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**SPEECH ACTS IN CHILDREN:**

**THE EXAMPLE OF PROMISES**

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Promises are central to human exchanges, especially in adult-child interactions. They consist of a commitment on the part of the speaker to perform a future act, as in "*je promets de ranger ma chambre*" ("I promise to clean my room"). For the past ten years, we have been investigating promise comprehension among children from the point of view that language is a communication system and that language competence is the acquisition and use of that system. The emphasis is therefore placed on the functional aspects of language (Bates, 1976; Bruner, 1983; Ervin-Tripp and Mitchell-Kernan, 1977; Halliday, 1985 ; Ninio & Snow, 1996; Tomasello, 2000). It has been shown in this perspective that interaction formats or routines (prototypical exemplars of social relations) are very important for young children (Bernicot, 1994; Marcos & Bernicot, 1994; 1997).

Some of the questions that we have been addressing are the following: How do children understand utterances that express a promise? How does their comprehension evolve with age? What cues do children use to interpret utterances expressing promises ? Do they consider contextual cues, such as the listener's wishes about the accomplishment of an action (Bernicot and Laval, 1996) or do they rely on textual cues such as the utterance's linguistic form or its temporal markers (Laval and Bernicot, 1999)? To answer these questions we use both the theoretical perspectives offered by speech act theory (Austin, 1962; Searle, 1969, 1979; Searle and Vanderveken, 1985; Vanderveken, 1990a; 1990b) and the methodology of experimental psychology. The goal of the present chapter is to examine the role of one aspect of the interlocutors' intentions (listener's wishes about the accomplishment of an action) and one of the textual characteristics of utterances (verb tense) in promise comprehension among children aged 3 to 10.

According to speech act theory, a promise is an illocutionary act known as *commissive* because it is the speaker's goal to indicate that the speaker is committed to some course of

action.<sup>1</sup> Four fulfillment conditions accompany this definition. To illustrate these, consider the following promise -- "*je promets de ranger ma chambre*" ("I promise to clean my room").

1. *Propositional content condition.* The utterance says something about a future act to be performed by the speaker (the speaker says he is going to clean his room).

2. *Preparatory condition.* The listener would rather have the speaker accomplish the future act than not accomplish it (the listener wants the speaker to clean his room).

3. *Sincerity condition.* The speaker intends to carry out the future act (the speaker intends to clean his room).

4. *Essential condition.* It becomes the speaker's obligation to carry out the future act (the speaker is obligated to clean his room).<sup>2</sup>

The interlocutor's intentions are defined by the preparatory and the sincerity conditions (see Gibbs and Delaney, 1987, on the importance of these conditions among adults).

Prior work (Astington, 1988b) has shown that the comprehension of promises by children evolves with age. For children between the ages of 5 and 9, a promise appears to correspond to a true statement that can refer to a past or future action. What is important at these ages is that the action corresponding to the propositional content of the statement be accomplished; the fact that the speaker has (or does not have) control over the action is not considered. Starting at age 9, children make the distinction between a promise and a prediction, based on whether or not the speaker has control over the occurrence of the action. The distinction between a promise and an assertion begins to appear between the ages of 11 and 13.

Astington (1990) related the production of commissive speech acts by children to the "metapragmatic" knowledge they have about such acts. At age 5, children know how to make

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<sup>1</sup> This is opposed to Assertives, Directives, Expressives and Declarations

<sup>2</sup> Mey (2001) highlighted that for anthropologists the speech act of promising is not only defined by these four fulfillment conditions, but that its success also depends on the ways it is supposed to sustain and confirm the existing order of things (see Duranti (1996) and Keating (1998) about Philipinos people). In this case, "promises" are similar to "assertives" (in the meaning of "predictions").

promises in the appropriate situations; at the age of 6, they correctly use the verb *promise*. According to this author, metapragmatic knowledge about promises -- assessed by having children judge speech acts produced by other individuals -- appears at about the age of 10. The metapragmatic knowledge possessed at that age pertains to the speaker's responsibility to perform the action corresponding to the propositional content of the promise-making statement.

Understanding a promise implies being able to process linguistic cues concerning the future, i.e. the listener must be capable of processing verb tense. A promise is very often an ordinary utterance produced during everyday events, as in the example above. From a linguistic standpoint, the expression "I promise" is not a necessary part of a promise utterance. There are other linguistic forms (in an interaction context) capable of achieving the same function, as in "*je vais ranger ma chambre*" ("I am going to clean my room") or "*je rangerai ma chambre*" ("I will clean my room"). The utterance "*je promets de ranger ma chambre*" ("I promise to clean my room") is the surface form of *je promets + je rangerai ma chambre* (I promise + I will clean my room). This analysis leads us to the conclusion that all linguistic forms specific to promises must express a future action, whether in their deep structure, as in "*je promets de ranger ma chambre*" ("I promise to clean my room") or in their surface structure, as in "*je vais ranger ma chambre*" or "*je rangerai ma chambre*" ("I am going to clean my room" or "I will clean my room"). In other words, the future as a temporal marker is a textual characteristic specific to promise utterances.

In French as in other languages, future markers are used to express the aspect of an action (e.g., the desiderative future) and to situate it in time. Several studies have shown that until the age of six, children rely primarily on adverbs and time prepositions to place an action in time; it is not until after that age that they begin to use verb tense. For promises in particular, we are interested in the future tense as a temporal marker: it specifies that the action described in the propositional content of the utterance will take place at some time

after the utterance is produced.

