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## **THE IMPACT OF THE INTERACTIONAL SETTING ON THE CHOICE OF REFERRING EXPRESSIONS IN NARRATIVES**

Geneviève de Weck, Anne Salazar Orvig, Stephano Rezzonico, Mélanie Bernasconi et  
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### **Abstract**

This article aims to account for the impact of the interactional setting on adults' referential uses by determining if telling a story to/with a child impacts the referential strategies of adults. The long-term goal of this study is to better understand the models of reference in narratives children are exposed to in order to account for young children's uses. The study analysed the referring expressions of twenty women telling a story with their child (5 to 7-year-old) (CHILD condition), and twenty women telling the same story to an adult experimenter (ADULT condition). Referring expressions were coded according to their linguistic type, their position in the referential chain, and the properties of the referents. Results revealed differences between the two settings in the referential choices for the first mention and the reactivation of a referent. Overall, in the CHILD condition, the participants used a wider range of referring expressions than in the ADULT condition. In the CHILD condition participants were oriented towards the interactional demands of enlisting the child in the task and keeping his/her attention. The

findings suggest that the models children experience differ from adults' uses, which are generally considered as the developmental target.

## Keywords

Referring expressions, interactional settings, storytelling, models, scaffolding

## Introduction

Unlike for other aspects of language development, little research has been done on adults' use of referring expressions during narrative interactions between an adult and a child.

This paper aims to determine if co-constructing a story with a child impacts on adults' referential strategies. To do this, we analysed the uses of referring expressions of two groups of adults while telling the same story: a group of women co-constructing a story with their child and a group of women telling the story to an adult experimenter. A difference in the use of referring expressions between the two groups of adults might contribute to the understanding of both the variety of models to which children are exposed and young children's use of referring expressions in narratives.

## The use of referring expressions in adults' narratives

Adult uses of referring expressions have been studied across different speech genres and situations. According to cognitive approaches of reference, referring expressions indicate to the addressee how accessible the referent to retrieve is. The choice of a referring expression thus depends on the representation the speaker has of the discourse model of the addressee (Ariel, 1990; Gundel, Hedberg and Zacharski 1993; see also Givón, 1995). Weak forms (e.g. null forms, clitic pronouns, depending on the languages) encode highly

accessible referents whereas strong forms (e.g. noun phrases, demonstrative pronouns) encode less accessible referents. This representation depends on several interacting factors, such as joint attention, recency of the prior mention of the referent, topicality. These factors are intertwined with syntactic and semantic factors: for instance, topical information tends to be strongly associated with the subject function (Chafe, 1976; Du Bois, 2003) and is therefore expressed by weak forms; on the other hand, humanhood or animacy make the referent a good candidate for agentivity and therefore also for high accessibility (Fukumura & van Gompel, 2011).

Discourse genres also determine the usage of referring expressions (Clancy, 1980; Fox, 1987a). In monological narratives, adults' productions are quite homogenous across experimental studies. For first mentions, they predominantly use noun phrases (NPs), and when relevant, indefinite NPs (e.g. Clancy, 1980; Givón, 1995; Hickmann, 2002; Kail & Sanchez y Lopez, 1997; Kern & Raffara, 2012), even in the context of shared knowledge or of joint perception of the material. The status (main vs. secondary) and the number of characters can impact the choice of referring expressions (Arnold & Griffin, 2007; Clancy, 1992; Fukumura & van Gompel, 2011; Hendriks, Koster & Hoeks, 2014, Kail & Hickmann, 1992; Kail & Sanchez y Lopez, 1997; Kern & Rafara, 2012). For first mentions, main characters may be encoded more often with presupposing expressions than secondary characters. For subsequent mentions, the choice between weak and strong forms depends also on continuity and function switching: pronouns are preferred for immediate co-reference and continuity in the subject function whereas nominal forms are preferred for distant reintroduction, switching to subject position, and for other syntactic functions (Hickmann, 2002; Jisa, 2000; Kern & Raffara, 2012). Adults adopt an

anaphoric strategy (Karmiloff-Smith, 1985) and alternate weak forms and strong forms in subject position when the story involves competing characters, and a thematic strategy when it involves a single main character (Kern & Raffara, 2012).

## Narratives in interaction with children

Adults' uses of referring expressions in experimental settings are highly conventional and closer to uses in written language compared to conversation (Fox, 1987b). The few studies on parents' narratives based on picture books (Bamberg, 1987; de Weck & Salazar Orvig, 2014; Vinel, 2014) indicated that their choices of referring expressions are less conventional. Moreover, in the children's first experiences of book reading and storytelling, adult and child use deictic expressions according to the conventions of here-and-now conversation rather than those of narrative genre (Clancy, 1992).

