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YOUNG CHILDREN'S ARGUMENTATIVE CONTRIBUTIONS

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26.1 Introduction

Young children's participation in argumentative discussions has not always been the subject of scholarly attention. In Aristotle's works on rhetoric and inference (notably, the *Rhetoric*, *Topics*, and *Sophistical refutations*), which are often considered the starting points of argumentation studies (at least in "Western" culture), children were almost invisible. If we fast-forward through time to 1958, Perelman and Olbrechts-Tyteca (1969[1958]) famously published *La nouvelle rhétorique* at the same time as Toulmin produced *The Uses of Argument* (1958). With their clear focus on the professional uses of argumentative speech employed by adults in the juridical domain, neither work gave particular attention to younger interlocutors.

In the last decades, however, children's argumentation has made an appearance in argumentation studies. This has increased with the recent wave of empirical studies that consider *contextualized* argumentation. In this setting, understanding children's contributions to argumentation means including perspectives on families and other educational contexts such as schools or kindergartens. Often, given the complexity of interactions in which children are involved, argumentation studies are intertwined with studies in other disciplines, notably education and psychology, where the study of children's argumentation has been established for longer (see the discussion in Larráin & Fortes De Macêdo, 2020).

In considering the research on children's argumentation, we can distinguish two different orientations. First, several studies on children's argumentation in school contexts have focused their attention on the teaching of argumentative *skills*, their assumption being that these skills can be learned or improved through education (Kuhn, 1991). According to this view, children need to develop their skills in order to become competent arguers, able to produce complex and relevant argumentation. Central to this stream of studies is the normative *assessment* of children's argumentative skills (present for example in the review article by Rapanta, Garcia-Mila & Gilabert, 2013), which are often compared to those of adults, who are seen as fully fledged images of what children will become if helped by educational endeavors. The objective of these approaches is to develop school programs that allow students to develop their critical thinking, to build their minds (Resnick & Schantz, 2015), and to take part in a responsible way in democratic discussions, learning to listen and to be accountable for their own contributions (Littleton & Mercer, 2013). These school programs intend to equip young pupils'

civic education with debating skills on controversial issues (Hess, 2009); in this framework, the students' existential or ethical questions are enriched by open debates around philosophical questions (Liberali et al., 2016; Schwarz & Baker, 2017). At the same time, science education is seen as an opportunity to discover how knowledge is constructed in a continuous argumentative collective process of confrontation between empirical data and theoretical models (for a review, see Simon, Erduran & Osborne, 2006; Erduran & Jiménez-Aleixandre, 2007). These topics are the object not only of scholarly research but also of debate and educational reform in different countries. As a whole, from a psychological perspective, these activities focus on the *individual* child, who is viewed as needing to be equipped for his or her life in society.

A second, “dialogical”¹ orientation takes a different perspective and, consequently, uses a different unit of analysis. It sidesteps any specific teaching goal, in order to consider the *conversation* in which the argumentation takes place and from which it derives its meaning (see e.g. Sommer, Pramling Samuelsson & Hundeide, 2010). Scholars who assume this perspective set out to analyze how children contribute to argumentative discussions and what they try to do when they argue in context, sometimes considering linguistic and argumentative indicators as revealing of children's argumentation. As a rule, these researchers move away from a comparison between children and adults, and from the presumption that argumentation can be reduced to a predefined set of skills that need to be taught. Thus, these scholars center their attention on the conversation in which the argumentation takes place and which needs to be considered for a pragmatically complete understanding of its meaning. They examine what is already present in children's argumentative interventions and when, why, and how children reason in dialogue. Several, though not necessarily all of these studies, consider children in informal settings (family discussions, situations in which children are playing) or in educational situations in which they are truly motivated by a goal they want to reach. These studies reveal that even young children whose language competence may be seen as still unsophisticated are competent arguers, provided they are offered adequate social space to contribute actively to the ongoing discussion and are permitted to take the initiative.

To start entering into the perspective of this dialogical research stream, we discuss an example, taken from Schär (2021, pp. 125–126), which concerns the interaction between Elina² (three years and eight months) and her father, a game designer. They are playing a memory board game in which participants are supposed to find pairs of identical cards, which are placed face down. According to the usual rules of the game, each participant should turn over two cards per turn. Elina, however, tries to turn over a third card, only for her father to criticize her behavior on the basis of the rules (“no hand on Elina it's not your turn,” Schär, 2021, pp. 125–126). Elina, however, resists her father's argument by proposing a counter-argument based on her experience in daycare:

15	Elina	nei das hemr z Chrabolino ³ mal so zwoi gmacht	<i>no we did this in Chrabolino two times</i>
16	Father	du hesch ja zwoi gno	<i>you did take two</i>
17	Elina	aber ich z Chrabolino het nomal zwoi mache nomal zwoi mache nomal zwoi mache und nomal zwoi mache=	<i>but in Chrabolino i took two again took two again took two again and took two again=</i>
18	Father	ja de bisch ja numeno du dra=	<i>yeah but then it's only you playing=</i>
19	Elina	und nomal zwoi mache	<i>and took again two</i>

(Extract from Schär, 2021, p. 126, including translation from the original in Swiss German)

Talking about this conversation, Schär (2021, p. 126) notes that the sentence structure used by Elina at turn 15 “does not correspond to the one normally used in this variety of Swiss

German," adding that this might be possibly due to the child's bilingualism: "Elina speaks Armenian with her mother" and "she masters two languages at the age of 3:8 years" (ibid.). In this sense, Elina's language skills are still developing; but her argumentative contribution clearly appears at turns 15 and 17, when she gives reasons for the course of action that she favors (i.e., turning over three cards). In fact, in those turns, Elina shows that she has understood her father's arguments but she makes an objection that contrasts the authority of the rules (considered as an implicit and presupposed starting point by her father) with a different authority, namely what she has learnt at her daycare "Chrabolino." In this way, she uses the same argument as her father, based on an appeal to authority; but she allows herself to find a different source of authority to rebut the presupposed starting points of her father's argumentation.

