awhile  
                 "Just a second."
- 6 \*TIN:        ni        yao        zhao        mama        shi        bu        shi?  
                 you        want        look for        Mommy        be        not        be  
                 "You want to talk to Mommy, right?"
- 7 \*TIN:        hao        yixia.  
                 all right        awhile  
                 "All right, just a second."
- 8 \*TIN:        buyao        guadiao.  
                 do not        hang up  
                 "Don't hang up."
- 9 \*TIN:        ha?  
                 what  
                 "What?"
- 10 \*TIN:        hao.  
                 all right  
                 "All right."
- 11 \*MOT:        ni        hao        bang        hou.  
                 you        so        excellent        PRT  
                 'You were excellent!'

In Example 5, we observed that Tingting used reported speech from line 4 to line 10. Tingting told her mother about the past event by performing and imitating the original telephone conversation. Thus, these reported utterances were related in temporal sequence. The order of the reported utterances represented the order of the utterances in the actual telephone conversation, which occurred in the past time interval denoted by the adverb *gangcai* ('just now').

### 3.2 Adult (mother)-adult Conversation

As seen in the above analysis of the mother-child conversation, the majority of the utterances for past reference maintenance were not marked with any temporal or aspectual markers. However, Weiwei and Tingting were able to use a few markers in those episodes which contained personal narratives, in which the children demonstrated rudimentary ability to relate events in sequence. For comparison, this section presents the analysis of how past reference was maintained in adult-adult conversation. Table 5 displays the temporal devices used by the mothers to maintain past reference in adult-adult conversation.

Table 5: Temporal devices used by mothers to maintain past reference in adult-adult conversation

	Weiwei's Mother	Tingting's Mother
Unmarked	462 (60%)	272 (55%)
Temporal connectives	154 (20%)	134 (27%)
Aspect markers	15 (2%)	15 (3%)
Temporal adverbs	38 (5%)	10 (2%)
Temporal clauses	8 (1%)	5 (1%)
Reported speech	92 (12%)	59 (12%)
Total	769 (100%)	495 (100%)

Table 5 shows that in the mothers' adult-directed speech, the majority of the mothers' maintenance utterances were unmarked (60% for Weiwei's mother and 55% for Tingting's mother). However, in comparison with the results in Table 4, we observed that the percentages of unmarked utterances were much smaller in Table 5. In other words, the mothers used more

temporal devices to maintain past reference in adult-directed speech than in child-directed speech. As seen in Table 5, temporal connectives were used as frequently as 20% of the time in Weiwei's mother's utterances, and 27% of the time in Tingting's mother's utterances. In contrast, Table 4 shows that temporal connectives were used for only 1%, 3%, 5%, and 3% of the time by Weiwei, Weiwei's mother, Tingting, and Tingting's mother, respectively. It appeared that these temporal devices contributed to a greater temporal complexity in the mother-adult discourse.

Further analysis was conducted to examine how the temporal devices in the mother-adult discourse were used to maintain past reference. To examine past reference maintenance, past reference conversations were classified into two types: narrative and non-narrative. The definition of narrative follows Labov (1972). That is, narrative is 'one method of recapitulating past experience by matching a verbal sequence of clauses to the sequence of events which (it is inferred) actually occurred' (p.359-360).

The analysis showed that in non-narrative, the mothers used mostly unmarked utterances to maintain past reference. These unmarked utterances in temporal maintenance had anaphoric functions. That is, they referred to the temporal reference that had been established earlier in the discourse.

Example 6 is a non-narrative excerpt, which illustrates how unmarked utterances were used to maintain past reference. This example was taken from Tingting's mother's conversation with her colleague.

Example 6: (MOT<sub>t</sub>: Tingting's mother; COL: colleague)

- 1 \*MOT<sub>t</sub>: wo bashi san nian sheng laosan.  
I eighty three year give birth third child  
'I gave birth to my third child in the 83rd year (=1994).'
- 2 \*MOT<sub>t</sub>: wo sheng wan yi nian le ni  
I give birth finish one year PFV you  
cai lai ba  
as late as come PRT  
'You came one year after I gave birth (to my third child), right?'
- 3 \*COL: na shihou haoxiang hai kan-dao