In his pioneering study using the Frog Story, Bamberg (1987) showed that German-speaking adults could use different referential strategies in this particular setting. In fact, although the adults used expected strategies while dealing with subsequent mentions of a referent (i.e. nominal expressions for switching referents and anaphoric pronouns for maintenance), they tended to prefer definite NPs over indefinite NPs to mention the primary and secondary characters of the story for the first time. Bamberg also reported an impact of the character properties: adults used pronouns to switch to and reintroduce the main human character (i.e. a boy), but not for the non-human frequent character (i.e. a dog). In a pilot study, de Weck & Salazar Orvig (2014) analysed the referring expressions of French-speaking mother-child dyads participating in a joint

storytelling activity with a wordless picture-book. While telling the story with their 6–7-year-old children, mothers tended to introduce referents with indefinite NPs but also used a non-negligible amount of definite NPs and clitic pronouns. These uses were frequently associated with pointing, and attention getters. The analysis showed that mothers alternated deictic and anaphoric strategies. Although, similarly to Bamberg (1987), subsequent mentions were mainly pronouns, mothers used as many pronouns as NPs in reactivations. In a study comparing mothers and teachers in wordless books storytelling activities, Vinel (2014) showed the impact of the adults' status on the choice of referring expressions. Although both groups used a majority of noun phrases, they also used pronouns when introducing or reintroducing a referent. However, the teachers used more definite and demonstrative NPs in first, and even subsequent, mentions. These choices can be accounted for by the teachers' pedagogical intention to develop children's vocabulary.

These uses contrast with those of adults in experimental contexts and rather recall young children's uses in experimental contexts (Hickmann, 2002; Jisa, 2000; Karmiloff-Smith 1985; Kern & Raffara, 2012). This similarity with children's uses could shed a new light on the nature and origin of children's referential strategies, and therefore raise the issue of the models to which children are exposed. Indeed, children experience canonical forms, at least through written narratives when their caretakers read books to them. However, this is far from being the sole or most frequent model children experience in family interactions. Parents and children are also usually involved in the process of co-construction of various types of narratives, such as personal experience narratives, or picture book storytelling, where reference is not pre-encoded by a written

text. In this process, parents scaffold (Wood, Bruner & Ross, 1976) children's productions by both performing a narrative and involving them in the activity (e.g. Pellegrini, Brody & Sigel, 1985). However, little is known about the impact that this setting might have on adults' use of referring expressions.

## Aim of the study

The purpose of the present study was to determine if telling a story with a child in an ecologically valid situation affects the referential strategies of adults in comparison to a control condition - in which adults told the story to an experimenter - in order to complete the picture of the characteristics of the narrative model to which children are exposed.

The preliminary results from de Weck & Salazar Orvig (2014) indicated that mothers telling a story with their child used referential strategies diverging from those used by adults during monological narratives (Hickmann, 2002; Kern & Raffara, 2012). However, because the protocols of these studies also differed on the characteristics of the story (e.g. number of characters, length, etc.), a comparison between two interactional settings with the same story was necessary. Our study sought to test the following hypothesis: although we expect adults in both conditions to be sensitive to a) the position of the referring expressions in the referential chain; and b) to the properties of the referents, this sensitivity should be marked differently according to the addressee, the child or the experimenter.

## Method

## Participants

Forty French-speaking women (aged between 25 and 40) were observed: 20 women with their child (aged 4 to 7), and 20 women who were not early childhood professionals, speech and language pathologists, nor child psychologists.

## Setting and material

Two settings of storytelling were proposed: a) an ecological setting in which the mothers were asked to tell the story with their children (“as you’re used to and take your time”; hereafter CHILD condition); b) an experimental setting in which the participants told it to an experimenter (“Here is a book, I’d like you to tell me the story, take your time”; hereafter ADULT condition).

The task was based on a picture book (J.S. Goodall, 1980: *Ah les belles vacances des petits cochons*, Gallimard)<sup>2</sup> where the pictures relate the story of an anthropomorphic pig (Paddy Pork) who leaves home to hike and camp, and goes through several adventures before being able to come back home (see Appendix B for a detailed summary). In either condition the participants had no previous access to the story in the book before starting the storytelling task. The book was perceptually shared by all the participants, including the experimenter. As the book has no text, the participants had to build up their own narrative solely from the pictures. The interactions were videotaped and transcribed using Word according to the conventions presented in Appendix A.

## Data analyses



The adults' referring expressions were coded according to a) their linguistic type, b) their position in the referential chain, and c) the properties of their referents.

**Types of referring expressions.** Referring expressions were classified into five categories:

- Nouns: common nouns (*cochon* - 'pig'), adjectives used as nouns (*le pauvre* - 'the poor one'), proper nouns (*Rouginet* - 'Rouginet');
- Third-person pronouns: clitic and tonic pronouns (*il(s)* - 'he/they', *elle(s)* - 'she/her/they', *eux* - 'they/them', *lui* - 'him', *leur* - 'them');
- Other types of pronouns: strong and clitic demonstrative (*ça, c'* - 'that, it'), relative (*qui* - 'who'), indefinite (*l'autre* - 'the other one', *quelqu'un* - 'someone') and interrogative (*qui* - 'who', *qu'est-ce que* - 'what') pronouns;
- Left and right dislocations: the dislocated element can be either a noun or a pronoun (strong personal or demonstrative);
- Null forms: elicitation forms (incomplete NPs where a determiner acts as an elicitor for the child to complete (ex: *alors i(l) prépare sa ... (pointe la tente)* - 'then he prepares his. (points at the tent), expecting the answer *tente* - 'tent'), pointing and zero anaphora (ex: *il mange et boit* - 'he eats and drinks').

In addition, determiners heading NPs (included dislocated ones) were classified as indefinite, definite, possessive and other (demonstrative, numeral, quantifiers).

Twenty percent of the sample was coded blindly by a second coder to obtain point-by-point interrater reliability. The process yielded 97.42% agreement (Cohen's kappa: 0.95) for the types of referring expressions and 96.61% (Cohen's kappa: 0.92) for determiners in NPs.