From a morphological standpoint, the future in French can be expressed in four ways (Fleischman, 1982): (1) via the present tense or praesens pro futuro, as in "*Paul joue au tennis demain*" ("Paul is playing tennis tomorrow"), (2) via sentences combining a modal auxiliary and an infinitive verb, as in "*Paul doit jouer au tennis demain*" ("Paul must be playing tennis tomorrow"), (3) via the immediate future tense, as in "*Paul va jouer au tennis*" ("Paul is going to play tennis"), and (4) via the simple future tense, as in "*Paul jouera au tennis*" ("Paul will play tennis"). Only the immediate future and the simple future, which provide interpretable temporal markers in cases where an adverb or time preposition is lacking, are relevant to the study of promises. Although both of these ways of expressing the future are used in promise utterances, they are not interchangeable. A number of studies on this subject (for examples, Harner, 1981a, 1981b), have shown that the immediate future commits the speaker to the accomplishment of the action in the very near future, whereas the simple future is less suitable for talking about an action that will follow immediately. For example, if a little boy asks his mother to buy a toy and the mother says "*Oui, je vais te l'acheter*" ("Yes, I am going to buy it for you"), he is usually satisfied with that answer; but if she answers "*Oui, je te l'achèterai*" ("Yes, I will buy it for you"), the boy will usually say, "Yes, but when?" In everyday situations, the immediate future does not necessarily correspond to an immediate action, but it serves as a sort of guarantee that the action will be executed right away. In contrast, the simple future may look like a threat that things will not happen as expected.

In this chapter, we present two experiments. The first was designed to determine how children's comprehension of promises is affected by a) the presence or absence of the preparatory condition and by; b) the linguistic form of the statement (i.e. does it contain or does it not contain the verb *promise*). The second experiment was designed to gain insight into one of the textual characteristics of promises: the future tense as a temporal marker of

utterances. More specifically, the aim was to determine the role of the future tense in the comprehension of promises by children

## **EXPERIMENT 1**

Two main objectives guided this study. The first was to gain an accurate understanding of the role of the preparatory condition in the comprehension of promises. Astington's (1988b, 1990) findings demonstrated the importance of the accomplishment of the action (an essential component of the sincerity condition): Astington's data showed that the children mastered the sincerity condition from the age of 5. We need experimental data to show the role of interlocutor's desires (in other words, the preparatory condition).

The second objective was to test linguistic forms which do not contain the verb *promise* but which, according to the speech acts classification (Searle and Vanderveken, 1985; Vanderveken, 1990a; 1990b), are specifically commissive, i.e. they contain verbs in the future tense (active or passive voice).

To meet these objectives in experiment 1, the variables manipulated were the satisfaction/non-satisfaction of the preparatory condition, the linguistic form of the commissive statement, and the children's age. The sincerity condition was always met.

## **METHOD**

*Subjects* - Seventy-two, native French-speaking children participated in the experiment (42 girls and 30 boys). They were divided into three groups of 24 subjects on the basis of age. The three groups will hereafter be called the *3-year-olds* (mean age: 3;10, range: 3;3 to 4;1),

the *6-year-olds* (mean age: 6;10, range: 6;2 to 7;0), and the *10-year-olds* (mean age: 10;10, range: 10;2 to 11;1).

*Materials* - Eighteen stories about the adventures of a young boy named Bill were constructed. In each story, made up of four frames consisting of a picture with a caption, Bill makes a promise. The linguistic context and situational context combined created realistic, everyday life situations. The material was designed to keep the child's attention focused on the task. Two examples are given in table 1. All of the stories had the same 4-frame structure, as follows.

Picture 1: Theme. The picture showed two characters, the speaker and the listener, in the story's setting. The caption was used to manipulate the preparatory condition (PC). The preparatory condition was clearly satisfied in half of the stories (PC+) and was not satisfied in the other half (PC-), i.e. either the listener wanted the speaker to keep his promise or the listener did not want the speaker to keep his promise.

Picture 2: promise. The picture showed the speaker up close talking to the listener. The caption contained the statement made by the speaker (Bill). The promise was being made to a different listener in each story (a friend or one of Bill's parents) using one of the following three statement forms, which varied in illocutionary force.

-*Promise-to-act* statements, which explicitly contained the verb *promettre* (promise) followed by a verb in the infinitive form. The grammatical subject of the sentence was the person making the promise. The social act intentionally posed by the speaker was a firm commitment (e.g. "*Je te promets de laver mon vélo*", "I promise to wash my bike").

-*Future-action* statements, in which the verb was conjugated in the future tense. The verb *promettre* (promise) did not appear and the grammatical subject of the sentence was the person making the promise. The social act intentionally posed by the speaker was a commitment, but not a firm one (e.g. "*Je laverai mon vélo*", "I'll wash my bike").

- *Predictive-assertion* statements, in which the verb was in the passive voice and future tense. The verb *promettre* (promise) did not appear and the grammatical subject of the sentence was not the person making the promise. In this case, there was no commitment on the part of the speaker (e.g. "*Mon vélo sera lavé*", "My bike will be washed").

Picture 3: Promise fulfillment. The picture showed Bill accomplishing the action corresponding to the propositional content of the commissive statement. The caption described the fulfillment of the promise made in the second frame of the story. The sincerity condition was satisfied in all stories.

