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# Aus der Forschung

## Aufsätze

### Moral argumentations among children. A case-study

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#### 1 Introduction

This paper deals with argumentations among children. By argumentations we understand a special type of complex verbal actions, i. e. activities, which serve to solve a task by verbal means. Other complex verbal actions are, for example, telling stories, giving route directions, explaining games, etc. They require various cognitive and verbal abilities, whose precise character may differ according to the particular task. In argumentation, the constitutive task is to develop an argument, which gives an answer to a disputed question, the "quaestio", a secondary task may be the linearization of this argument as soon as it is developed. An argument is, roughly speaking, an abstract structure consisting of propositions, which are connected in a specific ("logical") way: it has to satisfy the "logic of argument". Argumentations consist of utterances, whose content may, but need not enter the argument to be developed; many of them have purely pragmatic or coordinating functions. Our paper should be seen as a first attempt to clarify the "logic of argumentation" from a developmental point of view.

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## 2 A minimal framework for the analysis of argumentations

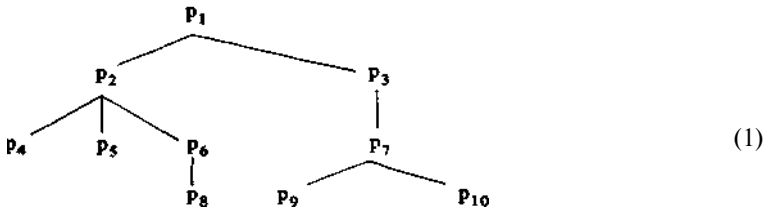
### 2.1 Some basic distinctions

The task of working out an argument may be undertaken by one or by several people; accordingly, we distinguish between *individual* and *collective* argumentations; this distinction does not hinge on the number of participants in verbal interaction, but on whether one or several people are engaged in solving the task. In the course of a collective argumentation, the people engaged may advocate the same or different answers to the quaestio; accordingly, we distinguish between *unanimous* and *antagonistic stages* of argumentations.

An argumentation may be *private*, such as a spontaneous dispute during a party, or *public*, such as juridical, political or scientific ones, which underly numerous institutional restrictions on turn-taking, admissible quaestiones, admissible candidates for arguments, etc. The utterances of an argumentation may belong to different speech act types, and apart from their possible contribution to the developing argument, they may have more social functions, such as humiliating some other speaker, or "scoring" in scientific argumentations. The analysis of these aspects belongs to what we call the *pragmatics of argumentation*, whereas the principles according to which the argument is created constitutes the *logic of argumentation*. It is this concept which is in the focus of our considerations; so, it ought to be explained a bit further, as opposed to the "logic of argument"; pragmatic aspects will not be discussed here.

### 2.2 The logic of argument

Arguments are abstract structures consisting of propositions; a set  $A$  of propositions  $p$  is an argument, if and only if for all  $p \in A$ ,  $p$  is either basically true, or  $p$  follows from other elements of  $A$  by certain rules, which might be called transition rules. We have to explain, of course, what these rules are and what "basically true" means. To begin with, let us think that transition rules are the rules of classical deductive as well as of some inductive logic, and that a proposition is basically true if verified by immediate sense-data. This over-simplification will be revised in a moment. An argument may then be represented by a tree whose nodes are propositions, such that all non-dominating nodes are basically true and all dominating nodes follow from the nodes which they dominate. In (1),  $p_4, p_5, p_8, p_9, p_{10}$  are basically true,  $p_6$  follows from  $p_8$ ,  $p_{12}$  from  $p_4, p_5, p_6$ , and so on;  $p_1$  is the *top* of the argument, and an argumentation is successful, if the participants succeeded in building up an argument, whose top is an answer to the quaestio.



These concepts need further clarification, which cannot, however, be given here; let's turn to the logic of argumentation.