**Position in the referential chain.** Referring expressions were categorised according to their position in the referential chain in dialogue: *First mention* of the referent, *subsequent mention* of the referent - provided that the nearest antecedent appears at the most four speech turns before, and *reactivation* of the referent when the nearest antecedent appears more than four speech turns before. The interrater reliability yielded an agreement of 96.89% (Cohen's kappa: 0.79) for the position in the referential chain.

**Properties of the referents.** Only main referents were considered: 12 characters including 11 pigs with different roles (the main character, Paddy Pork, and the other pigs that he meets along his trip) and a dog; four objects consisting of a car, a wagon, a tent and a scarecrow. The referents were gathered into three categories, according to their role in the plot and animacy: the main character, the secondary characters (10 pigs and the dog), which are all animate, and the inanimate referents (the four objects). These referents do not appear in the same way along the story: the main character is present on all pages; some secondary characters and inanimate objects only appear in certain sequences while others reappear across sequences.

## Statistical analyses

Preliminary checks showed violations (even when applying conventional transformation procedures, e.g. square-rooting and log transformations) of the assumption of normality. For this reason, we performed a series of non-parametric Mann-Whitney U-tests to compare groups. All tests were conducted with the software IBM SPSS Statistics 24. In order to avoid Type I errors, the False Discovery Rate procedure (FDR, Benjamini & Hochberg, 1995) was used to control alpha values. Considering the number of participants and the fact that Familywise Error Type procedures are considered to reduce power and increase Type II errors ( $\mu$ ), FDR was selected over Familywise Error Type procedures (e.g. Bonferroni). The FDR threshold of  $q$  was set at .05 and computed using SPSS syntax provided by IBM on their website.

## Results

Results for both conditions are presented in two steps: first we studied the influence of the position in the referential chain on the referring expressions; then we focused on the influence of the properties of the referents for the three positions. False Discovery Rate procedure indicated that all but two significant results were considered valid. The two results not passing the alpha correction are indicated both in the text and the tables.

### Position in the referential chain

**First Mentions.** Statistical analyses (see Table 1) revealed significant differences between the two settings for the use of nouns, third-person pronouns, other pronouns, and dislocations. In fact, in the ADULT condition the participants used a larger number of

nouns compared to the CHILD condition in which participants used third-person pronouns, other pronouns, and dislocations more frequently. No significant difference was observed for null forms.

**Table 1.** Distribution (% and mean) of referring expressions for first mention.

	ADULT condition		CHILD condition		<i>U</i>	<i>p-value</i>
	%	Mean	%	Mean		
Nouns	88.89	.89	52.29	.50	35.50	<.001
Dislocations	0.72	.01	16.97	.15	57.00	<.001
3P <sup>a</sup>	5.38	.06	14.68	.15	118.00	.026
Null forms	0.00	.00	1.38	.01	180.00	.602
Other Pronouns	5.02	.05	14.68	.18	92.50	.003
N occurrences	279		218			

<sup>a</sup> 3P: third-person pronouns

Participants in both settings followed the same pattern for determiners in both simple and dislocated NPs (see Table 2): indefinite determiners are preferred to definite ones followed by possessives and others. However, in the CHILD condition, the participants produced significantly fewer indefinite, and more definite, NPs than in the ADULT condition.

**Table 2.** Overall distribution (% and mean) of NPs for first mentions.

	ADULT condition		CHILD condition		<i>U</i>	<i>p-value</i>
	%	Mean	%	Mean		
Indefinite NPs	55.56	.56	42.62	.36	106.00	.018
Definite NPs	22.65	.22	35.25	.37	100.50	.012
Possessive NPs	16.67	.17	13.11	.17	160.00	.397
Others	5.13	.05	9.02	.09	167.00	.475
N occurrences	234		122			

To better understand the quantitative differences, a qualitative analysis explored how third-person pronouns, other pronouns, and dislocations were used.

*Third-person pronouns* appeared in three contexts:

a) To identify for the first time a referent (Example 1, Mot90) which was part of a previously mentioned group (Mot83):

(1) Cond: CHILD, Elo’s Mot – Referent: a pig from the theater<sup>3</sup>

Mot83            *il rencontre des cochons qu’il*    ‘he meets some pigs he seems

	<i>a l'air de connaître.</i>	to know.'
(...)	(...)	
Mot90	<i>mais il le présente comme le pianiste. =((pointe le personnage principal))</i>	'but <b>he</b> introduces him as the pianist.' =((points at the main character))

b) The new referent was inferable from the discursive context (Example 2):

(2) Cond: ADUL, Lis – Referents: Family and MC

Lis18	<i>et la carriole s'arrête et prend le petit cochon qui monte ((pointe la carriole)) dans la carriole tout en haut ((pointe le cochon)) et les voilà repartis avec le cheval.</i>	'and the cart stops and takes the little pig who climbs on the top ((points at the cart)) of the cart ((points at the pig)) and here <b>they</b> go again with the horse.'
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The pronoun *les* ('they') mainly refers to the cart occupants, who are the implicit agents of the action encoded by the verb *prendre* ('to take') in the cart.

c) The referent could only be retrieved thanks to the pointing gesture to the picture (Example 3):

(3) Cond: CHILD, Jul's Mot – Referent: Dog

Mot13	<i>tu vois (i)l a piqué les habits.</i>	'you see <b>he</b> stole his clothes'.
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=((*pointe le chien*))

=((points at the dog))

Third-person pronouns were mainly produced in the context of inferable referents in the ADULT condition (9/15; part of group: 4/15; pointing: 2/15), whereas they were more evenly distributed in the CHILD condition across the three contexts (part of a group: 4/32, inferable referents: 15/32, and pointing: 13/32).

