Introduction

Recently there has been a shift in attention from a focus on pure discourse analysis to an emphasis on determining the interface between cognition and discourse analysis. A growing number of research studies are now available to shed some light on the linguistic processes of joint knowledge. Shared knowledge, also called common ground was first introduced by Clark (1985, 1992), who proposed that talk is conceived as a coordination of action. It is pictured as intersecting cognitive states. By accumulating the information through social interaction, parties of conversations form their shared information. Likewise, Humphrey (1976), Goody (1995), Edwards (1997), and others have argued that discourse needs to be reconceptualized as a domain of social action, consistent with the notion of talk as action; that is, cognition is inherently social. Other studies are also congruent with the mutual knowledge in that speakers and listeners must coordinate what they mutually know in order to comprehend utterances (e.g., Gibbs, Jr., 1987; Gibbs, Jr., Mueller & Cox, 1988; Krauss and Fussell, 1991).

Regarding the cognitive processes of their audience, speakers depend on an implicit model of processing. Meyer and Schvaneveldt (1971) and Glenberg et al. (1994) offered a sounder theoretical basis for how speakers guide listeners in activating concepts. As a result of activation of a related concept, a concept can be primed or pre-activated. Furthermore, a given concept can become more or less active along with the changes of the content. Grounded on previous research, Smith et al. (2005) believed that many referents may be established piece by piece through discourse.

Of probing into the issue on common ground, analyses of introductions have been highlighted on the role of the introductory referring expression, the first mentioned entity (e.g., Ariel, 1988, 1991, 1996; Chafe, 1994, 1996). Nevertheless,

Smith et al. (2005) have noted that before the first direct mention of an entity, speakers have begun setting the stage mentally for listeners, using various strategies to activate a representation of referents. In the cause of having a successful conversation, speakers' judgement on the cognitive status of entities as given or new information for listeners is of importance. According to Chafe (1994, 1996), referents' status can be divided into three categories: given, new and accessible. In his framework, given information occupies subject positions in accordance with the light subject constraint he proposed. Moreover, to ease off the burden for the hearers, speakers tend to use one new information at a time, with another given unit. Accessible referent, treated as given because they are in a semi-active state and hence can be inferred, are constructed via prior mention.

Based on the categorization, Smith and her associates (2005) provided a more in-depth view toward the referring expression pertinent to mutual knowledge. They have conducted out a study on how speakers manage information for their listeners and how they make referents accessible. Their data come from story-telling tasks carried out by pairs of students or faculty at California State University Long Beach, in which speakers, who see the whole silent movie, must tell the listeners, who only see the first half part of it, the missing part. Their work has demonstrated that reference is accomplished over a variety of expressions, utterances and turns, rather than in a given formal referring expression, and the reference strategies used depend on how speakers construe their audiences.

In a different point of view, Arnold and Griffin (2007) suggest that listeners are not the only factor which determines speakers' use of reference strategies. Rather, accessibility can also be influenced by other cognitive pressures, for instance, the number and the gender of characters. In their study, divergent number and gender of characters in two-panel cartoons were designed in order to see the effects on pronoun use. Carried out by participants from Stanford

University, the story-telling study reveals that when the main character is the first-mentioned character and grammatical participant in the preceding sentence, and the other character has a different gender, there is a greater use of pronouns.

The above-mentioned research has probed into adults' discourse relevant to cognition. However, academic participants related to cognition has been particularly influential in contributing insights into language acquisition. Working from the point of view of social psychology, Symons et al. (2005) have claimed that mental state discourse of children aged from 4 to 5 during narrative was simultaneously related to theory of mind performance. Due to contextual differences in mental state discourse, children tend to use diverse amount of mental state language. Their study has been compatible with Brown, Donelan-McCall and Dunn (1996) in that children use more mental state language when interacting with their equals. Their research provides a sketchy understanding of children's discourse and cognition.