Pictures 4: End of story. Two different pictures were constructed for frame 4, each depicting a possible ending to the story. In one, the listener was shown with a clearly contented expression on his/her face and the caption described him/her as *happy* (picture 4.1). In the other, the listener was shown with a clearly discontented expression on his/her face and the caption described him/her as *unhappy* (picture 4.2). These two endings reflected the listener's reactions to the fulfillment of the promise, depending on his/her desire for the promise to be kept or not kept.

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Insert table 1

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*Procedure* - The children were tested individually using a story completion task. The experimenter told the beginning of the story, i.e. the first three frames. The child was to complete the story by choosing one of the two pictures proposed for frame 4 (happy or unhappy listener).

A total of nine stories were presented to each child (the preparatory condition being an intergroup variable): three stories with a promise-to-act statement (PA), three with a future-action statement (FAC), and three with a predictive-assertion statement (PAS).

Four story-presentation orders were used, each of which was randomly assigned to three children. The presentation order of the two endings was also varied randomly across stories.

*Experimental design* - The experimental design included three independent variables: (1) subject age (3, 6, 10; independent samples), (2) preparatory condition (PC+: satisfied, PC: non-satisfied; independent samples), and (3) linguistic form of the commissive statement (PA: promise-to-act, FAC: future-action, PAS: predictive-assertion; related samples).

## **CODING**

The procedure was designed to determine the extent to which children distinguish statements that are promises (defined by the speech acts theory) from ones which are not. Following the speech acts theory proposal (Searle and Vanderveken, 1985; Vanderveken, 1990a; 1990b), two types of right answers are defined, depending on the satisfaction/non-satisfaction of the preparatory condition and the happiness/unhappiness of the listener at the end of the story.

The first type of right answer occurs when the preparatory condition is met and the children appropriately choose the picture of the *happy* listener. In the sense proposed by the speech acts theory, this is a promise. The second type of right answer occurs when the preparatory condition is not met and appropriate choice is the picture of the *unhappy* listener. In the sense proposed by the speech acts theory, this is not a promise.

## RESULTS : CORRECT ANSWERS

For each subject, the right answer rate was obtained by taking the ratio of the number of right answers to the total number of responses (9). This ratio was multiplied by 100 and then treated in a 3-factor analysis of variance with the following design: Age (3) x Preparatory Condition (2) x Linguistic form of the promise (3). Figure 1 indicates the mean per-subject right answer rate as a function of the three factors.

The analysis yielded a significant effect of age ( $F(2, 66) = 7.71, p < .001$ ), preparatory condition ( $F(1, 66) = 28.64, p < .0001$ ), and linguistic form of the promise ( $F(2, 132) = 7.84, p < .001$ ), and an interaction between the preparatory condition and the linguistic form ( $F(2, 132) = 7.19, p < .001$ ). Below we summarize our results:

1. Three-year-olds and 6-year-olds give fewer right answers (61.9% and 70.7% respectively) than 10-year-olds (91.6%).

2. Children give a greater number of right answers when the preparatory condition is met (91.6%) than when it is not met (57.9%). Satisfaction of the preparatory condition appears to promote correct responding, regardless of age. In other words, children seem to have difficulty functioning in a context that is not prototypical of a promise situation; this appears to be especially the case at the ages of three and six.

3. The linguistic form of the commissive statement has no effect when the preparatory condition is met. In contrast, when it is not met, the promise-to-act form results in fewer right answers (PA = 47.1%, FAC = 66.6%, PAS = 60.1%). A strong contradiction between the linguistic form of the statement (Promise-to-act) and the statement in the No-Satisfied Preparatory Condition (PC-) seems to induce the highest number of wrong answers. Indeed, in promise-to-act statements, the speaker's intentions are explicitly expressed as a firm commitment, at the same time as the non-satisfaction of the preparatory condition generates a context in which the listener does not want the speaker to accomplish the promised action. In other words, the listener's desires (contextual cue) radically oppose the speaker's intentions

(linguistic cue). The large number of "The listener is happy" responses observed here shows that in cases of strong conflict between contextual cues and linguistic cues, children tend to base their interpretation on linguistic cues, i.e. on the promise-to-act statement.

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Insert figure 1

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## **DISCUSSION OF EXPERIMENT 1**

This study deals with the comprehension of promises by children. Two factors contributed to generating the experimental "promises": the communication situation in which the statement was made and a verbal statement. The preparatory condition is a cue used to comprehend promises by children as early as age 3. When the preparatory condition was satisfied, that is to say in prototypical situations, the understanding of promise statement was facilitated for the three ages: 3, 6 and 10. This result extends Astington's (1988b, 1990) data for children between the ages of 5 and 9, where action accomplishment, an essential component of the sincerity condition, was found to be critical to success on the task. Thus, sincerity condition cues are understood before preparatory condition cues. In line with Bruner (1983) and other authors (Bernicot, 1994; Marcos and Bernicot, 1994; 1997), comprehension of prototypical situations with interaction formats, i.e. situations in which the preparatory condition is met, was found to be superior to comprehension of non-prototypical situations. Prototypical situations continue to facilitate the correct interpretation of promise statements until the age of 10.

The linguistic form of the statement (promise-to-act, future-action, and predictive-assertion) appears to play a minor role in children's comprehension of promises. However, our results point out that promise-to-act statements, which explicitly contain the verb *promise*, are generally not interpreted any better than future-action (future tense, active voice) and predictive-assertion statements (future tense, passive voice). For children between the ages of 3 and 10, future-action and predictive-assertion statements are just as specific to promising as statements containing the verb *promise* itself. It is therefore not necessary to systematically use this verb to test promise comprehension (for similar conclusion, see Astington, 1988b).