- that time seem still see-arrive  
 ni daduzi ei.  
 you huge belly PRT  
 'I seemed to see you with a huge belly at the time.'
- 4 \*MOT<sub>t</sub>: ni kandao wo daduzi ou.  
 you see-arrive I huge belly PRT  
 'You saw me with a huge belly?'
- 5 \*MOT<sub>t</sub>: hen zhong de yangzi gei ni  
 very heavy NOM shape to you  
 kandao. [% laughs]  
 see-arrive  
 'You saw me when I was very heavy.'
- 6 \*MOT<sub>t</sub>: wo huaiyun zhende hen zhong.  
 I pregnant really very heavy  
 'I was really heavy when I was pregnant.'
- 7 \*MOT<sub>t</sub>: wo pang le liushi er # liushi  
 I gain weight PFV sixty two sixty  
 ji gongjin ye.  
 several kilogram PRT  
 'I gained sixty two, more than sixty kilograms.'

In this example, past reference was established in the exchanges from line 1 to line 3, and was maintained from line 4 to line 7. As seen from line 4 to line 7, no temporal device was used for maintaining the past reference. These unmarked utterances indicated anaphoric temporal relations and referred to the past reference that had been established at the beginning of the excerpt.

While past time reference in non-narrative was maintained predominantly by unmarked utterances, it was found that in narrative, the mothers used temporal devices systematically to mark foregrounded

utterances<sup>4</sup>. It appeared that these temporal devices were used to signal the sequentiality of the events mentioned, and to delineate the background-foreground distinction, as shown in the following examples.

Example 7 is from Weiwei's mother's conversation with a friend. In this segment, the mother was talking about how she and her husband started their business.

Example 7: (MOT<sub>w</sub> : Weiwei's mother)

- 1 \*MOT<sub>w</sub>: qunian        wo                waipo                guoshi.  
               last-year    I                grandmother        pass away  
               'Last year, my grandmother passed away.'
  
- 2 \*MOT<sub>w</sub>: yinwei sangjia                                you    qi        tian.  
               since   bereavement   leave        have   seven   day  
               'Since there was a seven-day bereavement leave,'
  
- 3 \*MOT<sub>w</sub>: ta        jiu        qingjia                                a.  
               3sg        then        take a leave of absence        PRT  
               'he (=husband) then took some time off from work.'
  
- 4 \*MOT<sub>w</sub>: ta    you        sangjia                                hao    xiu.  
               3sg   have        bereavement leave        can    take  
               'He could take a bereavement leave.'
  
- 5 \*MOT<sub>w</sub>: wo    ye    you    sangjia                                hao    xiu.  
               I        also   have   bereavement leave        can   take  
               'I could also take a bereavement leave.'
  
- 6 \*MOT<sub>w</sub>: jiu    kandao   renjia   changfang        chuzu.  
               then   see        someone factory building   for rent  
               'Then (we) saw someone's factory building for rent.'
  
- 7 \*MOT<sub>w</sub>: jiu                mashang                da        dianhua.  
               then                immediate                dial    telephone  
               'Then (we) immediately made a phone call.'

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<sup>4</sup> The foreground-background distinction in narrative follows Hopper (1979). 'The foreground events succeed one another in the narrative in the same order as their succession in the real world.....The background events, on the other hand, are not in sequence to the foregrounded events, but are concurrent with them' (p.214).



In this example, the foreground included lines 1, 3, 6, and 7, and the background included lines 2, 4, and 5. In the foreground, we observed that line 1 contained the temporal adverb *qunian* ('last year') to establish a past reference. All the other foregrounded lines contained the temporal connective *jiu* ('then'), which explicitly marked a sequential relation between the utterances. That is, the event marked with the connective *jiu* was interpreted as occurring after the previously mentioned event. As for the background, we observed that all the background utterances were unmarked. The connectives thus helped distinguish the foreground from the background and contributed to the ease of inferring temporal reference.

In Example 8, Tingting's mother was talking about Tingting's sister's request for a lunch box.

Example 8:

- 1 \*MOT<sub>t</sub>:    libaier                jiu                yizhi                cui.  
                  Tuesday                as early as                continuously                press  
                  '(My daughter) kept asking for (a lunch box) on Tuesday.
  
- 2 \*MOT<sub>t</sub>:    wo        xiansheng                jiu        qu        mai        biandang.  
                  I                husband                then        go        buy        lunch box  
                  'My husband then went to buy a lunch box.'
  