The current study is an attempt to supplement the findings of these earlier studies. It is similar to the previous studies discussed above, in that the focus is on the relevance between discourse and cognition through story-telling tasks. It differs from previous studies, however, in the age of the participants and the character designed in the story. Although a fairly large body of literature exists on the interface of discourse and cognition as well as the discussion on common ground, within that literature, there is a surprising lack of information on children's referring expression in narrative on characters elaborately designed in a silent cartoon. In addition, there is very limited study on comparison and contrast between children's and adults' narrative. In light of these concerns, this study has three purposes: (a) to examine Mandarin children's referring expression in terms of characters designed with different gender and accessibility in a silent cartoon, during introduction of these characters; (b) to investigate the referring expression

generated by children of diverse age; and (c) to report the discrepancies on referring expression by children of divergent age. All of these results will be compared with those of adults.

Method

Participants and Materials

Participants were asked to watch a silent cartoon, 'Tom and Jerry — Texas Tom.' The story took place in one main setting, Texas where Tom, the male cat and one of the main characters, wore like a cowboy. Tom was teasing Jerry, a mouse and the other main character, using a rope to catch him. After fighting for a while, they stopped and looked toward the same direction. A female cat came out of a car and attracted Tom's interest. Therefore, he played guitar for her, but it was Jerry who teased Tom in turn. Tom tended to use the rope to catch Jerry again, yet a bull was trapped this time. The bull got mad and chased Tom. In the route of escaping from the bull, Tom hid himself in a henhouse. However, he was found, threw into the sky and fell in front of the female cat.

For the present paper, we will analyze how each participant introduced the five most important characters — Tom, Jerry, the female cat, the bull and the hens.

The participants for this research were selected from the population of Mandarin-speaking students at Yong-Kang Elementary School in Tainan County and Mandarin-speaking students at MingDao University in Changhua County in Taiwan. Of the 42 participants, 36 were elementary school students, 6 from each grade, and 6 were college students. Conversations were audiotaped and transcribed.

All participants were paired with their equals. Both speakers watched the

first half of the silent cartoon together, which included the event in which Tom was teasing Jerry up to the point where they stopped fighting. Speaker A watched the second half alone and then narrated it to the original partner, Speaker B, in a conversational setting. For both speakers, Tom and Jerry are common ground from the first half, while the female cat, the bull and the hens are new characters.

Since the story-telling tasks held in this study was conducted through watching a cartoon, which needed Speaker A to recall the content, Speaker A was allowed to watch the cartoon more than once until s/he was able to remember it. Furthermore, in order to elicit detailed information from the story, Speaker A was told that this was a memory quiz, and a reward would be given if s/he memorizes the whole story well.

Data analysis

Our analysis will focus on Speaker A's narration of the second half of the cartoon. The speaker must introduce two characters who are common ground, Tom and Jerry. Owing to the fact that this is the first time the partners have discussed the video, these are initial introductions, in accordance with their discourse. Both Tom and Jerry are highly salient characters. In addition, the speaker ought to introduce three characters who are new to the partner, a female cat, a bull and hens.

These five characters make interesting contrasts in that unlike Jerry, although Tom, the male cat, is a salient character, an additional different-gender but same-strain counterpart, the female cat, joins to the second half of the cartoon. The appearance of the female cat may bring some impact on the referring expression of Tom, according to Arnold and Griffin (2007). Compared with the female cat, a rather unexpected character,the bull seems to be inferable because of the setting. In other words, the existence of the bull has been primed and is

processed more rapidly since it is more likely to co-occur with a cowboy than the other characters do, as suggested by Meyer and Schvaneveldt (1971). Finally, the group of hens is also an unexpected character; however, it is not pre-activated, nor does it need to be distinguished from a different-gender but same-strain counterpart. In short, the characters are of different mental state: Jerry is the most salient character, Tom is salient but needs disambiguation, the female cat is unexpected and needs disambiguation, the bull is unexpected but is inferable, and the group of hens is unexpected. Table 1 provides a clear illustration of the design of these five characters.