Concerning *other pronouns*, the two conditions differed both in quantitative and qualitative terms: the indefinite pronoun *quelqu'un* ('somebody') was preferred in the ADULT condition whereas interrogative pronouns were frequently used in the CHILD condition (Example 4).

(4) Cond: CHILD, Emm's Mot – Referent: Scarecrow

Mot30     *qu'est-c(e) qu'il voit dans le*     'what does he see in the field?'  
*champ? =((pointe l'épouvantail))*     =((points at the scarecrow))

Concerning *dislocations*, mothers introduced referents with demonstrative dislocations (strong - *ça*, 'this/that' - + clitic - *c'*, 'it') in labelling utterances (Example 5).

(5) Cond: CHILD, Arn's Mot – Referent: Scarecrow

Mot25     *oh et puis regarde c'est quoi*     'oh and then look what is *it, that?*'=  
*ça? =((pointe l'épouvantail))*     ((points at the scarecrow))

**Reactivations.** Table 3 shows significant differences between the two settings: Nouns were significantly more frequent in the ADULT condition than in the CHILD condition whereas third-person pronouns and dislocations were significantly more frequent in the CHILD condition.

**Table 3.** Distribution (% and mean) of referring expressions for reactivations.

	ADULT condition		CHILD condition		<i>U</i>	<i>p</i> -value
	%	Mean	%	Mean		
Nouns	85.43	0.860	41.42	0.400	29.50	<.001
Dislocations	5.30	0.034	18.83	0.203	43.00	<.001
3P <sup>a</sup>	5.30	0.053	25.94	0.281	76.50	.001
Null Forms	0.00	0.000	1.26	0.012	170.00	.429
Other Pronouns	3.97	0.053	12.55	0.103	123.00	.038 <sup>b</sup>
N occurrences	151		239			

<sup>a</sup> 3P: third-person pronouns. <sup>b</sup>: *p*-value was indicated as non-significant by the False Discovery Rate procedure

**Subsequent Mentions.** Table 4 shows three significant differences between settings in the subsequent mentions of a referent. Although all participants preferentially used third-person pronouns in similar proportions, dislocations were significantly more frequent in the CHILD condition. Conversely, simple nouns and null forms were significantly more frequent in the ADULT condition. No differences were observed for other pronouns.



**Table 4.** Distribution (% and mean) of referring expressions for subsequent mentions.

	ADULT condition		CHILD condition		<i>U</i>	<i>p-value</i>
	%	Mean	%	Mean		
Nouns	19.37	0.189	13.15	0.125	105.000	0.009
Dislocations	2.70	0.021	10.04	0.088	48.500	<.001
3P <sup>a</sup>	65.06	0.660	66.71	0.682	181.500	0.62
Null Forms	3.18	0.034	0.19	0.003	68.000	<.001
Other Pronouns	9.69	0.096	9.90	0.102	199.500	0.989
N occurrences	2075		2091			

<sup>a</sup> 3P: third-person pronouns

## Properties of the referents

Overall, the referring expressions did not display different distributions as a function of the referents: Third-person pronouns were predominant for the main character whereas nouns were the preferred form for inanimate referents; secondary characters mixed nouns and pronouns in different proportions (see Table 5). But, the use of nouns was significantly and consistently more frequent in the ADULT condition for the main character, the secondary animate characters and the inanimate referents compared to the CHILD condition. The participants also differed significantly on the use of dislocations

to express the three types of referents; the participants in the CHILD condition produced them more. Other differences were: the use of null forms to mention the main character (CHILD condition > ADULT condition), the use of third-person pronouns to mention the secondary animate characters (CHILD condition > ADULT condition), and the use of other pronouns to mention inanimate referents (CHILD condition > ADULT condition).

**Table 5.** Distribution (% and mean) of referring expressions according to the properties of the referents, all positions taken together.

		ADULT condition		CHILD condition		U	p-value
		%	Mean	%	Mean		
MC <sup>a</sup>	Nouns	11.81	0.12	6.32	0.06	110.5	0.014
	Dislocations	3.29	0.03	10.04	0.09	329.0	<.001
	3P	80.10	0.81	80.65	0.82	208.0	0.820
	Null Forms	2.58	0.03	0.07	0	70.0	<.001
	Other Pronouns	2.22	0.02	2.90	0.03	267.0	0.072
	N occurrences	1397		1344			
SC	Nouns	45.07	0.47	24.58	0.25	31.0	<.001
	Dislocations	2.37	0.02	11.99	0.12	354.0	<.001
	3P	30.09	0.29	43.95	0.44	250.0	0.183
	Null Forms	2.89	0.03	0.73	0.01	162.0	0.314
	Other Pronouns	19.58	0.2	18.77	0.18	275.0	0.043 <sup>b</sup>
	N occurrences	761		826			
IN	Nouns	78.10	0.79	52.91	0.49	32.0	<.001
	Dislocations	0.58	0.01	15.34	0.13	360.5	<.001
	3P	7.20	0.07	11.11	0.1	326.0	<.001
	Null Forms	2.31	0.02	0.79	0.01	163.5	0.327
	Other Pronouns	11.82	0.12	19.84	0.27	170.5	0.429
	N occurrences	347		378			