- 3 \*MOT<sub>t</sub>:    jieguo   maidao                biandang    ta                you    bu  
                  result   buy-arrive   lunch box   3sg                but    not  
                  xihuan    lou.  
                  like     PRT  
                  'And then (he) bought a lunch box but she didn't like it.'
  
- 4 \*MOT<sub>t</sub>:    ta        yao        weibolu        na    zhong    baibai    de        a.  
                  3sg    want    microwave    that kind    white    NOM    PRT  
                  'She wanted the kind of white lunch boxes which were microwavable.'
  
- 5 \*MOT<sub>t</sub>:    jieguo    ta        ba        mai        na        zhong    de                ta  
                  result   3sg    father    buy        that    kind    NOM                3sg

- you bu yao.  
but not want
- ‘And she didn’t want the kind her father had bought.’
- 6 \*MOT<sub>t</sub>: jieguo jiu zai ku.  
result then DUR cry  
‘And then she was crying.’
- 7 \*MOT<sub>t</sub>: wo jiu ma ta shuo ta shuo yao gen  
I then scold 3sg say 3sg say want follow  
zhe ni qu.  
DUR you go  
‘I then scolded him and said, “She said she wanted to go with you,”
- 8 \*MOT<sub>t</sub>: ni you buyao gei ta gen la.  
you but not with 3sg follow PRT.  
““but you didn’t let her go with you.””
- 9 \*MOT<sub>t</sub>: ta shuo ni buyao zhe yangzi chong ta.  
3sg say you not this way spoil 3sg  
‘He said, “Don’t spoil her so.”’
- 10 \*MOT<sub>t</sub>: jieguo zuotian dai le.  
result yesterday take PFV  
‘Finally (she) took the lunch box (to school) yesterday.’
- 11 \*MOT<sub>t</sub>: you, fanying you buhui bu hao.  
PRT reaction but not not good  
‘Hey, (her) reaction wasn’t bad.’
- 12 \*MOT<sub>t</sub>: jiu buhui zai jiang le.  
then not again complain PRT  
‘(She) then didn’t complain about it anymore.’

In Example 8, the foreground included lines 1, 2, 3, 5, 6, 7, 9, 10, and 12, and the background included lines 4, 8, and 11. The background in Example 8, like that in Example 7, contained no temporal devices. The background described Tingting’s sister’s first reaction to the lunch box (line 4), a direct

quotation (line 8), and her later reaction to the lunch box (line 11). These utterances were about inner states or direct quotations, which did not involve temporal sequence. As for the foreground, we observed that the foregrounded utterances were predominantly marked with temporal connectives. Two types of temporal connectives were used: the connective *jiu* ('then') and the connective *jieguo* ('as a result, finally'). These connectives explicitly indicated the sequential relations between the foregrounded utterances and helped organize the narrative structure.

The findings from the adult-adult conversation were consistent with the results reported in Wu (2002); we also observed that past reference was maintained largely by unmarked utterances, and that narrative foreground was often marked with temporal connectives to signal temporal sequences. In comparison with the children's use of temporal devices, as analyzed earlier, it appeared that in adult-adult conversation temporal devices were used more frequently and more systematically. These devices helped organize the narrative structures and contributed to the temporal complexity in adult-adult conversation.

Another important device for maintaining past reference was reported speech. As seen in Example 5, Tingting used reported speech to maintain past reference. However, from Table 4 and Table 5, we observed that reported speech was used even more frequently in adult-adult conversation.

In Example 8 above, reported speech was used in line 9, which contained a reported verb *shuo*. An interesting characteristic of line 9 was that it was the only foregrounded utterance without a temporal connective. As also shown in Example 9 below, utterances with reported speech often were not marked with temporal connectives.

In Example 9, Weiwei's mother was talking about one of her business partners. The partner was in the process of withdrawing his investment and leaving the company. During the transitional period, Weiwei's mother did not realize that the partner did not want her to use the business checks anymore.

Example 9:

1	*MOT <sub>w</sub> :	ta	wen	wo	piao	zai	nali.
		3sg	ask	me	check	at	where
		'He asked me where the checks were.'					

