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# REFERENT INTRODUCTIONS IN NARRATIVES AS A FUNCTION OF MUTUAL KNOWLEDGE: A DEVELOPMENTAL COMPARISON OF FRENCH AND SPANISH

This crosslinguistic study examines referent introductions in narratives produced by French and Spanish children of 6, 9, 11 years and adults in two situations where they either could or could not assume mutual background knowledge of the narrated content. In one situation (MK) the children and their interlocutor were looking at a picture book (The frog story) together; in the other (NMK) the interlocutor was blindfolded. Three main linguistic contrasts were analyzed for first mentions of main and secondary animate characters.

Overall, in both linguistic groups, Situation NMK elicited more indefinite than definite NPs and 9 years was the critical age at which children began to use more indefinite first mentions in both situations. Nevertheless, particularly for main characters, developmental differences were obtained: in Spanish: the increase of indefinite determiners was gradual, whereas French children showed a three-step developmental pattern. According to language variations, postposed NPs were more frequent in Spanish with no differences across situations or age. For French children up to 11 years, Situation NMK elicited postverbal NPs more frequently than Situation MK. As predicted, in both linguistic groups children's and adults' introductions were more frequently nonsubjects. Nevertheless, first mentions were more frequently in subject role in Spanish than in French. While there were neither age nor situation effects in Spanish, French data showed a decrease of subject first mentions with age and a situation effect: Situation MK elicited more often subject first mentions than Situation NMK.

A convergent prototypical pattern for introducing main characters emerged in both languages: Indefinite/Postverbal/Nonsubject. In both languages, such a pattern was even more evident for secondary characters. This pattern is discussed in the light of contextual constraints in their relation with pragmatic knowledge and in the light of formal and functional linguistic constraints, for example,variations on optionality and locality in the marking of newness. From a developmental point of view, we have shown that contextual constraints such as mutual knowledge were determinant factors of referent introductions during a short period (6 to 9 years) while linguistic constraints covered a much more extended time frame.

## Introduction

Story telling requires linguistic knowledge about personal, temporal, causative and locative reference. It also involves cognitive knowledge about events, goals and conse-

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quences, as well as some kind of social and pragmatic knowledge, namely, understanding the listener's expectations. As children get older, they begin integrating all of these different constraints in order to produce relevant narratives.

The purpose of the current study is to examine the development of children's ability to introduce referents in discourse with particular attention to their sensitivity to mutual knowledge conditions and to their capacity to use the appropriate linguistic devices provided by their respective native languages, namely French and Spanish.

## The Listener Knowledge Paradigm

The ability of children to adjust the form of their speech according to what they know their listener knows is a central theme of a great deal of research focusing on children' s theory of mind. For example, Pratt & Bryant (1990) showed that, by the age of three, most children understand the distinction between knowing and not knowing and realize that by looking at an object they may gain access to knowledge about it. These results are in accordance with previous ones obtained by Pillow (1989) and Wellman&Bartsch (1988) and provide clear evidence «that children are able to make correct judgments about the mental states of individuals who have or have not had visual access to something, for example, the contents of a box. By age three most children are explicitly aware that looking leads to knowing.» (ibid, p. 980)

More closely linked to our purpose is a well-known study by Maratsos (1973) which showed that three-year-olds give more explicit verbal descriptions to a blindfolded adult listener than to one who can see what the child is describing.

What I refer to as «the Listener Knowledge Paradigm» was explored in some studies (for example, Menig-Peterson, 1975) showing that children (three- and four-year-olds) talk more, and more spontaneously, to an ignorant partner, modifying their speech as a function of listener knowledge. The question remains open whether these changes can be attributed solely to listener knowledge or also to the fact that the listener tends to be more attentive when the child reports new information than when the information is mutually known, as underlined by Perner & Leekam (1986).

In a series of studies concerning tree-year-old children's narrative competence, Bokus (1978; 1991) analyzed the productions obtained in two conditions differentiated by the listener shared vs. nonshared perception of pictorial material used as the basis for narration. The main results showed that narratives were longer and of greater grammatical complexity in the nonshared situation than in the shared one. In this situation as well, children used a different information category network for giving information to a listener (Bokus & Shugar, 1985). In a recent article, Bokus and Shugar (1996) proposed to characterize the situation of child-adult shared picture perception in terms of action line (here to construct a story about a picture).The shape of the line (the organization of the reference situation chain) is a function of the autonomy of the child: restricted and controlled by the adult in the shared condition, as against the nonshared situation where the child is the sole competent source of information for the listener. According to Bokus and Shugar (1996), the child in control of the action field can feel more secure in interactions with the adult.

As concerns referent introductions in narratives, studies have been controversial with respect to how early children are said to master the adult referential system. Such diverging developmental findings are linked to different sources of variation. Studies differ with

respect to a considerable number of variables, including the language studied, the type and structure of the stories narrated, the mode of presentation (pictures, picture books, films), children's prior familiarity with the story, and the extent to which mutual background knowledge is built into the situation (cf. reviews in Hickmann, 1995; Kail & Hickmann, 1992). For example, in many studies the children and the adult interlocutor shared knowledge of the story narrated, e.g., they were looking at pictures together (Karmiloff-Smith 1981, 1987; Bamberg 1986, 1987). One could hypothesize that this situation of mutual knowledge lead young children to rely more on the pictures than on discourse-internal organization and therefore to use more deictic devices. In addition, even in comparable communicative situations, children are asked to perform very different tasks, e.g., naming referents, describing unrelated pictures, narrating picture sequences, narrating films, etc. Finally, the length and complexity of the stories also vary, e.g. the number of referents to be introduced, their status (main versus other protagonists), their animacy and/or agentivity (human, animate, inanimate). Consequently, it is difficult to compare previous studies to formulate any generalizations concerning the development of children's narrative skills. Such generalizations require a direct and systematic comparison of children's differential uses of referring expressions in different situations, with particular attention to their sensitivity to mutual knowledge conditions when introducing referents, given that other variables are held constant. For example, a direct comparison of narratives produced in the presence vs. absence of mutual knowledge shows that only nine-year-old French children differentiate the two situations systematically, while younger children use deixis in both (Kail & Hickmann, 1992).

## Crosslinguistic variation

As outlined by Hickmann, Hendriks, Roland and Liang (1996), all languages provide two main devices for differentiating given and new entities in discourse. On the one hand, local marking on the noun phrase, e.g. the indefinite article, and on the other hand, global marking which involves the entire clause, e.g. word order placing new information in sentence-final position. The degree of reliance on one or the other type of device varies across languages. It has to be noted that many comprehension studies conducted in various languages (Ammon & Slobin, 1979; Slobin, 1985; Kail & Charvillat, 1988) have shown that local markings are easier to process than global ones. Such considerations are in the framework of the current study which compares how French and Spanish children rely on each of these devices to introduce referents in narratives. French and Spanish have been selected because, as Romance languages, they exhibit similarities but present interesting differences which have been mainly analyzed in off-line and on-line experiments on sentence processing (Kail & Charvillat, 1988; Kail, 1989).

### The indefinite/definite form of determiners

In French and Spanish, as in many languages, speakers typically use nominals with indefinite determiners (e.g., French: *un/une N,* Spanish: *un/una N*, English: *a N*, ) to introduce new referents in discourse, and definite nominals (French: *:le/la N* ,Spanish: *el/la N*, English: *the N),* pronouns or zero elements to maintain reference to them once they have been introduced. Indefinite determiners are necessary when these referents are new, i.e., when the speaker cannot assume that their existence and identity is mutually known by all

interlocutors in the speech situation. For example, if the denoted referents are present, definite nominals or even pronouns can constitute appropriate devices for first mentions. Definite nominals can also be used for first mention referents, even if they are not present in the speech situation, but only if these referents are unique and well known by all (e.g., to denote the King of Spain).