<sup>a</sup> MC: main character; SC: secondary animate characters; IN: inanimate referents; 3P: third-person pronouns; <sup>b</sup>: p-value was indicated as non-significant by the False Discovery Rate procedure

**Main character.** Table 6 showed that the participants in the ADULT condition presented a prototypical configuration for the different positions in the referential chain. For instance, 19 participants out of 20 introduced the main character with a NP. Two thirds of the reactivations were done using nouns and the last third consisted of dislocations and third-person pronouns. Subsequent mentions were almost exclusively expressed by third-person pronouns, and nouns only represented 10% of these occurrences.

**Table 6.** Distribution (% and mean) of referring expressions for the main character according to the position in the referential chain<sup>a</sup>.

		ADULT condition		CHILD condition	
		%	Mean	%	Mean
First Mentions	Nouns	95	0.95	23.08	0.23
	Dislocations	5	0.05	30.77	0.31
	3P <sup>b</sup>	0	0	15.38	0.15
	Null Forms	0	0	0	0
	Other Pronouns	0	0	30.77	0.3
N occurrences (N participants)		20 (20)		13(13) <sup>c</sup>	
Reactivations	Nouns	66.67	0.56	9.84	0.09
	Dislocations	16.67	0.19	29.51	0.34
	3P	16.67	0.25	59.02	0.34
	Null Forms	0	0	0	0
	Other Pronouns	0	0	1.64	0.02
N occurrences (N participants)		12(8)		61(15)	
Sub. Mentions	Nouns	10.11	0.1	5.98	0.06

Dislocations	3.15	0.02	8.9	0.07
3P	81.83	0.82	82.36	0.83
Null Forms	2.64	0.029	0.08	0
Other Pronouns	2.27	0.02	2.68	0.02
N occurrences (N participants)	1365(20)		1270(20)	

<sup>a</sup> It was not possible to statistically analyse the individual effect of the properties of the referents because of the small number of cases and of participants who mentioned the various referents in each position.

<sup>b</sup> 3P: third-person pronouns.

<sup>c</sup> Only 13 participants (out of 20) mentioned the main character for the first time because seven of them let their children do it.

The participants in the CHILD condition introduced the main character in various manners: four dislocations, two interrogative pronouns, two third-person pronouns, and only three nouns. They tended to reactivate the main character more often than the ADULT condition participants (61 vs. 12), for instance when the mothers continued the narrative after an explanation sequence (Example 6).

(6) Cond: CHILD, Emm's Mot – Referent: MC

Mot45	<i>et qui est-ce qu'il retrouve sur son chemin? =((pointe la roulotte))</i>	and who does <b>he</b> find on his way? =((points at the cart))
Emm55	<i>des p:OMMEs/ des pommes des pommes</i>	aPPles/ apples apples
Mot46	<i>la famille {gentils} cochons.</i>	the {nice} pigs family.
Mot47	<i>{des pommes}</i>	{apples}

Mot48	<i>ah ouais./ c'est ça qu'ils sont en train d(e) cueillir?</i>	ah yeah/ is that what they are picking up?
Emm56	<i>hein.</i>	huh.
Mot49	<i>mhm. et tu vois/ tu t(e) souviens d(e) la roulotte ? =((pointe la roulotte))</i>	hum. and you see/ do you remember the cart? =((points at the cart))
Emm57	<i>((hoche la tête))</i>	((nods))
Mot50	<i>c'était la gentille famille qui l'avait pris en roulotte.</i>	it was the nice family who took <b>him</b> by cart.

Besides, they used more third-person pronouns (as in Example 6) and dislocations, and fewer nouns than in the ADULT condition. Lastly, even if third-person pronouns prevailed for subsequent mentions, they tended to use more dislocations than the participants in the ADULT condition.

**Secondary animate characters.** The participants in the ADULT condition (see Table 7) introduced and reactivated the secondary animate characters mostly with nouns, while they used third-person pronouns, other pronouns (mostly relative pronouns), and nouns for subsequent mentions.

**Table 7.** Distribution (% and mean) of referring expressions for the secondary characters according to the position in the referential chain.

		ADULT condition		CHILD condition	
		%	Mean	%	Mean
First Mentions	Nouns	85.08	0.84	49.68	0.48
	Dislocations	0.55	0.01	17.83	0.15
	3P <sup>a</sup>	8.29	0.09	19.11	0.2
	Null Forms	0	0	1.27	0.02
	Other Pronouns	6.08	0.06	12.1	0.15
N occurrences (N participants)		181 (20)		157 (19)	
Reactivations	Nouns	82.61	0.81	36.08	0.39
	Dislocations	6.52	0.04	15.46	0.13
	3P	6.52	0.06	25.77	0.25
	Null Forms	0	0	2.06	0.06
	Other Pronouns	4.35	0.09	20.62	0.18
N occurrences (N participants)		92(20)		97(18)	
Sub. Mentions	Nouns	23.16	0.23	15.73	0.16
	Dislocations	2.25	0.02	9.79	0.1
	3P	42.62	0.41	53.85	0.54
	Null Forms	4.51	0.04	0.35	0.01
	Other Pronouns	27.46	0.3	20.28	0.19
N occurrences (N participants)		488(20)		572(20)	