In this study, we examined the first mentioned referring expression on each character since we only dealt with the introduction of the characters. Both qualitative and quantitative data analyses were performed. In order to run statistics, participants of grade 1 and 2 were combined to satisfy the requirement of 5 units in a cell, so were those of grade 3 and 4, and those of grade 5 and 6. The quantitative analysis used the SPSS statistical software package. First, Pearson Chi-Square tests were conducted to examine the relationship between the referring expression on the characters and the speakers' age. Next, ANOVA was done to determine whether different characters and diverse age will influence disfluencies.

Table 1 The design of the characters

Characters	Male cat	Mouse	Female cat	Bull	Hens
Expectancy	+	+	-	+/-[1]	-
Counterpart	+	-	+	-	-

[1] The bull could be either inferred or not, depending on how the participants associate it with the cowboy setting.

Results and Discussion

Introduction of Tom, the male cat

Probing into the referring expression, regardless of age, participants tended to generate definite expression most (33.3%), proper name the second most (28.6%), gender expression the third (19%), bare noun the fourth (14.3%) and another referent the least (4.8%).[2] Adults only produced proper name (66.7%) and definite expression (33.3%). By contrast, all referring expressions were used by children: definite expression (35%), proper name (25%), gender expression (20%), bare noun (15%) and another referent (5%).

Looking into the discourse, we found that the referring expressions were all in subject position where Chafe (1994, 1996) proposed to be a place for given information, conforming to the light subject constraint. Due to the fact that the male cat in the cartoon is common ground, it is not a surprised result. Definite expression is another way to show the character is in speakers and listeners' mutual knowledge. Although proper name is not a choice for shared knowledge, the name of the male cat, Tom, is in reality a well-known cartoon character for young adults and children. In other words, 'Tom' is salient enough to be fully activated even without any setting or interaction between two parties. Hence, the proper name here further supports the awareness of shared knowledge. The production of gender expression was the result of the existence of the female cat. This is also the reason for the expression of 'another referent.' However, using bare nouns to refer to a character in common ground is unclear and inappropriate. As a matter of fact, bare nouns were only given by children of grade 1. From this analysis, we discovered that there is a difference between children's and adults' referring expressions in the introduction to the male cat.

[2] Definite expressions generated in this study include *nage* + animal name 'that + animal name' and *nazhi* + animal name 'that + classifier + animal name.' Gender expressions comprise *gong*/*mu* + animal name 'male/female + animal name.' Another referent indicates *ling izhi* + animal name

The analysis of Pearson Chi-Square tests showed a striking effect of age of acquisition on referring expression of the male cat (X^2=21.5, df=12, p<.05). The crosstable (Table 2) presents that adults who generated proper names for the male cat accounted for 66.7%, children of grade 5 and 6 who produced proper names 50%, children of grade 3 and 4 who used definite expression 66.7%, and children of grade 1 and 2 who gave bare nouns 50%. Since the results showed a clear and strong relationship between age and referring expression of the male cat, we also conducted symmetric measure. Both values of contingency coefficient (C=.711, p<.05) and Cramer's V (V=.584, p<.05) showed the dependent and independent variables were significantly associated. The index of predictive association (λ=0.467) demonstrated that the prediction of age via referring expression of male cat could reach up to 46.7%.

Regarding the development of the use of referring expression, there are a sharp increase on proper name (16.7% to 66.7% from grade 1 to adult) and a steep decrease on bare noun (50% to 0% from grade 1 to adult). What also deserves attention is that pre-introduction on the male cat did not occur several lines in discourse. It even did not occur in children's narrative. This once more illustrates that speakers monitor the shared knowledge in listeners' mental state so that they did not bother giving too much introduction.

'another + animal name.' Bare nouns preresent animal names.