Children's ability to use and to interpret definite versus indefinite determiners has been investigated in relation to the semantic distinction between specific and nonspecific reference and to the pragmatic distinction between given and new information. For example, Maratsos (1974, 1976) reported that young children correctly differentiated definite and indefinite determiners in various experimental situations. However, these studies do not provide sufficient evidence concerning children's ability to produce nominal determiners in discourse since they either focused on comprehension or elicited isolated Nominal Phrases (NPs) in responses to questions. In the same way, Brown (1973) noted that 3-year-old children used the indefinite determiner appropriately for nonspecific reference, but the definite determiner inappropriately when first mentioning a specific referent which was neither present nor mutually known. As Kail and Hickmann (1992) emphasized, in order to determine whether children master the use of determiners for the introduction of referents in discourse, it is necessary to examine the devices they use in situations where these referents are not present and/or mutually known. Studies which use naturalistic observations typically do not differentiate deictic from discourse-internal uses of referring expressions. Using an experimental paradigm focusing on the given-new distinction proposed by MacWhinney and Bates (1978), Vion and Colas (1987) found that young French children frequently used both definite and indefinite determiners deictically and that the distinction between given and new information was not properly marked until a later age.

In fact, studies of children's referring expressions yielded conflicting results with respect to how early children are said to master the indefinite/definite contrast : some studies reported early mastery (Bamberg, 1986, 1987; Bennett-Kastor, 1983, 1986; Brown, 1973; Charney, 1978; Emslie & Stevenson, 1981; Huxley, 1970; Maratsos, 1974, 1976; Power & Dal Martello, 1986) or relatively late mastery (De Weck, 1991; Gopnik, 1989; Hickmann,1995, Hickmann & Liang, 1990; Kail & Hickmann, 1992; Karmiloff-Smith, 1981, 1987; Vion & Colas, 1987; Sauvaire & Vion, 1989; Warden, 1976, 1981; Wiggleworth, 1990, 1993, 1997).

Such diverging developmental findings highlight the necessity of adequate control in studies of children's discourse organization. Given this concern, Kail and Hickmann (1992), systematically compared narratives produced by French children of 6, 9 and 11 years in two situations which differed with respect to mutual knowledge: in one situation (mutual knowledge) the child and the adult were looking together at a picture book (Mayer, 1969; „Frog where are you?"); in the other (no mutual knowledge) children narrated the story for a blindfolded interlocutor who did not share background knowledge of the story contents. The results showed a significant increase of indefinite first mentions from 6 years to 11 years, as well as a significant effect of situation: whereas mutual knowledge elicited both definite and indefinite forms, children produced more indefinite forms than definite ones in the absence of mutual knowledge. Similar results were obtained with Spanish children (Kail & Sanchez y Lopez, 1997).

### The preverbal vs. postverbal position within the clause

Linguistic typologies classify both French and Spanish as canonical SVO languages. However, while SVO is relatively strict in French (particularly in the absence of clitic markers),

Spanish allows a considerable range of orders depending on various contextual or pragmatic constraints. In simple active declarative structures, the nominative pronoun is usually dropped in Spanish. This, of course, is not possible in French. Both languages permit non-canonical word orders as occasioned by specific communicative needs. However, word-order variation in French requires the introduction of a clitic pronoun, a nominative pronoun or both (particularly in SOV structures such as «Elle lui donne» «She him gives»). Interrogative forms in Spanish do not change basic SVO order. In this sense, Spanish resembles informal French.

Numerous experimental studies of word order processing in French ( for reviews, Kail & Charvillat,1986, 1988; Charvillat and Kail, 1991) have concluded that processing is controlled by an SVO canonical schema. However, production data collected in natural discourse situations tend to raise questions about the actual status of canonical SVO sequences in French. Clark (1985) remarks that right and left dislocations of subjects or objects are very common in spoken French. According to the data he obtained in a statistical analysis of the use of SVO in natural speech in French, Lambrecht (1987) proposed that the canonical SVO sentence of linguistic theories is definitely not the one used in actual speech.

Various studies of Spanish word order agree that Spanish is a (S)VO language which allows for free arrangements of sentence constituents. Nevertheless, it has been observed that Spanish word order is not totally free but rather controlled by discourse and pragmatic factors (Contreras, 1976). These studies have emphasized that the primary function of word order is to signal the contrast between new and old information in such a way that new information will be postverbal, whereas old (presupposed) information will be preverbal (Chafe, 1976; Clark & Haviland, 1976; Halliday & Hassan, 1976)

In their study of subject-verb word order variation in Spanish discourse, Bentivoglio (1983) and Bentivoglio and Weber (1984) have examined 2000 clauses and 398 finite clauses whose subject is a nounphrase. First, the distribution of NP subject clauses by word order shows that 60% of all clauses are SV and 40% are VS. With regard to the question of word order in Spanish, the analysis shows that SV order is statistically favored, but these results shed no light on the ways speakers use word order as a communicative device. A more precise functional classification was proposed: all clauses were classified as containing a first mentioned subject (FM) or a previously mentioned subject (PM). On the one hand, the analysis revealed that among FM subject clauses, 44% have SV order and 56% VS order. On the other hand, among PM subject clauses, 73% have SV order and 27% VS order.

The interaction of word order and intonation has been examined by Silva-Corvalàn (1983) in a study devoted to the motives that may lead speakers to use the inverted order Object-Verb. Focusing on the description of some of the functions of these constructions, she notices that direct (DO) and indirect (IO) objects do not occur in preverbal position with the same frequency. In a sample of 3161 sentences containing a DO, only 7% occurred preverbally, whereas in a sample of 475 sentences containing an IO, 43% were preverbal. The author points out that IOs are frequently human and definite and DOs are more frequently nonhuman and indefinite. This contrast may account for the highest frequency of occurrence of IOs in preverbal position, a position associated with old information. Another interesting observation is that Spanish IOs share many characteristics with subjects: both are frequently preverbal, human and definite and both must agree in person and number with the verb by means of a verbal suffix and a dative clitic pronoun, respectively.

As mentioned by Hickmann (1995), relatively little is known about children's discourse uses of referring expressions and clause structure across languages. Children seem to use

word order to mark discourse pragmatic distinctions in various ways during development (Slobin, 1985). In a great number of languages, children prefer to place new information at the beginning of their utterances, at least during the initial phases of development. It has been hypothesized that this developmental trend is related to the fact that young children presuppose information from the nonlinguistic context (Bates, 1976). Crosslinguistic studies of narrative cohesion (Hickmann, 1991; Hickmann et al., 1996) have shown that presentative constructions allow speakers to avoid preverbal and/or utterance initial position for information that is brand new in discourse and to reserve this position for given information. Although this tendency exists across a considerable number of languages, it is more marked in some languages than in others. In this respect, systematic comparisons show that it is much more striking in Italian (cf. reviews in Bates, 1976), French (Kail & Hickmann, 1992), Chinese (Hickmann et al, 1996) Hebrew and Spanish (Berman & Slobin, 1994; Kail & Sanchez y Lopez, 1997) than in English (Hickmann, 1995) where high proportions of referent introductions are simultaneously indefinite, preverbal, subjects and agents, until a late age.

### Syntactic roles of first mentions: subject vs. nonsubject

The first mentions of all animate referents are also examined in terms of their roles within the utterance. With respect to syntactic roles, we propose a distinction between «subjects vs. nonsubjects» where subjects are defined as those NPs that determine verb-agreement in the clause. In our previous study on French ( Kail & Hickmann, 1992) we did not conduct a specific analysis of such a syntactic distinction among first mentions. Nevertheless, we found that definite first mentions tend to be subjects while indefinite ones tend to be nonsubjects for all referents in both situations (Mutual Knowledge and No Mutual Knowledge). In Spanish, a similar pattern was observed (Kail & Sanchez y Lopez, 1997).