- |   |                     |   |                |               |               |                      |                              |
|---|---------------------|---|----------------|---------------|---------------|----------------------|------------------------------|
| 2 | *MOT <sub>w</sub> : | zhìqian<br>in advance   | bīng<br>at all | měiyǒu<br>not | gēn<br>to     | wǒ<br>I              | jiāng<br>tell                |
|   |                     | piào bu<br>check not  |                | gěi<br>give   | wǒ<br>I       | yòng.<br>use         |                              |
|   |                     | ‘(He) hadn’t told me at all in advance that he didn’t want me to use the checks.’ |                |               |               |                      |                              |
| 3 | *MOT <sub>w</sub> : | tā<br>3sg   | shuō<br>say    | ēi<br>PRT     | piào<br>check | fāng<br>put          | nǎlǐ?<br>where               |
|   |                     | ‘He said, “Where are the checks?”’  |                |               |               |                      |                              |
| 4 | *MOT <sub>w</sub> : | wǒ<br>I   | shuō<br>say    | zài<br>at     | zhèlǐ<br>here | a,<br>PRT            | zài chǒutǐ<br>at drawer      |
|   |                     | nàbiān<br>there   | a.<br>PRT      |               |               |                      |                              |
|   |                     | ‘I said, “Here, in the drawer.”’  |                |               |               |                      |                              |
| 5 | *MOT <sub>w</sub> : | tā<br>3sg   | shuō<br>say    | wǒ<br>I       | kàn<br>look   | yíxià.<br>a while    |                              |
|   |                     | ‘He said, “Let me take a look.”’  |                |               |               |                      |                              |
| 6 | *MOT <sub>w</sub> : | wǒ<br>I   | jiù<br>then    | na<br>give    | gěi<br>to     | tā<br>3sg            | a.<br>PRT                    |
|   |                     | ‘Then I gave (them) to him.’  |                |               |               |                      |                              |
| 7 | *MOT <sub>w</sub> : | tā<br>3sg   | jiù<br>then    | ba<br>BA      | piào<br>check | sīdiào.<br>tear up   |                              |
|   |                     | ‘Then he tore up the checks.’   |                |               |               |                      |                              |
| 8 | *MOT <sub>w</sub> : | tā<br>3sg   | shuō<br>say    | wǒ<br>I       | zhè<br>this   | piào bu<br>check not | gěi nǐ yòng.<br>give you use |
|   |                     | ‘He said, “I am not letting you use these checks.”’                               |                |               |               |                      |                              |

In Example 9, the mother included a backgrounded utterance in line 2, and the other utterances were in the foreground. We observed that the backgrounded line 2 was not marked with any temporal device. As for the foreground, lines 6 and 7 were marked with the connective *jiu* ('then').

However, lines 3, 4, 5, and 8, which contained the reporting verb *shuo* ('say'), were not marked with connectives.

As mentioned above, temporal connectives served to explicitly mark sequential relations in the foreground. While sequential relations in the foreground could often be inferred pragmatically through how events were ordered in narrative, temporal connectives helped delineate the foreground main lines from the background description, and thus helped the listener reconstruct the story and interpret the temporal reference correctly. Although it would also be appropriate to mark reporting verbs with connectives in the foreground, we noted that they tended to be unmarked. It appeared that when reporting direct quotations, the speaker assumed the roles of the original speakers and spoke for them. The speaker often spoke for more than one person to re-produce the original verbal exchanges. Thus, the order of the reported verbal exchanges often directly reflected the order of the original verbal exchanges. Since the reported verbal exchanges represented such a strong iconic relation to the original verbal exchanges, there was thus less demand for explicit marking of the sequential relations.

#### **4. DISCUSSION**

The analysis has shown that past reference in the mother-child conversation was maintained largely through the mothers' elicitations and the children's responses. The mothers' elicitations were effective in engaging the children in conversation about the past. In addition, the routinized turn-taking sequences also helped to make interaction successful. Based on the predictable structure of the conversation, both the mother and the child knew what to expect from the other in the interaction. As suggested by Sachs (1983), successful reference to the past typically occurred within the framework of 'conversational routines'.

In conversation about the here-and-now, the immediate visible context can provide a support for children's linguistic production. However, events about the past often do not involve the immediate context. Thus, referring to the past requires a variety of cognitive, linguistic and conversational skills. As seen in the study, in the absence of contextual support, maternal scaffolding appeared to function as a discourse support for the children to participate in conversation involving past experiences. As also pointed out

by Eisenberg (1985), with maternal scaffolding, children's reliance on the visible context for linguistic support is replaced by support from the discourse frame itself.