<sup>a</sup> 3P: third-person pronouns

The participants in the CHILD condition used a larger variety of forms to introduce, maintain and reactivate the secondary animate characters. Half of first mentions were encoded with nouns while the other half occurred as third-person pronouns, dislocations and other pronouns. Third-person pronouns were observed in the contexts of inferable reference or pointing discussed in examples (1) and (3). Nouns only corresponded to one third of the reactivations, while third-person pronouns, other pronouns and dislocations were frequently used. Subsequent mentions were predominantly expressed with third-person pronouns but other pronouns, nouns and dislocations were also used.

The qualitative analysis also revealed that the participants in the CHILD condition relied to a great extent on the perceptual availability of pictures, while the participants in the ADULT condition only used the book as the starting point of their narratives. For instance, in Example 7, there is an alternation between the main character and a secondary character in subject function and the use of third-person pronouns for both concurrent characters might be ambiguous. However (Mot51), the access to the pictures of the book seems to help disambiguate the referring expressions, as mother and child seemed to agree on the description and neither of them asked for clarification.

(7) Cond: CHILD, Nat's Mot – Referent: pianist

Mot50	<i>oh bah il est pas content</i>	'oh, bah he is not glad the other
	<i>l'autre pianiste hein? il le</i>	pianist no? <b>he</b> is pushing <b>him</b> .
	<i>pousse. hein? il le pousse.</i>	no? <b>he</b> is pushing <b>him</b> . no?'
	<i>hein?</i>	



Nat50	<i>ouais. il le pou:sse. ouais. il le pou:sse.</i>	‘yeah. he is pushing him. yeah. he is pushing him.’
Mot51	<i>bah ouais parce qu’il a pris sa place. il veut pas qu’on prenne sa place.</i>	‘bah yeah because <b>he</b> took his place. <b>he</b> does not want anyone to take his place.’

Also, the participants in the CHILD condition could use third-person pronouns to maintain the focus on a referent across sequences. In Example 8, two occurrences of the referent ‘family’ (Mot33, Mot37) were separated by a side sequence about some fruit on the picture but the fact that the child turned to a new page and a surprise marker (*oh* in Mot37) helped the child understand that *ils* (‘they’) referred to the family. This use of pronouns to signify the continuity of a topic has been documented in conversations (Fox, 1987b).

(8) Cond: CHILD, Tom’s Mot – Referent: family

Mot33	<i>i(ls) cueillent des pommes?</i>	‘ <b>they</b> are picking apples?’
Tom36	<i>((pointe les pommes))</i>	((points at the apples))
Mot34	<i>qu’est-ce (que) tu crois qu(e) c’est comme fruit ça Tom?</i>	‘what kind of fruit do you think it is that Tom?’
Tom37	<i>des c(e)rises.</i>	‘cherries.’
Mot35	<i>des c(e)rises? ouh elles sont un peu grosses euh j(e) crois?</i>	‘cherries? oh they are a little too big euh I think?’

Tom38	<i>des pommes.</i>	‘apples.’
Mot36	<i>j(e) pense plutôt qu(e) c’est des pommes.</i>	‘I think it is rather apples.’
Tom39	<i>((tourne la grande page))</i>	((turns the big page))
Mot37	<i>OH :: ils font un feu.</i>	‘OH :: <b>they</b> are lighting a fire.’

**Inanimate referents.** Table 8 shows that the participants in the ADULT condition used nouns more frequently than the participants in the CHILD condition for the introduction, the maintenance, and the reactivation of inanimate referents. Compared to the former, the latter used more dislocations in reactivations and subsequent mentions (Example 10 below) and more other pronouns (i.e. interrogative pronouns, as in Example 4) in first mentions.

**Table 8.** Distribution (in % and mean) of referring expressions for inanimate referents according to the different positions in the referential chain.

		ADULT condition		CHILD condition	
		%	Mean	%	Mean
First Mentions	Nouns	96.15	0.96	68.75	0.63
	Dislocations	0	0	10.42	0.08
	3P <sup>a</sup>	0	0	0	0
	Null Forms	0	0	2.08	0.01
	Other Pronouns	3.85	0.04	18.75	0.28
N occurrences (N participants)		78(20)		48(18)	
Reactivations	Nouns	95.74	0.96	71.6	0.71
	Dislocations	0	0	14.81	0.71
	3P	0	0	1.23	0.01
	Null Forms	0	0	1.23	0.01
	Other Pronouns	4.26	0.04	11.11	0.1
N occurrences (N participants)		47(19)		81 (18)	
Sub. Mentions	Nouns	68.02	0.69	43.78	0.41
	Dislocations	0.9	0.01	16.47	0.13
	3P	11.26	0.11	16.47	0.16
	Null Forms	3.6	0.03	0.4	0.01
	Other Pronouns	16.22	0.15	22.89	0.29
N occurrences (N participants)		222 (20)		249 (20)	

<sup>a</sup> 3P: third-person pronouns

A qualitative analysis showed an interesting contrast between the two settings. In the ADULT condition the participants even produced noun subjects in clear and unambiguous contexts, as in Example 9. Conversely, in the CHILD condition dislocations were used in a similar context, as in Example 10.