The current experiment involves a more systematic comparison between French and Spanish, because both languages, as mentioned previously, present important variations on syntactic constraints on subjects within the clause. Moreover, specific linguistic devices for the introductions of referents are conventional in French, namely, presentative utterances of the type «C'est un X» (It's an X), «Il y a un X» (There is an X) «C'est l'histoire d'un X» (It's the story of an X). Such constructions place the indefinite NP in the predicate and therefore the role of subject is excluded.

In the study below, we focus on the three contrasts discussed above with the following hypotheses. First, with respect to the indefinite/definite contrast, it was hypothesized on the basis of previous results that French and Spanish subjects should use indefinite determiners to introduce referents when there is no mutual knowledge, but definite ones when they can assume that their listener knows about the referents. No differences are expected between the two linguistic groups concerning the developmental course of the ability to introduce referents (main and secondary) in narratives. With respect to the preverbal vs. postverbal contrast, the prediction is that postverbal position will be more often chosen as a syntactic device to introduce new referents and that this structure will be more frequently chosen in Spanish than in French. Some questions remain open: is this postverbal pattern dominant from the youngest group on in both languages? Is it a general phenomenon or is it affected by the contextual constraints in the two situations and by the referents denoted (main vs. secondary)? Finally, if subject-verb inversion is a frequent device to introduce referents in Spanish discourse, we expect that first mentions will be more often subjects in this language than in French where conventional narrative introductions allow speakers to avoid subject role for NPs that introduce referents.

# Method

## Materials

Children's and adults' productions were elicited with a picture book (hereafter, „experimental book") „Frog where are you?" (Mayer, 1969). This book was first used by Bamberg, (1987), then by Berman and Slobin, (1994) and their colleagues, and Kail and Hickmann, (1992), Hickmann, Kail and Roland, (1995), Orsolini, Rossi and Pontecorvo (1996), Kail and Sanchez y Lopez (1997), and others. It contains 25 black and white line drawings, without words, that show a plot involving several animate referents in a complex event sequence. There are three main characters: a boy and his dog and a frog. The boy and the dog go searching for the frog which ran away. They find it after several adventures involving a number of secondary characters: bees, a mole, a reindeer, an owl. The analyses below focused on how children and adults mentioned all of the animate characters for the first time in their narratives.

Another picture book (hereafter „training book") (Mayer, 1967) was used during a preparatory phase designed to familarize the subjects with the type of stimulus they would see during the experimental phase. This book also contains 25 black and white line drawings of the same format that showed a story involving the same main characters as the ones in the experimental story (boy, dog, frog). In the plot of this story, the boy and his dog meet the frog, who becomes their friend.

## Procedure

Contrary to Bamberg's procedure (1987) where children had the opportunity to become familiar with the global structure of the story before engaging in the narrative picture by picture, the preparatory phase consisted of a collective session, during which teachers showed the training book to all the children in their classroom, turning the pages while the children commented collectively. In no case did the teachers act as the experimenters during the experimental phase. During this preparatory phase, the experimenters were not present.

The children were seen individually during the experimental phase, which took place a week later. They were asked to narrate the story for an adult interlocutor in one of the two situations. In both situations they were told that the experimental book contained pictures that made up a story, but in neither situation did they see the pictures before telling the story.

*Mutual Knowledge Situation:* (Situation MK). There was one adult experimenter who asked the children to tell her the story. The child and the adult were sitting next to each other, looking at the picture book together. The adult turned the pages as the child narrated the story, providing phatic contact.

*No Mutual Knowledge Situation:* (Situation NMK). The procedure in this situation was the following. There were two adult experimenters: E1 presented the materials and task to the children while E2 acted as a „naive" interlocutor. E1 presented the narrative task as a game during which the children would have to help E2 figure out what happened in the story book, given that she did not know the story and would not see the pictures. E1 asked the children to blindfold E2, then showed the book and asked them to tell E2 the story so that she would be able to tell it back. E1 sat at the side of the children, but slightly away from them, turning the pages of the book. Blindfolded E2 sat in front of the children, providing phatic contact. At the end of the narrative, E2 told the story back and the children were asked to provide help when necessary.

## Transcription and coding

Each session was audio-recorded and then transcribed and entered into a computer. Transcriptions were in standard orthography with a certain amount of prosodic information. The narratives were segmented into clausal units, each of which corresponded to a proposition with one core verb, except for units without verbs, verbless labellings, e.g. „Una rana, un perrito y un niño" «une grenouille et pis un petit chien et un petit garçon.»(A frog, a doggy and a little boy). This analysis into clausal units made it possible to compare relative length and propositional complexity of texts. For each text, we also specified the picture to which each clause referred. A detailed set of categories and subcategories is to be found in the Coding Manual elaborated by Hickmann, Hendriks, Roland and Liang (1994). Some new categories such as „Prodrop" (cf.(3b) below) or the aspectual value of the reflexive pronoun *se* (*El perro se sube encima del niño*, The dog climbs on top of the boy) were elaborated for the coding of the Spanish data.

## Subjects

French subjects

The subjects were 60 monolingual middle-class French children (half boys and half girls) in the following three age groups: 6-year-olds (range: 5; 6 - 6; 1, mean: 5; 10), 9-year-olds (range: 8; 7 - 9; 2, mean: 8; 10), and 11-year-olds (range: 10; 9 - 11; 2, mean: 10; 10) The children were tested in kindergartens and primary schools in the suburbs of Paris. A group of young adult students in Paris (mean: 20; 1) also participated in the experiment. There were 20 children in each age group, 10 of whom produced their narratives in Situation MK and 10 in Situation NMK. In the adult group, 8 subjects participated in Situation MK and 8 in Situation NMK.

Spanish subjects

The subjects were 60 monolingual middle-class Spanish children (half boys and half girls) in the following three age groups: 6-year-olds (range: 5; 5 - 5; 11, mean: 5; 10), 9-year-olds (range: 8; 6 - 9; 2, mean: 8; 10), and 11-year-olds (range: 10; 5 - 11; 2, mean: 10; 10) The children were tested in kindergartens and primary schools in Madrid. A group of 20 adults from Madrid (mean: 29; 6) who had completed secondary school education also participated in the experiment. There were 20 subjects in each age group, 10 of whom produced their narratives in Situation MK and 10 in Situation NMK.

## Results

### The indefinite/definite form of determiners

In both languages, the linguistic devices which were used by children and adults when first mentioning the animate referents fell into the four types illustrated in Examples (1) to (4) below (first mentions of the corresponding type are in italics ; (a) French and (b) Spanish): (1) nominals with indefinite determiners, (2) definite nominals, (3) pronouns in French and „prodrop" constructions in Spanish where the referents are expressed through zero pronominal form and verbal morphology, and (4) possessive constructions.

    (1a)   C'est l'histoire *d'un petit garçon* et d'*un chien*
           (It is the story of a little boy and a doggy)

(1b)  Pues era *un niño* que tenía *una rana* en su casa
      (Then was a little boy who had a frog in his house)
(2a)  *Le petit garçon*, il a mis *la grenouille* dans la bouteille
      (The little boy he has put the frog in the bottle)
(2b)  *El niño* estaba en su casa jugando con *el perrito* y con *la rana*
      (The boy was in his house playing with the doggy and the frog)
(3a)  Alors là *il* est assis à coté de la grenouille
      (So there he is sitting besides the frog)
(3b)  *Estaban* durmiendo y había una rana
      (( )Were sleeping and was a frog)
(4a)  Il regarde la grenouille avec *son chien*
      (He is looking at the frog with his dog)
(4b)  Pues un niño que tiene una rana y está con *su perro* viéndola
      (Then a boy who has a frog and was with his dog looking at it).