In addition to the use of scaffolding, we have observed that maternal speech adjustments were also evident in the mothers' restricted use of temporal devices. As seen in the analysis, the mothers used fewer temporal connectives and reported speech forms in child-directed speech than in adult-directed speech. Such adjustments in child-directed speech appeared to arise from the attempt to communicate with the noncompetent child speakers. As pointed out by Snow (1977), much of the mother's speech is shaped by the child's ideas, interests, and cognitive and linguistic abilities. Thus, in this study the mothers' restricted use of these temporal devices may reflect their sensitivity to the children's limited ability.

The study evidences the importance of the 'zone of proximal development' (Vygotsky 1978), i.e., the difference between what the child can do alone and what s/he can do with the caretaker's guidance and support. According to Vygotsky, the child develops higher mental functions within the context of the child's interactions with adults. Thus, we may speculate that by participating in guided interactions with the mothers about past events, Weiwei and Tingting would further develop their cognitive, linguistic and conversational capabilities of referring to the past. In addition, the mother-child interaction observed in the study can also be explained by the concept of LASS (the Language Acquisition Support System) proposed by Bruner (1983). In LASS, the mother reduces the degree of freedom with which the child has to cope. As a result, the child can concentrate his/her attention into a manageable domain and interact with the mother in conversation. According to Bruner, LASS plays an important role in the child's acquisition of linguistic skills.

However, we also observed that it was not always the mothers who led the conversation. The children's emerging ability to spontaneously describe past events also influenced how the mothers interacted with the children. As seen in the analysis, the mothers' elicitations did not tend to guide the children to describe temporally sequenced events. Instead, the elicitations focused mainly on places, persons and behavioral situations. Interestingly, we observed that the children were able to describe sequenced events in spontaneous episodes, although their spontaneous narratives were still in a primitive form. According to Snow (1977), parents introduce new semantic

content only when their children demonstrate cognitive readiness by trying to express the meaning with primitive forms. Thus, we observed that in response to the children's trying to describe sequenced events, the mothers not only asked the question '*na houlai ne?*' ('Then what happened afterwards?') to encourage the description of subsequent events, but also modeled the narration by paraphrasing and upgrading the children's descriptions.

Although the children had demonstrated the abilities to express temporal sequences and aspectual perspectives, their abilities to use temporal devices were still limited. The results showed that the children's use of temporal devices was quantitatively and qualitatively different from adult use. Quantitatively, we observed a lower number of temporal devices in child-adult conversation. This may result from the children's limited linguistic abilities to use these devices; on the other hand, the children's limited cognitive and conversational abilities may also restrict the occurrence of the type of contexts where these temporal devices were required. Qualitatively, we observed that temporality in the children's speech was marked mostly for local considerations, rather than for an attempt to organize the discourse. Thus, in contrast with the temporal organization in adult-adult discourse, the children still lacked the ability to relate their use of temporality to the global structures of discourse.

Although this study examined only three-year-olds' speech, we may speculate that the development of past reference maintenance can be manifested in the child's role in conversational interaction, the child's use of temporal devices, and the child's skills in organizing discourse. That is, with the development of cognitive and linguistic abilities, the child would provide more spontaneous contributions to maintain past reference in conversation; the child would also use more tokens and types of temporal devices; in addition, the child would employ temporal devices to construct temporally more complex and structurally better organized discourse. However, further research examining younger children (e.g., 2 year-olds) and older children (e.g., 4 year-olds) is needed in order to provide empirical evidence and obtain a more complete picture of the developmental path of temporality in Mandarin Chinese.

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## APPENDIX

Abbreviations for glosses:

CL:	Classifier
CSC:	Complex Stative Construction
DUR:	Durative
GEN:	Genitive
NOM:	Nominalizer
PFV:	Perfective aspect
PRT:	Particle
Q:	Question marker
3sg:	Third person singular

Transcription symbols:

#	Pause between words
[>]	Overlap follows
[<]	Overlap precedes
[% text]	Transcriber's comments or non-verbal information

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### 漢語母子對話和成人對話中的過去事件

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本研究探討說漢語的三歲幼童提及過去事件的能力。研究重點在於過去時間的指涉在母子對話中的延續。同時，成人間的對話也加以分析以做比較。結果顯示雖然幼兒十分依靠母親的鷹架結構來談及過去，幼兒表達時間關係的能力也對母親的言語有所影響。另外，在幼兒簡單的敘述中，時間的表達大多只是為了局部的考量而非對總體結構加以組織。相對的，在成人的對話中，時間標記的使用增進了敘述中時間結構的複雜度。