The interaction between the situation in which the statement was made and the verbal statement revealed that a large number of wrong answers arise when the preparatory condition is not met. When the contextual cues and the linguistic cues are highly contradictory, children tend to base their interpretation on linguistic information.

## **EXPERIMENT 2**

Although to our knowledge there are no studies dealing specifically with the comprehension of temporal markers in promise utterances, studies on the comprehension of the future have a few interesting points to offer. In French as in other languages, future markers are used to express the aspect of an action (e.g., the desiderative future) and to situate it in time. Several studies (for example, Bronckart, 1976) have shown that until the age of six, children rely primarily on adverbs and time prepositions to place an action in time; it is not until after that age that they begin to use verb tense. For promises in particular, we are only interested here in the future tense as a temporal marker: it specifies that the action described in the propositional content of the utterance will take place at some time after the utterance is produced. These studies have shown that for both English-speaking children (Harner, 1981a;

1981b) and Spanish-speaking children (Van Naerssen, 1979; 1980), the immediate future is understood earlier (at about the age of 3 or 4) than the simple future. They confirm the results on the production of time and aspect obtained by Bronckart (1976), who showed that until the age of 6, children are better at using time adverbs than verb tense to locate an action in time. Note, however, that none of these studies used a task involving a communication situation.

In the light of the above findings, three major objectives were set up for Experiment 2. Our first goal was to determine the role of the future tense in the comprehension of promises. In accordance with Searle's (1979) analysis, only linguistic forms that express a future action would be considered to be specific to promises. We are interested here in two temporal markers of the future which unambiguously express the future in French without adverbs or time prepositions: the immediate future and the simple future (Fleischman, 1982). These two tenses are not equivalent: the degree of certainty about whether the upcoming action will be accomplished is higher with the immediate future than it is with the simple future. Accordingly, if the future (immediate and/or simple) is the tense specific to promises, then understanding an utterance expressing a promise means being able to process textual markers that place actions in the future, i.e. linguistic forms that indicate verb tense. In this perspective, it was hypothesized that the comprehension of promises by children would vary with the temporal characteristics of the utterance, and that the use of a future tense would promote promise comprehension. In addition, in line with the results of studies on future-tense comprehension by children (see, Harner, 1981a, 1981b), it was predicted that the immediate future ("*je vais te donner la pelle*", "I am going to give you the shovel") would facilitate promise comprehension more than the simple future ("*je te donnerai la pelle*", "I will give you the shovel"), especially for the youngest children.

Our second goal was to determine the role of the preparatory condition as one of the contextual parameters of promise comprehension. The study by Bernicot and Laval (1996)

pointed out that children under ten have trouble taking the preparatory condition into account (when this condition was not satisfied). This finding was obtained by comparing the comprehension of promise utterances in communication situations where the preparatory condition was satisfied (the listener wanted the speaker to accomplish the promised action) with situations where the preparatory condition was contravened (the listener did not want the speaker to accomplish the promised action). It was very difficult, particularly for the youngest children, to interpret the subjects' responses in this study because the utterance and the preparatory condition were radically opposed. In order to understand better these results, we propose here to consider utterance production contexts involving a lesser degree of variation in the preparatory condition. To this end, contexts in which the preparatory condition was fulfilled were compared to "neutral" situations where the preparatory condition was neither explicitly fulfilled nor explicitly unfulfilled. It was hypothesized that in this case, even the youngest children would take the preparatory condition into account, and that explicit fulfillment of the preparatory condition would promote interpretation as a promise, while the neutral condition would promote interpretation as a non-promise.

Our third objective was to determine the potential links between the text and the context in language functioning, particularly during language acquisition. How does the future tense promote promise comprehension in children? To what extent do promises promote the comprehension of future tense markers? Given the importance of interaction formats and the results already obtained on the impact of context on request comprehension in young children (Bernicot, 1991), it was predicted here that fulfillment of the preparatory condition would facilitate the comprehension of future tense markers by the youngest children, and that future tense markers would promote the comprehension of promises in the oldest children.

## **METHOD**

*Subjects* - Fifty-four native French-speaking children participated in the experiment (26 girls and 28 boys). They were divided into three groups of 18. The mean ages of the three groups were 3 years 4 months (range: 2 years 11 months to 3 years 10 months), 6 years 3 months (range: 5 years 11 months to 6 years 10 months) and 9 years 4 months (range: 8 years 11 months to 9 years 10 months). Hereafter, these three groups will be called the 3-year-old group, the 6-year-old group, and the 9-year-old group.

*Materials* - Eighteen stories about the adventures of a character were devised. In all 18, a little boy named Bill was speaking to a same-age peer named Loulou (a nickname for a boy in French). Each story was composed of six pictures (10 x 10 cm) with short captions. The pictures, which provided a situational context for the linguistic expressions, showed real-life situations taken from children's everyday experiences, and helped keep the subject's attention focused on the task. Two examples are given in table 2. Each story had four pictures.

Picture 1. The caption stated the general theme of the story, presented the two interlocutors (Bill and Loulou), and stated that the listener (Loulou) had the focal object. The corresponding picture showed the two characters in the story setting, and made it very clear that the listener had the focal object.