In the following analyses, these different forms are grouped into two categories which correspond to the distinction between expressions which do vs. do not presuppose the existence of the referents. Nominals with definite determiners, pronouns and prodrop constructions are included in the category of „definite first mentions", i. e., this category includes all linguistic devices which presupposed the existence of the denoted referents. In contrast, nominals with indefinite determiners and possessive constructions are included in the category of „indefinite first mentions". These possessive constructions are used in narratives in the first mention of a new referent (the referent DOG and exceptionally the referent FROG) in relation to another referent which had been already introduced, namely the referent BOY, by means of a nominal with indefinite determiner, for example: „Un niño está sentado con su perro mirando la rana" (A boy was sitting with his dog looking at the frog). Therefore, regardless of the situation, they constitute appropriate means of introducing referents.

Several full and partial ANOVAs were conducted on the percentages of indefinite determiners as dependent variable in the following design: three between-subject variables, language (French vs. Spanish), age (4 groups) and situations (MK vs. NMK), and one within-subject variable, characters (main vs. secondary).

Overall, first mentions were more frequently indefinite than definite in both languages: French (66,9%) and Spanish (73%). As expected, there was a strong effect of situations: Situation NMK elicited significantly more indefinite first mentions (81,2%) than Situation MK (58,9%) ($F(1,140) = 50.3, p < 0.0001$). There was no interaction between situation and language.

Regardless of situation and language, there was with age a decrease of definite first mentions and an increase of indefinite ones: 53,3% of first mentions were indefinite at 6 years; 66,7% at 9 years; 77,1% at 11 years and 84,3% in adults. There was a significant difference among the four age groups ($F(3,140) = 19,57, p < 0.001$) as well as a significant interaction between age and language ($F(3,140) = 3,58, 0.1 < p < 0.2$). Regardless of situation, at 6 years there was no difference between languages: French, 56,2% and Spanish, 50,4% and no difference in adults: French, 85,8% and Spanish, 83,1%. On the contrary, at 9 and 11 years Spanish children introduced more often animate referents with indefinite determiners than French children did : 9 years – Spanish (76%) and French (57,4%) ; 11 years – Spanish (82,5%) and French (71,8%). These differences have to be explained within the framework of the significant interaction between situation, language and age ($F(3,140) = 7,68, p < 0.005$

Table 1. Proportions of indefinite first mentions for all animate referents in French and Spanish

| Age | FRENCH | | SPANISH | |
|---|---|---|---|---|
| | MK | NMK | MK | NMK |
| 6 years | 47,3 | 65,1 | 44,5 | 56,2 |
| 9 years | 25,7 | 89,1 | 67,9 | 84,1 |
| 11 years | 58,2 | 85,4 | 74,1 | 90,8 |
| Adults | 90 | 81,5 | 69,2 | 97 |

As can be seen on Table 1, the developmental course differed between languages on the basis of MK/NMK contrast.

At 6 years of age, there is no difference between Spanish and French children in relation to mutual knowledge; in fact, they tend to introduce referents by using both definite and indefinite determiners equally. Despite some early differentiation in French children, the 6-year-olds have not yet mastered the use of indefinite determiners to introduce referents. It should be noted that in this age group, even though children use indefinite determiners, they used them frequently as deictic labellings, which did not occur at other ages.

At 9 years of age, the differentiation between the linguistic groups is maximal in Situation MK ($F(1,18) = 19,75$, $p < 0.001$). French 9-year-old children modify their linguistic productions according to the communicative context. When they can assume mutual knowledge, they always presuppose the existence of referents on first mentions. When they cannot assume mutual knowledge, they use devices which do not presuppose the existence or identity of referents. It was as if these French children followed a rule for referent introductions which associated appropriate linguistic devices with given communicative contexts. Spanish children of the same age did not follow such a rule. Their developmental pattern is a regular one compared with the 6-year-old children as they significantly used more indefinite determiners in Situation MK ($F(1,18) = 5,4$, p < 0.03). In Situation NMK, the same pattern is observed as the 9-year-old children used more indefinite first mentions (85,4%) than the 6-year-olds (65,1%) ($F(1,18) = 11,1$, $p < 0.001$). In spite of these differences, in both linguistic groups the results tend to indicate that 9 years seems to be the critical age at which children begin to take into account the constraints of the communicative situations.

Eleven-year-olds and adults show no significant differences between languages. In both linguistic groups, subjects follow a more general rule for referent introductions in their narratives, i.e., they use indefinite forms, regardless of background knowledge.

Overall, secondary characters are more often introduced with indefinite forms (82,1%) than main characters (57,9%) ($F(1,140) = 83,21$, $p < 0.0001$), regardless of language: in French (79,8% vs 53,9%) and in Spanish (84,4% vs 61,7%). There is no interaction between referent types and languages.

The interaction between age and referent type ($F(3,140) = 8,44$, $p < 0.05$) indicates that children's first mentions of main characters were increasingly indefinite with age. In contrast, there was no effect of age with the secondary characters which, as previously mentioned, were more frequently introduced with indefinite forms. In addition, there was also a significant interaction between situation and characters ($F(1,140) = 33,50, p < 0.001$), i.e., the effect of situation was more marked for the main characters than for the secondary ones. With the main characters, 38,9% of the first mentions were indefinite in Situation MK and 76,9% in Situation NMK whereas with the secondary ones, 78,8% were indefinite in Situation MK and 85,5% in Situation NMK.

Figure 1 contrasts the proportion of indefinite first mentions for main vs. secondary characters as a function of age, situation and language. As shown in this figure, in Situation NMK , there was no differences between French and Spanish, at any age level: both referents are introduced with indefinite determiners.

On the other hand, Situation MK clearly differentiates main and secondary characters, particularly in the youngest groups, in French as well as in Spanish: at 6 years, in French $(F(1,9) = 87,9, p < 0.0001)$ and in Spanish $(F(1,9) = 20,6, p < 0.05)$; at 9 years, in French $(F(1,9) = 30,13, p < 0.0001)$ and in Spanish, $(F(1,9) = 7,22, p < 0.2)$. After 9 years, no
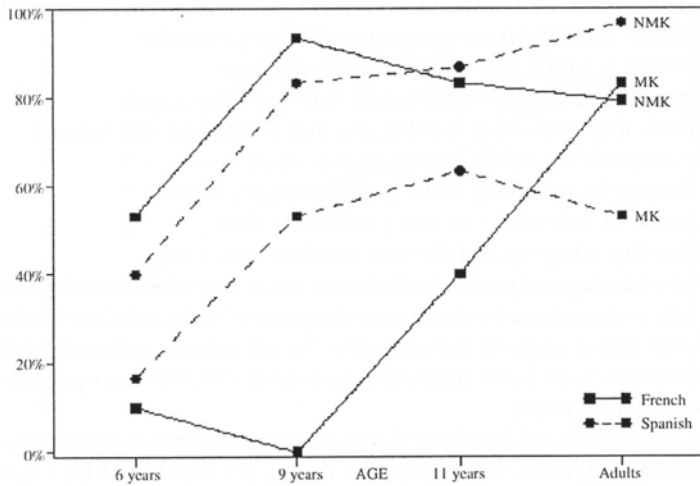


a. Main characters
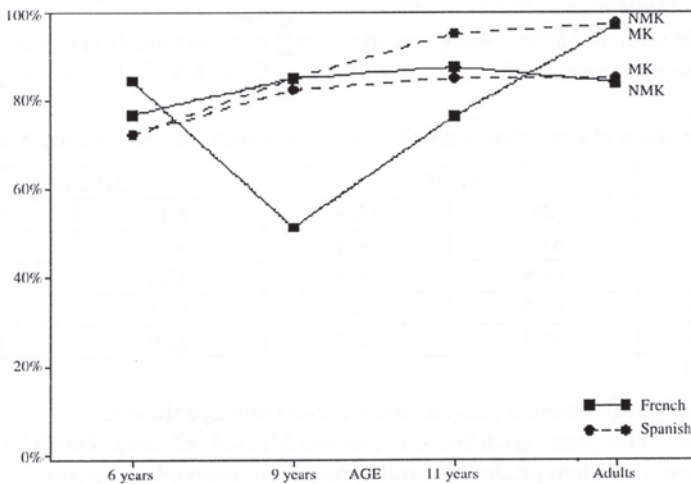


b. Secondary characters

Fig. 1. Proportion of indefinite first mentions as a function of age, language and situation.

significant differences were obtained. Such a result confirms that from 9 years on, children tend to introduce all referents with indefinite determiners.

