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1. Introduction

The paper aims at the analysis of children's arguments. Paraphrasing the words by Piaget "There is no better introduction to child logic than the study of spontaneous questions" (Piaget 1971, 162), it could be stated: "There is no better introduction to child logic than the study of their

argumentation".

Many scholars have investigated children's argumentation (see, for example, the works of J. Piaget 1967, R. Maier 1991, M. Miller 1987, C. McCall 1991). A very impressive list of literature on children's argumentation can be found, in particular, in rather an interesting article by D. Brownlee and I. Fielding 1991. Yet, I claim that children's arguments until recently have been examined insufficiently. In the paper I will make an attempt to analyse them from different perspectives and as thoroughly as possible.

As D. Brownlee and I. Fielding correctly mention, "Determining the extent to which children's argument has been studied depends upon how one defines "argument"" (D. Brownlee and I. Fielding 1991, 1198). In other words, it is important to clarify first whether children use "arguments" in the sense which is understood by scholars and whether children use arguments in general. With regard to the latter C. McCall writes: "... can young children reason? One might reverse the question and ask why should young children be excluded from the category of reasoners? There is no doubt that many theorists do so exclude them". (C. McCall 1991, 1192). I can't but agree with the author who states that "it is a large step from saying that ... children do not perform correctly to saying that children are *uncapable* of reasoning." (C.McCall 1991, 1192).

As an argument in favour of this thesis C. McCall correctly claims that "evidence that children do not do X, does not imply that they cannot do X... young children who are not exposed to situations which require reasoning will not do well on tests for reasoning skills, but this does not mean that they do not have the capacity to reason" (C. McCall 1991, 1193). Little children not only *can* reason and use arguments – they *do* reason and use arguments, though in a very specific

way. In other words, children's argumentation can be viewed as a very specific phenomenon typical of children only and denoting their own, a very special way of giving reasons and persuading. As it is correctly mentioned by K. Chukovsky, a famous Russian investigator of children's discourse, adults often use such expressions as "childish logic", "to reason like a little child", "to be as silly as a child" when speaking about a person who talks nonsense. But if we try to penetrate into child logic and reasoning, we can see the desire of a child to comprehend the surrounding world and to establish causal relationship between life phenomena (K. Chukovsky 1990, 154). That is why the notion of "children's argumentation" should be distinguished from that of "childish argumentation", the latter characterizing some adults.

The data for the research were extracted from several sources: a) recorded spontaneous discourse of my two children during the age period from 2,5 to 11, b) several diaries of Armenian parents, c) K. Chukovsky's (1990) book "From two to five", which contains speech corpora of little children of different nationalities, collected for several decades. Thus, the factors of different cultural and social backgrounds, as well as the diachronic aspect were taken into account.

First, the whole corpus under investigation was classified thematically, according to the particular topic of argumentative discourse: discourse concerning birth, death, philosophical problems, time and age, sex differentiation, animated and inanimate objects, family ties. Then the arguments have been examined from the point of view of their form of manifestation, structure and character. Finally, a comparative analysis has been made.

2. The analysis of children's arguments

The results show that taken the parameter of the level of representation, or form of manifestation, explicit, implicit and partially-implicit arguments can be singled out in children's discourse.

Explicit argumentative discourse takes mainly the form of causal and conditional utterances, which is typical of adults' argumentative discourse as well. Below are examples of *explicit* causal argumentative discourse:

"I'll not become an academic *because* Lenin was the cleverest academic and died, and I don't want to die" (Ara, 5 years old).

"The woman was crying *because* she had died" (Tatevik, 3 years old). The indicator of argumentation here is the conjunction "because". Here is an example

of an explicit argumentative discourse in the form of a conditional with the indicator of argumentation "if": "*If* Tateveik and I don't give birth to children we'll die and the Zilfugarians' family will not exist anymore. We don't want it to happen" (Ara, 7 years old).

Regarding the conditionals in children's reasoning, it should be mentioned that all types are used: both real and unreal conditionals. This fact proves that children differentiate the modality of reality and irreality, the pragmatic meaning of such utterances, and express their attitude towards facts and situations accordingly. Here is an example of a real conditional utterance:

On my refusal to give birth to a brother or sister for the birthday, my son said: "If you don't, I'll ask Daddy to do it" (Ara, 7 years old).

And in the following counterfactual conditionals, in addition to the modality of irreality, the pragmatics of disapproval is expressed as well: "If I knew that the world was so bad, I'd not like to live in this world" (Ara, 8 years old).