Table 2 The crosstable of the referring expressions on the male cat by different age groups

			MALE CAT					Total
			Definite expression	Proper name	Gender expression	Another referent	Bare noun	
GROUP	Adult	Count	1	2				3
		% within GROUP	33.3%	66.7%				100.0%
		% within MALE CAT	14.3%	33.3%				14.3%
	Grade 5&6	Count		3	2	1		6
		% within GROUP		50.0%	33.3%	16.7%		100.0%
		% within MALE CAT		50.0%	50.0%	100.0%		28.6%
	Grade 3&4	Count	4		2			6
		% within GROUP	66.7%		33.3%			100.0%
		% within MALE CAT	57.1%		50.0%			28.6%
	Grade 1&2	Count	2	1			3	6
		% within GROUP	33.3%	16.7%			50.0%	100.0%
		% within MALE CAT	28.6%	16.7%			100.0%	28.6%
Total		Count	7	6	4	1	3	21
		% within GROUP	33.3%	28.6%	19.0%	4.8%	14.3%	100.0%
		% within MALE CAT	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Introduction of Jerry, the mouse

In introduction of Jerry, participants produced definite expression most (57.1%), bare noun the second (28.6%) and proper name the least (9.5%). 4.8% of the participants did not mention this character. Adults only used definite expression (67%) and proper name (33%), while children generated definite

expression most frequently (56%), bare noun the second (33%) and proper name the least (6%).

As mentioned in previous section, Jerry is a salient character and is in speakers' and listeners' mutual knowledge; furthermore, different from Tom, it has no counterpart and hence does not require disambiguation. Because of these traits, we expected that speakers would generate only definite expression and proper name, which is confirmed by the fact given by adults. Nevertheless, 33% of children used bare noun to refer a pure, salient character. Although Pearson Chi-Square tests did not find significant correlation between the age and the expression on the mouse, this digit demonstrates that children still cannot properly and correctly consider the mental state of the listeners. Concerning the development of the use of referring expression, the percentage of generation of proper names has gone up along with the increase of age (grade 1-4, 0%; grade 5-6, 17%; and adult, 33%). As for Chafe's light subject constraint and one new idea constraint, the first mentioned mouse, as a given information, was either in participant position or in object position with only one new information.

Introduction of the female cat

The female cat is difficult to handle somehow. It is not only an unexpected animal but also a counterpart of the male cat, which requires some disambiguation. On the other hand, since it is like the male cat in every way except for gender, which is a plain distinction, the referring expression could be less complicated.

Approximately 76.2% of the participants used gender expression, and the remaining participants were relatively distributed across expression with modifier (9.5%), definite expression (4.8%) and bare noun (4.8%). 4.8% of the participants did not mention the character. Eliminating the data of children, we found that adults only generated gender expression. To state precisely, it was the

children of grade 1 and grade 2 who used definite expression or bare noun, or did not mention the female cat. We treat the use of the expression with modifier as correct usage because the modifiers themselves indicated the feature of being female, for example, beautiful and of a belle. In addition, previous literature also pointed out that modifiers are chosen more often when needed to pick out a unique entity in the context (Brown-Schmidt & Tanenhaus, 2006). Notwithstanding the statistic analysis did not show significant correlation between age and referring expression on the female cat, we still can tell the slight differences between the children of lower grade and the adults. The production of gender expression increases (grade 1-2, 33%; grade 3-4, 100%; grade 5-6, 83%; and adult, 100%) and that of bare nouns decreases (grade 1-2, 17%; grade 3-6, 0%; and adult, 0%) when one gets older. All expressions fit the slot of being the new information except for one. To be specific, only one participant introduced the female with another new information in the same clause, while the others conformed to Chafe's one new idea constraint.

Introduction of the bull

More than half of the participants (52.4%) introduced the bull by generating bare nouns. 23.8% of the participants used possessive expression, 19% of them produced definite expression, and 4.8% of them did not mention this character. The result also showed that bare noun was the only referring expression given by adults, whereas bare noun (44%), possessive expression (28%) and definite expression (22%) were all produced by children.[3] Here, the possessive expression was classified into the same category with definite expression; both regard the bull as common ground. The possessive expression we found from the data is *niudejiao* ‘the bull’s horns.’ From the view of syntax, *jiao* ‘the horns’ is the head noun, whereas *niu* ‘the bull’ is at the Spec of NP; that is to say, *jiao* ‘the

horns' is the one a speaker wants to emphasize and introduce but not *niu* 'the bull'. In addition, to introduce a kinship term, speakers must present the identity of the possessor first so that listeners can follow the instruction and figure out the possession. Therefore, to use possessive expression in introduction to a new character implies that speakers believe the character can be inferred by the setting given in the cartoon and hence does not require further illustration, behaving like the given information.