## The preverbal vs. postverbal position within the clause

First mentions of all animate referents were examined in terms of the clause structure of the utterance in both languages. As discussed above, postverbal order seems to be one of the prototypical devices used to introduce referents in narratives. In French, postverbal positions are mainly expressed by presentatives, whereas in Spanish noun-verb inversions are frequently used. The analysis focused on the distinction between NV and VN orders. Examples 5 and 6 (French (a) and Spanish (b)) illustrate VN and NV clause structure respectively :

(5a)   Alors, *c'est un petit garçon* qui regarde une grenouille
       (Then it is a little boy who is looking at a frog)
(5b)   Pues, *estaba un niño* mirando una rana que habia cogido
       (Then, there was a boy looking at a frog which he found before)
(6a)   *Le garçon il regarde* la grenouille et le chien aussi
       (The boy he is looking at the frog and the dog also)
(6b)   Un dia, *un niño abrio* un bote y habia una rana
       (One day, a boy opened the boot and there was a frog)

Taking the percentages of postverbal first mentions as dependent variable, several full and partial ANOVAs were conducted with the same design used for the indefinite /definite contrast.

Overall, the global analysis indicates that, for all animate referents, children's and adults' introductions were more frequently postverbal (79,7%) than preverbal (20,3%) ($F(15,140) = 5,17, p < 0.0001$)

As expected, French and Spanish differed significantly: first mentions were more frequently postverbal in Spanish (82,9%) than in French (75,4%) ($F(1,140) = 6,40, 0.1 < p < 0.2$). There was also a significant effect of the situation: Situation NMK elicited more postverbal first mentions (84,1%) than Situation MK (74,4%) ($F(1,140) = 12,04, p < 0.005$). There was no interaction between situation and language.

As can be seen on Table 2, there was an increase of postverbal first mentions with age and the difference among the four age groups is significant ($F(3,140) = 12,66, p < 0.005$).

Table 2. Proportions of postverbal first mentions for all animate referents in French and Spanish

|          | FRENCH | | SPANISH | |
| --- | --- | --- | --- | --- |
| Age      | MK   | NMK  | MK   | NMK  |
| 6 years  | 61,9 | 60,1 | 65,4 | 78,3 |
| 9 years  | 66,8 | 90,4 | 87,9 | 92,5 |
| 11 years | 65,9 | 86,7 | 87,1 | 90,0 |
| Adults   | 90,1 | 86,4 | 72,9 | 94,2 |

A detailed developmental analysis within each language showed:

In French: - at 6 years: no difference between MK (61,9%) and NMK (60,1%)

– at 9 years: children produced significantly more postverbal introductions in NMK than in MK ($F(1,18) = 8,75, p < 0.1$)

– at 11 years: postverbal introductions are more frequent in NMK than in MK ($F(1,18) = 6,38, p < 0.2$)

– Adults: no difference between situations with a very high percentage of postverbal first mentions (90,1% in MK ; 86,4% in NMK).
In Spanish: no differences between situations at any age.

There was a global interaction between age, language and situation ($F(3,140) = 3,83$, $0.1 < p < 0.2$). A detailed analysis contrasting French and Spanish subjects showed no differences at any age level in Situation NMK. On the contrary, in Situation MK, Spanish children introduced more often referents with postverbal mentions than French ones, at 9 years ($F(1,18) = 5,70, p < O.2$) and at 11 years ($F(1,18) = 7,56, p < 0.1$).
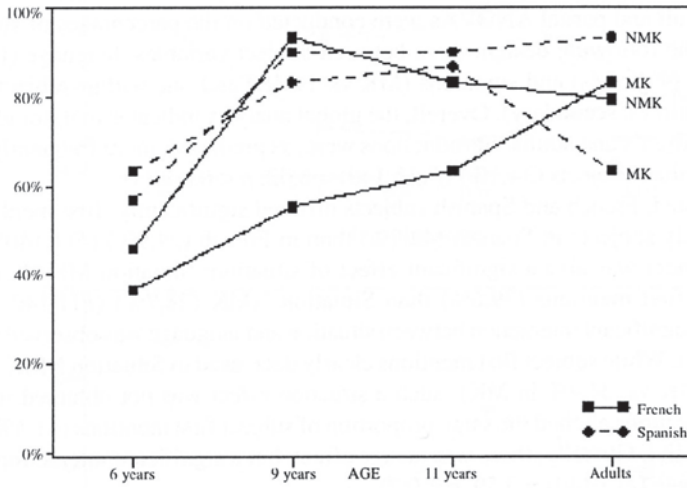
a. Main characters
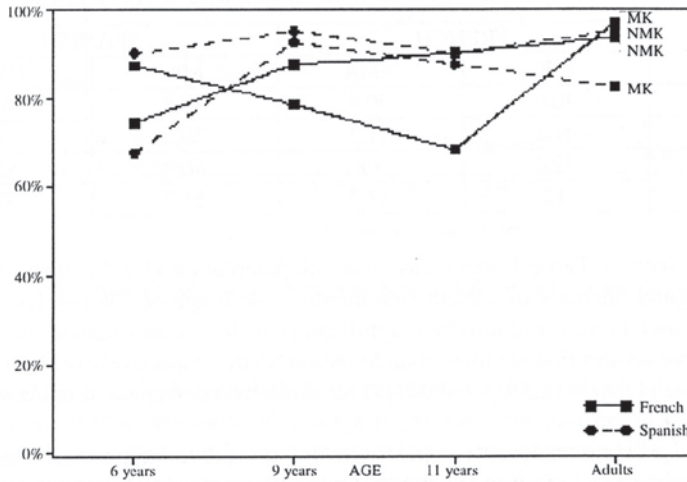
b. Secondary characters

Fig. 2. Proportion of postverbal first mentions as a function of age, language and situation.

Overall, main characters were less often introduced with postverbal mentions (72,7%) than secondary ones (85,8%), ($F(1,140) = 32,69$, $p < 0.0001$) regardless of the language: in French (66,8% vs. 84%) and in Spanish (78,3% vs. 87,5%). There was no interaction between referent types and languages. The interaction between age and referent types ($F(3,140) = 6,30$, $p < 0.005$) indicates that children's first mentions of main characters were increasingly postverbal with age while there was no such developmental change for the secondary characters which were very frequently introduced with postverbal mentions (see Fig. 2).

### The subject vs. nonsubject contrast

Several full and partial ANOVAs were conducted on the percentages of subject first mentions in the following design: three between-subject variables, language (French vs. Spanish), age (4 groups) and situations (MK vs. NMK) and one within-subject variable, characters (main vs. secondary). Overall, the global analysis indicates that, for all animate referents, children's and adults' introductions were, as predicted, more frequently nonsubjects (65,9%) than subjects (34,1%) ($F(15,140) = 6,02$, $p < 0.0001$).

