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Does a good argument make a good answer? Argumentative reconstruction of children's justifications in a second order false belief task[☆]

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ABSTRACT

This paper proposes a novel approach to interpret the results of a classical second-order false belief task (the ice cream man task) administered to children in order to investigate their Theory of Mind. We adopted a dialogical perspective to study the adult-child discussion in this research setting. In particular, we see the adult-child conversation as an argumentative discussion in which children are asked to justify their answers to the questions asked by the researcher. We analysed the specificities of the research setting as an argumentative activity type; we reconstructed and analysed the children's answers on the basis of two models taken from Argumentation theory (the *pragmatic-dialectical* model and the *Argumentum Model of Topics*). Our findings show that some of the children's partially "incorrect" answers depend on the pragmatics of the conversation, the relation between explicit and implicit content, and a misunderstanding of the discussion *issue*. Other "incorrect" answers are actually based on correct inferences but they do not meet the researchers' expectations, because the children do not share the same *material premises* as the researchers. These findings invite further research on children's reasoning and on the characteristics of argumentation within a research task.

1. Introduction

Within the theoretical framework of Theory of Mind, the present contribution deals with an unedited theme. Theory of Mind (ToM) is defined as the ability to attribute mental states (e.g., thoughts, beliefs, desires, intentions) to others (Wimmer & Perner, 1983). Understanding mental states allows explaining observable events by inferring unobservable entities (beliefs, desires, etc.). It also involves an understanding of the fact that others' mental states may differ from one's own, and may differ from reality.

In this study, we intend to show that interpreting a Theory of Mind research setting from an argumentative viewpoint might shed

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new light on children's answers to a false belief task's (a ToM task) questions and hence on the meaning of their performances. An argumentative perspective on the results of this task enables us to draw attention to what premises are shared between adults and children, what types of arguments children use when they justify their statements in response to the "test question" and what possible misunderstandings might arise in the conversation. In particular, our study sets out to identify what type of arguments 10-year old children use when they attribute a false belief to a story character (i.e., they give an answer expected by the adult researcher), as well as when they give an answer that deviates from the adult's expectations.

The false belief task, which we have selected for this study (see Section 2.1), assesses the children's ability to recognise that another person could believe something that the child knows to be false. The interpretation of a child's attribution of mental states in such tasks is usually *monological* by Theory of Mind approach, i.e., it is centred on the individual's capacity to accommodate alternative perspectives. In this paper, we will consider the same task and the children's answers from a *dialogical* perspective, enabled in particular by Argumentation theory. According to this approach, the child is not seen as an isolated speaker who reacts to a task, but as an *inter-locutor*, who reflects on the task, on the setting and on the meaning of what he or she is told by the adult.

In the *monological* approach of classical Theory of Mind research, the adult researcher is considered a "neutral" presenter of the task. On the contrary, in a *dialogical* perspective, we make the hypothesis that, in the child's eyes, the adult is not neutral; he or she is an interlocutor who is conducting a dialogue with the child. Hence, children try to make sense of what adults say; children also need to interpret what the adult requests from them, according to an agenda that is unknown to them and that they need to infer from the adult's speech and behaviour. In sum, we propose a shift in the epistemological perspective adopted to analyse the results of the false belief task: we move away from a monological interpretation of the children's answers and adopt a dialogical frame, considering that knowledge is always co-constructed by adult and child in interaction (Gilli & Marchetti, 1991; Perret-Clermont, Perret, & Bell, 1991). In other words, we consider the rigid question-and-answer setting that is typical of the false belief task as the setting of an ongoing dialogue.

If one accepts this epistemological shift, a fundamental misalignment between adult and child is immediately made visible. In fact, while the child might believe that he or she is taking part in an open dialogue, researchers consider the same situation as very closed, because they expect children to answer their questions by selecting possible answers from a very restricted paradigm. Adult and child, thus, are not "playing the same game". We might say that they are not taking part in the same conversation, which is extremely important if we consider that children's understanding of the relevance and purpose of researchers' questions influences the quality of their answers (Siegal, 1997).

Previous research has shown that this adult-child misalignment might be partly explained by considering Grice's (1975) principle of cooperation. After having defined principles of cooperation in conversation (*conversational maxims*), Grice observed that conversational rules are often broken by the speakers; in natural talk, this gives rise to *conversational implicatures*. As Siegal (1991) suggests, children are sophisticated when they use conversational rules in everyday natural talk, but they appear more limited in contexts in which adults have suspended the "normal" conversational rules. In a research setting, it might not be obvious for a child to interpret a situation in which an adult researcher seems either to violate conversational maxims or to ask the children to violate them. For example, researchers may ask questions to children (in the case discussed in this paper, these are closed questions) in which the answer is brief, obvious or repeated (Siegal, 1991). It might not be evident for a child to understand how to answer such questions. It is not easy, for example, to state the obvious if this is requested by an adult's question, because stating the obvious violates the "maxim of quantity", which is normally used in conversation, and which states that speakers should be as informative as possible and give as much information as is needed and no more. Moreover, children may misinterpret the researchers' purpose or their use of language, responding incorrectly because the conversational worlds of adults and children clash, as Siegal (1991) suggests, and not because they do not know the answers. Children may perceive researchers' questions as irrelevant and/or deceptive, while researchers may assume that children share the same meaning of certain words with them when it is not the case. Siegal's observations raise important questions about the *reasons* behind answers that are traditionally codified as "correct" or "incorrect" ("right" or "wrong") in situations such as the false belief task.

In the present contribution, we take all these observations into account and we propose to respond to the following research questions: what inferences do the children do when they justify their ("correct" or "incorrect") answers? Where do possible misunderstandings between adults and children lie? What is there, at the inferential level, behind the answers that are traditionally considered "mistakes" in the perspective of Theory of Mind? And how does the dialogue between adult and child – within the constraints imposed by the specific setting of the false belief task – impact on these inferences? In order to answer these questions, we propose to analyse the findings of a false belief task moving from the perspective of Argumentation theory. More specifically, we consider the research situation as a context of social interaction in which both participants are engaged in a dialogue and, more specifically, in an *argumentative discussion*, because children are explicitly asked to *justify* their answers. In fact, as van Eemeren and Grootendorst (2004) put it, 'argumentation is a verbal and social activity of reason aimed at increasing (or decreasing) the acceptability of a controversial standpoint for the listener or reader, by putting forward a constellation of propositions intended to justify (or refute) the standpoint before a "rational judge"'. Argumentation, thus, is central to the question-and-answer process that happens in the false belief task. Moreover, argumentation studies in the last decade have emphasised the influence of context on dialogue and argumentation. Building on this research, we will be able to specify how some of children's inferences might be constrained by the specific setting in which the discussion takes place, thus taking into account Siegal's observations discussed above. In sum, adopting the perspective of argumentation enables us to clarify what inferences the children do when they give 'correct' or 'incorrect' answers, whilst at the same time it enables us to situate the children's inferences within the context of the social dialogic interaction that takes place in the research setting.

Notably, even though many studies have shown a significant relationship between language measures and children's performance

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