1983

Volume 4, Nos. 3 & 4

Thinking

VOLUME 4, NO. 3 & 4

THE JOURNAL OF
PHILOSOPHY FOR CHILDREN

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Volume 4, Number 3 & 4

Publisher

Thinking is published by the First Mountain Foundation, for The Institute for the Advancement of Philosophy for Children. The First Mountain Foundation is a non-profit foundation devoted to educational purposes. Support for editorial aspects of *Thinking* has been provided by the Schumann Foundation.

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ISSN#0190-3330

Institutional subscription (yearly, 4 issues).....$20.00
Individual subscription (yearly, 4 issues)..... 12.00

Manuscripts and related correspondence should be addressed to the Editor, *Thinking,* IAPC, Montclair State College Upper Montclair, N.J. 07043

Correspondence dealing with subscriptions should be addressed to The First Mountain Foundation, Box 196, Montclair, N.J. 07042

Postage paid at Montclair State College, Upper Montclair, N.J. 07043

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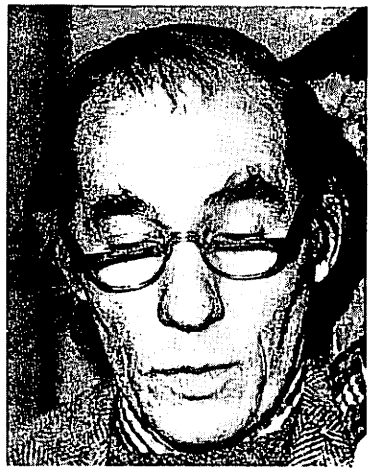
THINKING IN STORIES

By Gareth Matthews

Gareth Matthews teaches philosophy at the University of Massachusetts, Amherst.



The Real Thief

by William Steig, New York: Farrar, Straus & Giroux, 1973.

First it is rubies that disappear from the Royal Treasury, then gold ducats, then the famous Kalikak diamond. King Basil, the bear, is driven, quite against his inclinations, to suspect Gawain, the goose, who is the Chief Guard of the Royal Treasury and the only one, besides the King, with a key to it.

Gawain is brought to trial, found guilty, and sentenced to prison. Before he can be taken off to serve his term, though, he flies away, across Lake Superb, and hides in the forest on the other side.

The mouse, Derek, is the real thief. It had all started so innocently. He had stumbled into the Royal Treasury and had been overwhelmed by the beauty of the royal jewels. He had taken, first one, then more, and then even more, until finally he had taken the Kalikak diamond itself. He had transported all those jewels to his small, underground home among the oak roots.

Upon learning that his friend, Gawain, had been charged with the theft, Derek had resolved that, if Gawain were actually found guilty, he, Derek, would come forward and confess. But then, when Gawain had escaped, he had decided not to confess after all.

What should Derek do now? To clear Gawain's name he steals even more jewels. Everyone soon realizes that Gawain must not have been the real thief. Then Derek returns all the jewels and goes in search of Gawain to confess and apologize.

Cleverly, Derek finds Gawain in his forest hideout, and, in a moving scene, tells him all. Gawain forgives Derek and Derek manages, with some difficulty, to get Gawain to say he will forgive the King as well. Then Gawain asks Derek, almost nonchalantly, whether he is going to confess to the others.

* * *

When I read this story aloud to others, as I often do, I stop at Gawain's almost nonchalant question and ask my hearers what they think Derek should do and why. Should he go back and admit his misdeeds, and why, or why not? Before we finish reading the story together we have a discussion as to how we would want it to end.

The jewels, we remind ourselves, have all been returned. The King and his subjects realize that Gawain was falsely accused and mistakenly found guilty. No doubt the King is prepared to try to make amends to Gawain. No one suspects Derek. Moreover, Derek has already suffered great remorse and taken important steps to undo his misdeeds.

Those of my hearers who suppose that the morality or immorality of an action depends essentially on the nature of that action's consequences, are likely to conclude that Derek should not confess. Who would be made better off by such a confession? Not Derek, it seems, for he would be made to suffer even more. Not the King, it seems, for he likes Derek and would be disappointed to learn of his thievery. Not Gawain, who has already forgiven Derek and would not want him to be punished more than his remorse has already punished him.

Those of my hearers who suppose that the morality or immorality of an action is quite independent of its consequences are likely to conclude that Derek must confess. Doesn't simply honest demand as much?

It usually happens that my hearers, whether they are adults or children, divide rather evenly into two groups—those who think Derek ought not to confess and those who think he should. I give each side an opportunity to try to persuade their opponents of the correctness of their own point of view.

The point of the discussion is not to dramatize the relativity of morals. The point is rather to make clear how difficult it is to resolve serious moral dilemmas, and to show how closely intertwined questions of conscience may be with theoretical issues about what kind of consideration shows that an action is right, or wrong.