As already noted above, even though the bull is an unexpected character, it is inferable because, compared with other new referents, it is most likely to associate with the concept of 'cowboy.' This is the reason why 28% of children tended to produce possessive expression and why 22% of them used definite expression when they first mentioned the bull. However, this inference is not necessary since in our world shared knowledge a cowboy is accompanied with a horse rather than a bull. This might explain why adults generated bare nouns only. More specifically, children (50%) associate the bull, as the inferable information, with the cowboy, yet adults (100%) do not conceive the bull, regarded as the new information, as a related concept to the cowboy.

While age and the referring expression of the bull were shown not to be significantly related, the percentage of referring expression by different age groups still slightly reflects an increase on the production of bare nouns (grade 1-2 50%, grade 3-4 33%, grade 5-6 50% and adult 100%) and a decrease on the production of definite expression (grade 1-2, 33%; grade 3-4, 17%; grade 5-6, 17%; and adult, 0%). Furthermore, all referring expressions conformed to Chafe's light subject constraint and one new idea constraint.

[3] 6% of children did not mention the bull.

Introduction of the hens

The production of referring expressions related to hens is scant; only approximately 43% of participant gave introduction to the hens, either introducing the scene, namely the henhouse first followed by introduction to the hens, or introducing the group of hens immediately. Since all cells have expected count less than 5, we do not run statistics for this part.

Of the introduction of the hens, 78% of referring expressions were about the henhouse, while only 22% of referring expressions were bare nouns. What attracts our attention is the referring expressions given after the introduction of the setting, the henhouse. As examining the discourse, we discovered that participants who had already introduced the henhouse treated the hens as inferred information. As shown in example 1, the child of grade 3 presented the henhouse in line 1, where she treated the henhouse as a new information, and introduced the hens, which she used 'chickens' instead, in line 15. The referring expression, 'those chickens' was given in subject position; besides, there is another new information in the same clause, namely 'in rows.' Therefore, we could say that the child believed 'those chickens' was intermediate in accessibility.

Example 1

→	1	.	ta jinqu limian shi yige jishe,_	'He ran into a henhouse,'
	2	(0)	ranhou niu chung guolai,_	'and then, the bull rushed toward him,'
	3	(0)	zhengge,_	'the whole,'
	4	.	chung-	'rushed-'
	5	.	jiao zhuangdao nage men.\	'The horns rushed to that door.'
	6	...	ranhou nage,_	'Then, DM[4],'
	7	..	ta jiu yongli,_	'He then exerted all his strength,'
	8	..	tou zheyang taiqilai,_	'his head raised like this,'
	9	(0)	ranhou,_	'and then,'
	10	..	nage zhengge,_	'DM the whole,'
	11	..	fangzi doubei,_	'house was,'
	12	..	dai qilai le.\	'taken upwards.'
	13	(0)	ranhou,_	'Then,'
	14	..	ta kandao,_	'He saw,'
→	15	..	naxie ji dou paipai de,_	'those chickens were all in rows,'
	16	(0)	jieguo kandao nage niu,_	'and then (they) saw that bull,'
	17	...	ting yi xia,_	'stopped for a while,'
	18	...	go go go quanbu paozou.\	'(imitating the cackle of the hens) all
		ran		
			away.'	

(3rd grade, 8;8, female)

[4] DM indicates 'discourse markers.' *Nage* 'that' in Mandarin sometimes is used like fillers, functioning as striving to obtain more time for forming the forthcoming information.

Another example of inference of the hens is given in example 2. The child of grade 2 constructed the setting in line 4 and introduced the hens, again in the form of 'chickens', in line 13. In the clause, 'all chickens were frightened away,' 'all chickens' was in subject position with another new information, 'being frightened away.' Consequently, it is obvious that the child considered 'all chickens' as an inferable idea.

Example 2

1	... (0.8)	a niu hen shengqi,_	'DM The bull was very angry,'
2	...	jiu yizhi zhuita yizhi zhuita,_	'so (he) continued running after him, continued running after him,'
3	...	a ta paodao,_	'DM he ran to,'
→ 4	... (1.3)	ji=chang=limian,_	'in henhouse,'
5	...	ranhou,_	'and then,'
6	...	ta,_	'he,'
7	... (0.7)	duoqilai,_	'hid himself,'
8	..	ranhou,_	'and then,'
9	... (0.7)	niu= ba nage jichang,_	'the bull BA that henhouse,'
10	...	ba ta,_	'BA it,'
11	... (0.7)	banqilai,_	'lifted up,'
12	... (0.8)	ranhou,_	'and then,'
→ 13	... (1.0)	suoyou ji dou bei xiapao le.\	'all chickens were frightened away.'

(2nd grade, 8;0, male)

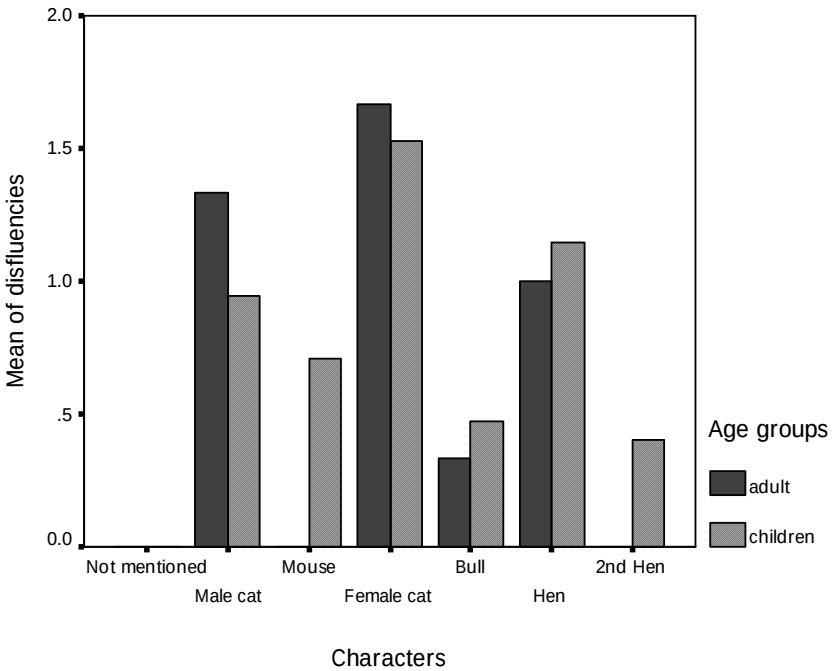
Disfluencies in Introduction of Each Character

Disfluency may occur for a series of reasons, but in general, it is an indication that a speaker is having some processing difficulties, either because they need extra time to prepare the forthcoming utterance or are distracted (Brown-Schmidt & Tanenhaus, 2006; Clark & Fox Tree, 2002; Clark & Wasoc, 1998; Pomerantz, 1984; Smith et al., 2005). Therefore, hesitations, repairs and other similar devices are found frequently before new referents. In the light of the previous studies, we categorized speakers' introduction as initially disfluent if a disfluent element occurred immediately before or during the referring expression (e.g., *eh=...nazhi mao* 'uh=...that cat'; *nazhi...mao* 'that...cat'). Disfluent elements we found in this

current study included repeats, repairs, pauses, elongations, uncertainty and high pitch.

The results of the univariate analysis of variance indicates that there was no statistically significant interaction effect between adult-children group and characters on disfluencies. However, there are still some points that are worth making in Figure 1. Since disfluencies predict the forthcoming dispreferred unit, the higher the mean of disfluencies is, the more difficult the character is introduced. As we can see from the figure, adults encountered more disfluencies while they were introducing the female cat (M=1.67), followed by the male cat (M=1.33), the hens (M=1.0) and the bull (M=0.3). They have disfluency while generating the referring expression for the mouse. Unlike the adults, children made more disfluencies while they were introducing the female cat (M=1.52), followed by the hens (M=1.14), the male cat (M=0.94), the mouse (M=0.71), the bull (M=0.47) and the second mentioned hens (M=0.4).

Figure 1 The mean of disfluencies produced in introduction of each character by adult group and children group



In terms of the differences of the characters, we discovered that the existence of a 'different-gender counterpart' in a story is more difficult for adults to access than the presence of an 'unexpected' animal. Therefore, disambiguating the two cats with their distinct gender will take them more time to deal with. Because the female cat not only needs disambiguation but also is unexpected, it is the most difficult animal to process. Due to the fact that the male cat, who needs disambiguation, is expected, it is the second difficult animal to handle. Of the other characters who do not need disambiguation, the group of hens is unexpected; accordingly, it is the third difficult animal to introduce. The bull is not inferable for adults, as mentioned previously, yet the digit here seems to suggest that the presence of the bull is more accessible than that of the hens although adults only generated bare nouns, which are used for new information. This phenomenon recommends that bare nouns could be used to refer to either new information or inferable information. Finally, because the mouse neither needs disambiguation nor is unexpected, adults produced no disfluency when giving the introduction.

Regarding the disfluencies produced by children, the existence of an 'unexpected' animal in a story is more difficult to access than the presence of a 'different-gender counterpart'. This observation correctly predicts the results given above. The female cat is unexpected and needs disambiguation; as a result, it is the most difficult character to introduce. Although the group of hens need not be disambiguated from other animals, it is unexpected and cannot be inferred; hence, it is also difficult to process, following the female cat. As the third complicated character, the male cat is expected but needs to be distinguished from the female cat. The expectancy and uniqueness of the mouse contribute to less disfluencies. The least disfluencies occurring in introduction of the bull are attributable to its immediateness in accessibility and its uniqueness.

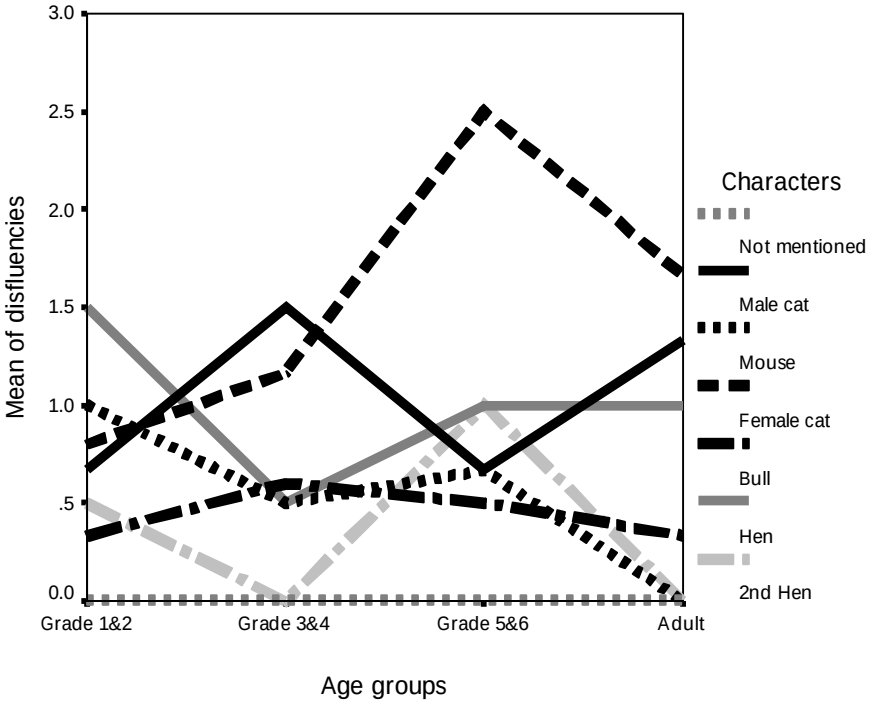
The ranking of the mouse and the bull in disfluency generated by children and that by adults are reversed, which indicates that there is another factor influencing