### 2.3 The logic of argumentation

Real argumentations are rarely in terms of syllogisms or modus ponens, and the arguments developed rarely rely on propositions verified by sense data. An argument is what *counts* as an argument for a given group, and this may be different for a group of logicians, of nursery school children, or of people like you and me. Let us say that a proposition may be *valid* for a person *b* at a time *t*; for me, for example, it is valid just now, that I have written part of this talk, that I shouldn't love my neighbour's wife, that Rembrandt was a better painter than Shakespeare, and that, if all cats are nice and Pussy is a cat, then Pussy is nice; may be, these propositions are not valid for you now, and they may be no longer valid for me next week. Considering groups now rather than individuals, we can say that all propositions valid for all members of the group at some time *t* are *collectively valid* for that group at that time. Let us say, then, that a set *A* of propositions *p* is an argument for a given group, when for every  $p \in A$ , *p* is either collectively valid from the outset or follows by collectively valid transitions from other elements of *A*. Within argumentations, attempts are made to develop arguments of this type. The *quaestio* of an argumentation defines a class of propositions, the possible answers, which are not collectively valid, and among which one has to be converted, for some reason, into a collectively valid proposition. This is done, if it can be traced back to collectively valid propositions by means of collectively valid transitions. Every proposition advanced and every transition used in a contribution by some participant may be disputed by another participant; then, it is not collectively valid and has to be traced back to other propositions which hold for all participants. What is agreed upon doesn't need to be argumentatively decided, of course, and this accounts for the fact that the arguments arising in real argumentations often seem so fragmentary or even incoherent at first glance. The principles according to which the different efforts are coordinated in order to get collectively valid propositions by means of collectively valid transitions constitute the logic of argumentation. This brief sketch of our framework may be sufficient for the moment. We shall turn now to our empirical investigation, which deals with some aspects of the logic of argumentation among children.

## 3 Data

Our case-study is based on a collection of 12 argumentations gathered by Max Miller. To 3 groups of 4 children, each, whose age was 5, 7–8 and 10, respectively, four stories, which ended With a moral problem, were told. The children were asked to give a joint answer to this "quaestio". Their argumentations were videotaped and transcribed. For this study, we consider only three of them, namely the three groups' argumentation elicited by the following story (a modified version of a Piaget story):

"Hans is called by his mother to come and eat. He runs to the kitchen. He is very hungry and opens the kitchen door hard. There is a clattering noise and fifteen cups are lying in pieces in front of him. Hans couldn't know that the cups happened to be placed on a chair just behind the kitchen door.

Alfred is at home alone. He really wants some chewing-gum and wants to get himself some out of the cupboard where his mother keeps the candies. He climbs onto a chair and stretches his arm out. But the chewing-gum is too high up. He can't reach it. He tries nevertheless and hits a cup. The cup falls down and breaks."

The children were asked to take the role of parents and to decide what was "worse". This type of quaestio raised several problems for them and we start with some remarks about these problems.

#### 4 Some coordination problems in moral argumentations

Predicates like "good, bad, worse, better" may be applied to actions, state of affairs, events, objects or even persons. In the present context, we are mainly concerned with actions. Now, an action may be good in one respect and bad in other respects. We shall say that predicates like these have various dimensions, or parameters which have to be kept apart. This multi-dimensionality is not restricted to evaluative terms; it also applies to adjectives like "large" or "important". Now, suppose you had to decide which one is better, to eat a pork chop or to eat scrambled eggs. There can't be a uniform answer, for

- (a) there might be various relevant parameters in the given situation, such as for example price, taste, and religious reasons,
- (b) the actual values of the two actions on the different parameters may be different.

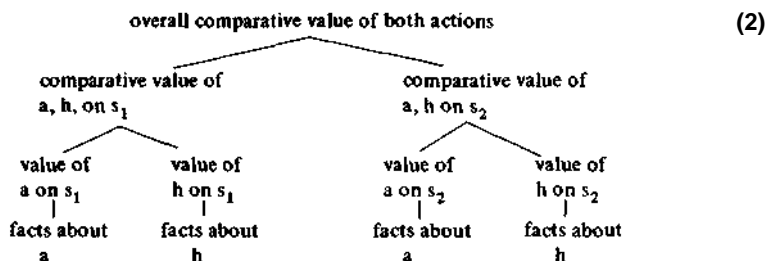
Suppose the parameters and the values on them are fixed. Then at least relative answers could be given, such as "eating pork chop is worse for religious reasons, better with regard to the taste and worse again concerning the price". This splitting up of the concept of "better" would not be enough, however, when you have to decide what to order in an restaurant; you have to combine the different values in some way to one overall value, or you will die of hunger like Buridan's donkey. Suppose now the decision is not just up to you but you have to coordinate it with other members of a group; this would require coordination of (a) relevant parameters, (b) actual values on these parameters, and (c) principles of integrating them into one value. This is precisely the kind of task the children had to solve. They had to give a joint answer to the question, whether the action of Hans or the action of Alfred was worse. In all argumentations, the children used at least two evaluation-parameters, which might be called

- (a)  $S_1$ : desirability of action consequences; in this sense, an action leading to 15 broken cups is perhaps worse than an action leading to 1 broken cup;
- (b)  $s_2$ : responsibility of an actor; in this sense, the action of Alfred may be worse than that of Hans.