A little girl to her mother: "If I knew that you are so disgusting, I would never be your daughter".

Let us consider now cases of *partially-implicit* argumentation in children's dialogic discourse. In the following discourse the first utterance "Tatevik, don't make Mummy angry, otherwise she won't bring us a child. She must go to a hospital in Yerevan and buy there a child for us" (Ara, 6 years old) can be easily transformed, due to the conjunction "otherwise", into an explicit conditional utterance of the form: "Tatevik, don't make Mummy angry, because if you make her angry, she won't bring us a child".

Once my 5 year-old son suggested to me the following formula of immortality: "I've had the idea of doing so that you'll never die. Be a good man, and you'll never die". The second utterance here, due to the use of imperative mood in the antecedent, as well as the conjunction "and" can be easily transformed into an utterance with "if": "If you are a good man, you'll never die". Another illustration of partially-implicit argumentation is the following:

"Are fascists buried deep in the earth so that they won't come out of there when they recover?" (Ara, 4 years old).

Here the indicator of partially-implicit argumentation is the conjunction "so that". Let us consider the following dialogic discourse:

"I don't know yet of the way how not to have bad dreams". "You think of nothing". "To think of nothing means to die" (Ara, 8 years old). The last part of this discourse can be considered as partially-implicit conditional, with the indicator of argumentation "means".

Now, let us pass on to the analysis of *fully implicit* argumentation.

Little George has cut a worm in two.

"Why have you done it?"

"The worm was bored. Now there are two of them. They are having fun now".

5 year-old Ara says about his younger sister:

"She'll never die, it happens not in life but only in tales".

Before leaving for Belarus I asked my son what present he would like to get, adding that he shouldn't be offended if there were no fishing-rods there (which was his dream at that time). The response was: "I don't need any fishing-rods. I am not a man of fashion". The contextual analysis reveals the implied causal meaning in the examples above, that is with the lack of formal indicator of causal relation this meaning is expressed at the deep level. Let us consider the following dialogic discourse:

"On what day did you become pregnant?"

"I don't remember".

"You should remember. These days must be celebrated just like birthdays." (Ara, 10 years old).

Here we deal with a case of a fully implicit causal argument of emotional character which can be explicated as follows: "You should remember the day when you became pregnant, as it is as important as the day of birth". It is worth mentioning that cases of fully implicit argumentation in children's discourse are scarce, which can be explained, probably, by the explicit character of their thinking processes. These observations, by the way, are contradictory to J. Piaget's conclusions.

A very interesting case of arguments is the one met in metaphoric expressions coined by children, as well as in their metaphoric comparisons. Below are some illustrations:

"Little children are cars for ants and grown-ups are buses, because ants climb on me so that I'll take them away" (Ara, 4 years old).

"A huge apple is the elephant of apples, because it is as large as the son of the elephant" (Ara, 5 years old).

Once my 9-year old son reproached me for having punished his sister in the following way: "Tatevik is foil and you are tin. Just like foil must grow to become tin, so Tatevik must grow to become a grown-up" (the argument is "She is little"). On my return home from a business trip I asked my 10-year old son whether he had missed me. The response was the following: "Just like the gas-burner can't exist without gas, so a child can't stay without his mother" (the implicit argument here is that he had missed me because a child cannot stay, live without his mother).

A very interesting group in children's argumentative discourse form cases of their etymologies of unknown words and proper names expressed by means of complex sentences of reason. As the material under investigation is in Armenian and in Russian, the illustrations will be omitted. However, it should be mentioned that almost every time children come across a new word, they try to explain it, to give reasons, arguments why objects or people are called this or that way. It is natural that their etymologies (etymological conclusions) can't be scientific and that they are mainly false, being based on either phonetic associations or surface morphological analysis. However, it is worth mentioning that sometimes etymologies, though false, made by different children are identical, which speaks to the specific logic and reasonableness of their arguments. Also, cases of true and false etymologies of one and the same word made by different children have been singled out. In addition, there are very interesting and rather intricate cases of complex argumentative discourse consisting of partially true and partially false etymological explanation of one and the same word.

What regards the *structure* of children's argumentation, cases of single and complex arguments can be singled out, the former prevailing in the analysed age range. Let us analyse first some cases of single argumentation when only one argument is being put forward. Thus, for example, in "We're men, aren't we? Let's watch a football match" (Ara, 2 years old) one argument is put forward – the argument of "being a man" with the implicature of "being strong" and "being grown-up". In the following discourse: "Those who are dishevelled are boys. Mummy is a boy because she is dishevelled and Tatevik, Daddy and I are girls because we aren't dishevelled" (Ara, 4 years old) also one argument in put forward, and rather an amusing and trivial one.