This example shows in practice how a dialogue-centered perspective on children's argumentation (like the one adopted in Schär, 2021, from which this example is taken) privileges the study of children's language considered as a contribution to an interaction and not as an individual production *in abstracto*. In general, individual argumentative skills are not center stage in this research stream because its core concern is neither the assessment nor the reaching of predefined teaching goals. Rather, scholars who assume this perspective study the *interaction* or ongoing *dialogue* in which children intervene (Section 26.2), including its implicit components that might shed light on the children's (and adults') language behavior (Section 26.3). Nevertheless, this perspective might lead to educational consequences with adults invited to enrich children's argumentative resources when they need them, and mediate their conflicts in ways that open children to alternative modes of managing their relations through argumentation (e.g., Hannken-Illjes & Bose, 2018).

This dialogical perspective has existed for decades in education and psychology, and is also found in argumentation studies that closely consider children's speech. In particular, a recent wave of research on adult-child and child-child argumentation, located at the intersection between linguistics, argumentation, and developmental sociocultural psychology, analyzes the interactions between adults and children, and among children themselves, often adopting approaches drawn from conversation analysis or the pragma-dialectical model of argumentation (see van Eemeren, 2018 for a presentation of this model). In this chapter, we choose to primarily focus on the aforementioned dialogical approach, which we think reveals interesting characteristics of adult-child and child-child communication, drawing on a careful consideration of the use of language in interaction.

On this basis, we group the most promising areas of research around three central topics: namely, *the dialogue*, *the implicit content*, and *the context*. All of these are related to the topic of children's language. In fact, dialogue explains how children's verbal contributions need to be analyzed within a pragmatic interpretation (Section 26.2). The implicit content, as we will argue, is probably one of the most important aspects that allows us to understand children's argumentative productions, which are often enthymematic. In this sense, a careful linguistic consideration of implicit content is needed to understand how children use language to persuade and communicate (Section 26.3). In order to understand children's language production and argumentation, we need to discuss how it is related to conditions that are present in its context (Section 26.4). Finally, we draw some conclusions and discuss possible openings in Section 26.5.

Before continuing, we note that observing children in the process of making argumentative contributions may also enrich the development of argumentation studies in contexts in which (only) adults are involved. This might invite discussion and perhaps the revision of argumentation models and assumptions normally applied to adults (Nonnon, 2015, pp. 2–3). Adults, in fact, also constitute "growing minds" when they are required to transform their understanding

to face new situations and contexts (Zittoun & Perret-Clermont, 2002, 2009). To mention but one example, the continuous change to established routines at work brought about by the COVID-19 pandemic since early 2020 has required adults to adapt to new contexts (places, platforms, home as office, etc.), to demonstrate resilience and, hence, to reason in new ways.

26.2 The Dialogue

We consider dialogical approaches to argumentation those that focus on the “process” of argumentation, namely the discussion and the reasoning in which inference is contextualized in a social relationship. In this sense, argumentation is generally recognized as deriving from some form of disagreement (Lewiński & Mohammed, 2016). Among dialogical perspectives, Schwarz & Baker (2017, p. 68) distinguish between *dialogical-discursive* approaches (such as Plantin, 1996) and *dialogical-structural* approaches, such as pragma-dialectics (van Eemeren & Grootendorst, 2004; van Eemeren, 2018). Adopting a dialogical approach means considering argumentation as a contribution to a critical discussion rather than as an “isolated” individual product. In this perspective, argumentation takes place within a specific context “that binds, more or less explicitly, the issues, mutual expectations, interactions, rules and scripts” (Perret-Clermont et al., 2019, p. 214; see also Nonnon, 1996 on this point). In the words of Schwarz & Baker (2017, p. 74):

Monological approaches would see a dialogue as a finished product, a text, to be understood with a God’s eye view, whereas in an interactive dialogue the “text”, its meaning, are constantly and dynamically being co-created and co-interpreted by the participants.

Adopting this dialogical perspective means putting the interaction center stage, considering children – even young children – as rational interlocutors,⁴ asking questions such as: What are the legitimate issues? How is dialogue related to context (see Section 26.4.1)? Is context understood in the same way by all actors? To cite an example from the field of sociocultural developmental psychology, Pramling & Säljö (2015), studying Piagetian clinical interviews with children, suggest that one gets a very different view of how children solve traditional psychological tasks if one considers the adult-child conversation as a communicative interaction instead of focusing on the assessment of children’s reasoning individually: children as interlocutors rather than objects of research. As anticipated in Section 26.1, this means reconstructing their language productions on the basis of argumentation models, without focusing on assessing their competence; some scholars have noted that focusing too much on how skills develop over time and with education might carry the risk of considering children as “deficient” social actors and interlocutors, thus overlooking what they can actually do in pursuit of assessing what they should be doing (cf. Perret-Clermont et al., 2019). Dialogical studies, indeed, show that, if given the space, children can be sophisticated arguers (see e.g. Pontecorvo & Fasulo, 1997; Stein & Trabasso, 1982).