These parameters roughly correspond to Piaget's distinction between 'objective' and 'subjective responsibility'. However, here and in the following it would take us too far if we were to enter into all the similarities and differences between Piaget's approach and our interest in studying the development of argumentation. Incidentally, at least the older children used different kinds of subparameters which correspond to different kinds of responsibility and desirability, but we shall focus here on these two. Given that there is already agreement upon these parameters — which, of course, is not self-evident but has to be established — there are still four subtasks which have to be solved by the children:

1. What are the relevant facts concerning the actions of Hans and Alfred, e. g. was Alfred allowed to take the chewing gum?
2. Which values have to be assigned to both actions relative to the relevant parameter?
3. How are the actions to be compared within one parameter?
4. How can the different comparative values that depend on different parameters be aggregated to one comparative value?

Hence, the argument to be developed could have the following structure:



Of course, the children don't build up arguments in precisely this way, for several reasons, but as we shall see, this possible argument contains all the elements which they are disputing about. Their attempts to coordinate their different opinions concerning parameters, facts, evaluations etc. may break down for several reasons, and we would like to pick out three possible failures, which, in our opinion, play a particular role in their argumentations:

1. If they don't realize that a certain contribution is related to a certain implicit parameter, they simply miss the point of this contribution; this may happen, if one child says: "What Alfred did, is worse, because he didn't need the chewing-gum" and another child says: "No, he broke only one cup."
2. It may be that a child has access to all parameters, but can handle only one of them at a time; so he could work through both subtrees of the arguments above, but could not compare them.
3. If a child can have a simultaneous representation of the values on different parameters, he still might not know how to integrate them into one value.

In the following analysis, special attention will be paid to these possible coordination failures.

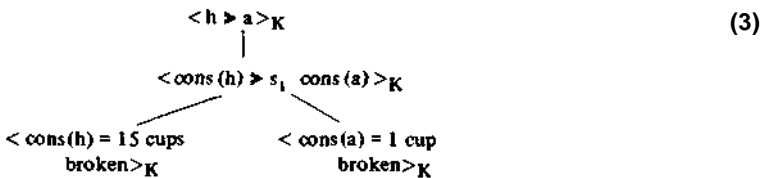
## 5 Argumentation analysis

For space reasons, only the argumentation of the 5 year olds is analysed in some detail; the other ones are much more complex, and we give only a summary; we also thought it would be particularly interesting to show how subtle and stringent even argumentations among five year olds are. The relevant selections from the texts are in the appendix; they are given in a very rough, very literal English translation. In the tree-structures, we use the following abbreviations:

- $x \succcurlyeq y$        $x$  is worse than  $y$ ,  $x$  and  $y$  referring to actions
- $x \succcurlyeq_{s_1} y$      $x$  is worse than  $y$ , on parameter  $s_1$  (desirability)
- $x \succcurlyeq_{s_2} y$      $x$  is worse than  $y$ , on parameter  $s_2$  (responsibility)
- a, h**        action of Alfred and of Hans, respectively
- cons (x)**    factual consequences of  $x$
- $\langle \alpha \rangle_K$      statement  $\alpha$  holds for person  $K$