As expected, French and Spanish subjects differed significantly: first mentions were more frequently subjects in Spanish (42,9%) than in French (24,9%) ($F(1,140) = 39,07$, $p < 0.005$). There was also a significant effect of situation: Situation MK elicited more often subject first mentions (39,6%) than Situation NMK (28,7%) ($F(1,140) = 12,56$, $p < 0.005$). A significant interaction between situation and language was observed ($F(1,140) = 6,23, p < 0.2$). While subject first mentions clearly decreased in Situation NMK in French (15,4% in NMK vs. 34,4% in MK) such a situation effect was not obtained in Spanish where both situations elicited the same proportion of subject first mentions (41,4% in NMK vs. 44,5% in MK). Globally, there was no age effect, but a significant interaction between age and language ($F(3,140) = 3,59, p < 0.2$).

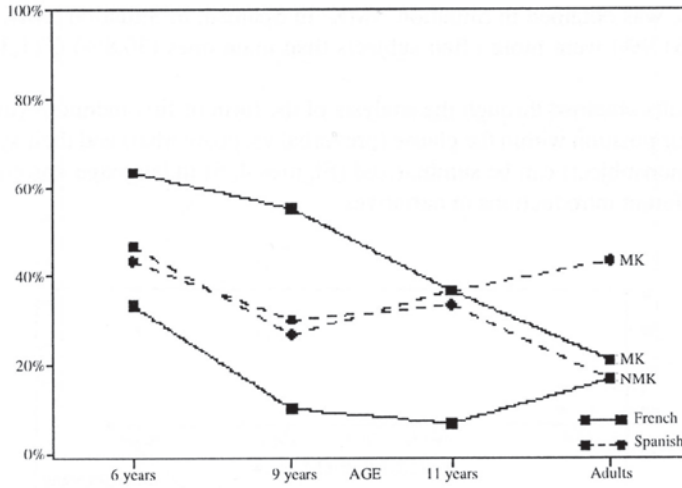Table 3. Proportions of subject first mentions for all animate referents in French and Spanish

| Age | FRENCH | | SPANISH | |
|---|---|---|---|---|
| | MK | NMK | MK | NMK |
| 6 years | 40,6 | 30,8 | 45,8 | 40,4 |
| 9 years | 41,1 | 11,2 | 39,6 | 35 |
| 11 years | 39,4 | 5,8 | 40,8 | 52,9 |
| Adults | 12 | 13,2 | 51,7 | 37,1 |

As can be seen on Table 3, there was no developmental trend in Spanish. In French, there was a regular decrease of subject first mentions with age on the one hand. On the other hand, 9- and 11-year-old children significantly differentiated situations: Situation MK elicited more subject first mentions than Situation NMK, respectively ($F(1,18) = 16,15$, $p < 0.001$) and ($F(1,18) = 12,58, p < 0.001$). This difference disappeared in French adults (12% vs. 13,2%).

Contrary to previous analyses (i.e., indefinite/definite, preverbal/postverbal contrasts), there was no global effect of referent types on the selection of a subject or nonsubject first mention.

Nevertheless, there was a significant interaction between referent type and language ($F(1,140) = 27, 80, p < 0.0005$). While main referents were more often subjects (30,9%)

a. Main characters
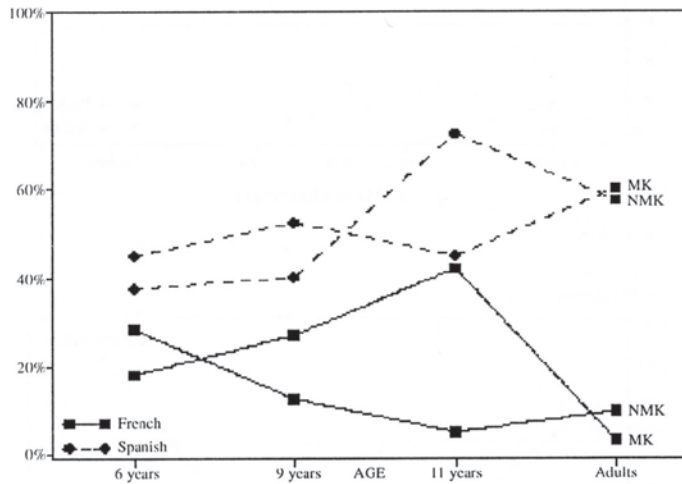


b. Secondary characters

Fig. 3. Proportion of subject first mentions as a function of age, language and situation.

than secondary ones (18,8%) in French, the reverse pattern was observed in Spanish where secondary characters were more often subjects (51,3%) than main ones (34,6%).There was also a significant interaction between referent types and situation $(F(1,140) = 6,28, p < 0.2)$: while main referents were more often introduced with subject first mentions in Situation MK (37,4%) than in Situation NMK (23,9%). Such an effect was not found for secondary characters. Finally, as can be seen on Figure 3, in French, Situation MK differentiated main (45,2%) and secondary(23,6%) characters $(F(1,34) = 15,92, p < 0.005)$ whereas

no difference was obtained in Situation NMK. In Spanish, in Situation NMK, secondary characters (51,9%) were more often subjects than main ones (30,8%) ($F(1,36) = 14,24$, $p < 0.005$).

   The results obtained through the analysis of the form of first mentions (indefinite vs. definite), their position within the clause (preverbal vs. postverbal) and their syntactic role (subject vs. nonsubject) can be summarized (Figures 4, 5) in language «prototypical patterns» for referent introductions in narratives.
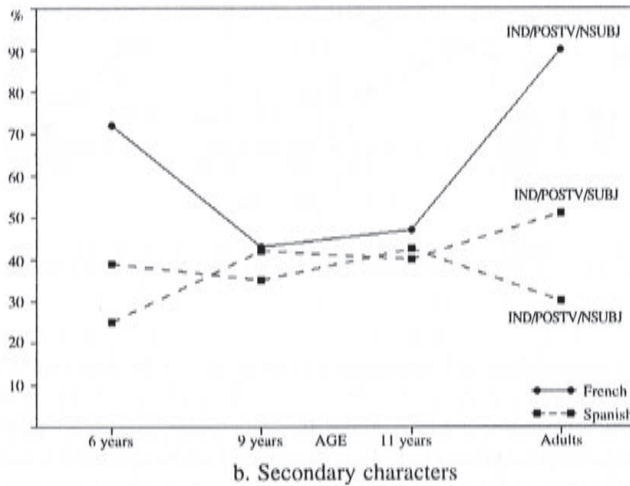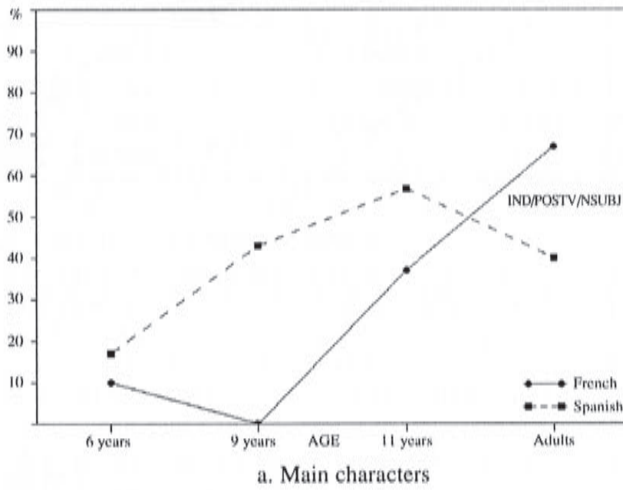


