

CHILDREN, PHILOSOPHY, AND LOGIC FROM A DIALECTICAL POINT OF VIEW.

Katalin G. HAVAS

"The only true education is self-education, and the only directivness one has to exert as an educator in the educational process is to orient students in certain directions and to furnish certain research tools" (Leo Apostel¹)

Two years ago, at a school in a small Hungarian town, it was for the first time that 11 year old pupils were asked to freely ask questions on any subject they chose. The questions were submitted anonymously, in writing. 32 children submitted more than 100 questions. Let me quote a few:

Why are there poor people?
What is the meaning of forever?
Why do we live if we have to die?
Is the World going to end?
Is there justice on Earth?
How were names invented for things?
Why can people speak and think?

These questions show that K. Jaspers was right when he wrote: "Questions asked by children prove that philosophizing is an innate human trait. We often hear from the lips of children words that have philosophical depth."² But Jaspers view is not typical among philosophers. The more prevalent view is that philosophizing is an ability possessed only by mature adults. Thus it is difficult to find works by well known philosophers that discuss the philosophizing of children and its peculiarities. In works dealing with the history of philosophy, which abound with the analysis of human intelligence, Hume's thinking may be regarded as typical. He contrasts the human (meaning: adult male) intellect with that of animals only.³

¹ L. Apostel, *Conceptual Tools for Interdisciplinarity: An operational approach*. In *Interdisciplinarity Problems of Teaching and Research in Universities*. Ed. by L. Apostel, G. Berger, A. Biggs, G. Michand. Gent, 1972. p.179.

² K. Jaspers, *Einführung in die Philosophie*. CR. Pieper Co. Verlag, München, 1953. p. 7.

Many assert that the examination of the philosophizing of children is not within the province of the philosopher. The function of the philosopher is to orient people in the world they live in by providing answers to the fundamental questions of existence, questions regarding how things exist in the world.

The philosopher, however, is an individual who loves wisdom. And isn't the readiness to perceive problems (the problems of why thus and not otherwise) part of wisdom? We may not speak of wisdom without knowing the methodology of answer seeking, the ability of questioning. Thus the task of the philosopher must include not only answers to problems but also discovering the problems of philosophy. And in this the analysis of the philosophizing ability of children may have an important role. It might affect philosophy like Freud's recognition of the sexual drives of children affected psychology, opening up an entirely new branch of that science. A similar development in the theory of cognition is not unimaginable either; the in-depth analysis of the activity of the philosophizing child might modify our existing views of children's higher order psychic functions as well as those of the philosophical activities of the philosopher.⁴

In my paper, however, I do not intend to discuss the advantages that may accrue to philosophy from the analysis of children's philosophizing ability, but I will rather discuss what might be done to preserve and to further develop into adulthood the philosophizing trait present in childhood. I deal with two components:

1. Philosophical discussions (workshops) for children.
2. Special teaching of logic.

1.

Until their curiosity is discouraged, children are curious about why things are the way they are, they are curious about the world, about their surroundings. But their busy parents tell them: "Why, why, why, ...? Don't ask so many questions!" Or later when they go to school: "Don't argue with your teacher! Just do your lessons!" Or: "Curiosity killed the cat." etc.

It would not be fair to attribute such remarks entirely to the mistaken child-rearing principles of parents and teachers. For one thing, their available time is limited, they have other things to do as well. The child must

³ Cf. D. Hume, *A Treatise of Human Nature*. Part III./XVI Clarendon Press, Oxford 1978.

⁴ See about this problem in more detail in Vera Békés, A "Filozófia gyerekekkel program" néhány filozófiai előfeltevéséről. (Some philosophical presuppositions of the "Philosophy for Children" program.) Manuscript

learn and the teacher must teach the material required by the curriculum. Although they might wish to give their pupils the opportunity to discover and invent for themselves the greatest possible part of the learning material, they can do so only to a rather limited extent. This can be one of the most important components of the development of active learning and thinking. This is why we must create the opportunity for the child to engage in the process of "inventing" and "discovering". I believe that this would be served by philosophy workshops where children would discuss and argue philosophical problems without a mandatory curriculum that pupils were obligated to learn. The ability to argue and discuss acquired in these workshops will affect the child's thinking later in all areas of life.