### 5.1 Group 1: 5 years olds (Katja, Stefan, Grischa, Birgit)

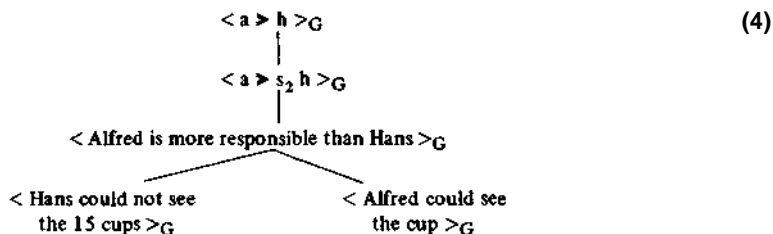
After Max's question: "What do you think is worse? ", Stefan immediately answers: "What Hans did". This is confirmed by Katja: "Exactly" (19)\*), and she supports this with a tentative argument: "Yes. Yes, because there are many more cups — yes, many more, many more, ain't it? " (21-22). However, Grischa intervenes and states the opposite answer: "What Alfred did". Thus, no answer is collectively valid, and they have to go back to propositions they agree upon. First, Katja defends her answer: She seems to assume that Grischa doubts the consequences of both actions and tries to support her point by restating: "Well, but this one has only one and the other one has more." (23—24). Her argument at this point may be represented as follows:



Now, Grischa does not deny that these consequences exist, nor that  $\langle \text{cons}(h) \succcurlyeq_{s_1} \text{cons}(a) \rangle_K$  follows from them — which, by the way is a classical "locus quantitatis" — but he denies the transition from this to the top. He says: "Well, and how could he (Hans) know that they stand behind the door? " (24-25), thus implicitly denying that Hans could see the cups and hence denying that he is responsible. This implicit

\*) Numbers in parentheses relate to the line of the transcripts given in the appendix of this paper.

statement, however, is denied by Stefan: "Yes, he can-" (25), but after a short discussion of this point, Grischa's statement is generally accepted as well as his corresponding statement: "And the other one sees the cup." (25—26). Grischa's argument at this point may be represented as follows:



The argumentation has led to an antagonistic state: actually all children seem to accept the supporting statements in arguments (3) and (4), but they disagree about the transition to the 'top'. In the next contribution, Stefan gives additional support to argument (3): "And then, one cannot drink. Therefore, this is worse." (28—29). Katja consents and Stefan continues: "One cannot drink any more. One must drink out of the bottle." (29-30). Katja, however, now seems to realize that this misses Grischa's point: "No. But there one really can — one really can a little bit — not open the door so hard. One really can do that a little bit more slowly." (30—32). (Katja agrees with Stefan on the conclusion  $\langle h \gg a \rangle$ , but she denies the relevance of Stefan's contribution (that depends on the 'desirability-parameter') for a rejection of Grischa's argument, and then she herself introduces a rejection of Grischa's argument on the 'responsibility-parameter'.) Thereafter the group deviates from the questions at issue. And the argumentation breaks down. Katja: "What shall we do now?" (35—36). Later on, when Max asks the children what the result of their argumentation has been, Grischa again advocates the conclusion of argument (4):  $\langle a \gg h \rangle$ . He says: "What Alfred did, because he has seen the cup of course." (61). And Stefan, who at this point is again supported by Katja, advocates the conclusion of argument (3):  $\langle h \gg a \rangle$ . He says: "Because in that case one cannot drink any more. One must drink out of the bottle." (62—63). And, furthermore, Stefan adds, as a compromise: "Both are bad." (65) — an answer, which indeed is compatible with both arguments.

**Let us summarize in brief:**

Obviously, the children — except perhaps Birgit, who rarely speaks - show mastery of the basic techniques of an argumentation: They develop partial arguments and know how to support their statements. Moreover, they can distinguish denials that are related to the truth of a preceding statement from denials that are related to the relevance of a preceding statement; and thus they can distinguish between evaluations that depend on different parameters. However, they are unable to aggregate values that depend on different parameters. And there seems to be a clear reason for this:

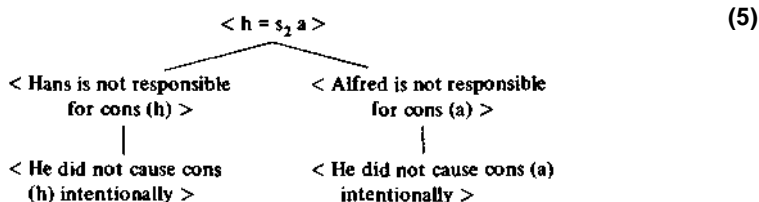


At least Stefan and Grischa stick to either one of the alternative parameters throughout the argumentation including the summary of the children. Unlike Katja, who in (30-32) keeps the conclusion constant but changes the parameter, Stefan and Grischa keep the parameter constant: in their opinion only the conclusion could possibly be varied. Thus the group cannot replace the one-parameter-transitions by two-parameter-transitions; in other words: the group cannot coordinate evaluations that depend on different parameters.