This dialogical perspective, which has existed for a long time in sociocultural developmental psychology (see e.g. Light & Perret-Clermont, 1989; Sommer et al., 2010), is gaining traction in argumentation studies. In recent years, there has been a new wave of studies in conversation analysis, discourse analysis, and argumentation, which consider young children’s contributions to argumentative discussions as dialogical settings (e.g., Migdalek, Santibáñez Yáñez & Rosemberg, 2014; Hauser & Luginbühl, 2015; Hannken-Illjes & Bose, 2018; Convertini, 2021; Schär, 2021).

So far, these studies have generated interesting findings. First, with regard to the *goals* of children's contributions to argumentation, looking at young children's peer-to-peer discussions, Hannken-Illjes and Bose (2018, p. 4) observe that they can see "frequent instances of reason giving, despite the absence of an openly marked local dissensus." As we might say, children use arguments to give reasons and ask for reasons, even when they are not involved in polemical situations. The authors conclude that argumentation practices are often embedded within *highly cooperative environments*. Moreover, Iannaccone, Perret-Clermont and Convertini (2019) have noted that children's argumentation can tend towards an *exploration* of possible worlds, which means that young arguers do not necessarily start out with a fixed standpoint to defend, but co-construct standpoints and arguments and reason as they go along (see also Greco Morasso, Miserez-Caperos & Perret-Clermont, 2015 on this point).

A second important finding is that children do not only respond to adult-induced argumentation, but they are equally able to *make their own contributions* and even *open argumentative discussions and sub-discussions*, when they feel there is a need for this, for example raising objections or discussing adults' implicit premises, when they are not fully convinced by adults' interventions. These results are in line with a previous stream of studies within argumentation research, which concentrated on argumentation within *natural conversation*, considering how argumentation emerges from disagreement. According to this view, argumentative discussions start to repair "broken conversational episodes" (Lewiński & Mohammed, 2016, p. 10), with parties "becoming aware that they have a disagreement that makes some sort of difference to one or the other of them" (Jackson, 2015a, p. 246; see also Jacobs & Jackson, 1981, p. 123; Jackson, 2019) in the course of a discussion. In some cases, a statement uttered by an adult as non-argumentative is questioned by a child, who thus opens an argumentative discussion or sub-discussion, making the adult's statement a "virtual standpoint" (van Eemeren et al., 1993, p. 96); that is an assertion is interpreted by a hearer as a standpoint even though the speaker regarded it as non-argumentative (Jackson, 1992; van Eemeren et al., 1993, p. 96; Schär & Greco, 2018; Fournel & Perret-Clermont, forthcoming).

In particular, recent empirical findings on adult-child and child-child discussions suggest that children are not passive contributors but active inter-agents in argumentation, for example when they ask questions and turn adults' assertions into virtual standpoints. Indeed, argumentation is often child-initiated, as shown in the typology of the emergence of issues for argumentation presented in Schär and Greco (2018) and further elaborated in Schär (2021). Some studies in this area investigate children's speech acts such as, in particular, why-questions (Bova & Arcidiacono, 2013; Breitholtz & Howes, 2020) and their connection to argumentation. Another recent study focused on children's use of adversative connectives (German *aber*, French *mais*, Italian *ma*, corresponding to English *but*) in a multilingual corpus of young children's discussions (Rocci et al., 2020). This study shows that children's uses of adversatives may correspond to "a whole (and complex) range of possibilities in constructing counter-argumentative moves" (Rocci et al., 2020, p. 91), such as rebutting defeaters going against adults' standpoints and arguments (ibid.), or cases in which *but* introduces the externalization of inner argumentation, or again "situations where *but* can connect a previous action with propositional contents" (ibid.). Together with other authors, in Perret-Clermont et al. (2014), we presented an example which is particularly revealing about how *but* can be used by children to turn adults' assumptions into virtual standpoints. We are now going to briefly rediscuss this example, as presented in Perret-Clermont et al. (2014), highlighting its relevance to the present chapter. A six-year-old child visits a submarine museum ship in Italy and goes on a guided tour. The tour includes an explanation of how the submarine, which belonged to the Italian army and was named *Toti* after a war hero, was launched after World War II (in 1967) and had

the task of monitoring enemies' moves. Some days later, talking to his mother, the child talks about "the lady" who was accompanying the group of visitors at the museum and voices an objection, introduced by *but*:⁵

But the lady said that the Toti had to go around and control enemies. But *what enemies* – if the war was over?"