Picture 2. The caption emphasized the fact that the situation had changed since picture 1, because the speaker now had the focal object (e.g. a bicycle). Two contexts were manipulated in the caption: a preparatory condition context and a neutral context. In the former, the preparatory condition was fulfilled. In other words, the listener's desire was made plain in the caption: the listener obviously wanted the speaker to accomplish the action described in the propositional content of the utterance. The corresponding picture showed the speaker and listener together, with the speaker in possession of the bicycle and the listener wishing he had it (depicted as a bubble with a drawing of the focal object inside). In the

neutral context, the listener's desire about the accomplishment of the action described in the propositional content of the utterance was not clear: nothing was said about whether or not the listener wanted the promised action to be accomplished. The corresponding picture showed the speaker and listener together, with the speaker in possession of the focal object and the listener doing something else.

Picture 3. This picture showed the speaker in the foreground talking to the listener. The caption was used to manipulate the utterance produced by the speaker. The verb in the utterance was in one of three tenses: (1) immediate future (structure: I + am going + infinitive verb + you + direct object, as in "*je vais te donner le vélo*", "I am going to give you the bike"); (2) simple future (structure: "I + verb in simple future + you + direct object", as in "*je te donnerai le vélo*", "I will give you the bike"); and (3) *passé composé*, hereafter simply called the past tense (structure: "I + verb in past tense + you + direct object", as in "*je t'ai donné le vélo*", "I gave you the bike"). We included the past tense because the most direct way for us to determine the role of the future in children's comprehension of promises was to oppose utterances in the future to utterances in the past. In other words, the past tense was used here as a control for the verb-tense variable.

Picture 4. Three different pictures, each corresponding to a different ending, were proposed for picture 4. The subject had to complete the story by choosing one of the three. Picture 4.1 depicts the speaker giving the focal object to the listener. For utterances in the future tense, this picture corresponded to the accomplishment of the propositional content of the utterance, and the selection of this picture was indicative of textual and/or contextual processing based on the experimental conditions. Picture 4.2 showed the speaker keeping the object for himself and the listener in the background. For utterances in the future tense, this picture corresponded to the non-accomplishment of the propositional content. For utterances in the past, the selection of this picture was justified by the fact that the listener had the focal object in picture 1, giving the speaker every right to keep it for himself. This choice was

indicative of textual and/or contextual processing based on the experimental conditions. Picture 4.3 showed the two interlocutors together, with one of the elements of the setting. The element in question had nothing to do with the propositional content of the utterance. In all experimental conditions, the choice of this picture meant that the text had not been processed, and therefore, that processing was purely contextual.

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Insert table 2

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*Procedure* - Each child performed the story-completion task individually. The experimenter first made sure that the child could distinguish the two characters in the story (Bill and Loulou). The procedure was as follows. The experimenter told the beginning of the story by reading the captions of the first three pictures, and then asked the child to complete the story by choosing a picture from among the three proposed. The children's answers were written down by the experimenter. Each child saw all 18 stories. The story presentation order was varied randomly across subjects. The six presentation orders for the three possible choices were randomly assigned to six children.

*Experimental design* - There were three independent variables in the experimental design: Three levels of age (3, 6, and 9), a between-group variable; Two types of utterance production context (preparatory condition, neutral), a within-group variable, and; Three verb tenses (immediate future, simple future, and past), a within-group variable.

## **DATA CODING**

The subjects' answers (pictures chosen) were labeled according to the textual characteristics of the utterance (immediate future, simple future, past). This way of coding the results thus reflected the relationship between the utterance and the accomplishment or non-accomplishment of its propositional content. More precisely, if the speaker agreed to execute the act in the future, the logical ending to the story was accomplishment of the action: this was the case of utterances in the future tense. On the other hand, if the speaker stated that he had already accomplished the action, the logical ending was the non-accomplishment of the action: this was the case for utterances in the past tense.

This defined three response categories (see Table 3):

- (1) theoretically *right answers* (RA), which included all choices where the action was accomplished when the utterance was in the future tense, and all choices where the action was not accomplished when the utterance was in the past tense (e.g., the right answer for utterances in examples of Table 2 was picture 4.1);

- (2) *wrong answers* (WA), which included all choices where the action was accomplished when the utterance was in the past tense, and all choices where the action was not accomplished when the utterance was in the future tense (e.g. the wrong answer for utterance in examples of Table 2 was picture 4.2);

- (3) *contextual answers* (CA), which included all choices of the picture showing the two interlocutors with one element of the setting. Choosing this "neutral" answer was a way of avoiding textual processing and was a direct proof of purely contextual processing. There were two main reasons for including the contextual answer category. The first was methodological, the idea being to increase the number of choices proposed to the subjects. The second was more theoretical and was aimed at finding out whether the youngest children would do essentially contextual processing rather than textual processing (e.g. the contextual answer for utterances in examples of Table 2 was picture 4.3). Table 3 gives the different types of answers for each category of the verb-tense variable.

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Insert table 3  
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## **RESULTS: RIGHT ANSWERS**

Given the aims of this chapter, only the results for the right answer are presented here. The dependent variable "number of right answers" was examined using an analysis of variance with three factors: subject age (3) x type of context (2) x verb tense (3). Figure 2 shows the mean percentage of right answers, by age, utterance production context, and verb tense. The analysis yielded a significant effect of age ( $F(2, 51) = 271.26, p < .0005$ ), an interaction between age and utterance production context ( $F(2, 51) = 15.44, p < .0005$ ), and an interaction between age and verb tense ( $F(4, 102) = 59.11, p < .0005$ ). The main findings can be described as follows.