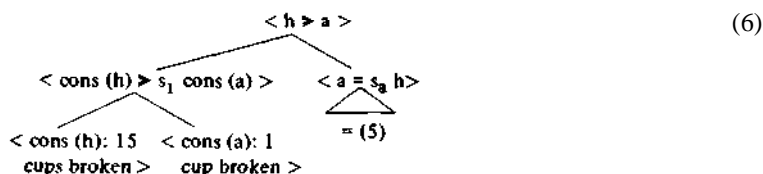
With regard to the three coordination failures we have been interested in, it is the second one of the failures which basically explains why the children cannot construct a joint argument: they cannot simultaneously apply two different parameters for an overall comparative evaluation of the actions of Hans and Alfred.

## 5.2 Group 2: 7—8 years olds (Tanja, Felix, Karsten, Tommi)

The argumentation of this group is fantastically complex and subtle. We can only sketch the main line here. The argumentation first leads to the same antagonistic state we observed in the argumentation of group 1. Then, after a very long discussion, the children agree upon the following partial argument concerning responsibility:



Then they turn again to the problem of an overall evaluation. Tommi says: "But that of the one with the chairs was worse, but it was not (on purpose)." (47—48). He gives no reason for that, so Tanja asks: "Well, but why should this — why should this be worse." Tommi: Well, because more cups have been broken there." (49). This is rejected by Carsten: "But it was not his fault", changing the parameter again. And he completes: "Therefore both are equally bad." Now, Tanja again states: "Well, but 1 would say that that concerning Hans is worse." (51—52). And then, all children get the point: If both actions are equally bad with regard to the responsibility of Hans and Alfred, but if the consequences of h are worse than those of a, then h is worse, altogether. And after a short back and forth, the group jointly accepts the following argument:



### **As a brief summary we can say:**

1. During the whole argumentation the children are very competent in relating all individual contributions to one and the same tree structure or subtree that represents the development of a possible joint argument. Moreover, if the meaning of a parameter is changed, as it is the case when the children begin to talk about Alfred's responsibility for breaking the cup in terms of the legitimacy of his intentions, they can make explicit to a certain extent, how the parameter 'responsibility' has been used so far and thus coordinate their understanding of this parameter.
2. However, the children still have difficulties when they try to aggregate values that depend on different parameters, as long as alternative comparative evaluations are based on different values assigned to the actions of Hans and Alfred. But once they get into a position, where one of these comparative evaluations can be based on equal values assigned to the actions of Hans and Alfred, they manage to come to a joint decision. This shows that in general they seem to be able to simultaneously coordinate ways of using evaluative terms relative to two different parameters.
3. What is the children's procedure for deciding between the two mutually exclusive comparative evaluations? Once one of them can be based on equal values they implicitly agree upon a neutralizing decision procedure: as soon as the values on one parameter are equal, they simply use the other parameter in isolation.

### **5.3 Group 3: 10 years olds (Gabriele, Elisabeth, Oliver, Dominique)**

There is only time for a few remarks about the argumentation of group 3. As was the case in the argumentation of group 2, group 3 reaches the point where relative to one parameter ('responsibility') the actions of Hans and Alfred can be assigned the same values. Dominique: "Well, actually it is almost the same. The one hasn't really done it on purpose, that is — but it happened to be only one cup, ain't it? And the other one, he also hasn't done it, he hasn't done it on purpose as well, but there were fifteen, weren't there?" (41 -45). This is accepted by all the children. And they consider the argumentation as being finished. Later on, when Max asks the children: "Whom should the parents scold more? ", Gabriele says: "Well, I would — I wouldn't scold. Neither with regard to the 15 cups ... because, first of all, it was not the fault of the boy, and concerning the second one: because of one cup one really need not bawl out or hit someone or so." (56—61). And Dominique adds: "He didn't do it on purpose either. He didn't throw down the cup intentionally." But when Max wants to know who did the worse thing, they all agree that Hans did the worse thing, although not on purpose. And when Max asks again, who should be scolded more after all, the group turns back to the first answer. The children apparently do not simply use a neutralizing decision procedure. Instead, corresponding to two different ways of understanding the quaestio: 'Which action is worse?' they implicitly agree upon two different hierarchies of relevance for arranging the two parameters, and thus they can agree upon two different overall comparative evaluations of the actions of Hans and Alfred.