In my opinion, the main objective of the introduction of philosophical discussions in childhood is to counteract the influences that tend to suppress children's propensity to philosophize. The objective should be to develop the ability to perceive problems, the culture of argument and discussion, the desire to listen and to understand the opinions of others. In the course of these philosophical discussions the teacher can function merely as a midwife "to orient students in certain directions and to furnish certain research tools." Or, as Anatole France remarked: "Let us not satisfy our vanity by teaching them too many things. Let us merely strike a spark; if the material is sufficiently flammable, it will catch fire."⁵

There are, of course, various tools for striking the spark. One of the well proven methods, applied in several countries, is M. Lipman's "Philosophy for Children" program,⁶ which involves the holding of philosophy workshops beginning at pre-school age and continuing through high school. The objective of this program is not to acquaint the children with the works of philosophers, that is, to teach them what philosophers have thought about various problems in philosophy, nor their teacher's views of a given problem. Lipman's program is not about the teaching work of the teachers, at least not in the sense in which the objective of a teacher of mathematics or history is the teaching of the material prescribed for a given age group is. The philosophical material to be given to the children consists merely of books containing stories in which they can discover philosophical problems.

The objective is to motivate children, together with their peers, to consider some of the basic problems in philosophy, and to seek answers that seem satisfactory to them. I put the stress on the *seeking* of answers: it is

⁵ A. France, *Le jardin d'Épicure*. p.200.

⁶ See more detail about this program in the journal *Thinking Philosophy For Children*. Inst. for the Advancement of Philosophy for Children. Montclair State College. N.J.

not imperative that answers be found. They are not given grades for "achievement in the acquisition of children's philosophy". There are no grades given at all.

In a certain sense, of course, the teachers are philosophizing with the children. But it is not the teachers who ask the questions. The teacher tries to arouse the children's curiosity, and if needed even guides the structuring of their questions, their debates, the direction of their philosophizing. But no time limit is planned for the discussion of an emerging problem. They don't even insist on covering all the themes of their "curriculum" within a given number of hours.

I believe that the basic principles of Lipman's "Philosophy for Children" program must definitely be taken into consideration in the conduct of philosophy workshops or community inquiry - as Lipman calls it - for children. Whether or not the stories written by Lipman are suitable for children of every cultural community is another question. Consequently, although accepting the basic principles and methodology, today such works as for example *Alice in Wonderland*, *Winnie the Pooh*, or *The Wizard of Oz*, regarded as classics, are acceptable.

The reading of stories with veiled philosophical content is not the only way to conduct philosophical workshops for children. We must be careful not to push children into discovering everything we as adults believe is necessary and possible to recognize already in childhood. We may give children stories that contain obviously, and not in a veiled form the laws of logic. But we must take care that the manner of presentation should be different from the conventional style of textbooks. These must also motivate invention, they should promote the capability to inquire.

2.

G. Polya had the following to say: "My view on the aim of teaching is old fashioned. Namely, I think that first of all we have to teach thinking, reasoning, problem solving."⁷

But is it necessary, or even possible to teach how to think? Every normal person is able to think without having been taught how to. Thinking is not like reading, writing, physics, or chemistry, that can only be mastered through reading books or attending classes. Thinking is rather like running. Every healthy person can run, and can think. This is true enough, yet a one's ability to run can be improved directly by physical education. One of

⁷ G. Polya, *Mathematical Discovery. On understanding, learning and teaching problem solving*. John Wiley & Sons Inc., New York 1962. p. 112.

the subjects in physical education classes is learning how to run. But are there any classes that teach the subject of thinking? There are none. Neither is it necessary to teach thinking, so they would say, since this should be part of all classes, as Polya also states.