And now let us consider cases of complex argumentation. In: "Tatevik, don't make Mummy angry, otherwise she won't bring us a child. She must go to a hospital in Yerevan and buy there a child for us" the argument which is put forward in the first part of the discourse is strengthened by an additional supporting argument expressed in the last part.

After watching a TV programme about newly-born children and their mothers, my 6-year-old son, who had already learned that children are not being bought or given, said: "In Yerevan, children are born, as you've told us, and in Moscow, they are simply given to their mothers". This is a bright example of a case when within one and the same discourse two arguments are used-one true and the other false. Acquiring new knowledge, children reformulate their old beliefs (and points of view) with reluctance. The first part of the discourse contains "argumentum ad verecundiam", appeal to authority, with the phrase "as you've told us" being its indicator, whereas the second, false argument is emphasized by "simply", the conjunction "and" in adversative meaning, as well as by the opposition of the place-names "Yerevan-Moscow".

Finally, let us consider the following dialogic discourse:

"Oh, Mummy, Mummy! Why haven't you got 2 husbands?"

"Why should I?"

"It would be nice. One would go to work, the other would stay home and vice versa" (Ara, 7 years old).

In this exchange, the axiological argument "it would be nice" of emotional character, which is expressed in the principal clause of the counterfactual conditional in the elliptical form and with the pragmatics of regret, is strengthened further by specifying arguments.

Let us now analyse children's argumentation from the perspective of the *character* of arguments. In this case various kinds of arguments can be distinguished: true, false, partially-true, partially-false, "argumentum ad verecundiam" (argument to authority), "argumentum ad baculum", argument to the power of words, argument from analogy, axiological, emotional arguments, etc. Let us consider some of them.

In the above-mentioned discourse "If Tatevik and I don't give birth to children we'll die and the Zilfugarians' family will not exist anymore. We don't want it to happen" (Ara, 7 years old), the argument can be qualified as true, axiological, emotional. The examples below illustrate false argumentation based on the limited or distorted, wrong knowledge: children think of dying for some time, of reanimating or recovering after death, of not dying completely:

"Are fascists buried deep in the earth so that they won't come out of there when they recover?" (Ara, 4 years old).

"Do they put the dead people in the earth so that they won't run away from there?" (Ara, 5 years old).

"Why are they going to bury this man tomorrow? Is it because they want him to die well?" (Ara, 5 years old).

"The woman was crying because she had died" (Tatevik, 3 years old).

In the example below the false argument of "being a schoolgirl" is put forward:

"She couldn't give birth to a baby at the age of 14 because she was a schoolgirl then" (Tatevik, 9 years old).

In the following statement about the younger sister "She'll never die, it happens not in life but only in tales" (Ara, 5 years old) the false argument of "children's purposefulness" ("not in life by only in tales") is put forward. Such arguments are often put forward by children in uncomfortable situations, namely in cases concerning death of their relatives, dear people.

Once, when I asked my 5-year-old daughter what mark she had got in tennis, she answered, "An excellent". To my question how she knew it, she answered: "My coach hasn't said that I got "an excellent" but I did get "an excellent". She hasn't said it because she is sick and tired of telling it all the time".

Cases of partially-true, or partially-false argumentation can be found, too. It should be added that this refers to cases of single argumentation (example N1), as well as to cases of complex argumentation when one argument is true whereas the other one is false (example N2):

Example N1. "To think of nothing means to die".

Example N2. "In Yerevan, children are born, as you've told us, and in Moscow, they are simply given to their mothers".

In addition, cases of irrelevant argumentation ("ignoratio elenchi") are often found in children's speech. The following argumentative discourse illustrates it.

After the death of the leader of the country: "Are you sorry for Chernenko?" "Yes. His wife is now alone" (Tatevik, 6 years old).

The study shows that in the process of argumentation children also use

arguments to authority ("argumentum ad verecundiam"). It can be illustrated by the following utterances which have been already quoted above:

"In Yerevan, children are born, as you've told us...".

"I'll not become and academic because Lenin was the cleverest academic and died...".

Children intensively use also "argumentum ad baculum", they make pressure of emotional character, like, for example, in the following case:

"If you don't become pregnant, I'll put a tablet into your coffee so that you'll drink it and give birth to a baby" (Ara, 9 years old).