## 6 Conclusion

There is a certain developmental order in which the three groups manage to solve the three coordination problems we have been interested in:

1. Group 1 can coordinate ways of using evaluative terms relative to each one of the two parameters at almost any point of their argumentation. However, the group cannot simultaneously apply two different parameters, and thus they cannot aggregate the different comparative evaluations.
2. Group 2 and group 3 can, in an almost brilliant way, achieve everything that has been observed to be deficient in the argumentation of group 1. They are able to simultaneously apply two different parameters and to develop a joint higher-order parameter for evaluating evaluations. However with regard to this higher-order parameter there seem to be certain differences between group 2 and group 3.

To demonstrate the more subtle developmental differences between all groups would require more detailed analyses than can be given here. And at this point of our work, we refrain from drawing from any far-reaching conclusions about the development of argumentations in children. But perhaps you might accept one small speculation:

As we have seen, group 1 fails to construct a joint argument at the threshold of a coordination problem that turned out to be very important in these group argumentations: the simultaneous coordination of ways of using evaluative terms relative to two different parameters. But the children can handle certain basic techniques of argumentation, and thus they can distinguish between arguments that depend on different parameters and they can set these arguments against each other during the temporal course of their argumentation. Argumentations could therefore be a significant mechanism for getting an awareness of what these different parameters are, for learning how to contrast different parameters which involves their simultaneous application, and for learning how to 'climb up' to higher-order concepts for evaluating evaluations.

## Appendix

### Group I (5 years old: Katja, Stefan, Grischa, Birgit)

- 18 K:   
St:   
G:   
B:   
Ma: What- what do you think is worse: What Hans

19 K: Exactly.  
 St: What Hans did.  
 G:  
 B:  
 Ma: did or- Well, why don't you talk about

20 K:  
 St:  
 G:  
 B:  
 Ma: that? Do all of you think: what Hans

21 K: Yes. Yes, because there are many more cups- yes, many more,  
 St: This one stands-  
 G: What Alfred  
 B: [nods]  
 Ma: did?