(Perret-Clermont et al., 2014, p. 268)

Two aspects of this example contribute to highlighting the importance of dialogue in understanding children's argumentation. First, by asking this question, the child questions an adult's assertion (ibid., pp. 268–269); as we may add, he turns it into a virtual standpoint (van Eemeren et al., 1993, p. 96), implicitly asking for a justification of what he probably perceives as a bizarre use of the word "enemies." In this sense, if we consider the child's utterance in the context of what happened before (his visit to the museum, a sentence heard in the context of a guided tour), we understand how the child makes an active contribution to argumentation. He has not only listened and understood what the adult meant, but he also dares to question what the adult takes for granted. In other words, at the linguistic level, the child's question targets the existential presupposition (for a discussion on this notion, see Franck, 1972) triggered by the term "enemies." This term had been used by the museum guide, who claimed that the *Toti* submarine had to patrol the sea *because it had to monitor enemies*. In fact, not knowing about the dynamics of the Cold War, the child doubts whether enemies still existed after the end of World War II (see the discussion in Perret-Clermont et al., 2014). Second, we note the importance of adopting a dialogical perspective, because the child does not respond to the museum guide directly during the public tour. He waits until he can speak to his mother, some days later, to raise this objection. This suggests the context of the discussion may be important for children's argumentation to emerge. Although we do not know for sure why the child talks to his mother and not to the museum guide, it is reasonable to raise the point that both the asymmetry with the museum guide as an official operator and the design of the communicative situation (e.g., whether one has time and space to raise questions during the guided tour) might have had an impact. What we know for sure is that the child did ask a question in a dialogic situation in which the relationship with his mother granted him space to talk (see Section 26.4 for more considerations on dialogic argumentation).

26.3 The Implicit Content

Studies of children's argumentation have often highlighted the importance of considering implicit dimensions; they show that taking implicit (unexpressed) premises in the argumentation into account can cast a new light on adult-child dialogue, especially when young children are involved. Most studies consider the importance of implicit components of *argumentative inference*, that is the inference that is present in children's (and adults') argumentative contributions. However, more generally, it is also important to consider the importance of the implicit in *pragmatic inference*, that is inference that speakers use to reconstruct language meaning. Pragmatic inference is necessary in all types of communication, including persuasive communication; in this latter, it guarantees "that arguments are well-understood so that they can play their intended role" (Oswald et al., 2020, p. 3). Notably, pragmatic inference and argumentative inference are related and the former impacts on the latter (Oswald et al., 2020). On this basis, Greco et al. (2018, pp. 444–445) advocate for the adoption of a principle of "pragmatic integrity" and "inferential integrity" when analyzing children's argumentative contributions; these principles

highlight the importance of studying acts of inference in argumentation not as isolated products, but as part of a dialogical interaction.

“Pragmatic integrity” means that “children’s arguments should be seen as part of an ongoing discussion, which must be comprehensively taken into account in order to understand their inferences” (Greco et al., 2018, p. 445). To cite an example, Lombardi et al. (2018, p. 24) analyze from an argumentative viewpoint the answers to a Theory of Mind “false belief task,” that is a standard psychological task administered to children to understand their Theory of Mind thinking skills. They note that, while researchers sometimes expect full disclosure of the premises of the children’s reasoning that underpin their answers, this expectation may run counter to the normal flow of conversation, and particularly the Gricean maxim of quantity: children might think that it is superfluous to mention aspects that they have already discussed earlier with their adult interlocutors, and which these latter supposedly know very well. Similar observations, also related to children’s answers to false belief tasks, were made earlier (Siegal & Peterson, 1994). All in all, these studies remind us that in evaluating children’s answers we need to take into account the conversational context, which influences their choice about what to express through language and what to leave implicit. We would consider the same for adults’ communication and there is no reason why basic principles of communication (such as Grice’s (1975) maxims) should be suspended when we consider children’s contributions.

Even more interesting in relation to children’s argumentation is what is implicit in their argumentative inferences, that is in the arguments they convey. “Inferential integrity” means that children’s inferences must be reconstructed carefully, including implicit premises (Greco et al., 2018, p. 445).

26.3.1 Using Argument Schemes to Reconstruct Implicit Premises in Children’s Argumentation

In a study dating back to 1997, Anderson et al. observe that the answer to the question “How good are children’s naturally occurring arguments?” (Anderson et al., 1997, p. 136) depends on the adults’ and researchers’ interpretation of the notion of “good.” In particular, these authors insist that, if one adopts “charitable interpretations of children’s arguments” (ibid.), it will become clear that their contributions are sound from a logical point of view: “the form of children’s arguments is acceptable, as long as you take the perspective of an actively cooperative participant in the discussion” (ibid., p. 166) and reconstruct missing premises that children seem to take for granted because of the conversational context (ibid., p. 138), thus producing enthymematic argumentations.

More recently, several argumentation studies have observed that a precise understanding of implicit premises in children’s argumentation might cast a different light on their contributions. Scholars have proposed the use of *argument schemes* (or *argumentation schemes*), that is abstract tools to reconstruct the inferential structure of arguments including their implicit premises, to better grasp children’s starting points and understand their contributions to argumentation (Banks-Leite, 1999). In educational contexts (although not with small children), Konstantinidou and Macagno (2013) and Macagno and Konstantinidou (2013) propose the use of argument schemes to reconstruct tacit premises, relying on the typology of argumentation schemes developed by Walton and colleagues (see Walton, Reed & Macagno, 2008, for a synthesis). Bova (2019) contributes to a well-established research stream on conversation at the family dinner table (see Pontecorvo & Arcidiacono, 2007), adding an argumentation-oriented perspective informed by the study of inference. He uses the Argumentum Model of Topics or AMT (Rigotti & Greco Morasso, 2010; Rigotti & Greco, 2019) to unravel recurrent argument

schemes used in family discussions at mealtimes (Bova, 2019, p. 134) and, in some cases, to analyze conflicts that relate to explicit or implicit premises in adults' and children's inferences (see e.g. *ibid.*, p. 105).