The philosophical value of Steig's story, however, extends even beyond the fine opportunity it affords for discussing what is right, and what makes something right. Since much of the story is written, and written very sensitively, from the thief's point of view, reading it is an exercise in the moral imagination. For Steig's story is that rarity among children's books—an exploration of moral questions that manages to be exciting and serious, without ever being moralistic.

Michael Whalley is a Visiting Specialist in Philosophy for Children at Montclair State College. *This article is reprinted with permission from* Analytic Teaching, *Nov.-Dec. 1982, Vol. 3, No. 1, pp. 6-8.*

Some factors influencing the success of philosophical discussion in the classroom

By Michael Whalley

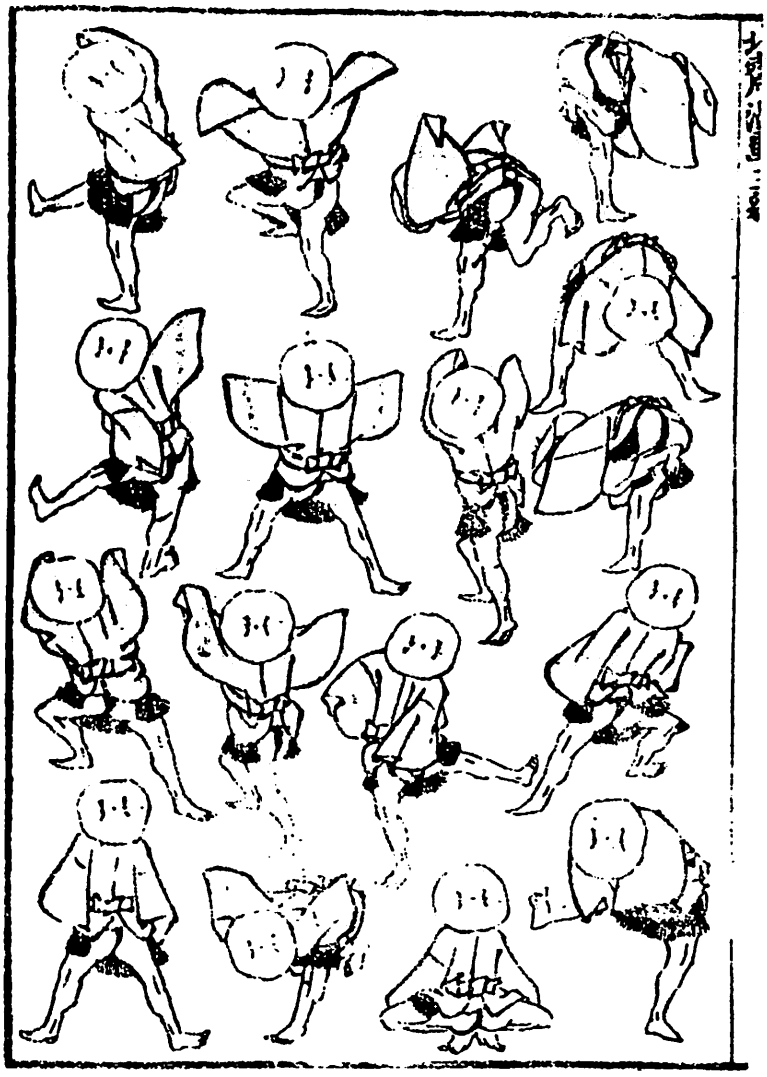
The following notes are partly speculative and partly based on about eighteen months experience of giving modeling sessions in the programs of the Institute for the Advancement of Philosophy for Children (IAPC). These took place in many different schools, in connection with training workshops given by the Institute. (The sometimes strong opinions expressed are not necessarily shared by other members of the IAPC.)

I start with the assumption that to encourage philosophical discussion among children is a desirable aim. Arguments for this have been given elsewhere; in particular, see Lipman, Sharp, & Oscanyan, *Philosophy in the Classroom,* 2nd. Ed., 1980, (PC). The points I want to concentrate on here are concerned with what might be called the "mechanics" of a classroom discussion, with where and how it takes place, and not with the pedagogical approach as such—though this is of course probably the most important factor of all. (For a discussion of it, see PC.)

It is possible to imagine many different settings for doing philosophy with children; but the most common one so far has been the public school classroom. This immediately suggests a problem: children *have* to go to school, and with a few exceptions, (see *Thinking,* Vol. 3, No. 2, p. 34) a schedule of activities is mapped out for them in advance. At a certain period the teacher will say, "Now we are going to do philosophy," and do it they will, whether they want to or not. But a philosophical discussion is worthless unless the participants themselves have a desire to pursue it. Since few people like doing what they are ordered to do, we thus have at the outset a built-in paradox working against the success of classroom dialogue. The only way out ultimately is to insist that philosophy always be an optional subject. At present, this would have the disadvantage that many children, not knowing what philosophy is or can be, would not opt for it. So the least we can do is try to make sure that mandatory philosophy sessions are exciting and interesting.