In the following utterance of my 3-year-old daughter "Do it, or else I'll die" the argument of death can be characterized as "argumentum ad baculum", making conditional threat, emotional blackmail (cf. observations on children's arguments in the form of power voiced in Maier 1991).

A bright example of an argument to the power of words can be found in the following counterfactual conditional with the pragmatic meaning of irreality and regret:

"How I wish that there wasn't such a word like "dying". It would be so: mummy, granny, again mummy".

"If there wasn't such a word, what would be then?"

"It would be nice. Nobody would die" (Tatevik, 6 years old).

Little Ann: "They are speaking about war on the radio. What is war?"

"It is when the enemies attack a peaceful country, kill people, destroy cities and villages".

The girl is taking the radio down the wall.

"Where are you taking it? Put it back".

"I am going to throw it away".

"Why?"

"So that there is no war".

Children use also arguments from analogy. This fact has been observed by many scholars. It is mentioned that even at a very early age they reason by analogy (see A. Brown 1989, 369-412). Let us illustrate it with the following sequence uttered by my 9-year-old son: "A hair doesn't do any harm to a hair. A wolf doesn't do any harm to a wolf. A fish doesn't do any harm to a fish. And a man must not do any harm to a man".

Or, when I asked my 9-year-old son why, in his opinion, the side-show was called Moon-park, he answered, rather convincingly: "I think the Moon-park is called so because everything is fantastic and unique there and the Moon is unique. That is why it is called so". This discourse of causal character is based on the laws of strict analogy.

This argument from analogy has at the same time axiological character – it is an ethical argument juxtaposing virtue and vice, kindness and harm.

It should be mentioned that various kinds of axiological arguments abound in children's discourse. Some of them have been already considered above. Let us analyse some more examples. In the above-mentioned discourse "I don't need any fishing-rods. I am not a man of fashion" the ethical argument of being/not being a man of fashion, of belonging/not belonging to a high society is put forward. The axiological (moral) argument of bad versus good is put forward in the statement: "If I knew that the world was so bad, I'd not like to live in this world". In "Be a good man, and you'll never die" the axiological (ethical) argument of "being a good man" is used.

It should be noted that many of the analysed arguments, in particular, axiological arguments and arguments "ad baculum", have at the same time emotional colouring. Finally, then, let us consider the following case of the use of emotional argument. When once in a toy-shop I asked my 4-year-old son why he was insisting on buying the toy which he already had at home, he answered laconically: "For joy", thus putting forward a very strong emotional argument. It is worth mentioning that, generally, emotional arguments prevail at a very young age.

It can be argued that the reason for the specific character of children's arguments is due to their very limited knowledge and special mentality with its own system of values.

The observations show the *evolution* in the use of arguments by children in the course of time: the older children become, the better, more logical, reasonable and more convincing arguments they use, which are based on generally accepted presuppositions. The following example comes to illustrate it:

"Our tape-recorder is the leader of other tape-recorders".

"Why?"

"Because it is so nice" (Ara, 6 years old).

The argumentation here is based on the generally accepted presupposition that only what is nice, what is the best can be "the leader". Compare in this regard the conclusion drawn by C.McCall after a course of training sessions with little children: "Over the course of time the children, using the limited vocabulary available to them, developed their own reasoning procedures" (C. McCall 1991, 1195).

The *comparative analysis* of different children's arguments has revealed that with all the individual differences there is much in common, which is in agreement with the hypothesis I put forward. This is corroborated also by K.Chukovsky who claims the typicalness of children's reasoning after having investigated a great number of utterances of children living in different parts of the former Soviet Union and at different periods (K. Chukovsky 1990, 203, 321). The results of the comparative analysis of children's and adults' arguments suggest that children's arguments are in many respects similar to those of adults. Compare in this respect the following conclusion drawn by M. Willbrand (1981, 602): "For the present it appears that in terms of types of reasons in unplanned discourse the language of the 5 year old demonstrates most of the strategies of the adult".

On the other hand, it is common knowledge that children's arguments are often in discrepancy with arguments of adults, which leads to failure in communication: strong, reasonable arguments from children's point of view are considered by adults as unreasonable and weak. Compare: "A good argument is one ... which "we" judge to be reasonable..." (C. McCall 1991, 1190).

3. Conclusion

From what has been said above, it becomes obvious that the examination of children's arguments has not only great cognitive value, but also important educational aspect. The deeper study of children's argumentation process will help us better understand them and bridge the gap between two "different worlds"; it will, at the same time, enable us to teach young children reason more logically and use better arguments. Isn't it a good argument for doing so?

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