

THE DEVELOPMENT OF REASONING IN CHILDREN THROUGH COMMUNITY OF INQUIRY

I. What I have to present before you today will be more in the form of work in progress than a finished paper on the subject of reasoning in children. This work grew out of an NEH Summer Seminar 1988 at the University of Massachusetts, directed by Gareth Matthews. I had a number of motivations for attending this seminar, but the primary one was to have the opportunity to look at the work of Piaget on children's reasoning. The primary reason why this interests me is a very pragmatic one. Often, in the course of introducing the Philosophy for Children program to teachers I am confronted with one or more "Piagetians" or "constructivists," as they sometimes seem to like to call themselves. These Piagetians are often skeptical, if not downright critical of Philosophy for Children on the grounds that it does not take into adequate account the developmental level of the children involved. How can one have a reasoning program for young children when Piaget proved that children are incapable of reasoning until the age of 11 or 12? I must admit, that is a good question. Not knowing very much about Piaget I was hard pressed to answer except through unconvincing personal testimony of seeing it being done. I felt that a confrontation of sorts between Philosophy for Children and Piaget was due and that is what I set out to produce.

My work evolved into three parts. First, I looked at Piaget's methodology generally to see if his conclusions, whatever they were, were warranted. I concluded that in fact the methodology had serious flaws and would not pass scrutiny for its scientific basis. I will leave this for now since showing that Piaget's conclusion may not be scientifically warranted is not the same as showing that they are false or inadequate. I think this can be shown by comparing with a more adequate methodology, namely that of Philosophy for Children.

Second, I am looking at what Piaget actually said about what he called "child logic" and why he said what he did. I found that indeed he did not think that young children could reason and he apparently came to this conclusion for three reasons:

1. By the time he began to look at reasoning in children, Piaget had already established that children go through a series of unalterable, biologically fixed developmental stages. It seemed almost impossible for him to recognize counter-instances to his own theory. This led him at times to do one of two things:
 - a. Ignore instances of child reasoning that did not fit his scheme, or
 - b. Fail to follow up on what the children were saying when he had an interpretation of their responses that fit his theory.
2. Piaget had a very narrow understanding of what constitutes reasoning. For him reasoning is the recognition of the necessary relationship between the premises and conclusion of a deductive argument. Given this narrow definition, and his reluctance to pursue the responses children made to his questions, it is not wonder he thought that they could not reason.
3. Piaget thought that children were "egocentric" and hence unable to see from outside of their own point of view and their own narrow frame of reference. This naturally made them incapable of assessing premises and conclusions from any other perspective than their own interests. The logical relation between premises and conclusion is, however, independent of circumstances and personal preference. Hence, the naturally egocentric child is incapable of seeing the logical connectedness of things.

Finally, I am attempting to compare Piaget's theory of the child and of reasoning in the child with those of Philosophy for Children in light of their value for education. Piaget's theory was not explicitly developed for educational purposes, but it has had an enormous

impact on educationalists and hence on curricular matters in education. Hence, it is imperative at some point that Philosophy for Children, which was specifically developed with an educational agenda in mind, to confront Piaget at this point. This is the main thrust of what I want to relate to you today. I apologize if it sounds as though we will be entering the discussion in medias res as it were. In fact, that is just what we will be doing.

II. Young children, in Piaget's interpretation, are rife with contradiction. They can have no sense of one or more propositions leading to another, and they are incapable of forming any consistent idea of a general principle operating in the world. They are at the mercy of the immediate, and reasoning is at best a "logic of action but as yet [not a] logic of thought." Philosophy for Children takes quite a different view of the matter. It is able to do this because the Philosophy for Children program conceives of "reasoning" in a much broader sense than Piaget was willing to do. According to Lipman,

Logic has three meanings in philosophy for children. It means formal logic, [a la Piaget] with rules governing sentence structure and connections between sentences, and it also stands for giving reasons, which includes seeking and evaluating reasons for something said or done. Finally, logic means acting rationally, and concerns standards for reasonable behavior. (Lipman, p. 131).

Clearly, if not in the first meaning then in the other two, the concept of reasoning or "logic" described here is a richer one than that of Piaget. Children give reasons and for that can be said to have reasoned. If "giving reasons" or "acting rationally" is to have any meaning it must include the idea that children can think and act with consistency. In other words, to give a reason is not to connect propositions together in an arbitrary and incoherent manner, but to recognize that there is a connection between the propositions given as reasons and the proposition which is supposed to be (logically) connected to them. Of course children can be mistaken about this connection, just as adults frequently are. That does not mean that they are illogical or irrational or incapable of reasoning any more than it means that for an adult. A child may not be as good at giving reasons as an adult, but that does not mean that they are not able to reason. It simply means that they make more mistakes than adults. But making mistakes is part of the process of learning. Children will learn to make fewer mistakes if they are engaged in the process of giving reasons. Their development will be a development in facility, not in capacity. It is this position that marks out the incompatibility between Philosophy for Children and Piaget. Practitioners of either educational methodology will come to quite different conclusions about what reasoning is and what children are capable of. The Piagetian approach will tend to see reasoning as a late development to be put off until age 11-12. They will also tend to see reasoning, logic, as the acquisition of a set of skills; reasoning skills or "thinking skills" as they are popularly called. A Philosophy for Children practitioner will tend to see reasoning as a process of thinking which even young children are able to do. And they will not see reasoning in terms of "thinking skills" but in terms of "being reasonable." What this means will have to be adumbrated in due course.

After all of this it might seem that Piaget and Philosophy for Children have no common ground. But this would be a mistake. There are at least two fundamental notions which Piaget and Philosophy for Children share: constructivism and the idea of the social origins of reason.

To deal briefly with the first, Philosophy for Children agrees that children construct meanings. They are not given them nor do they discover them already formed within them. In other words, Philosophy for Children adheres to neither the Platonic notion of innateness nor the Lockean, empiricist notion of the tabula rasa or the passive mind.

Here is one way in which Lipman expresses the idea of constructivism:

Meanings cannot be dispensed. They cannot be given or handed out to children. Meanings must be acquired; they are capta, not data. We have to learn how to establish the conditions and opportunities that will enable children with their natural curiosity and appetite for meaning, to seize upon the appropriate clues and make sense of things for themselves. Many teachers will say that they are already doing this, and no doubt they are. But the educational process, from the schools of education where teachers themselves are trained on through to the actual classroom, does not operate in this fashion. Something must be done to enable children to acquire meaning for themselves. They will not acquire such meaning merely by learning the contents of adult knowledge. They must be taught to think and, in particular to think for themselves. Thinking is the skill par excellence that enables us to acquire meanings. (Lipman, p. 13).

This idea of "thinking for themselves" will be taken up as a crucial notion soon, but notice how Lipman claims that meaning is constructed through the process of the child thinking and trying to make sense of things. He says "meanings must be acquired" so they are not innate. But this statement clearly does not mean that these meanings are acquired by getting them from somewhere else, ". . . children acquire meanings for themselves." In other words it is their meaning, and they acquire it because to them it is meaningful.

So far, then, Philosophy for Children and Piaget are in agreement. There is another fundamental idea which they have in common, but it is the different way in which they make use of this idea which shows just how their "constructivism" diverges. This common idea is the "social origins of reason." At the very beginning of Judgment and Reasoning of the Child Piaget sets forth the idea of reasoning emerging out of a social context.

. . . it is chiefly because he feels no need to socialize his thought that the child is so little concerned, or at any rate so very much less concerned than we are, to convince his hearers or to prove his point. If this be the case, we much expect childish reasoning to differ very considerably from ours, to be less deductive and above all less rigorous. (Piaget, p. 1)

It is odd that Piaget can say this and yet not recognize the implications this might have for his experimental results. Indeed, a little later in the same work he tells us that

. . . the decisive factor in causing a child to become conscious of himself [and therefore capable of reasoning] was contact and above all contrast with the thought of others. Before society has administered these shocks, the child inclines to believe every hypothesis that comes into his head, feeling no need for proof and incapable if he did feel such a need of becoming conscious of the motives which really guided his thought. (p. 24)

It is not surprising that a child will not develop a facility to reason if they experience no need to do it. But this is true for adults as well. Although through experience adults have learned to internalize the process of social reasoning to a great extent, we have also developed impressive traditions and institutions to capture the utility of the social aspect of reasoning. One only has to think of the conferences and symposia which occur throughout the world, and of the abundance of scholarly and scientific journals. These are not only a means of transmitting information, they are a testing ground for ideas; they are forums for entering into dialogue; they are communities of inquiry. Piaget sees the importance of the social dimension but fails to see that a community of inquiry,

where reasonableness is the standard, is what is missing from the children he labeled as non-logical. Piaget himself unknowingly makes an eloquent case for Philosophy for Children and its idea of developing communities of inquiry in the classroom when he says:

But as soon as thought becomes socialized, a momentous factor comes into play; imitation and assimilation are transformed, solidarity is established between them, and thought becomes increasingly capable of reversibility. For the capacity for leaving one's own point of view and entering into that of other people robs assimilation of its deforming character, and forces it to respect the objectivity of its data. The child will henceforth attempt to weave a network of reciprocal relations between his own point of view and that of others. This reciprocity of viewpoints will enable him both to incorporate new phenomena and events into his ego, and to respect their objectivity, i.e. the specific characters which they present. Gradually, this same reciprocity of view-points will accustom the child to the reciprocity of relations in general. Henceforth, imitation of reality will find its completion in assimilation of reality by the mind. Social life, by developing the reciprocity of relations side by side with the consciousness of necessary implications, will therefore remove the antagonistic characters of assimilation and imitation, and render the two processes mutually dependent. Social life therefore helps to make our mental processes reversible, and in this way prepares the path for logical reasoning. (Piaget, p. 180).

Why did Piaget fail to see the natural implications for community of inquiry in these ideas? The answer to this is complex, too complex to be dealt with in detail here; but there are a couple of points that can be made. First, Piaget seemed to be compelled, whatever subject he studied with children, to make it conform to his stage theory. So it is not surprising that in studying reasoning in the child Piaget found exactly the same fixed structures at work. Secondly, Piaget's theory of egocentrism led him to discount the idea that children could enter into social relations in a manner that was relevant to the formation of logical thinking, i.e. taking the other person's point of view. As children never fully shed this limitation until 11-12 years of age (according to Piaget) there is no way they would be able to reason logically before then. Therefore the community of inquiry is an anomaly at any age before formal operational thinking. The viability of the idea of egocentrism has already been seriously undermined by writers such as Donaldson in her Children's Minds. Clearly if Piaget's concept of egocentrism falls then the community of inquiry makes good educational sense. And this seems to be the way it is.

The idea of the community of inquiry is the cornerstone of Philosophy for Children and it is this which separates its idea of the sociality of reason from that of Piaget. It is not too much to say that it is the most fundamental idea for the entire Philosophy for Children methodology--one might even say, without too much exaggeration, that it is the methodology. In some ways the idea of "community of inquiry" is analogous to Piaget's notion of "egocentrism", with this difference: for Piaget "egocentrism" is a means of explaining why children cannot do something; in our case, why they cannot reason. "Community of inquiry", on the other hand, is an idea by which Philosophy for Children is able to show what they can do; in our case, that they can reason--even at the earliest ages.

Now there is one more piece to fit before the picture comes into clear view. In a properly constituted community of inquiry three things are present which are not present in Piaget's methodology.

First, the socially constituted situation in which the problem to be considered

emerges.

Second, the dialectic which forces the movement of thought and is not content with the first utterance given.

Third, the need that is felt to solve the problem. Piaget would perhaps relate it to the need to establish equilibrium.

It is because the community of inquiry has this 3-fold nature that reasoning and the construction of meaning become conjoined.

It is the sense of the meaningfulness of the problem as a need that urges one toward the creation of the meaning in the situation. Children find meaning where there is meaningfulness. Children learn to reason when there is a reason for them to do so. This is the crux of Margaret Donaldson's discovery of the capacity of very young children, perhaps even infants, to "decenter", i.e. to escape their egocentric predicament. Donaldson makes this point clearly in reporting on an experiment that runs counter to Piaget's experimental results on egocentrism.

The point is that the motives and intentions of the characters [in the experiment] are entirely comprehensible [unlike Piaget's questions], even to a child of three. The task requires the child to act in ways which are in line with certain very basic human purposes and interactions (escape and pursuit)--it makes human sense. Thus it is not at all hard to convey to the child what he is supposed to do: he apprehends it instantly. It then turns out that neither is it hard for him to do it. In other words, in this context he shows none of the difficulty in 'decentering' which Piaget ascribes to him (Donaldson, p. 24)

Community of inquiry, as conceived by Philosophy for Children, comprehends five basic elements:

1. Involvement by the children in the process by starting from their interests (this matches Donaldson's findings).
2. Discussion, talking and listening (this is the dialectical and social element in the reasoning process).
3. Giving and expecting reasons for what one says (this is the process of becoming reasonable through giving reasons).
4. Respect for oneself and for others (this is the ethical dimension and is the foundation for acting rationally).
5. Thinking for oneself. This is the essence of what it means to be a reasonable person (in this sense, being reasonable, reasoning, is a concept far above the relatively sterile idea of "thinking skills" and formal logic.)

Here these are intimately connected with Philosophy for Children in general and community of inquiry in particular and should be easy enough to deduce. In order to bring the whole picture together I want to try to spell out what is embedded in the idea of "thinking for oneself." Up to now a case has been made for the Philosophy for Children program as a better alternative to a Piagetian based program on the grounds that it provides for the existence and growth of reasoning in children from the earliest ages. The main thrust of this argument has centered around the idea of community of inquiry. But community of inquiry is only half the story. Though it may be good for some reason to "speed up" the process of reasoning, that in itself may not be sufficient reason to do it. One might argue to the contrary that "children grow up too fast anyway--let them develop naturally." Of course we could point out that we begin teaching them to write long before they can demonstrate anything like calligraphy. We do it because the process of writing itself has valuable educational objectives beyond mere penmanship. So too with reasoning. That is where "thinking for oneself" as a concept comes into play in the

Philosophy for Children model for education.

What I propose to do now is to try to tie together much of what has been said explicitly and implicitly throughout this discussion. To begin with let me make the following assumption which I will not try to justify.

A world inhabited by reasonable people is better than one which is not.

What does it mean to be a reasonable person? The answer to this question has already been implicitly given in the preceding. Suffice it to say for now that being reasonable means something more than having reasoning skills. Educationalists who are interested in putting reasoning into the curriculum are making a mistake if they believe that they are teaching reasoning when they are teaching "thinking skills." There is no contradiction in saying that someone can be a very fine logician but not be a reasonable person. Being a reasonable person is a matter of character; in Aristotelian language we might say that it is a "virtue." One who is reasonable is one who has internalized the practice of reason and adopted it as a fundamental value for themselves.

Matthews has shown us the intrinsic value of doing philosophy with children, and this is accepted by Philosophy for Children. But the doing of philosophy has another role to play--the development of reasonable human beings. If Aristotle was at all near the mark when he defined the human to be a "rational animal" then, so far as philosophy promotes reason, it is the paragon of the humanities. Minimally we can say that the development of reasonableness as a matter of character is facilitated by the practice of philosophy.

Matthews has shown without a shadow of a doubt that children are natural philosophers. It is part of their impetus to make meaning out of the world. This is something that all children have in common. It is something they will eagerly do if they find the encouragement and the environment for it.

Philosophy provides that center of interest which we have seen to be so vital to the development of reasoning in the child. Furthermore, it is a center of mutual interest between children and it therefore provides that crucial social dimension of interest we have also seen to be vital for reasoning to happen. Through the mutual exploration of philosophical whimsy (to use Matthew's phrase) children learn not only to enjoy their own playful wonderment about the world, they also come to learn the difference between satisfactory and not-so-satisfactory responses to it. What they begin to realize, especially if they are encouraged by a sympathetic adult who is sensitive to the processes of philosophizing, that the difference between satisfactory and not-so-satisfactory is a matter of reasonableness. Hence they will begin to value the reasonableness of thinking--both in themselves and in others. In learning to value reasonableness, they learn to think for themselves.

Stubbornly adhering to an idea in spite of good reasons for changing it (not necessarily abandoning it) is not what "thinking for oneself" means. Thinking for oneself means to be able to understand why one's idea is a reasonable one to hold and to be able to explain that reasoning to oneself and to others. If one is involved in a community of inquiry, then thinking for oneself will be a characteristic shared by all members of that community (at least it will be working in that direction). It follows that thinking for oneself in a community of inquiry necessarily leads to the understanding that others may have different ideas but may have good reasons for maintaining them. The give-and-take of the community of inquiry leads to a dialectical spiral in which each individual comes to construct a more coherent meaning out of their wonderment at the world. In encountering the diversity of thought to which reasoned thinking can lead the child comes to see the members of the community of inquiry (which may include adults) as equals in the business of meaning construction. Thus they are lead inexorably to develop an environment of mutual respect. This is the true meaning of thinking for oneself. Its

product is people who value and respect themselves, and who also value and respect others. In other words, the community of inquiry is fundamentally an ethical community. Ethical community is founded not upon rights but upon respect for persons (including oneself). With this respect comes the capacity for "thinking for oneself."

If the creation of such individuals is a worthwhile educational goal, if education should bring us closer to the ideal of a world inhabited by reasonable people, then we cannot afford not to believe that children can reason. If reasonableness is to enter into the character of our people it must begin by developing the habits of reasoning, the respect for reasoning, and the value of reasoning in the youngest child. It is that vision that the Piagetian model cannot support and that the Philosophy for Children model takes as its foundation.

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