(9) Cond: ADULT, Lei – Referent: tent

Lei3	<i>est-ce que la tente va tenir? non</i>	‘will the tent hold? no <b>the tent</b>
	<i>la tente n’a pas tenu.</i>	did not hold.’

(10) Cond: CHILD, Mat’s Mot – Referent: tent

Mot70	<i>il voudrait aller chercher sa tente</i>	‘he would like to go get his tent.
	<i>tu as vu où <b>elle</b> s’est plantée <b>sa</b></i>	did you see where <b>it</b> is crashing
	<i>tente? dans l’arbre.</i>	<b>his tent?</b> into the tree.’

## Discussion

The main goal of this study was to account for the referential strategies of mothers in the context of joint reading with their child. We compared two interactional settings: an ecological condition of joint storytelling involving mothers and their children, and a more classic storytelling setting where an adult told the same story to an experimenter. Our general hypothesis was that the interactional condition in which an adult tells a story influences his or her use of referring expressions. Previous studies (de Weck & Salazar Orvig, 2014; Vinel, 2014) suggested that adults display specific referential uses in a story co-constructing activity with children.

Our results confirmed our two specific hypotheses. On the one hand, the participants in the two settings proved to be sensitive to both the position in the referential chain and the properties of the referent; on the other hand, the interactional setting had an impact on the referring expressions used. As expected, the uses in the CHILD condition were characterised by a wider variety of forms than those in the ADULT condition, which appeared more prototypical of narrative conventions. Differences between the two settings were more pronounced for first mentions and reactivations than for subsequent mentions. Concerning first mentions, nouns were significantly less frequent in the CHILD condition than in the ADULT condition. Mothers also used dislocations, third-person pronouns and interrogative pronouns. Furthermore, in the CHILD condition, nouns were less often headed by an indefinite determiner than in the ADULT condition. Lastly, in the CHILD condition, the participants often used pointing gestures when introducing a referent, whereas the participants in the ADULT condition did not. Concerning reactivations, the participants in the CHILD condition tended to use third-person pronouns and dislocations whereas the participants in the ADULT condition preferred definite NPs. As expected, both groups preferred third person pronouns for subsequent mentions, but the participants in the CHILD condition used fewer nouns and more dislocations than in the ADULT condition. These differences persisted when we focused on the impact of the properties of the referent. The participants in the ADULT condition showed prototypical choices: third person pronouns for the main character, nouns for inanimate referents, and more nouns in the first mention or reactivation of secondary characters. The participants in the CHILD condition displayed more diverse

choices: more dislocations for the three kinds of referent and more pronouns than nouns in the first mention and reactivation of secondary characters.

Comparing the results from different studies is always a challenging task for theoretical and methodological reasons. Different theoretical concerns entail analytical choices, and the great diversity of data collection procedures influences the results of the various studies (Akinici, 2012). Despite these differences, our results concerning the choice of referring expressions for first mentions in the ADULT condition are consistent with other results for adults in experimental studies (Hickmann, 2002; Kern & Raffara, 2012): participants prefer indefinite NPs to introduce a referent, independently of shared knowledge. The participants in the CHILD condition did not behave in this way. By contrast, their results can be compared with those of Bamberg (1987) who showed that parents tended to use presupposing expressions to introduce the characters of the story, with the difference that Bamberg found only one pronoun. Moreover, the mothers' uses echo those of the 4-to-6-year-old French-speaking children in previous studies: a) if we compute the proportion of appropriate introductions with the same criteria as Hickmann (2002)—indefinite, numeral or possessive NPs—, the mothers in our study displayed less appropriate introductions (43%) than 4-5-year-old children in her study (57%) (70% in the ADULT condition); b) the mothers' uses of third-person pronouns associated with gestures echo the deictic strategy shown by Karmiloff-Smith (1985).

Unlike other studies, the present study did not control the protocol for shared knowledge: in both conditions the interlocutors had access to the pictures and discovered the book while they were telling the story. In the CHILD condition, the mothers assumed that their child did not know the story whereas in the ADULT condition the participants

could assume that the experimenter was familiar with it. However, if this condition had impacted the results, the participants would have used more definite NP's to introduce the referents, which was not the case. On the contrary, as in other studies with the same protocol asymmetry (Kern, 1997; Küntay, 2002), first mentions in the ADULT condition were prototypical of the narrative genre, which overrides accessibility or shared knowledge.

Concerning reactivations, our results cannot be compared with those of other studies because their stories do not provide opportunities for long distance reintroductions. Rather, the authors (Hickmann, 2002; Jisa, 2000) focused on the local, short-term switching of referents in subject function, which corresponds to our subsequent mentions. Another study will focus on this specific issue. Otherwise, for subsequent mentions, we observed more dislocations for short distance coreference in the CHILD condition. This result echoes the uses in narratives by 4–5-year-old children (Hickmann, 2002). In studies on adults, dislocations appear mostly in the context of contrast (Lambert & Lenart, 2004).

Concerning the properties of the referent, the participants in the ADULT condition roughly behaved as expected from the results of previous studies (Akinci, 2012; Fukumura & Gompel, 2011; Hickmann, Schimke & Colonna, 2015; Serratrice, 2013). On the other hand, the participants in the CHILD condition proved to be sensitive to the properties of the referent but their choices were less contrasted.