The 3-year-olds gave fewer right answers (11.72%) than the 6-year-olds (52.46%), which in turn produced fewer right answers than the 9-year-olds (97.22%). The 3- and 6-year-olds gave more right answers in the preparatory condition context (17.28% and 66.66%, respectively) than in the neutral context (6.17% and 38.27%, respectively). This difference did not exist at age 9 (preparatory condition context: 97.53%; neutral context: 96.91%).

At the age of 6, the immediate future led to a greater number of right answers (90.74%) than the simple future (62.03%) ( $F(1, 17) = 35.67, p < .0005$ ), which in turn triggered more right answers than the past tense (4.62%). For the 9-year-olds, the correct answer rate was nearly 100% for all verb tenses (immediate future: 97.22%, simple future: 98.14%, past tense: 96.29%).

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Insert figure 2

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## **DISCUSSION OF EXPERIMENT 2**

The results obtained here validate and further refine our hypotheses on the role of the future in the comprehension of promises, both regarding the early processing of the preparatory condition and the link between text and context. As a whole, the 3-year-olds' performance was poor (approximately 12% of their answers were correct). The results for the 3-year-olds point out the importance of the utterance production context in the comprehension of promises. Note that these children were presented situations in which the "preparatory condition" context was clearly satisfied as well as "neutral" contexts, which were neither explicitly satisfied nor explicitly contravened. The fact that the children gave more right answers in the preparatory condition context than in the neutral one (along with the very low scores obtained in that context) validates the results already obtained by Bernicot and Laval (1996), and suggests that 3-year-olds have not yet mastered the preparatory condition. This result also confirms the facilitating role of the preparatory condition in the comprehension of promise utterances, and in agreement with other authors (Bruner, 1983; Bernicot, 1994; Marcos & Bernicot, 1994; 1997) points out the importance of prototypical situations for young children.

For the 6-year-olds, the overall performance level was about 53%. Performance varied across contexts and tenses. In the preparatory condition context, the best scores were obtained for utterances in the immediate or simple future. In the neutral context, the immediate future gave rise to higher scores than did the other two tenses. In line with our hypotheses based on

Searle's (1979) theory, the future was found to favor the interpretation of the utterances as promises. This result is particularly important for the immediate future in the neutral context, because it suggests that at the young age of 6, children can base their interpretation of utterances on verb tense when contextual cues are lacking. In contrast, 6-year-olds do not yet appear to be capable of using simple future cues in contexts that are not specific to promises. This finding was reinforced by the fact that contextual answers were numerous for utterances in the simple future. An analogous result was obtained for past tense utterances in the neutral context. The results concerning the earlier acquisition of the immediate future compared to the simple future are compatible with past work.

As a whole for 6-year-olds and 3-year-olds alike, right answers in the preparatory condition context outnumbered those in the neutral context, where the scores were particularly low for both the simple future and the past. These results confirm those obtained by Bernicot and Laval (1996), who compared situations that either obviously fulfilled or obviously contravened the preparatory condition. We can therefore assume that 6-year-olds do not fully master the preparatory condition and acquire it after the sincerity condition. Relating language to a theory of mind (Wellman, 1990), we can conclude that during promise comprehension, children take the speaker's intentions into account before considering the listener's desires. Prototypical situations favor the comprehension of promise utterances in 6-year-olds. The importance of context to utterance comprehension is particularly well illustrated by the difference observed between future-tense utterances and past-tense utterances: when the context was specific, utterances in the past tense were interpreted as promises (in this situation, the percentage of wrong answers was as high as 94.44%). We can regard this finding as an indication that verb tense was completely ignored. In a communication situation where textual cues (past tense) and contextual cues (preparatory condition fulfilled) are contradictory, 6-year-olds consider the production context first. The results obtained here for context with the 3- and 6-year-olds are in line with Fayol et al.'s

(1993) findings showing that the production of temporal markers by native French speakers (adults and 10-year-olds) is highly dependent upon the narrative context.

At the age of 9, the children's answers were nearly 100% correct. The lack of a variation across tenses and contexts shows that the children systematically based their interpretation on tense markers in the utterance. This result is particularly interesting for the neutral context, since it clearly demonstrates that when contextual cues are lacking, the interpretation of a promise utterance is based on future tense markers, whether it be the immediate future or the simple future. In other words, it is through the processing of future tense markers that utterances are interpreted as promises.

## **CONCLUSIONS**

The two experiments presented in this chapter highlight the importance of the promise fulfillment preparatory condition in the comprehension of promises : prototypical situations whose preparatory condition is satisfied facilitate the comprehension of promise utterances for the three-year-olds and the six-year-olds. This reinforces the idea that context is very important to explain language acquisition language (Bates, 1976; Bruner, 1983; Ervin-Tripp and Mitchell-Kernan, 1977; Halliday, 1985 ; Laval and Bernicot, 1999; Ninio & Snow, 1996; Tomasello, 2000). Thus, for promise comprehension tested by means of non-verbal behavior, it was shown here that in addition to considering the sincerity condition, mastered from the age of 5 (Astington, 1988b), we had to consider the preparatory condition mastered about the age 9 or 10 (Laval and Bernicot, 1999). Speaker's beliefs and listener's desires are two important elements for the children's comprehension of promises.