The physical environment in which discussions are held is important in several ways. First, let us consider noise. Surely a minimal requirement is that participants should be able to hear each other's voices, without anyone needing to shout. Yet I have sometimes observed teachers attempting to run a discussion with the classroom door wide open and a deafening uproar coming from the corridor. Even with the door shut, it appears that most school buildings have been designed on the assumption that one should avoid silence at all costs. Walls, ceilings, floors, and furniture have apparently been constructed so as to amplify as much as possible the everyday sounds of talking, moving desks, and travelling from room to room.

The problem of noise leads to that of interruption in general. Discussions are continually sabotaged by a person entering the classroom with some trivial message. If this happens at a crucial and absorbing stage in the dialogue, the thread is broken and the continuity destroyed. I have known only one teacher who forbade interruptions of this kind during a philosophy session—but wouldn't it be simple to pin a notice on the door, such as "Discussion in progress. Please don't interrupt"? (Younger children who carry messages could be made aware of the meaning of such notices, and encouraged to respect



them.) Worst of all is the blatant calling to attention by loudspeaker. Merely picture to yourself a child who has been following eagerly an exchange of views by other members of the class, perhaps a shy child who does not say very much, but who has now been moved by sheer interest to add a comment, when suddenly "MAY I HAVE YOUR ATTENTION. . ." booms that monstrous contraption on the wall (a superfluous request, as a child might with equal success try not to attend to an earthquake).

There is also the possibility of unintended interruption that occurs when a classroom used for discussion contains children engaged in other activities as well. A situation of this kind is never satisfactory. If the other children are doing something that involves talking or making noise, the disadvantage is obvious; if they are working silently, they themselves may be distracted by the discussion.

One way to avoid all the above-mentioned problems of noise and interruption, when the weather is suitable, is to take the philosophy class outdoors. This is the ideal setting. For schools in city centers it is rarely possible—but why not devise rooftop discussion areas?

Given that a suitable environment has been found, what of the arrangement of the group itself? In philosophical discussion, the views of all participants (including those of the teacher or discussion leader) are equally valuable in the sense of being worthy of consideration. This equality should be reflected in the physical distribution of the group, and therefore the best seating arrangement is roughly circular. How circular is an interesting question. In most cases, a randomly distributed group where everyone is able to face everyone else seems preferable to a rigidly defined circle with a large empty space in the middle around which the children sit as though waiting for the clowns to appear and the performance to begin. But I am here treading on unknown ground. Classes vary widely in character, and it may well be that for some of them the formal circle imparts a more serious atmosphere and prevents the discussion from becoming too rowdy. Conversely, children who have been cowed by a militaristic seating plan may find their ideas flowing

more freely if they are allowed to sit in an untidy group on the floor.

So many factors affect the success of a discussion that it is very difficult in any one case to know whether the seating makes a difference. I have taken part in, and observed, very good sessions in which the children have retained their normal seating arrangement, often in rows all facing the front. Perhaps in some classes this gives the children a feeling of security. But it should be noted that with the conventional seating plan there are two possible disadvantages: (1) However well the discussion is handled, the teacher remains physically apart from the group, and this makes it harder to break away from the normal pattern of teacher/pupil interaction and encourage dialogue between the children. (2) Even if the children wish to address each other, those at the front cannot easily talk to those at the back, and the latter are forced to address their remarks to the back of people's heads. (The only person they face is the teacher, who thus inevitably becomes the recipient of their remarks.) On the other hand, one should not be too eager to foist upon children the conventions that apply to conversations between adults. Many of them may not be perturbed by talking to the backs of heads, or speaking to someone who is almost out of sight.

In general therefore teachers should decide what seating arrangement is best for their own class, remembering all these factors and perhaps experimenting with different methods. The method adopted should be that which leads in practice to a greater frequency of dialogue between the children. Attention to small points of physical behaviour may also make a difference. One teacher achieved great success with a fourth grade class by simply insisting that when commenting upon another child's remarks you should look at that child and not at the teacher.

This leads to the question of rules for discussion. Why should there be any such rules? If good philosophical dialogue can take place only in an atmosphere of freedom, why restrict that freedom at the outset? In the first place, because freedom is desirable only as long as it does not interfere with the freedom of others. A person who is free to talk at any time, and under no obligation to listen, thereby denies others the right to be heard. Very few of us are capable of listening to more than one person at once, so it ought to be a basic rule that only one person speaks at a time. (Other factors will affect this as well: for instance, the larger the group, the more difficult it is to prevent the occurrrence of conversations aside.)