22 K: many more, ain't it? [to St]  
 St: No, I don't think- Hans, he-  
 G: did- what-  
 B:  
 Ma:

23 K: Well, but this one has only one and the other one  
 St: finds that-  
 G:  
 B:  
 Ma:

24 K: has more [to G]  
 St:  
 G: Well, and how could he know, that they  
 B:  
 Ma:

25 K:  
 St: Yes, he can- ---- [to G]  
 G: stand behind the door? [to K] And the other one certainly sees  
 B:  
 Ma:

26 K: Yes.  
 St:  
 G: the cup. Can't you understand? The one behind- Hans cannot see the  
 B:  
 Ma:

27 K:  
 St:  
 G: cups at all, can't he? The fifteen. How could he see them behind  
 B:  
 Ma:

28 K:  
 St: And then one cannot drink any more. Therefore  
 G: the door ---  
 B:  
 Ma:

29 K: Yes.  
 St: this is worse. One cannot drink any more.  
 G:  
 B:  
 Ma:

30 K: No. But there one really  
 St: One must drink out of the bottle.  
 G:  
 B:  
 Ma:

31 K: can- one really can a little bit- not open the door so hard.  
 St:  
 G:  
 B:  
 Ma:

32 K: One really can do that a little bit more slowly. I always open  
 St:  
 G:  
 B:  
 Ma:

33 K: Me too. What?  
 St: it slowly.  
 G: Our's is actually never closed. Our's is never  
 B:  
 Ma:

34 K: Oh! Never? And if you sleep?  
 St:  
 G: closed. Mm. Only if- if I and Joschi  
 B:  
 Ma:

35 K: A- and- What shall we  
 St:  
 G: want to make it dark. A In the corridor. Only then.  
 B:  
 Ma:

36 K: do now?  
 St:  
 G:  
 B:  
 Ma:

58 K:  
 St:  
 G:  
 B:  
 Ma: What is worse: what Hans did,

59 K:  
 St:  
 G:  
 B:  
 Ma: the boy in the first story, or what

- 60 K: Hans. Alfred.  
 St: Hans.  
 G: What Alfred-  
 B: Hans.  
 Ma: Alfred did, the boy in the second one?
- 61 K:  
 St:  
 G: No. What Alfred did, because he has seen the cup of course.  
 B:  
 Ma:
- 62 K: [nods]  
 St: Yes. B-b-because in that case  
 G:  
 B:  
 Ma: Well, and you think: Hans? [to K and St]
- 63 K:  
 St: one cannot drink any more. One must drink out of the bottle.  
 G:  
 B:  
 Ma: Well. Yes. Aha.
- 64 K:  
 St:  
 G:  
 B:  
 Ma: Then not all- not all of you have the same opinion?
- 65 K: No. Yes. Both.  
 St: Both are bad.  
 G:  
 B:  
 Ma: And what do you-

### Group II (7/8 years old: Tanja, Felix, Carsten, Tommi)

- 11 Ta: Just look! Fifteen cups. And-  
 F:  
 C: No. This one knows that a cup stands there.  
 To:  
 Ma:
- 12 Ta: fifteen cups f- fall down and there- and- and there  
 F:  
 C: One. But I think that is- is  
 To:  
 Ma:
- 13 Ta:  
 F: in the case of Hans  
 C: not so bad in- in in- in the case of Hans. Because he  
 To: Where one  
 Ma:
- 14 Ta:  
 F: Yes. Yes, but  
 C: didn't know, that the- he really didn't know, that the fifteen cups  
 To: cup fell-  
 Ma:

15 Ta: But he  
F: if- but Yes. But if Alfred-  
C: were placed on the chair.  
To:  
Ma:

16 Ta: must not be so stupid and open the door so hard.  
F: Alfred- he really knew that.  
C: Alfred-  
To:  
Ma:

17 Ta:  
F: Alfred, he- he  
C: He really knew, that there is a cup. Therefore he could  
To:  
Ma:

18 Ta: Mhm. [ 39 Ta:  
F: be cautious. [ ..... ] F:  
C: To: If he asked for some,  
To: To:  
Ma: Ma:

40 Ta:  
F: he gets-  
C: then he gets- it is better you ask, then it is more likely that you will get some  
To:  
Ma:

41 Ta:  
F: Yes. Yes.  
C: as when you throw down a cup.  
To:  
Ma:

42 Ta: But- But-  
F:  
C: Then as a penalty you won't get any- perhaps for a week or so.  
To:  
Ma:

43 Ta: but listen- I think he also didn't want to do this on purpose.  
F:  
C:  
To:  
Ma:

44 Ta: Also not on purpose.  
F: Yes, he did.  
C: No.  
To: No.  
Ma:

45 Ta:  
F:  
C: But both are not- both are not-  
To: No. He didn't do that on purpose. You're silly! He  
Ma:

46 Ta: Yes. But- but nevertheless  
 F: Both are not on purpose.  
 C: wanted- Exactly.  
 Ma:

47 Ta: in the case of-  
 F: Both are not on purpose.  
 C: Yes. But- but that of the one  
 To:  
 Ma:

48 Ta: Well, but why should  
 F: Yes.  
 C: Both were not done  
 To: with the chair was worse, but is was not-  
 Ma:

49 Ta: this- why should this be worse?  
 F: on purpose.  
 C: Well, because more  
 To:  
 Ma:

50 Ta: But it wasn't his fault.  
 F: cups have been broken there. Exactly.  
 C:  
 To:  
 Ma:

51 Ta: Well, but neither was it the fault of the other one. Well,  
 F: Therefore both are equally bad.  
 C:  
 To:  
 Ma:

52 Ta: but I would say that that concerning Hans is worse.  
 F: No. That  
 C:  
 To:  
 Ma:

53 Ta: Why? There only one cup fell  
 F: concerning the other one is worse.  
 C:  
 To:  
 Ma:

54 Ta: down.  
 F: Oh, I see! Yes. Then that concerning Hans is worse. Because four  
 C:  
 To:  
 Ma:

55 Ta: Fifteen.  
 F: Four- fifteen.  
 C: cups are broken. Fifteen cups. That is pretty



56 Ta: Exactly.  
 F:  
 C: much. We have- we even don't have fifteen cups.  
 To: Exactly.  
 Ma:

57 Ta: And- and perhaps they- and perhaps they have bought that with their  
 F:  
 C:  
 To:  
 Ma:

58 Ta: Last money. The fifteen cups. And always have- and nearly  
 F:  
 C:  
 To:  
 Ma:

59 Ta: always have visitors, or have many children or so.  
 F:  
 C: Mhm.  
 To: Exactly.  
 Ma:

60 Ta: Yes.  
 F: That concerning Hans- Concerning Hans Yes.  
 C: That concerning Hans is worse.  
 To: Fifteen cups- Here fifteen-  
 Ma:

61 Ta: Max! Of Hans.  
 F:  
 C: That concerning Hans is worse.  
 To: That concerning Hans is worse.  
 Ma: Yes?

62 Ta: Mhm. Yes.  
 F:  
 C: Yes.  
 To: Because more cups have been  
 Ma: That concerning Hans is worse?

63 Ta: Exactly. And both haven't done it on purpose.  
 F: But there  
 To: broken there.  
 Ma:

64 Ta:  
 F:  
 C: more cups have been broken. They get- perhaps have many  
 To:  
 Ma:

65 Ta:  
 F:  
 C: children, and they have bought them with their last money.  
 To:  
 Ma:

Group III (10 years old: Elisabeth, Gabriele, Oliver, Dominique)

- 41 E:  
G:  
O:  
D: Well,  
Ma:
- 42 E:  
G:  
O:  
D: actually it is almost the same. One hasn't really done it  
Ma:
- 43 E:  
G:  
O:  
D: on purpose, that is- but it happened to be only one-<sup>cup.</sup>  
Ma:
- 44 E:  
G:  
O:  
D: cup, ain't it? And the other one, he also hasn't done it, he hasn't  
Ma:
- 45 E:  
G:  
O: Finished?  
D: done it on purpose as well, but there were fifteen, weren't there?  
Ma:
- 46 E:  
G:  
O: Next story! } (laugh)  
D: Yes, I have finished. } Yes.  
Ma: } Yes.  
E: Yes? Did you discuss that?  
G: [ ..... ]  
O:  
D:  
Ma:
- 55 E:  
G:  
O:  
D:  
Ma: Do all of you have
- 56 E:  
G: Well, I would- I wouldn't  
O:  
D: Actually it is-  
Ma: the same opinion?
- 57 E:  
G: scold. Neither with regard to the fifteen cups- concerning the first one,  
O:  
D:  
Ma:

58 E:  
 G: because, first of all, it wasn't the fault of the boy and- and-  
 O:  
 D:  
 Ma:

59 E:  
 G: neither did he know that; and concerning the second one, because of one cup  
 O:  
 D:  
 Ma:

60 E:  
 G: one really must not bawl out and- and hit someone  
 O:  
 D:  
 Ma:

61 E:  
 G:  
 O:  
 D: He neither did it on purpose. He neither threw down the  
 Ma:

62 E:  
 G:  
 O:  
 D: cup intentionally.  
 Ma: Well, now imagine that the parents

63 E:  
 G: Mhm.  
 O: Mhm.  
 D:  
 Ma: of Hans and the parents of Alfred meet.

64 E:  
 G:  
 O:  
 D:  
 Ma: And they consider the question whether Hans or Alfred

65 E:  
 G: Well, the first one,  
 O:  
 D:  
 Ma: did the worse thing.

66 E:  
 G: Hans. Although he couldn't know it. Not  
 O: But not on purpose.  
 D: That is-  
 Ma:

67 E:  
 G: on purpose- but this is worse. [ ..... ]  
 O: Yes. But- yes, actually it's worse.  
 D:  
 Ma:

72 E:  
G:  
O:  
D:  
Ma: And if the parents ask themselves, whom they

73 E:

They shouldn't

Ma: should scold more after all?

74 E:

G:

O:

D: scold at all! Actually, it is the same. Because neither

Ma:

75 E:

G:

The parents

O:

D: this one has done it on purpose, nor the other one.

Ma:

76 E:

G: would have to scold themselves.

O:

D:

Ma: