Literal meaning and context categories in the attribution of communicative intentions: A developmental study

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Abstract

Studies in developmental literature claim that for young children context plays a more important role than literal meaning in comprehending a speaker's communicative intention. The present study evaluates this claim for different categories of context in children aged 3 to 7 years. In particular, we analyze contexts pertaining to the categories we define as follows: Access, Space, Time, Discourse, Extra-linguistic-behavior and Status. The results of the study show that, for all children, the contexts investigated within the categories Space, Time and Status play a more important role than literal meaning and that, on the contrary, the literal meaning bears a more weight than the context within the category Discourse. We discuss the results in terms of different roles played in different contexts in the reconstruction of a speaker's communicative intention in children of different ages.

Introduction

How do individuals attribute communicative intentions to other individuals? Philosophy of language provides systematic accounts of how it is possible to attribute a meaning to a linguistic utterance (Kaplan, 1989; Montague, 1974; Tarski, 1956). Within the totally different frameworks provided by pragmatics, many studies focus on the role of the context of enunciation of an utterance in comprehending a speaker's communicative intention, hereby the speaker's meaning. For instance, Grice (1967) points out that, in the use of language, some contents are not directly transmitted by words; they are implied from what the speaker utters. In some occasions, he argues, particular contextual features help the hearer to reconstruct the speaker's meaning. Thus, in case of doubt, the context clarifies the meaning an utterance was intended to convey. Clark and Carlson (1981) claim that a listener who is trying to understand a speaker's meaning limits himself to considering the intrinsic context, i.e. the amount of information that may be needed to understand. The choice of a context for the inferential processes involved in comprehension, in Sperber and Wilson's (1986) view, might be partially determined by the contents of the memory (both encyclopedic-general and short-term memory store) of a deductive device and the information that can be picked up from the physical environment. These factors determine not a single context, but a range of possible contexts. In Clark's (1992) formulation the notion of context depends on the notion of common ground. The common ground between two agents consists of the mutual knowledge, beliefs, and suppositions that they may share. Examples are the social norms shared by the members of a particular community (Clark and Marshall, 1992). Gibbs (1986) points out that some particular social contexts like, for instance, the presence of potential obstacles for the addressee in complying with a request, can make a request a conventional indirect. Bosco, Bucciarelli and Bara (2003) propose a taxonomy of different categories of context, which help to reconstruct the speaker's meaning. They claim that the literal meaning of an utterance – which is the result of its syntactical and semantic analysis - is necessary, but not sufficient to reconstruct the speaker's meaning (see also Airenti, Bara & Colombetti, 1993; Gibbs, 1994; Recanati, 1995). The same identical utterance proffered in different contexts can acquire different communicative meanings. For example, as Searle (1975) points out, the status of the speaker can affect the communicative effect of the utterance. He argues that if a general asks a soldier to tidy the room, the request is considered an order or a command. But, if the soldier asks the general to tidy the room, we may consider the request either a suggestion or a proposal. In Bosco *et al*, context is a dynamic interpersonal construct, in continuous progression, possibly oscillating according

to the varying relevance of its dimensions. A series of dimensions enter into the definition of context with different possible levels of importance, according to the specific situation. Each of them may be in turn the fundamental component of the context, as the participants in the dialogue mentally represent it.

Studies in the literature sustain the claim that the same utterance can be assigned a different meaning depending on the context of enunciation. In the study by Bosco, *et al.*'s view, for example, the authors investigate some context categories pertaining to the *physical world* (Access, Space and Time) and some context categories pertaining to the *social world* (Discourse, Extra-linguistic-behavior and Status). They find that, given a specific context category, children assign different communicative intentions to the same speaker's utterance depending on different contexts of enunciation. In particular, this result holds for the categories *Access*, *Space*, *Discourse* and *Extra-linguistic-behavior*. For example, for the category Space, the utterance by the experimenter: 'Look, what wonderful building blocks, let's play with the building blocks!' is interpreted as a *request*, (i.e. bring the construction to the experimenter), in a context where the object is near the child and far from the experimenter, and as a *proposal* (i.e. to start playing together) in a context where the mentioned object is near the experimenter and far from the child. Furthermore, Bosco and colleagues find that the way in which different contexts affect children's reconstruction of a speaker's meaning varies according to the age of the children. In the light of the taxonomy of contexts proposed by Bosco *et al*., previous studies in the literature investigated contexts pertaining to the categories Access, Space and Discourse in adults and children (Ackerman, 1978), Discourse in children (Shatz, 1978), and Space in children (Reeder, 1980).

Other studies in the literature stress the relevance of the context with respect to the relevance of the literal meaning in the reconstruction of the speaker's meaning. They reveal that in young children context has more weight than the literal meaning of the utterance in determining the speaker's meaning. Ervin-Tripp (1977), for example, shows that in early stages of development the context provides an important cue for the reconstruction of the speaker's meaning (see also the study by Ebeling & Gelman, 1994 on 2 year olds). Reeder and Wakefield (1987) studied 3 and 4 year olds' comprehension of requests, questions and offers, under linguistic deprivation conditions. They employed three levels of linguistic information. A full utterance, a truncated utterance which presented only a final object noun phrase, and an acoustically distorted utterance. They find that the performance of 3 year olds is relatively unaffected by the reduction of linguistic information The performance of 4 year olds decreases in the same experimental condition. Authors explain these data by arguing that younger children are not looking for extensive information in the first place. Rather, they find that the information in the contextual display provided is sufficient. In a later research Reeder and Shapiro (1993) presented stimuli items in a pragmatically predisposing (spatial) context, inducing children (both with higher and lower literate experience) to judge the stimulus as a polite request (e.g., 'I want you to look at the books'). They presented the items in two different phonological conditions. In the Intact condition, subjects hear integer studio-recorded stimulus items, in the Distorted condition they hear the identical items acoustically-distorted. The authors find that the group with higher literate experience demonstrates more linguistic dependence than contextual dependence. Globally considered, these data suggest that young children and children with lower literate experience are more context dependent, whereas older children and children with higher literate experience are more dependent on the linguistic information. A prediction one could derive from these studies is that when context and literal meaning diverge in the interpretation they suggest for a communicative act, young children tend to rely mostly on contextual information, whereas older children tend to rely mostly on linguistic information. Nonetheless, as the study by Bosco *et al.* (2003) suggests, different categories of context might play different roles in determining the reconstruction of the speaker's meaning in children of different ages. Thus, when context and literal meaning diverge in the interpretation they suggest, children's reconstruction of a speaker's meaning, should be studied taking into account different context categories.

Experiment

The literature suggests that when the context and the literal meaning of an utterance differ in the interpretation they suggest, then young children's comprehension will depend on contextual information. Our aim is to verify whether such a claim is still valid for contexts pertaining to different context categories. We devised an experiment whereby the literal meaning of an utterance contrasts with the context in which the utterance is proffered. In particular, we investigate the following context categories (see Bosco *et al*., 2003).

Access: defined as having access to the physical object to which the communicative act refers (e.g., an object on which to carry out an action).

Space: defined as the spatial distance between (or among) agents and objects of the physical world to which the communicative act refers (e.g., the distance between the hearer and the object).

Time: defined as the temporal sequence of the events to which the communicative act refers (e.g., the order in which the actions performed by the agents evolve).

Discourse: defined as the information conveyed through discourse before the communicative act was

performed (e.g., what has been previously said by the speaker).

Extra-linguistic-behavior: defined as the extra-linguistic behavior performed by the agents while proffering a speech act (e.g., the behavior performed by the actor).

Status: defined as the social status of the agents (e.g. the status of the speaker is higher than the status of the hearer).

An example for the context category *Access* is the following task:

[1] Experimenter: 'Please give me the teddy bear that is on the chair'.
On the chair there is only a doll.

If the *context* is more relevant than the literal meaning, we expect the child to give the experimenter the doll, otherwise, if the *literal meaning* is more relevant we expect the child to either say that on the chair there is a teddy bear, or to look for a doll.

Material and Procedures

The experimental protocol consists of 10 tasks, 2 tasks for each of the context categories investigated (see the Appendix). The experimental material consists of some colored crayons, a pencil, an eraser, a box, some candies and some building blocks. The experimenters (two) visited the day-care centers and the primary schools of the children for several days beforehand, in order to socialize with them. Children then dealt with the experimental tasks individually and in a quiet room. All speech acts were proffered *in vivo* directly to the child by one of the experimenters. In each task the experimenter was instructed to use the same paralinguistic cues (intonation of voice, prosody, eye direction) in proffering the utterance. Children were told that they were going to play a game with the two experimenters. In a warm-up phase Experimenter 1 (E1) says to the child: 'Now we are going to play a game. You are this lady's (*pointing to Experimenter 2: E2*) helper. She is bad tempered and she gets easily angry. Don't ask for explanations about what she says, just do what you think is best. In a warm-up session, which lasted approximately 10 minutes, the lady interacted with children either by posing questions or making requests. Then the real experiment started. E1 says to the child: 'The Lady has fallen down and hit her head and now she is a little bit confused. It is difficult to understand what she wants. However, don't worry and behave as you think is best. But always do something, otherwise she gets angry!'. Now, you can color these drawings. When the lady wants to call you, she will ring the bell. When this happens you must go and see what she wants. Are you ready to play?'. Between one experimental task and the other the child was asked to do a drawing. This procedure was necessary in order to allow the experimenters to devise the experimental material and setting for each specific task.

Participants

Seventy-two children participated in the experiment, 24 in each of the following age groups: 3 to 3;6 (mean age: 3;3), 4;6 to 5 (mean age: 4;10), and 6 to 7 (mean age: 6;9), balanced by sex. They were randomly selected from four different schools in Turin.

Results

Table 1 shows the mean percentages of the responses determined by the context and by the literal meaning.
Figure 1 shows the mean percentages of the responses determined by the context in the three groups of children (the balance to 100 is the percentage of responses determined by the literal meaning). We analyzed the results by comparing the percentages of children's responses determined by the context and those determined by the literal meaning. The global results concerning the category *Access* show no difference in the role played by context and literal meaning (Wilcoxon test overall subjects: $z = -1.77$, $p = .08$). The same result holds for 3-3;6 year olds (Wilcoxon test: $z = -1.41$, $p = .16$) and 4;6-5 year olds (Wilcoxon test: $z = -1.6$, $p = .11$). Results differ for 6-7 year olds, whose responses are more affected by the literal meaning rather than by the context (Wilcoxon test: $z = -3.21$, $p < .001$).

	Access	Space	Time	Discourse	Extra-linguistic-behavior	Status
Context	42	63	66	22	49	62
Literal meaning	58	37	34	78	51	38

Table 1. Percentages of responses determined by the context and by the literal meaning overall children

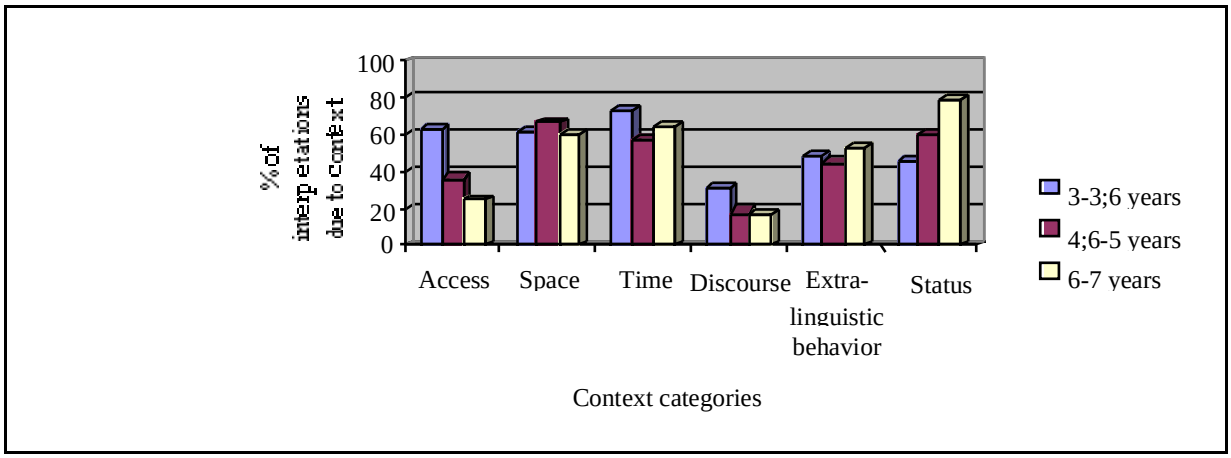

Figure 1. Histogram of the percentages of responses determined by the context in the three groups of children.

Global results concerning the category *Space* show that the responses affected by the context are more than those affected by the literal meaning (Wilcoxon test overall subjects: $z = -3.53$, $p < .0004$). The same result holds for 3-3;6 year olds (Wilcoxon test: $z = -2.12$, $p = .03$) and 4;6-5 year olds (Wilcoxon test: $z = -2.14$, $p = .03$). In the 6-7 year olds' group, the difference is not statistically significant (Wilcoxon test: $z = -1.89$, $p = .06$). The global results concerning the category *Time* reveal that children's responses are more affected by the context than by the literal meaning (Wilcoxon test overall subjects: $z = -4.04$, $p < .0001$). The same result holds for 3-3;6 year olds (Wilcoxon test: $z = -3.32$, $p = .0009$) and 6-7 year olds (Wilcoxon test: $z = 2.65$, $p = .008$). In the 4;6-5 year old group we detected no significant difference (Wilcoxon test: $z = 1.004$, $p = .32$). The global results concerning the category *Discourse* show that responses are more affected by the literal meaning than by the context (Wilcoxon test overall subjects: $z = -5.81$, $p < .0001$). The same result holds for 3-3;6 year olds (Wilcoxon test: $z = -2.83$, $p < .005$), 4;6-5 olds (Wilcoxon test: $z = -3.64$, $p <.0003$), and 6-7 year olds (Wilcoxon test: $z = -3.58$, $p < .0003$). Global results concerning the category *Extra-linguistic-behavior* show no difference in the role played by the context and the literal meaning (Wilcoxon test overall subjects: $z = -0.19$, $p = .85$). The same result holds for 3-3;6 year olds (Wilcoxon test: $z = -0.33$, $p = .74$), 4;6-5 year olds (Wilcoxon test: $z = 0.58$, $p = .56$), and 6-7 year olds (Wilcoxon test: $z = -0.71$, $p = .48$). Global results concerning the category *Status* show that the responses affected by the context are more than those affected by the literal meaning (Wilcoxon test overall subjects: $z = -3.16$, $p <.002$). The same result holds for 6-7 year olds (Wilcoxon test: $z = -3.74$, $p < .0002$), but not for 3-3;6 year olds (Wilcoxon test: $z = -1$, $p = .32$) and 4;6-5 year olds (Wilcoxon test: $z = -1.51$, $p = .13$).

As regards developmental aspects, within the category *Access*, the performance of the three groups of participants differ significantly (Kruskall-Wallis test: $H = 10.13$; $p = .006$), and as the age of the participants increases so does the children's dependency on the literal meaning. An increase in age decreases the dependency on the meaning suggested by the context. The same result holds within the category *Discourse* (Kruskall-Wallis test: $H = 5.89$; $p = .05$). Also, within the category *Status*, the performance of the participants differs according to age (Kruskallis Wallis test: $H = 15.96$; $p = .0003$). Only this time, the older the child the more dependent he is on the meaning suggested by the context and the less dependent he is on the literal meaning. Within the category *Time* the performances of the three groups of children differ significantly (Kruskall-Wallis test: $H = 8,49$; $p < .01$), but no trends appear in the relationship between the sort of interpretation and the increase in age. Finally, within the category *Space* the performance of the three age groups does not differ (Kruskall-Wallis test: $H = 3,23$ $p = 0.2$). The same result holds within the category *Extra-linguistic-behavior* (Kruskall-Wallis test: $H = .35$; $p = .84$).

Conclusions

In the present study we explored the role of context and the role of literal meaning in the process of attribution of intentions in those cases where they suggest a contrast in meaning. The global results show that, when the natural interaction between context and the flow of discourse is deranged, then the contexts investigated within the categories *Space*, *Time* and *Status* bear more weight than the literal meaning for all children. On the contrary, the literal meaning has more importance than the context if we consider the category *Discourse.* The same result holds for the context category *Access*, but only for 6-7 year olds. The only context category in which we found no significant difference is *Extra-linguistic-behavior.*

The results analyzed within a developmental perspective reveal that for the category *Access* literal meaning plays a major role for older children than for younger ones. As regards the category *Space*, the context is a very important source of information for children up to the age of 5, but from 6 years upwards the literal meaning of the utterance becomes more relevant. In the category *Discourse*, the context is more important for younger children than for older ones. However we ought to consider that children begin primary school at the age of six, thus improving in their mastery of literacy. For this reason they could also be more sensitive to the linguistic features of a communicative act than to the contextual ones. The results for the category *Time*, reveal that the context heavily affects the interpretation of the hearer for both younger and older children: notwithstanding the percentage for the middle age group of children is 58% in favor of context; this is not however statistically significant. The results for the category *Status* are quite different in that they reveal that, from 6 years upwards, the context is more important than the literal meaning: The only category in which we found no significant difference among age groups is *Extra-linguistic-behavior.* A possible explanation is that, in the relative tasks, the brief interaction between experimenter and children did not allow them to identify the behavioral move bid by the experimenter. Thus, among the context dimensions investigated, we found different results depending on the specific category of context analyzed. This result favors of the adoption a taxonomy of context categories; any claim concerning context/s ought to be validated through the different categories.

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Appendix. The experimental protocol.

Access

1) Experimenter: 'Hi, how are you? What's your name? Well I'm writing it down because I'm a little bit forgetful and if I write it down I won't forget it. Ah,

I've made a mistake, I'll have to rub it out, please give me the eraser that is on the table'.
On the table there is only a pencil.
If the context is more relevant...
Child gives the pencil to the experimenter
If the literal meaning is more relevant...
Child says that on the table there is a pencil, but not an eraser
Child looks around for an eraser

2) Experimenter: 'Please give me the teddy bear that is on the chair'.
On the chair there is only a doll.
If the context is more relevant...
Child gives the experimenter the doll
If the literal meaning is more relevant...
Child says that on the chair there is a teddy bear
Child looks for the teddy bear

Space

3) *Experimenter and child are near to each other, near the experimenter there is a crayon box. Experimenter, looking at the child says:* 'I can't reach the crayons'.
If the context is more relevant...
Child looks for other crayons
If the literal meaning is more relevant...
Child gives the experimenter the crayons

4) *Experimenter is sitting near a toy-telephone, child is far from her. Experimenter says*: 'Please bring the telephone here'.
If the context is more relevant...
Child looks for another telephone
If the literal meaning is more relevant...
Child comes near the experimenter and stretches the telephone out to her.

Time

5) *Experimenter n° 1 (the Lady) throws away experimenter n°2's crayons* . Experimenter *n° 2* says: 'Oh, my crayons! You threw all of them away!'. *Then, experimenter n° 1 offers a box of candies to experimenter n° 2, who says*: 'I like candies, thank you!'. *Experimenter 1 leaves the room, and experimenter 2 says to the child*: 'Do you think the Lady was kind with me before?'
If the context is more relevant...
Child says 'yes'
If the literal meaning is more relevant...
Child says 'no'

6) *Experimenter n° 2 to experimenter n° 1 (the Lady) :* 'I'd like a candy. Would you give me one?'. *The Lady gives experimenter n° 2 a candy.* Experimenter *n°* 2: 'Thank you!'. *The Lady pulls experimenter n°* 2*'s hair.* Experimenter *n°* 2: 'That hurt!'. *The Lady leaves the room.* Experimenter *n°* 2 to the child: 'Do you think the Lady was naughty with me before?'
If the context is more relevant...
Child says 'no'
If the literal meaning is more relevant...
Child says 'yes'

Discourse

7) In *between the child and experimenter there are two baskets: in the first basket there are red apples, in the other one, there are yellow apples.* Experimenter: 'Yesterday I met my grandmother and she gave me some red apples, I like red apples very much, they are sweet and juicy. Now I'd like to eat one, please give me a yellow apple'.
If the context is more relevant...
Child gives the experimenter a red apple
If the literal meaning is more relevant...
Child gives the experimenter a yellow apple
Child asks for explanations

8) Experimenter: "Yesterday a friend of mine gave me some strawberry candies, which I like very much. I was lucky, because I only had lemon candies, and I don't like them. Now I 'd like a candy, please give me a lemon candy." *On the table between experimenter and child there is a basket containing both lemon and strawberry candies.*
If the context is more relevant...
Child gives the experimenter a strawberry candy
If the literal meaning is more relevant...
Child gives the experimenter a lemon candy

Extra-linguistic-behavior

9) *Experimenter asks the child for some help to tidy some wooden building blocks. The experimenter says, while starting to play with the building blocks*: 'Let's put everything tidily in this box'.
If the context is more relevant...
Child starts playing with building blocks
If the literal meaning is more relevant...
Child tidies the building blocks

10) *Experimenter says, while sitting on a carpet on the floor:* 'Now we are going to sit down on these chairs'.
If the context is more relevant...
Child sits on the carpet
If the literal meaning is more relevant...
Child sits on a chair

Status

11) *There is a box, which is not near the experimenter. The experimenter says*: 'I would like to get the box'
If the context is more relevant...
Child takes the box to the experimenter
If the literal meaning is more relevant...
Child waits

12) *Experimenter is not near the closed door. She says*: "I would like to open the door"
If the context is more relevant...
Child opens the door
If the literal meaning is more relevant...
Child waits