I agree with Polya's "old fashioned" view, that thinking should first of all be taught in every class, but in order to make this a reality we must provide children's workshops where they can learn and practise correct thinking without linking it to the learning of some other, mandatory subject. The acquisition of the technique of correct thinking requires knowledge of logic. The teaching of logic has a long tradition. Historically, this discipline was taught perhaps more frequently than other areas of philosophy. But already in Goethe's *Faust*, Mephistopheles recommends without too much enthusiasm the learning of logic to students:

"I advise you:
The principles of Logic primo!
We will drill your mind in rote,
Strap it in the Spanish boot."⁸

We can understand Mephistopheles' view better if we compare it with Hegel's thought originated in the same period. Hegel wrote: "Logic did not fare quite so badly as metaphysics." ... "Nevertheless, probably for the sake of a certain formal utility, it was still left a place among the sciences, and indeed was even retained as a subject of public instruction. However, this better lot concerns only the outer fate of logic, for its structure and contents have remained the same throughout a long inherited tradition, although in the course of being passed on the contents have become ever more diluted and attenuated; logic shows no traces so far of the new spirit which has arisen in the sciences no less than in the world of actuality. However, once the substantial form of the spirit has inwardly reconstituted itself, all attempts to preserve the forms of an earlier culture are utterly in vain; like withered leaves they are pushed off by the new buds already growing at their roots."⁹

It is true that by the time of Goethe and Hegel logic had lost its deep intellectual content and the strength it possessed in antiquity and through the long centuries that followed. It was Plato who, by introducing the Socratic

⁸ W. von Goethe: *Faust*. Part one. Tr. by M. Greenberg. Yale University Press, 1992. p. 59.

⁹ G. W. F. Hegel, *Science of Logic*. Tr. by A. V. Miller. Georg Allen Unwin Ltd., 1969. p. 26.

form of dialogue, presented his deep philosophical ideas in a commonly understandable form. We know how important Aristotle thought it was for everyone to acquire a knowledge of philosophy sufficient to be useful in the art of debate as well as a foundation for engaging in the sciences. The philosophical character of logic was expressed not only in the works of Plato and Aristotle but also in Stoic logic where logic was called the 'backbone' or 'muscles' of philosophy, and also in the works of the Scholastics who considered their main object the exploration of the features of argumentation in ordinary language. When they established the rules of correct inference their intention was to improve the methods of cognition. By the early 18th century, however, the textbooks serving the dissemination of the knowledge of logic sank to such a low level that the profundity of the original ideas of preceding ages was - as is usually the case also with the works of other savants - replaced by shallowness. The result of this process is evident, for example, in the case of the Kant-Jasche logic textbook¹⁰ that presents the summarization of the course material on the logic of Hegel's era. For example, it "strapped in a Spanish boot", the classes of judgment as if all classes of judgment would be exhausted by the four times three categories. This book contains little that could be useful for the needs of everyday thought-processes or for scientific theory that had already emerged in the 18th century.

The process of great change in the contents of the textbooks of logic in the direction of theoretical usefulness began during the second half of the 19th and the beginning of the 20th century. With the creation of the first, currently called classical calculuses of symbolic logic, the potential for the use of formalized logical languages in the fields of various sciences was established. Following the elaboration of symbolic logic an increasing number of logic textbooks were published justifying an assumption which is contrary to the Aristotelian view. According to this assumption, logic - like other sciences - deals with a sub-class of truths. The subject matters of logic are the "logically true" sentences, and not the rules of the argumentation of common speech, or to put it even more broadly, the rules of correct thinking.

It is true that in the course of the development of logic, beside symbolic logic, and having become independent starting out from the work of Hegel, another experiment had begun in the further development of logic. This so called dialectical logic deals with the laws of thought, however, until most recently, it does not reach the level of elaboration where they could result in textbooks truly suitable for the purposes of instruction.

¹⁰ Cf. I. Kant, *Logic*, ed. by B. G. Jasche, Königsberg 1800.

Now, my question is: do the classes - where symbolic logic in our days is taught - suit the needs of children, in other words, do these classes succeed in helping the acquisition of the rules of logic which are needed for everyday thinking? I think not!

What then is the task facing us in the teaching of logic?

In the area of teaching and popularizing mathematics numerous excellent works were written in Hungary, that may be regarded as pointing out the direction for teaching logic to children. I am thinking, first of all, of works by authors such as G. Polya¹¹, R. Péter,¹² A. Rényi¹³, etc.

The common feature of these works that I regard as orientational is what Rózsa Péter phrased as follows: The real professional is one "who knows exactly to what extent things can be simplified without falsifying them, who knows that it is not a question of serving up the usual bitter pill in a pleasanter dish (since mathematics for most is a bitter memory); one who can clarify the essential points so that they hit the eye, ..." ¹⁴. This shedding of light on the essential is accomplished by the above mentioned authors without the use of mathematical formulae. They present mathematics by extracting the content from the form and present this content as it was before the science of mathematics put it into the form that satisfied the demands of science.

In what forms do logical truths appear before symbolic logic phrases them in its own peculiar way? They are present - in part - in the common language used in everyday correct thinking, other parts are not there. Children should be made familiar with the parts that are present in everyday correct thinking. For this reason we have to extract the content from the symbolic logic form and translate it into the language of everyday discussion. For this presentation we must choose the areas where the thought process is of interest to children. For example, we can use dialogues between children, who play logical games, or solve crossword puzzles or riddles.¹⁵

¹¹ Cf. G. Polya, *How to Solve It, A new aspect of mathematical method* (First published in 1945, Princeton University Press), G. Polya, *Mathematical Discovery on understanding, learning and teaching problem solving*. (John Wiley & Sons Inc., New York 1962.)

¹² Cf. R. Péter, *Playing with Infinity Mathematical Explorations and Excursions* Transl. by Z. P. Dienes, (Dover Publ. Inc. New York, 1976.)

¹³ Cf. A. Rényi, *A Diary on Information Theory*. Transl. by Zs. Makai-Bencsát Akadémiai kiadó, Budapest 1984.

¹⁴ R. Péter, *Ibid.* p. xii.

¹⁵ These games are used in my book *Igy Logikus! (It's Logical!)*, written for children in the form of Socratic dialog. I find, for example, the game called "Mastermind" eminently suitable for freeing the logic of proposition from the scientific formulation and putting it in

Many prestigious researcher in the field of logic evaluated the totality of Aristotelian and traditional logics solely from the perspective of their own activities. They regarded them as primitive forms of inquiry, unequivocally surpassed by symbolic logic.¹⁶ We must, however admit that this was not so. With the emergence of modern logic, that is, with the appearance of the Frege-Russell type of so-called classical symbolic logic a big advance undoubtedly was made in the logic the objects of which are special kinds of abstract objects. At the same time the philosophical spirit of logic by the members of the early neopositivistic movement during the initial stage of modern logic was almost entirely lost from the logic books. It become removed from what Aristotelian, Stoic and Scholastic logic have set for themselves as an important task: to explore the features of argumentation in ordinary language and to establish the rules of correct inference in order to improve the methods of cognition.

But today, the situation had changed. Nowadays, when we speak of contemporary logic, we can not mean exclusively that part of modern logic which is called classical symbolic logic. Contemporary logic contains the non-classical logics as well (intuitionist, relevant, paraconsistent logics, etc.). Contemporary logic provides more than the formal study of deducibility. All of this means that it is the right time in the teaching of logic to return to Aristotle's idea according to which logic has a double aim: it is concerned with "apodeixis", and at the same time it is an "episteme". Making use of the results of formal studies and not divorced from it, we have to teach the logical problems with philosophical content, some of them already occurring in Aristotle's work and removed from logic only later on. It is hoped that in this way the teaching of logic, while retaining the Aristotelian ideas, will at the same time surpass them.

Institute of Philosophy, Hungarian Academy of Science
1125 Budapest, Kutvölgyi ut 41

the form of everyday language. The game of "Twenty questions" is also a useful aid to encourage recognition of certain rules of the logic of classes. A suitable means serving the same objective for understanding the rules of definition, is the recognizing of the relationship between the questions in crossword puzzles and the corresponding answers. The widely known riddles promote understanding of the problems of logical semantics and the ability to recognize mistakes in reasoning.

¹⁶ To illustrate how the relationship between Aristotelian and modern logic is described according to this view let me quote A. N. Whitehead. In his Foreword to Quine's early work *A System of Logistics* (1934) Whitehead wrote: "In the modern development of logic, the traditional Aristotelian logic takes its place as a simplification of the problem presented by the subject. In this there is an analogy to arithmetic of primitive tribes compared to modern mathematics."