a. Main characters



b. Secondary characters

Fig. 4. Dominant patterns for referent introductions in French and Spanish: Situation MK.
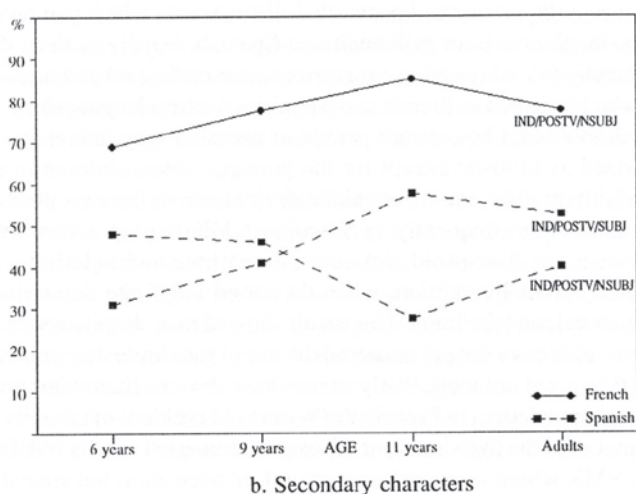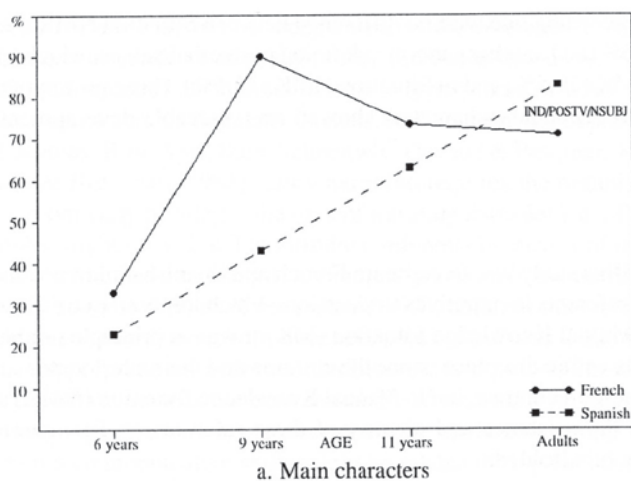
a. Main characters



b. Secondary characters

Fig. 5. Dominant patterns for referent introductions in French and Spanish: Situation NMK.

For main referents, the results showed a remarkable convergence: the indefinite/ postverbal/ nonsubject was the dominant pattern in French and Spanish. It increased regularly with age both in Situation MK (28,6% in French; 36,6% in Spanish) and in Situation NMK (69,7% in French; 53,1% in Spanish), which is more efficient to elicit the dominant pattern.

For secondary characters, French and Spanish differed on some points. In French, the dominant pattern remained indefinite/postverbal/ nonsubject. This pattern was more often found in Situation NMK (72%) than in Situation MK (32,7%). In Spanish, two patterns

emerged: the preceeding one with no difference between Situation NMK (40,4%) and Situation MK (36,6%) and another pattern: indefinite/postverbal/subject which appeared equally in Situation MK (39,5%) and in Situation NMK (45;5%). These prototypical patterns for first mentions of secondary characters showed no noticeable developmental changes in either language.

## Discussion

The aim of this study was to compare French and Spanish children's and adults' ability to introduce referents in narratives in situations which imposed two different contextual constraints. In Mutual Knowledge Situation (MK) it was in principle not necessary to introduce referents within discourse, since the children and their interlocutor shared the same visual information. In contrast, in No Mutual Knowledge Situation (NMK) subjects could not presuppose the existence and identity of these referents on first mention, since the interlocutor was blindfolded.

The analyses focused on the use of indefinite vs. definite referring expressions: these contrastive determiners can be viewed as local markings which are obligatory devices both in French and Spanish. The marking of new information was also examined through the utterance structure – the preverbal / postverbal distinction – which can be described as a global marking, facultative both in French and Spanish. Finally, a third dimension was studied: the syntactic role of referring expressions, contrasting subject and nonsubject, the expression of which differed in French and Spanish (prodrop language).

The mutual/no mutual knowledge paradigm revealed very interesting results which can be summarized as follows: except for the youngest ones, children in all age groups showed some ability to differentiate linguistic devices across the two situations, using indefinite determiners more frequently in Situation NMK than in Situation MK. Both in French and Spanish, the 6-year-old children used definite and indefinite determiners in Situation MK and NMK. In addition, when they used indefinite determiners, they used them frequently as deictic labellings. This result showed that, despite some early differentiation, the 6-year-olds have not yet mastered the use of indefinite determiners to introduce referents since they were not more likely to use these devices than other ones even in the absence of mutual knowledge. In French, the 9-year-old children maximally differentiated the linguistic devices in the two situations. These children used mostly indefinite determiners in Situation NMK where such devices were indeed necessary, but almost never in Situation MK where definite determiners (or even pronouns) were sufficient. It was as if these children followed a rule for referent introductions which strictly associated appropriate linguistic devices with distinct communicative contexts, at least when these contexts were clearly contrasted as they were in the present study. In Spanish, the 9-year-old children differentiated their referent introductions as a function of mutual knowledge but they did not follow the kind of «context rule» found in French children. The 11-year-olds and adults in both languages (except two Spanish adults in the MK condition) clearly used indefinite determiners for referent introductions in their narratives, following a general rule regardless of background knowledge. It is worth noting that the main developmental change in both languages occurred in the 9-year-old children even though the form of the transition is different. In order to explain this general developmental pattern, it is important to consider the specific type of production under study. In particular, children's acquisition of the rules

of nominal determiner use may not be independent of the conventions that characterize referent introductions in narrative as against other discourse situations. Previous studies have focused on the properties of different discourse types, some of which have clear implications for the uses of various linguistic devices, such as referring expressions and temporal aspectual devices (Bronckart, Bain, Schneuwly, Davaud & Pasquier, 1985; De Weck, 1991; Schneuwly & Bronckart, 1986). Story narration requires the organization of a discursive whole and typically privileges the uses of intralinguistic devices. Therefore, older children and adults might be inclined to introduce referents by means of indefinite determiners regardless of whether the referents are mutually known in the narrative situation.

As previously suggested (Kail & Hickmann,1992), children must solve two related but distinct problems as they learn to introduce referents in discourse. First, they must learn which devices are appropriate for different conditions of background knowledge. Second, they have to learn which devices are conventionally associated with different discourse genres in their language. Various hypotheses could be made concerning how these two aspects of children's communicative skills might be related during the course of development. One hypothesis is that children learn the two rules sequentially, i.e., they learn to use definite vs. indefinite forms first in relation to mutual knowledge conditions, and subsequently in relation to discourse genres. A slightly different hypothesis is that these two processes develop in parallel although one rule is learned before the other. Whatever the case may be, our results suggest that mutual knowledge conditions are more basic functional determinants of how children learn to introduce referents in comparison to discourse conventions. In particular, children from 9 years on first differentiated forms according to mutual knowledge and then generalized indefinite forms according to narrative conventions regardless of mutual knowledge.

One of the most interesting results of this study is the very clear finding that the clause structure - the NP postverbal position – plays a crucial role in the expression of newness in both languages from 6 years on. In French as well as in Spanish, overall, first mentions were significantly more often postverbal than preverbal. Nevertheless, whereas Spanish results showed no sensitivity to mutual knowledge constraints, nor developmental differences in the mastery of postposing, French results indicated variations. Postverbal first mentions were more frequent in the no mutual knowledge situation and increased from 6 years up to 11 years. In order to explain such differences between linguistic groups, the sentence types which permit the postposing of the logical subject in each language must be examined.

In a recent crosslinguistic study, Birner and Ward (1996) presented an analysis of the pragmatic constraints on the use of seven sentence types that permit the postposing of the logical subject: inversion in English and Farsi, presentational and existential *there*-sentences in English, presentational *ci*-sentences and subject inversion in Italian, and *es*-sentences in Yiddish. On the basis of naturalistic data, they found that these sentence types share a common discourse constraint in that each requires the NP in noncanonical position (i.e. postposed) to represent information that is unfamiliar in some sense, though the type of unfamiliarity differs among the various sentence types.

Following Prince (1992), Birner and Ward (1996) proposed a distinction between information that is new to the discourse – discourse-new – and that is new to the hearer – hearer-new. This distinction captures the fact that what is new to the discourse needn't be new to the hearer (Chafe, 1976). Such a distinction relates precisely to what we refer to in

terms of the mutual knowledge situation (discourse-new) contrasting with the no mutual knowledge one (discourse-new and hearer-new). In other words, Situation NMK implies the management of more linguistic contraints relevant to discourse-internal cohesion than Situation MK.

With respect to postposing, the first mentions of the main characters in our French data suggest the following interpretations. In Situation NMK, children tend to avoid the role of subject. This tendency to use subject NPs relatively less frequently than other NPs can be observed as early as at 6 years and became evident with increasing age. In comparison, Situation MK was characterized by a change from 9 years on. Thus, whereas the NPs used for first mentions of the main characters were more often in the subject role than in the other roles at 6 years, they did  not have any dominant role at 9 years and they were less often in the subject role than in the other roles at 11 years and in adults. This change across ages resulted from children's increasing use of specific French linguistic devices for the introduction of referents, namely, presentative utterances of the type «C'est un X» (It's an X); «C'est l'histoire d'un X» (It is the story of an X): by convention, such constructions place the indefinite NP in the predicate and therefore the role of subject was excluded. The use of these constructions to introduce main referents was gradually generalized to both narrative situations. In French, we found very rare subject-verb inversions except with some very specific verbs, such as motion verbs («C'est la nuit quand arrive le garçon avec son chien» (It is night when comes the boy with his dog).

In Spanish, two main linguistic devices allowed subject postposing: presentative utterances and subject-verb inversions which were found in both situations. Three main types of presentative predicates were used by Spanish subjects: «*Ser* + nominals (1b); *Estar* + locations (2b) or auxiliaries «Pues, estaba un nino mirando a la rana»(Then, was a boy looking at the frog) and *Haber* + nominals «Hay un nino, una rana en un bote» ((There) is a boy, a frog in a boot) (For details, see Kail & Sanchez y Lopez, 1997). The copula *ser* was infrequently used to introduce referents and was primarily devoted to the referent BOY (8%) with no situation or age differences. Overall, forms of *estar* were more often used to introduce the main referents (35%). An interesting result concerned the reverse distribution of *estar* + locations frequently used in Situation NMK and of *estar* + auxiliaries frequently used in Situation MK. This overuse of *estar* + locations could be explained in terms of its double function: to present the referent and at the same time to give information about its spatial location which can be presupposed in MK but was not accessible to the listener in NMK. It is interesting to note that the differential pattern of *ser* and *estar* seemed to indicate that from 6 years on, Spanish speakers used *ser* and *estar* contrastively: they used only forms of *ser* with nominals and only forms of *estar* with locations and auxiliaries, confirming other studies on the mastery of the *ser/estar* contrast (Sera, 1992; Lopez-Ornat, 1994). Existentials were mainly represented in the *Haber* + nominals constructions (14%). Contrary to French or English, there were no dummy subjects and consequently these existentials were formally identical to subject-verb inversions. Finally, constructions with NP inversions including various verbs were well represented and the data indicated no situation or age variations. To conclude, with respect to postposing, linguistic constraints were more powerful in Spanish than in French.

In both languages, we found a close combination of determiners and word order in marking new information. The prototypical pattern «indefinite/postverbal/nonsubject» resulted in the combination of obligatory local marking (indefinite determiners) and optional

global marking (postverbal NPs). The relatively late mastery of obligatory markers was in accordance with other results: in English, Italian and German, indefinite determiners occured late in development. In the same way, the obligatory postverbal position of new referents in Chinese is not fully mastered before the age of 7 (Hickmann et al., 1996). By contrast, the optional postverbal position in Spanish was mastered from 6 years on and as reported by Berman and Slobin (1994) at an earlier age in natural discourse.

As far as the local/global distinction is concerned, many comprehension studies have shown that local markers are easier to process than global ones (Slobin & Bever, 1982) and some studies have emphasized the processing cost of global markings (Bates & MacWhinney, 1989; Kail, 1989). For example, in English, in absence of morphology, word order is a powerful cue to sentence grammatical relations, but it is rarely exploited as a marking of information status. By contrast, in Spanish, morphological cues are decisive to the assignment of grammatical functions, and word order is available for marking newness. French seems to stand somewhere in between English and Spanish. The analysis of the prototypical pattern for referent first mentions reported here for French and Spanish suggests that the devices available to mark newness are concerned with two levels of language organization: the sentence level and the discourse level.

Finally, the results also showed that children's first mentions varied as a function of referents. The developmental progressions discussed above hold for the main characters, but not for the secondary ones. Overall, French and Spanish children used more indefinite and postverbal first mentions for the secondary characters than for the main ones. This difference was more marked with the 6-year-olds: although these children have not yet learned to introduce the main characters in the absence of mutual knowledge (particularly regarding indefinite determiners) they do tend to introduce the secondary ones, regardless of mutual knowledge. It is worth noting that among the main characters, the referent BOY was introduced differently in comparison to the referents DOG and FROG as previously shown in French (Kail & Hickmann, 1992) and in Spanish (Kail & Sanchez y Lopez, 1997). For example, French children introduced BOY less often with appropriate indefinite forms in Situation NMK, as compared to the other main characters. In French and Spanish, young children tended to focus the listener's attention on this referent by means of primitive deictic labellings. As previously mentioned, Spanish is a null-subject language which allows the introduction of referents through verbal morphology. We found 10 occurrences of the following type («Esta durmiendo y la rana se escapa» .(He) was sleeping and the frog goes away). Such productions were mainly restricted to Situation MK where the referents can be inferred from the nonlinguistic context. They were mainly restricted to the referent BOY and disappeared after 9 years.

In conclusion, the comparison between French and Spanish data has shed some light on the respective linguistic and contextual constraints in narrative ability to first mention referents. From a developmental point of view, we have shown that contextual constraints such as mutual knowledge were crucial during a short developmental period, mainly between 6 and 9 years, while linguistic constraints were determining factors over an extended period.

With respect to mutual knowledge, we recently investigated mildly retarded French subjects' ability to introduce referents in narratives (Kail & Moleux, 1997). The main result of this study was the failure of these retarded subjects to take mutual knowledge constraints into account. In spite of their relatively adequate command of the linguistic means

for encoding referents appropriately (indefinite determiners; postverbal NPs), they showed no capacity to differentiate linguistic devices across the two situations MK and NMK. This lack of sensitivity to the listener's need is generally presented as a pragmatic deficit .However, it is of fundamental importance to distinguish a lack of pragmatic knowledge from a failure to apply existing pragmatic knowledge. Of course, further research is needed to examine such a distinction.

With respect to linguistic factors, the comparison between French and Spanish needs to be completed by the analysis of reference maintenance. French data (Hickmann, Kail & Roland, 1995) have shown an increase of pronominal use from 9 years on, particularly in the absence of mutual knowledge, and a dominance of coreference as children learn to rely on discourse cohesive relations. Spanish data, currently under analysis, are crucial to evaluate coreference in a prodrop language and the problems children must solve during the development of discourse cohesion.

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