The second experiment investigated the precise role of linguistic form in the promise-making statement by comparing statements with verbs in the future tense to statements with other verb forms (see Laval and Bernicot, 1999). It thus appears that context can orient or favor the processing of the textual characteristics of utterances in children aged 3 and 6. It also

appears that textual-cue processing can lead to contextual-cue processing. This tendency starts emerging at the age of 6 and becomes general by the age of 9. For 6-year-olds, whether or not the context is processed on the basis of the text depends on the features of the communication situation. In other words, when promise-specific contextual information is lacking, these children correctly process the immediate future but not the simple future and reconstruct the promise from those markers. These results validate the hypothesis that there is a tight link between textual and contextual characteristics during language acquisition and language functioning.

In everyday situations, what is it that “counts as” a promise? We answer with Mey (2001): “all depends on the circumstances”. In some cases, we pay attention to the people who promise, rather than to their exact words. While in other contexts, we focus on the social frame in which the promise is given. From a developmental point of view, the youngest children give a priority to the social frame when they interpret a « promise » utterance. Then, in our data at the age of 9, they begin to be able to give a priority to the linguistics features.

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Table 1 - Examples of story of the experiment 1

***Satisfied preparatory condition (PC+) and promise-to-act statement*****Picture 1 : theme of story**

Bill is supposed to go to bed at 8:30. He's allowed to look at a book before going to sleep. One night, Bill's father thinks Bill is very tired. He wants Bill to turn off the lights very soon.

**Picture 2 : production of promise-making statement**

Bill says to his father :

"I promise I'll turn out the lights right away".

**Picture 3 : fulfillment of promise**

Five minutes later, Bill's father sees that the lights are out.

**Picture 4.1**

End of story

Bill's father is happy.

**Picture 4.2**

End of Story

Bill's father is unhappy.

***No-satisfied preparatory Condition (PC-) and future-action statement*****Picture 1 : theme of story**

Bill's best friend is called Bungo : it's his dog. They played together all afternoon in the woods and Bungo is dirty. Bungo really needs to be washed, but Bill's father doesn't want Bill to use the hose alone.

**Picture 2 : production of promise-making statement**

Bill says to his father :

"I'll wash Bungo tomorrow".

**Picture 3 : fulfillment of promise**

The next day, Bill's father sees Bill washing his dog with the hose.

**Picture 4.1 :**

End of story

Bill's father is happy.

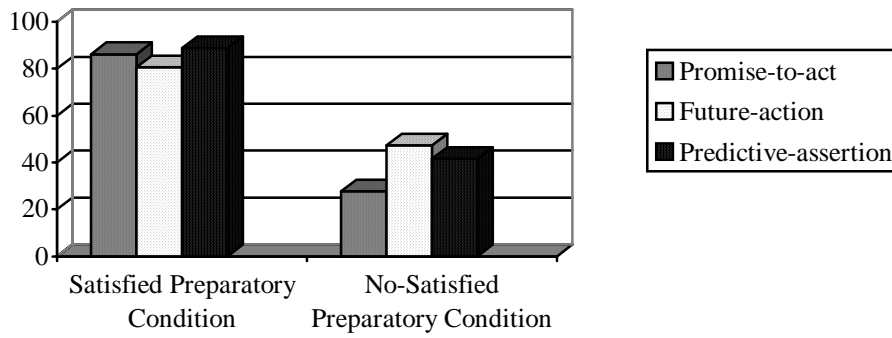
**Picture 4.2 :**

End of Story

Bill's father is unhappy.

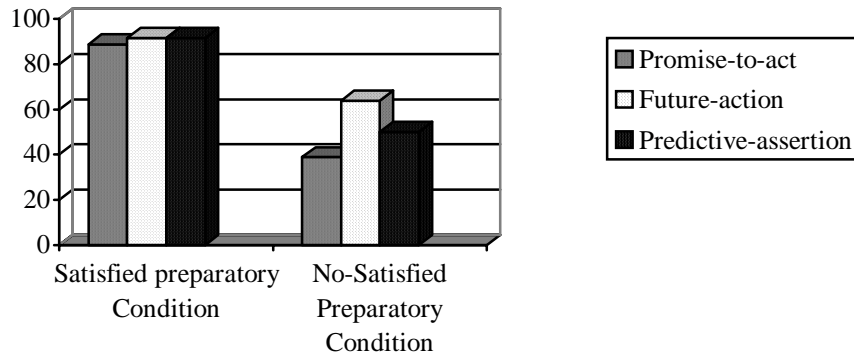
Three-year-olds

Mean RA



Six-year-olds

Mean RA



Ten-year-olds

Mean RA

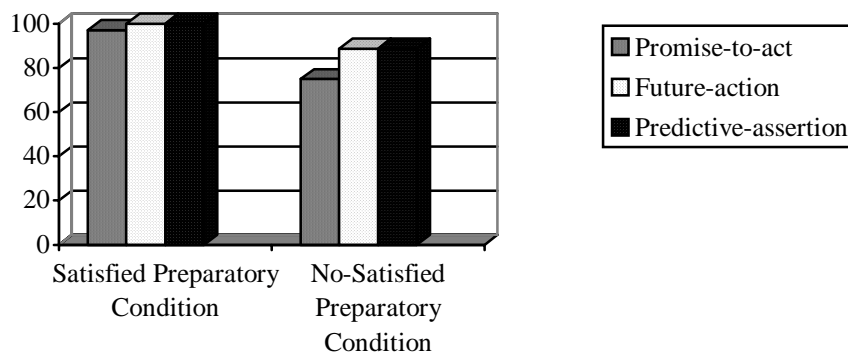


Figure 1 - Mean per-subject percentage of right answers (RA), by subject age (3, 6 and 10), preparatory condition (satisfied, non-satisfied), and linguistic form of the promise (Promise-to-act, Future-action, and Predictive-assertion).