26.3.2 Different Types of Premises in Children's (and Adults') Argumentation

In a series of works concentrating on very young children in family and kindergarten settings, members of the project ArgImp – “Analyzing children's implicit argumentation: reconstruction of procedural and material premises”⁶ – adopted the AMT model (see Rigotti & Greco, 2019) to reconstruct adults' and children's implicit premises. Before presenting an example of this type of analysis and showing its relevance to an understanding of children's argumentative contributions, in the following paragraphs we briefly illustrate the main features of this model, as described in Rigotti and Greco (2019).

The AMT is a model for the reconstruction of argument schemes, which draws on the tradition of the *topoi-loci* that derived from Aristotle and was developed further throughout the subsequent Latin and Medieval traditions. At the same time, the AMT provides a novel re-elaboration of the tradition and puts it in dialogue with contemporary approaches to argument schemes (or argumentation schemes, depending on different approaches). A distinguishing feature of the AMT is the neatly defined distinction between premises of a *procedural-inferential* nature and premises of a *material-contextual* nature which is particularly helpful in shedding light on children's contributions. Although stemming from a different disciplinary tradition, these argumentative premises are conceptualized in a similar vein as Piaget and Inhelder's (1967) distinction between physical (or socio-conventional) experience and logical experience.

The premises of an *inferential-procedural* nature derive from the *locus* (the Latin translation of the ancient Greek metaphor *topos*), that is the source of the argument. In particular, each locus gives rise to a series of (mostly) “if ... then” premises that are called *maxims*, and are at the basis of the inferential configuration of arguments.

Each argument also includes a *material-contextual* component, which includes two types of premises that anchor the argument scheme to the contextual and cultural background of the interlocutors: a general statement working as a major premise is called an *endoxon* (plural: *endoxa*) and a minor premise of a factual nature is called a *datum*. The term *endoxon* is reminiscent of Aristotle's concept of general principles adopted by the majority, but has been revised to indicate values or general opinions shared by the interlocutors in a specific argumentative discussion. The material-contextual component and the inferential-procedural component are intertwined; taken together, these two syllogistic structures support the standpoint, which coincides with the conclusion supported by the argumentation.

Now, studies adopting the AMT model in the context of adult-children discussions (e.g., Greco et al., 2018; Convertini, 2019) have shown that misunderstandings and discrepancies between adults and children tend not to depend on the procedural-inferential component but rather on the material-contextual component. In other words, it is often material-contextual components and, in particular, *endoxa* that children and adults do not share. On the contrary, procedural-inferential premises have been found to be similar for adults and children in these studies; additionally, children have often been able to understand adults' arguments from an inferential point of view (see the examples and the discussion in Greco et al., 2018).

In what follows, we consider two illustrative examples, in which an AMT reconstruction shows the relevance of grasping the difference between material-contextual and procedural-inferential premises in the reconstruction of children's premises that remain implicit in their

contributions to argumentative activities. To start with, we reconsider ~~here~~ an example of children's argumentation proposed by Sommer, Pramling Samuelsson and Hundeide (2010, p. ix) which we reinterpret with the AMT (see the reconstruction in Figure 26.1). The example is as follows:

Peter (five years old) and his father are walking together to daycare. Sunshine is reflected in an oil spot on the road. "Look dad!" Peter yells: "a dead rainbow!"

In this example, five-year-old Peter is applying a cause–effect inferential relationship that binds an effect (lying horizontally) with a possible cause (being dead). In terms of the AMT, this is based on a *locus from efficient cause* applied in a direction of reading that goes from the effect to a (possible) cause. In some accounts, this is called *argument from sign* or *symptomatic argumentation* (cf. Rigotti & Greco, 2019, p. 259). Admittedly, this locus is not always logically cogent (because the same effect can derive from different causes); nevertheless it is often (more or less cautiously) applied in adults' reasoning, as for example in the medical domain, where symptoms are taken as manifestations of certain diseases, at least as provisional hypotheses. Now, what makes us smile about Peter's example is not a lack of inferential strength, as the underlying inferential principle is analogous to one used by adults (e.g., medical doctors) in other circumstances. Arguably, what an adult might not agree with is the material-contextual *endoxon* which is implicitly recalled by Peter's argument (see Figure 26.1), namely that "being dead is the (only) cause for lying horizontally." Adults know that there might be other causes for lying horizontally, and we also know that a rainbow does not really "lie down" but is reflected in the oil spot as a consequence of physical laws. Thus, the short argumentation that Peter addresses to his dad is not wrong in an inferential sense; it is based, however, on an *endoxon* which could be further discussed, and probably will be, as Peter grows up.⁷ Figure 26.1 presents the AMT reconstruction of Peter's argumentation.