But that is only one side of the coin. There is no point in speaking at all unless you are listened to. Listening implies not merely hearing, but paying attention to the meaning of what is said. And by some children this is not auto-

matically seen as a natural thing to do. Perhaps they lack practice. School is traditionally a place where they must always listen to the teacher, but rarely to each other. It follows that in most classes listening needs to be stressed, and one or two practical rules may help to do this. In the ideal discussion (which is rare among adults as well as children) everyone listens to the person speaking, and then, by a kind of mutual consent, someone is allowed to reply, each giving way when appropriate, so that a balance is maintained and all have a chance to speak. An approximation to this sometimes takes place in the classroom for a short time—a few children arguing back and forth (always with excitement) while the rest spontaneously adopt the role of tense spectators. But in general (until we know how to do things better) it has to be the teacher (or leader) who selects the person to speak from those with hands raised. The trouble with this is that it emphasizes the pattern that has been drilled into children from kindergarten upwards: the teacher asks the questions, and the class answers. So what often happens is this:

1) Teachers asks question,
2) Several hands go up,
3) Teacher selects child to answer, but while the child is speaking,
4) The others keep their hands up, waiting to give their own answer to the original question.

As a result, most of those with hands up are not listening to their classmate who is speaking. Even the few who may be able to listen and keep their own point in mind are still mostly concerned with the latter. What occurs therefore is a succession of more or less unrelated answers, and little chance of dialogue. As one teacher put it to her class, "If your hand is up while someone is talking, it shows you're not listening." For a rule to be useful, it should be clear at any time whether or not it is being followed; so the rule "No hands up while someone is speaking" is much to be preferred to something like "Everyone must listen." The latter has no observable consequence; but in the act of adhering to the former, a child may be reminded that he or she should be listening.

Any means of breaking away from the pattern of question and answer just described is worth trying. Perhaps it would sometimes be better to address the first question to one particular child, and then ask who would like to comment on the answer. If the class finds it hard to obey the "no hands" rule, it might be suggested that they play the following game: after someone makes a comment, the next person to speak may only agree or disagree with that comment, giving reasons; and so on. (The point of calling this a game rather than another rule is to make clear that it would be too artificial as a permanent rule for all discussions.)

Listening is difficult because it requires self-discipline. The urge to think about one's own point has to be resisted, and the attention directed to someone else. Children are naturally impatient and dislike having to wait for their turn to speak; it may be worth pointing out to them that they do not have to wait to listen!

Another rule may be useful in connection with what is heard. It may seem obvious that the content of the children's remarks should be relevant to the question being discussed. But relevance itself is not enough. Suppose the question takes the form "What is the difference between A and B?" A child may respond by giving examples of A and B—which, although relevant, does not answer the question. In this case the questioner may persist and ask what the difference is between those examples; but if the child's comment is completely irrelevant (for instance, it may pertain to some previous question), this should be pointed out. Of course, flexibility is important: it would be counter to the interests of inquiry if some very perceptive and illuminating comment were to be rejected for the sake of rigidly adhering to a rule. Here we are verging on the subject of questioning technique, which is outside the present scope. The point is that relevance and answering the question are important enough that children should be made aware of the need for them, and one way of doing so would be to build them into the rules for discussion.

A further area where rules may be necessary is what could be called the etiquette of discussion. Such etiquette should be based upon the notion of equality of all the participants with respect to their right to contribute. For example, if someone always comments in great detail and at tedious length, the others will soon come to resent this—rightly, because that person is taking an unfair share of the time. On the other hand, it does not seem easy to formulate a rule to prevent this occurring, partly because of the vagueness of the phrase 'too long.' Perhaps it is better left to the discussion leader to drop a tactful hint when necessary, though this may call for unusual judgment and sensitivity.

Finally, if the class is particularly rowdy, it might even be necessary to adopt some rule concerning discipline in the general sense. I suggested at the beginning that a minimal condition for success is that the class members want to take part. A child who continually sabotages the discussion by disrupting behavior presumably does not want to take part. So would it not be better if he or she were asked to sit outside the group temporarily and do other work, or simply listen? Such exiled members should for the time being actually be banned from contributing to the discussion—partly to emphasize that they have not been behaving in a way that allows the discussion to continue, and partly in the hope that (as often happens) what is forbidden will become desirable. These are suggestions only; but clearly something has to be done in the face of persistent disruption.

Whatever rules are adopted, the chances of them being adhered to are much greater if the children themselves can see the need for them and have had a hand in their construction. This suggests that it may be better to start out with no formal rules and then, when and if the need for them becomes apparent, put aside a discussion period solely for the making of such rules.

In considering all of the above points, one thing especially should be borne in mind: the wide range of variability among groups of children. Each class seems to have its own character, and its own way of reacting in different situations. Any attempt to engage in philosophy with children by strictly adhering to some preconceived plan of operation would be both dangerous and useless. In dealing with classes, as with individuals, the key directives should be flexibility and toleration.

Frederick S. Oscanyan teaches in the Philosophy Department of Berea College, Berea, Kentucky. Brenda C. Richardson is a recent graduate of the IAPC MAT program.

Philosophy for Children in Louisville

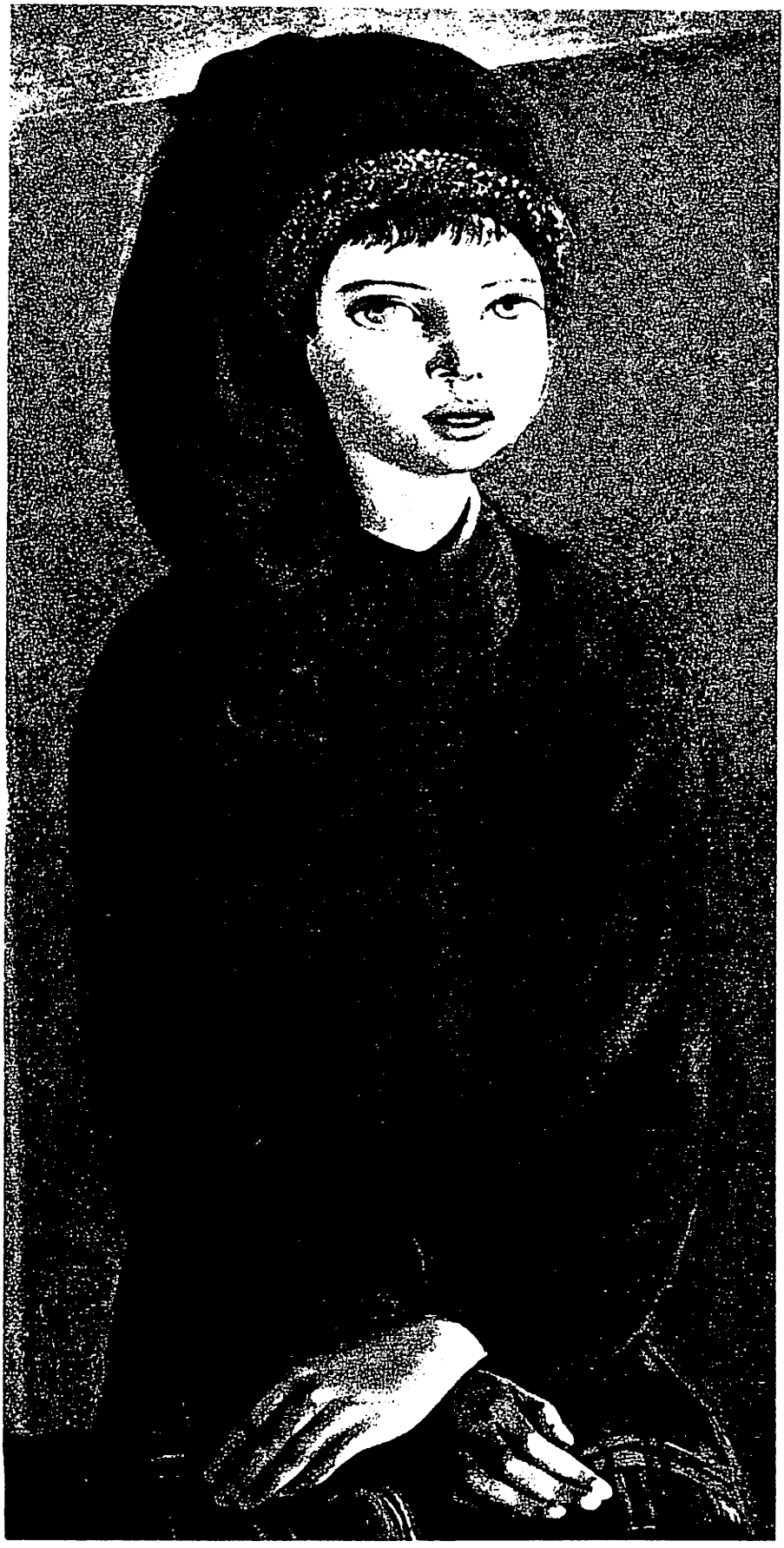
By Frederick S. Oscanyan and Brenda C. Richardson

The Brown School in Louisville, Kentucky, is developing a program under our direction that will give up to eight years of philosophy to its students. Since September, seven teachers have already begun implementing the program in grades two through seven (an eighth teacher will begin after Thanksgiving); students from a pilot program run last year have already started their second year of philosophy. The Brown School program will eventually yield considerable information about the consequences of providing students with several successive years of Philosophy for Children, as well as long-term influences on teachers and administrative staff involved in a multi-year program.

The school originally became interested in the program at the urging of a parent, Jeri Schafer Meyer. Ms. Meyer learned that Oscanyan had taken a position at Berea College, and helped arrange a demonstration session at the school. After the session, attended by several enthusiastic parents and warmly endorsed by the Principal, Martha Ellison, it was agreed that the school would run a two day workshop on the program that summer and that one teacher would implement the program during the following year. The school subsequently sought funding for teacher training on a broader scale through the Jefferson County School System.

A Brown School teacher, Tony Peake, taught *Harry Stottlemeier's Discovery* to a fifth grade class during 1981-1982 while working through the manual (*Philosophical Inquiry*) with Oscanyan. In April of 1982, the Jefferson County School System received an NEH grant to fund a two-week *Harry/Pixie* workshop at the Brown School which we taught during the following July. All but one of the teachers who attended are implementing the program (the sole delay, noted above, being caused by a very advanced state of pregnancy). This year (1982-1983), we visit the school once every two weeks, attending classes and occasionally modeling. We also meet with individual teachers during their planning hours or after school. In January of 1983, we began to meet with them as a group after school on a regular basis. We are at present working with the school system on developing a grant for another workshop in the summer of 1983.

We have found it to be especially important to take the teachers' own approaches into account in order to help them adjust their teaching styles to the Philosophy for Children program. How,



for example, does an enthusiastic teacher who is typically full of questions pursue these questions without dominating her class? And how can a teacher who is accustomed to giving answers adapt to open-ended inquiry without abandoning her sense of intellectual self-discipline? Topics such as these have been the main focus of our follow-up visits and meetings this fall. We find that they underlie most every question concerning uses of the texts, discussion plans, and exercises, as well as about running class discussions. While the teachers have already made considerable improvement in their work with the program, we fully expect that these issues will recur throughout the school year.

As some children at the school are in their second year of *Harry Stottlemeier,* we have already begun to observe carry-over from the pilot program of the previous year. Although the children had largely forgotten details of character and plot, they did exhibit a strong concern for the need to have good reasons to support statements. Since the beginning of school, they have characteristically addressed each other with questions as well as comments, and with alls for definitions of terms. They have also shown themselves to be quick to recognize unsupported generalizations. However, along with these traits we have also noticed that they have carried over an occasional tendency to lapse into attacking one another through scorn and put-downs rather than address each speaker's ideas (this trait had been observed by both Oscanyan and Tony Peake the year before).

According to Tony Peake, the teacher in the earlier pilot program, this recurring tendency can in part be traced to inadequate teacher training. During the workshop this summer, he pointed out that one cannot rely on lists of stock questions while engaging in dialogues with children, not even those provided in *Philosophical Inquiry,* or *Philosophy in the Classroom.* He described how certain nuances of expression in purportedly dialogical questions such as "How do you know that?", "What makes you think that . . .?", "Are you suggesting that . . .?", can actually constitute attacks on the intelligence or character of the speaker. (To illustrate his point,

compare "How do *you* know that?" with "How do you *know* that?", or, say, "What makes *you* think mice can fly?" with "What makes you think mice can *fly*?"). Tony maintained that only by actively participating in group inquiry can one develop a well-trained ear for recognizing such nuances, and especially for noticing when a member of a group thinks that another member has intended to place such a stress in a question, whether or not he actually did. Given the importance of recognizing such nuances in order to distinguish between a philosophical dialogue and an unrestricted competitive debate, he thought it significant that it was through his participation in the workshop—in contrast to the one-on-one training in the pilot program—that he had made progress in acquiring this ability. His views here seem well confirmed by the fact that he is having far greater success this year in helping foster philosophical dialogues with his children by redirecting lapses in classroom discussions where one child pursues his or her own interests at the expense of other members of the group.

It is shifts like these from self-contained to group inquiry that mark the primary contribution Philosophy for Children is presently making at the Brown School. The students there are prompt to display their very active curiosity. For instance, they are quick to ask visitors questions like: "Who are you?" "What are you doing here?" in ways that make it clear they expect straightforward answers. No doubt they are comfortable in this attitude because they are typically treated by the staff as responsible members of their classes and of the school community. But while this unusual willingness to display curiosity is certainly commendable, it tends to confine itself to a search for individually satisfying results rather than serve as a springboard for shared inquiry. Within this setting, one of the main functions of the Philosophy for Children program becomes especially significant: it meets the educational task of encouraging students and teachers to become interested in each others' ideas, making the classrooms in the Brown School places where persons value the ideas of others as well as think about their own as they seek to critically evaluate the contribution each idea makes to group inquiry.

Next spring, we plan to make a detailed study of our teacher training at the Brown School. We intend further to investigate how teachers with different teaching styles adapt to the program, and also how working in the program invluences teachers' views of themselves and one another. We have already found some indications that participation in the program may help teachers gain a better understanding of their aims as educators not only in teaching philosophy but also with more traditional classroom subjects. It has also been suggested that when a program enters a single school at as wide a variety of grade levels as it has here, teachers are particularly encouraged to work together, especially to develop new means of cooperation.

Up to now, research in Philosophy for Children has tended to focus on influences of the program on school children. Obviously, this remains important and we expect to make several studies in this regard at the Brown School. But we also intend to place special emphasis on studying long-term effects of the program on teachers at the school. Over the next years, the improvement of teaching may well turn out to be Philosophy for Children's most significant achievement, and studies in the impact of the program on a diverse population of teachers should provide some insight into how this is accomplished.

Philosophy for Children in Chile

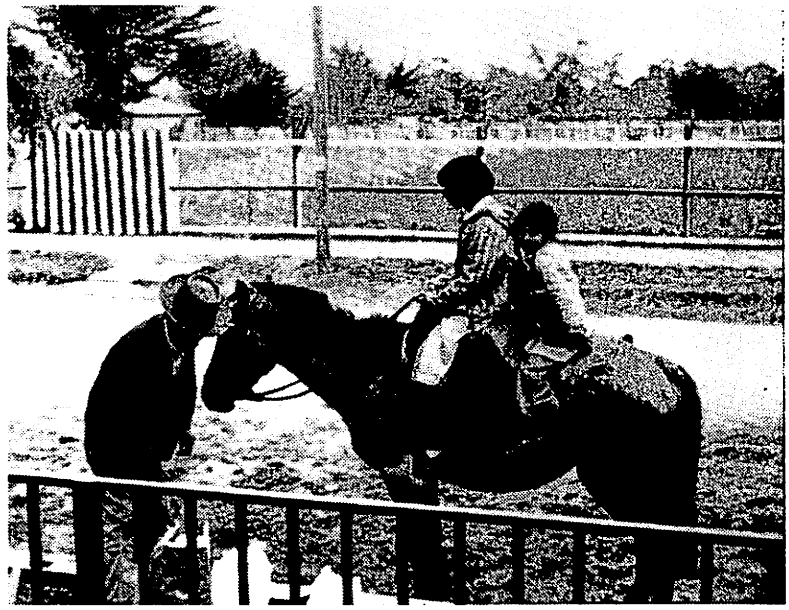
By Ana Maria Hartman

Ana Maria Hartman is well-known to readers of Thinking, *who will recall the article she wrote (Vol. 1, No. 2) with Prof. Ken Aman on the teaching of Philosophy for Children in San Salvador. Sr. Ana has been working in Chile for the past several years, both in conducting teacher education workshops and in arranging for the translation and publication of the Philsophy for Children curriculum in Spanish. (*Harry *and* Philosophical Inquiry *are now available in Spanish translation, thanks to her efforts, and she is now completing the translation into Spanish of* Pixie.*) Some idea of the extent of Sr. Ana's activities can be gathered from the schedule of her Spring, 1983 workshops, which include teachers from eight schools in Chillan, three large schools in Talcahuano, as well as teachers from schools in Santiago, Concepcion and Portezuelo. The article that follows is taken from a talk given by Sr. Ana to the Maryknoll Fathers at their annual Regional Assembly in Chile, August, 1982.*

Since 1978, Maryknollers in Chile have heard occasional mention of the Philosophy for Children program, but it may be that only a few of you are really aware of the content of that program. Fr. Jerry Brennan invited me to talk to you today about the philosophy program, and in doing so, I'll try not only to explain the program—its objectives, the methodology and so forth—but I will also point out some of the missionary implications of the program as I see them. I'll fill you in on how the program got into Maryknoll's work in Chile and where it is being used here. Then I'll try to give you an idea of possible projections for the program in the future.

Philosophy for Children is a course of study for primary and junior high students, a course designed to help children learn how to think for themselves. It was conceived by Dr. Matthew Lipman in the late 60's when he was teaching philosophy at Columbia University. He was convinced that children are innately logical and ethical, and that these capacities suffer an acute distrophy when children are subjected to our prevalent system of education. As most of us have experienced, an ever-growing amount of information that must be memorized and then tested is taught to children from the earliest school years, thus systematically smothering, or at least stinting any creative thinking or analytical reasoning. Moreover, our adult scale of values is often, consciously or unconsciously, imposed upon the students, usually with no more explanation for rules and regulations than that the teacher says it must be that way.

And so, eager to do something to change that state of educational affairs, Dr. Lipman created *Harry Stottlemeier's Discovery,* the first of a series of story-texts with the accompanying teacher's manual—a series that soon will cover all grades from kindergarten through junior high. To have more time to experiment and expand his new program, Dr. Lipman transferred to the Philosophy Department of Montclair State College in New Jersey, where the Institute for the Advancement of Philosophy for Children is now located. Another member of that same department was Ken Aman, a former Maryknoller who



Chol Chol, Chile. Older girl studies the Philosophy for Children program. The father brings his daughter to school on horseback.

was instrumental in bringing the program to Maryknoll's attention. But more on that later.