Table 2 - Examples of story of the experiment 2

***Preparatory condition context with immediate future*****Picture 1 : preparatory condition context**

Bill and Loulou are on vacation at the seaside. Building sand castles is one of their favorite activities. Since the beginning of the vacation, Bill and Loulou have had only one shovel. Loulou is building a castle with the shovel.

**Picture 2 : preparatory condition context**

Now Bill has the shovel. But Loulou really needs it to finish his castle or else it will fall down.

**Picture 3 : utterance production**

Bill says to Loulou : "I'm going to give you the shovel"

**Picture 4.1**

Bill gives the shovel to Loulou.

**Picture 4.2**

Bill is still playing with the shovel.

**Picture 4.3**

The two interlocutors are together. Bill and Loulou are playing in the water.

***Neutral context with simple future*****Picture 1 : preparatory condition context**

It's a nice day. After school, Bill and Loulou are going to play on the swings. Loulou is on the swings. The dog is rolling over in the grass next to the swings.

**Picture 2 : preparatory condition context**

Now Bill is on the swings. Loulou is playing with the dog. He's throwing a stick for the dog to fetch.

**Picture 3 : utterance production**

Bill says to Loulou : "I will give you the swings".

**Picture 4.1**

Bill gives the swings to Loulou

**Picture 4.2**

Bill is still playing with the swings.

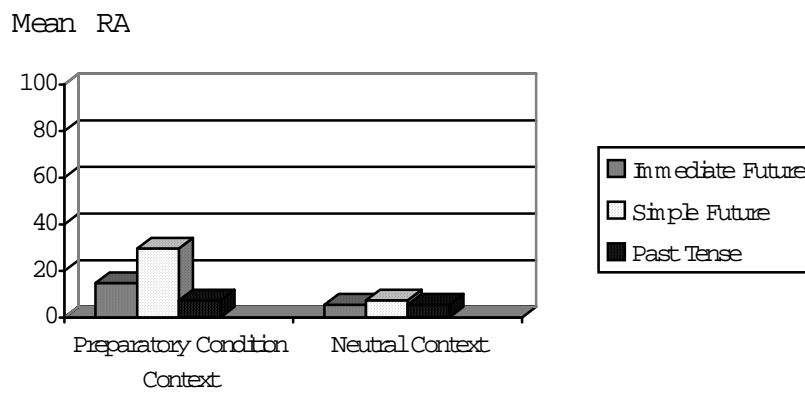
**Picture 4.3**

The two interlocutors are together. Bill and Loulou are playing with the dog.

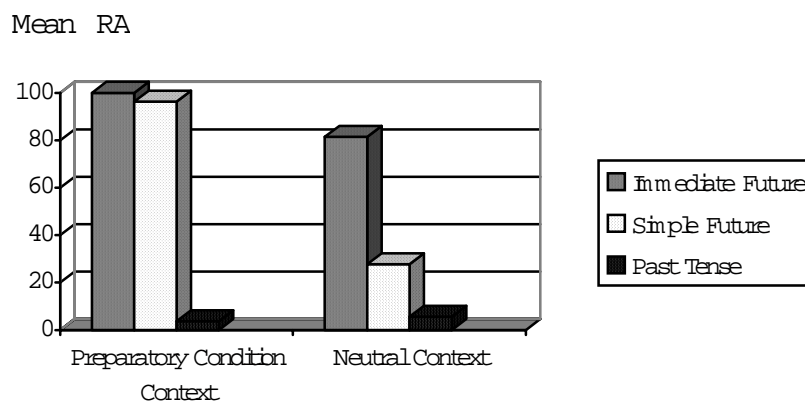
Table 3 - Children's answers coding (experiment 2)

	Immediate future or simple future	Past
Right answers (RA)	Choice 1. Action accomplished	Choice 2. Action not accomplished
Wrong answers (WA)	Choice 2. Action not accomplished	Choice 1. Action accomplished
Contextual answers (CA)	Choice 3. Interlocutors with one of the elements of the setting	Choice 3. Interlocutors with one of the elements of the setting

## Three-year-olds



## Six-year-olds



## Nine-year-olds

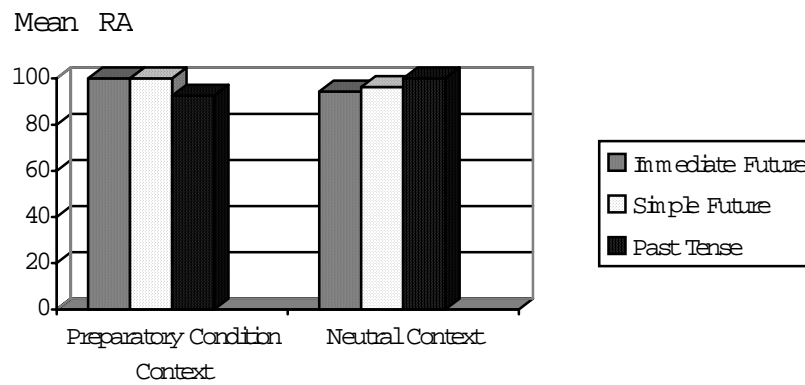


Figure 2 - Mean percentage of right answers (RA), by age (3, 6, and 9), utterance production context (preparatory condition vs. neutral), and verb tense (immediate future, simple future, and past).