Perret-Clermont et al. (2015) discuss a similar case, fully analyzed in Miserez-Caperos (2017). A group of children (around 11 years old) is trying to find out whether there is a loaded

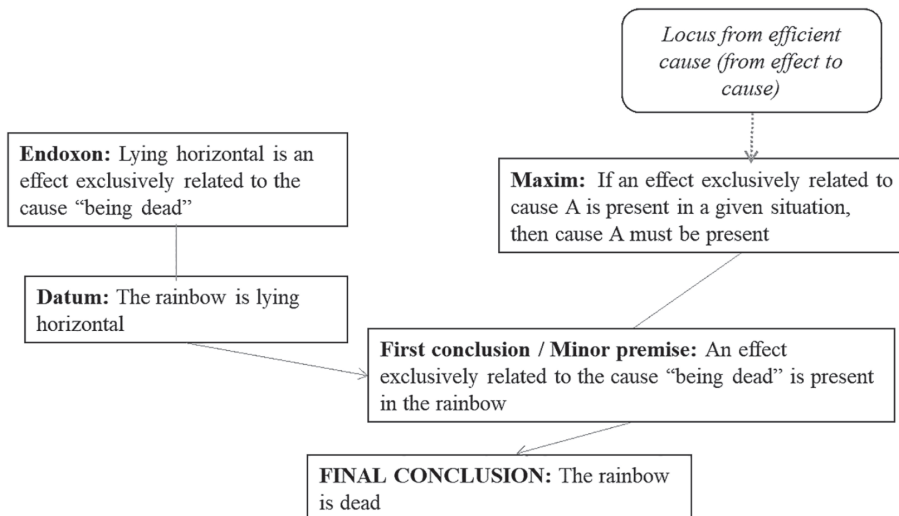


Figure 26.1 AMT reconstruction of the inferential configuration of Peter's argumentation.

die in a group of dice. After testing their physical behavior, they still have no clue about how to answer this question; at that point, one of them, Antonin, suggests that the loaded die could be the one “with black spots.” When the adult researcher asks him what having black spots implies, Antonin (surprisingly) replies, spelling out what could be considered a cultural stereotype, perhaps even with racist connotations: “Well, white, white is good. And black is evil.”⁸ When another child supports him considering that “often in movies black is evil and white is good,” Antonin adds “like Yin and Yang” (see Perret-Clermont et al., 2015, pp. 139–140). From a purely inferential viewpoint, as in the case of the “dead rainbow,” in this case we also observe children correctly applying inferential principles – here, Antonin is suggesting some form of causal correlation, whereby having a certain characteristic (black spots) is the cause of a certain behavior. On the other hand, Antonin and his friend introduce a (problematic) *endoxon* “black is evil, white is good” related to cultural stereotypes that may have been learnt in the traditions the children mention. Of course, this is not an answer the adult researcher was expecting for an activity that was supposed to concern the physical behavior of dice! However, the children mobilize an implicit cultural premise that they have somehow been exposed to (the reference to the movies is interesting in this regard).

In another research project (Lombardi et al., 2018), which was mentioned above in Section 26.3, it was shown that even “wrong answers” in cognitive Theory of Mind tests administered to children might derive from arguments that do not have the same cultural–contextual premises as the arguments expected by adult researchers. Indeed, some of the “mistakes” observed by researchers seem to be due to adult–child misalignments in *endoxa* rather than to the inferential element of argumentation (Lombardi et al., 2018).

How these specific findings on the difference between inferential-procedural and material-contextual premises could be taken up in educational programs is not the focus of this research stream, but they seem to suggest paths for further research in education. To mention just two possible working hypotheses: first, these findings might suggest that educational programs could be more efficient if they did not start from the implicit assumption that children need to be taught argumentation from scratch, because very young children already use argumentation; and they do have knowledge and understanding of some inferential principles very early on. The focus could be, thus, more on what they already do and know than on what they lack in comparison to adults. Second, a possible way to further reflect on these findings is to reconsider children’s “mistakes,” looking at whether they include inferential mistakes or rather *endoxa* that are different from those expected by adults.

26.4 The Context

Building on what we have seen in the previous sections, we can add that the dialogical dimension and the implicit dimension present in children’s language production need to be understood within the context in which children’s contributions are situated. In this section, we consider two salient aspects, which emerge from the research on children’s argumentation and have important implications for argumentation studies in general. First, studies developed from a psychological perspective clearly show that argumentation contexts are to a lesser or greater extent open to the interpretation of those participating in the interaction depending on their interpretation of what is being said (Section 26.4.1). Second, research on children’s argumentation is probably one of the most dynamic contexts, in which the question of the design of the argumentation has been tested (Section 26.4.2), showing that argumentation does not always occur “spontaneously” in interaction, as certain conditions are needed for argumentation or reason-giving to develop.

26.4.1 Contexts Are Open to Interpretation

When Elina raises her objection to her father about the rule of the memory game they are playing (Section 26.1), through her verbal contribution, she replaces the authority of the father with the authority of the daycare. This aspect is important for argumentation studies. In fact, to date, argumentation studies have mainly considered how institutionalized contexts impose *constraints* on the possibilities for developing argumentation. In van Eemeren's terms (2015, p. 65), they consider how "the possibilities for strategic manoeuvring are determined by the institutionally motivated extrinsic constraints." However, as Perret-Clermont (2006, p. 184) notes, "context is not common a priori" for social actors: the meaning of a given setting is attributed by the social actors themselves depending on how they interpret this setting in broader institutional frames, and this is partly revealed through dialogue. Sociocultural developmental psychology has shown that argumentation is "a socially and culturally situated activity" (Muller Mirza et al., 2009, p. 80); it is imbued with "the echo of other situations, of other contexts, which enter into dialogue and into tension, charged with questions of identity, with belongings to social groups" (Muller Mirza & Buty, 2015, p. 16, the quote is our translation from the original French). Even in school contexts, reconstructing argumentation involves also considering the historical tradition of the institutions, the rights and duties associated with the different roles of teacher and student, the didactic contracts, and power and authority (ibid., p. 18). In sum, all these aspects co-construct how actors interpret the institutional context they inhabit. As Grossen (2010, p. 4) reminds us, Lewin's "originality was to consider that individual behavior cannot be understood independently of the field or life space in which it occurs (Lewin, 1951b)" and, in line with this perspective, "the physical environment (or the 'context') is not only external, it is constructed by the subject who actively interprets it. ... The context in which the subject acts is also an outcome of his or her own psychological activity."