The results of the present study are consistent with a socio-pragmatic approach of language development which emphasizes the role of the interactional context. In

particular, the status of the addressee of the narrative has an impact on the choice of referring expressions. The participants in the CHILD condition, the mothers with their child, were in a context similar to those observed in other studies on shared book-reading (e.g; Fletcher & Reese, 2005; Pellegrini & al., 1985). This kind of context involves complex/specific discourse strategies. The storytelling activity is accomplished in a conversational context in which mothers share the book/the pictures with their child. They are engaged in several tasks at the same time: they tell a story, seeking to achieve a coherent narrative and to ensure intersubjective understanding, and they strive to involve their child in the storytelling activity (Salazar Orvig & de Weck, 2013). Their referential strategies are consistent with the narrative genre while also displaying features of a here-and-now discourse (involving shared knowledge) and of scaffolding. This intertwinement accounts for their specific uses of third person pronouns, dislocations and interrogative pronouns.

Their uses of third person pronouns, in introduction (frequently associated with pointing) and reactivation, can be accounted for by the context of shared knowledge and by the strong intersubjective focus on the characters, as in other conversational contexts (Fox, 1987b). Their uses of dislocations and interrogative pronouns fall within scaffolding (Wood & al., 1976). For instance, dislocations contributed to the identification of a referent: they prevented, together with pointing gestures, referential ambiguity, they emphasized a character in a given context or they conveyed labelling. Let's note that these functions exceed those that are usually observed for dislocations in adult language literature (topic promotion for left dislocation and ambiguity prevention for right dislocation, Lambrecht, 1994). An account in terms of conversational dynamics



would better fit mothers' uses of dislocations (Pekarek Doehler, De Stefani, & Horlacher 2015). Through interrogative pronouns — which correspond to partial introductions of a referent — together with pointing, the participants in the CHILD condition simultaneously called their children's attention to a new (or non-activated) referent and lead them to contribute, through their answer, to the introduction or the reactivation of the referent. By doing that, mothers provided their child with a participation frame in the storytelling. Thus, referential choices in the context of joint storytelling seem to be determined, not only by the accessibility of the referent or the conventions of narratives, but also by interactional factors (Fox, 1987b; Pekarek Doehler & al., 2015).

The results of this study are a window on the models of referential construction to which children are exposed. Considering language acquisition from an interactionist stance (Bruner, 1983; Vygotsky, 1934/1962), we can speculate about the nature of children's first uses in narrative tasks. Do they only reflect the children's cognitive development or are they influenced by the models that adults, and more particularly mothers, offer to their children when they tell them stories? Studies on personal experience narratives (e.g. Peterson & McCabe, 2004) and joint-reading activities (see Fletcher & Reese, 2005; Trivette, Dunst & Gorman, 2010, for reviews) have shown, in different ways, that parents' styles have an impact on the development of various skills such as story comprehension, inferential behaviours, the length of narratives, the amount of information they provide, the narrative structure of their productions, and the expression of evaluation or of causal and temporal relations. We can reasonably speculate that referring undergoes a similar process. Even though we did not focus here on the mothers' individual styles, we identified a profile specific to joint storytelling, like a format

(Bruner, 1983) which provides the child with a particular context and models of use of referring expressions in storytelling from picture books.

Indeed, the fact that the mothers' profile was partly similar to that of young children in narrative tasks suggests that children grasp their first referential strategies for narratives in these formats. Of course, only a specific study will correlate mothers' behaviours and their children's skills. However, we can think that children incorporate the referential strategies of their mothers as ways of doing that are highly expected in these contexts.

## Conclusion

This study contributed to confirm that the interactional setting influences mothers' choice of referring expressions in a shared storytelling activity with their children. Moreover, the specific choices made in the CHILD condition can be interpreted in terms of the interactional demands of enlisting the child in the task and keep his or her attention and interest. These results suggest that the first models of narratives that children experience in their everyday lives are different from the adult forms usually considered as the developmental target.

The results of the present study provide elements that shed new light on the models that children experience in storytelling activities and on the role these models might play in the children's progressive mastery of the referential skills required for narratives.

Since the mothers' referential strategies observed in the present study echo the strategies used by younger children in storytelling activities, further studies should take

into consideration the direct impact of the narrative co-construction process and of adults' scaffolding in the acquisition process.

## Endnotes

<sup>2</sup> Original Title: Paddy Pork's Holiday, Macmillan Children's Books, Ltd., (1975).

<sup>3</sup> The example captions indicate the type of participant: In the CHILD condition, the mothers (Mot) are identified by the first three letters of their child's name and the participants in the ADULT condition by the first three letters of their name. In the excerpts, turns are numbered for each participant. Each caption indicates the referent under focus. The original French utterances are glossed into English. Appendix A presents the transcription conventions. The commented referring expression is in bold.

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## Supplementary material

Appendix B is available online.

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**Appendix A.** Transcription Conventions of the project “Interaction between SLI children and their mother in speech and language therapy setting” ([funding reference deleted to maintain the integrity of the review process])

() Elision (except for schwas)

{ } Uncertain transcription

[ ] Phonological transcription

: :: Syllabic lengthening

. Assertion

? Interrogation

! Exclamation

((points)) Non-verbal behaviour

= Simultaneity between verbal and non-verbal behaviours of the same speaker