the result. Note that in our analysis, disfluent elements include pauses, repeats and elongations, all of which may accompany with one's memory. In the second half of the story, the bull presents in more scenes than the mouse; this might be responsible for the hesitation in the introduction of the mouse since children's memory cannot compete with young adults.

Another character that was also calculated in Figure 2 is the 2nd-mentioned hens. Since the henhouse or the 1st-mentioned hens were introduced, the 2nd-mentioned hens should be able to be inferred, as verified by the adults' zero disfluency. Nevertheless, the unexpected hens might be too hard to access for children; as a result, its impact kept bringing effects onto the 2nd-mentioned hens.

The results of the univariate analysis of variance indicates that there was statistically significant interaction effect between characters and age groups on disfluencies ($F=2.369$, $p<.05$). There was also one significant main effect, the character, on disfluencies ($F=13.382$, $p<.05$). Figure 2 summaries that eliminating the 2nd-mentioned hens, the differences designed in the characters were well-sensed by children of grade 5&6 and adults, illustrated by the disfluency range of each character in age groups (grade 1&2, range=1.17; grade 3&4, range=1; grade 5&6, range=2; adults, range=1.67). To put it briefly, children of grade 5&6 and adults are able to differentiate each character, monitor listeners' mental state and decide how to make the story-telling task successful. Figure 2 also highlights the development of the accessibility of each character. There is a dramatic increase on the disfluency of the female cat from children of grade 1&2 to grade 5&6. In addition, the mean of disfluency of the mouse falls down gradually from children of grade 1&2 to adults.

Figure 2 The mean of disfluencies produced in introduction of each character by divergent age groups



Conclusion

In this paper, three findings are worth summarizing. First of all, concerning referring expression, when introducing a character in speakers and listeners mutual knowledge, Mandarin speakers tend to generate definite expressions and proper names. When there is a contrasting character, speakers would use gender marker or modifier to disambiguate the two distinct characters; therefore, gender effect is like linguistic ambiguity in that it requires speakers to consider a particular linguistic form. Moreover, when a character is related to another concept, it can be primed and become inferable so that it is immediate in accessibility. Any unexpected characters which do not have counterparts and inferable characters will be presented by utilizing bare nouns. Chafe's light subject constraint and one new idea constraint can almost correctly predict the referring expressions as new or given information except for the inferable information.

Secondly, regarding the effects of age on referring expression, there is development in expression of each character. In introducing salient characters, the generation of proper name increases when children get older. When presenting unexpected characters with gender ambiguity, the production of bare noun decreases along with increasing age. Characters which are inferable but not in shared knowledge will be introduced with more bare nouns but less definite expression by older children.

Finally, the ranking of accessibility difficulties of characters are different along with age. Adults regard 'different-gender counterpart' as the main factor which determines the disfluency of introducing a character rather than treat 'unexpectedness' as the main factor. As opposed to the adults, children consider 'unexpectedness' as the main factor which determines the disfluency. In addition, children of grade 5&6 as well as adults are better at monitoring listeners' mental state than younger children.

Although the present study has yielded findings that have both theoretical and empirical implications, its design is not without flaws. Threats to generalizability are due to the fact that only three of the participants were adults and that one or two children sometimes did not mention the characters. This would result in insufficient number in cells when statistics is conducted. Another limitation concerns the linguistic development of younger children aged under seven. In spite of the fact that almost half of the children of lower grade do not introduce characters as well as those older children, there are still 50% of the younger children who can do well in story-telling tasks. In order to have a more detailed view of the development, perhaps further research could examine the referring expressions given by preschoolers.

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