It might be, for example, that in an educational context "the learners, as actors in this specific institutional situation, may not consider themselves as authorized to participate in building knowledge" (Muller Mirza et al., 2009, p. 86). Individuals participate in broader groups "which have developed traditions concerning the division of roles and status, who may take the floor and when, and for what purpose" (ibid., p. 87). For example, six-year-old children who are asked the same questions at kindergarten or at the beginning of primary school performed and answered differently depending on how they interpreted the researcher's identity: as a "lady who likes playing with children" or as "a teacher coming to do school matters with them" (Schubauer-Leoni, 1990; Iannaccone & Perret-Clermont, 1993). In sum, the consideration of context that emerges in studies considering children's argumentation is extremely *dynamic*, as it takes into account how actors interpret what is said. Hence, context is not the source of some "mechanical" direct influence but a place of complex interactional processes between individuals and material (physical, cultural, institutional) rules and meanings.

26.4.2 Contexts Can Be Designed to Provide Space for Argumentation

We have noted above, when talking about the "submarine" example, that the child's objection to the museum guide is raised later, as the child addresses his mother. While there might be different reasons for this decision, this detail invites reflection about what spaces for argumentation are given to children in adult-designed settings.

In education there is a long tradition of studies on the design of pedagogical spaces (in a physical as well as metaphorical sense) for children's and adolescents' argumentation in the

classroom (for an early review, see Pontecorvo, 1993; see also Andriessen & Schwarz, 2009, p. 145). Resnick and Schantz (2015) argue for the design of argumentation spaces in school, arguing that schools “should start creating intelligence, deliberately developing the reasoning abilities that are each person’s birthright” (pp. 343–344), instead of relying on a supposed predetermined intelligence to preselect students and give them different types of education. If schools become more argumentation-oriented, “for students everywhere, greater intelligence can become the result, not the cause, of doing well in school” (ibid., p. 348).

The approach developed over decades in the UK by Neil Mercer and colleagues within an education and research program called Thinking Together provides a prime example of design (Littleton & Mercer, 2013). These authors notice that educational talk is not always equally productive in promoting *interthinking* (Mercer, 2000), that is an exploratory dialogue that is critical and imbued with argumentation (for more discussion, see Greco, 2020). On the basis of this research program, Littleton and Mercer (2013) distinguish between three types of talk in groups, which are different in quality. In *disputational talk*, there is overt disagreement, while participants make little effort “to pool resources” and “the atmosphere is competitive rather than co-operative” (p. 15). *Cumulative talk* gives the false impression of agreement, while in fact participants “repeat and elaborate each other’s ideas, but they don’t evaluate them carefully” (p. 16). Finally, it is only in *exploratory talk* that “reasoning is ‘visible’ in the talk” (p. 16): as Mercer (2009, p. 185) puts it, explorative dialogue is a form of argumentation-based interaction. On the basis of this empirically grounded typology of modes of talk, some rules and practices can be established for designing spaces for discussions that will be more conducive to *interthinking* and explorative dialogue (Littleton & Mercer, 2013, p. 38).

Studies on children’s argumentation have been significant in their highlighting of the importance of the design of argumentation activities; such importance, indeed, goes well beyond school contexts, as illustrated by a recent wave of studies on the design of communication and argumentation (Jackson, 2015a; Aakhus, 2007). In the words of Jackson (2015a, p. 244): “Taking a design perspective means, among other things, recognizing contemporary argumentation as a set of historically situated practices,” which can be improved by design. In other words, talking about design means drawing attention “to what can be done to make individuals and societies more or less reasonable” (Jackson, 2015b, p. 242). This perspective on argumentative speech does not consider individual dialogic episodes but the conditions necessary for those episodes to exist.

In particular, in order to develop and flourish, children’s (but also adults’) argumentation needs to be granted a “dialogue space” (Greco, 2018, 2020), that is a space for the development of an argumentative discussion. This concept draws on Perret-Clermont’s (2015) metaphor of the “architecture of social relationships,” in turn inspired by Rommetveit’s “architecture of intersubjectivity” (Rommetveit, 1976): third parties, such as teachers who want to promote argumentation in the classroom, or parents who wish to build argumentative families, may design spaces to improve socio-cognitive dialogic exchanges in social interaction. Grossen & Perret-Clermont (1992, p. 288) consider these third parties as the “guardians” of safe spaces for thinking and social interaction – which include, one might add, safe argumentative dialogue spaces.

More specifically, the design of spaces for argumentation has consequences for how children’s speech acts are considered. It has been noted that the “freedom rule” of argumentation should be reconsidered, not only as the opportunity to advance standpoints and arguments (“Parties must not prevent each other from putting forward standpoints or casting doubts on standpoints” – van Eemeren & Snoeck Henkemans, 2017, p. 163) but also as the opportunity to open new discussion issues and sub-issues, even for persons who are in an asymmetrical

position, such as a learner or a young child within an adult-led discussion (Schär, 2021). In this chapter, we have seen different examples in which the importance of the setting has emerged: the “submarine” case, as well as the “memory” case, show that children speak in situations in which they are allowed the space and feel permitted to do so. Recent research has also shown that sometimes adults, even when they have the intention of promoting children's argumentation, cut out children's interventions that open unexpected argumentative sub-discussions, thus going against the freedom rule without explaining to the children the reasons why they do so (Greco, Mehmeti & Perret-Clermont, 2017).

Going beyond adult-child argumentation, this question might be transferred to other contexts in which there is asymmetry between the interlocutors, for example in corporate contexts. In fact, one might question how much space corporate hierarchies and rules allow for argumentation to develop, in particular in relation to challenging presupposed content and (thus) opening sub-discussions.

26.5 Conclusions

In this chapter, we have identified three main topics around which the research on children's argumentation shows promise, namely: the dialogue, the implicit (enthymematic) content, and the context. Epistemologically, we have mainly followed the line of thought that considers children's argumentation as part of an ongoing interaction, because, in our view, this line of thought can yield fruit at the level of the study of argumentative dynamics.

First, focusing on dialogue, we discussed those approaches that consider adult-child and child-child *conversations* as the central unit of analysis of children's contributions to argumentation. Second, we noted that an appropriate methodological choice when looking at children's language is reconstructing *implicit* content; such reconstruction is helped by linguistic indicators of argumentation. Focusing on the consideration of implicit premises in children's (and adults') argumentation might reveal potential sources of misunderstanding where material-contextual premises (particularly *endoxa* in the considered examples, but also *data*) are not shared. Finally, the analysis of the *contexts* of children's argumentation raises fundamental questions on the role of adults (not only teachers but also parents, relatives, and educators) in designing spaces for children's argumentation and guaranteeing that they are safe. It shows that designing a space for children's argumentation means being open to children questioning presupposed content and opening sub-discussions.

These three areas – the dialogue, the implicit, and the context – have all shown potential to draw together in a fruitful manner research from argumentation, informal logic, linguistics, and conversation analysis with research in psychology and education. The need for more bridges across these different disciplines is evident, if one wants to comprehensively consider a topic as delicate as children's argumentation without oversimplifying either what is meant by “argumentation” and what it involves on the linguistic pragmatic level, or the psychosocial dynamics in which argumentation assumes its meaning.

Finally, as we have seen throughout this chapter, when children's argumentation acquires a more central role within argumentation studies (which presently are still mostly focused on adult professional discussions), the findings derived from its study could illuminate other domains and remind us that adults too are “growing minds” (Section 26.1) and develop through argumentation in social interaction. Concepts such as “guardians” of safe dialogue spaces especially in asymmetrical contexts (Section 26.4.2), or the identification of misalignments in *endoxa* as potential sources of misunderstandings (Section 26.3.2), might, for example, ignite new discussions in contexts in which adults are involved.

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Notes

- 1 In this chapter, when we use the adjective *dialogic*, we mean “relative to dialogue.” When we use the adjective *dialogical*, we do so in accordance with a theoretical tradition that postulates that dialogue should be the basic “unit of analysis which should be adopted to analyze human behavior” (Grossen, 2010, p. 4). According to this tradition, “the unit of analysis is the interaction as a whole, for example the individual and their social and physical environment” (ibid., our emphasis); dialogue is considered as “embedded in its socio-historical contexts” (Marková, 1990, p. 1). We have discussed the implications of adopting this scientific posture in the study of children’s argumentation elsewhere (Perret-Clermont et al., 2019).
- 2 This name, and all children’s names in the chapter in the examples collected by the authors, have been changed in order to guarantee the anonymity of the participants. This example was collected in Switzerland.
- 3 *Chrabolino* is a pseudonym referring to Elina’s daycare.
- 4 Similar considerations about children as rational interlocutors have been expressed in children’s sociology: “Adults most often view children in a forward-looking way, that is, with an eye to what they will become – future adults with a place in the social order and contributions to make to it. Rarely are they viewed in a way that appreciates what they are – children with ongoing lives, needs, and desires” (Corsaro, 2005, p. 6).
- 5 It is “*ma*” in the original Italian text, translated into English by Perret-Clermont et al. (2014). Notably, the first *but* introduces a new discussion issue in the child–mother interaction, problematizing what the museum guide said; the second *but* introduces a real rebuttal.
- 6 ArgImp was supported by the Swiss National Science Foundation from 2015 to 2019 (see Acknowledgments).
- 7 Notably, also in the other examples considered throughout this chapter (the “submarine” example as well as the “memory game” example), the premises that were not aligned with the adult’s were *endoxa*. In “memory game,” it is the source of authority that is under discussion. In “submarine,” it is the definition of enemies.
- 8 We hesitated to give this example because of its correlation with systemic racism. However, despite this problem (or perhaps because it is so problematic?), the example is useful because it illustrates how, when in a given society stereotypes and prejudices are present in the symbolic language of games, movies, etc., children are induced to reason on such premises because they know that they are shared *endoxa*. In this specific case, the kids giggled when they spelled out their reasoning, ~~probably~~ because they became conscious of the racist possibilities in such talk.

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