There are four main objectives of the Philosophy for Children program. The first and main objective, as stated earlier, is to help children to learn to think for themselves, to think critically. To attain this objective, the program endeavors to help the students to organize their thinking; it encourages them to question, to search for meanings, to look for reasons behind statements and to be sure that they have good reasons for their own opinions; and they are taught to analyze those reasons. The courst attempts to reverse the belief that *answers* are the most important, if not the *only* important thing in the learning process, so that children will realize that questions are often much more important than coming up with an answer, and that in some cases, there is not necessarily just *one* right answer, but that many opinions on a matter may contain at least part of the truth being sought. In the program, competence in recognizing and formulating problems is seen as a value at least as great, if not at times even greater, than the ability to solve problems. Also, throughout the course, consistency is stressed, not simply because it is mark of good reasoning, but also because it can lead to behavior of greater moral ingetrity. Much emphasis is given to the development of the ability to draw inferences so that meanings become more evident to the children, and tacit assumptions underlying statements and conduct can be recognized and questioned by them.

The second objective of the Philosophy for Children program is to develop children's creativity. Stimulating children's imagination and inventiveness urges them to envisage how things *might* be, how they themselves might be or what they might be able to do. This development of their creativity is necessary if the students are to learn to think of alternatives, or to recognize possible options open to them in life. It would be difficult for children to set goals for themselves or to choose the means to achieve those goals if their creativity was not stimulated and encouraged to grow and expand.

Personal and interpersonal development is the third objective of this program. The interchange of opinions and ideas as well as observations and questions that the dialogue fosters among the students, make a valuable contribution to a child's growth in self-confidence, emotional maturity and general self-understanding. This same method of learning through dialogue tends to promote the children's awareness of one another's personalities, interests, values, beliefs and biases. To quote Dr. Lipman and Dr. Sharp:

> "This increased *sensitivity* is one of the most valuable by-products of classroom communication. Unless children have some insight into the nature of the individuals with whom they share their lives, they are not likely to make sound judgments regarding them. It does no good to teach children social rules if they are so insensitive that they cannot detect when and how to use them. Unless interpersonal sensitivity is fostered and encouraged as a prerequisite for the child's social development, that social development will be thwarted. There can be little reason to expect sound social judgments from the child unless interpersonal insight is first cultivated, and such insight is often the product of successful philosophical dialogue. If it is true that sensitivity and judgment are enhanced by the program, it may well be that the program will serve not simply to accelerate the children's growth, but to enlarge their very *capacity* for growth."

Granted, this growth is affected as well by other factors in a child's life, but I myself have seen marked changes in students to whom I've presented the program, changes that seemed to stem principally from the reflections and discussions that took place in the philosophy class. The program seems to draw so much good from the children, and to point up so many fine qualities that we don't usually appreciate in the young.

The last main objective is the development of ethical understanding. This does not mean that any particular set of moral rules and regulations are imposed on the children, but rather that the program (and again I quote Dr. Lipman and Dr. Sharp's) attempts to help

> ". . . the children become aware of the nature of moral judgments, rather than pressuring them into making moral decisions or 'advancing' to some 'higher' stage of moral decision-making. From our point of view, judgment is only one aspect in the life of an ethical individual. Such judgment must be conditioned by moral awareness and moral intelligence. Moreover, the moral individual is not only one who is adept at making 'right' judgments, but is equally one who knows when judgments are *not* called for and avoids making them in such situations."

As you can see, this program understands education not as a matter of dispensing information, but rather as a process of assisting in the growth of the

Ana Maria and Teacher (Leonor Carrazco) during workshop in the "La Asunción" school, Talcahuano, Chile.

whole person. These objectives may seem very utopian to you as far as achieving them with primary students goes, especially if the students are the type with whom Maryknollers generally are concerned. Actually, the underprivileged children have been the ones who have proved that this Philosophy for Children program can be very effective.

The controlled experiments among inner-city children in the United States have shown dramatic jumps in reasoning ability of the students in the philosophy program in comparison with those not exposed to the program. Besides the significant improvement in formal and creative reasoning skills, the children showed a remarkable advance in reading and mathematical ability. The teachers of a Newark inner-city school appraised the program in these words: "The students appear to be significantly more curious, better oriented toward their tasks, more considerate of one another, and better able to reason."

My own experience in teaching the program in El Salvador in 1976 showed comparable results. Although it was not a controlled experiment, I did pre- and post-test the 5th, 6th and 7th graders with standardized mental ability and reading comprehension tests and several types of creative thinking exercises. These students were also children from extremely poor situations, with little if any mental stimulus outside of the school.

"La Asunción," Talcahuano, Chile, February, 1982. Teacher Training Workshop. Two women on left have been teaching the program since 1979.

At this point you would probably like to ask how this philosophy program is taught so as to produce such results. In a nutshell it is this: logical and ethical concepts are presented in the story-text from which flow the discussions that lead the children to discover how to reason properly and how to behave in accord with that reasoning. An extensive manual guides the teachers in their exploration of the chapters with the children.

Let me elaborate a bit more on this method. Avoiding both the use of philosophical terms and the mention of the names and systems of the prominent philosophers, Dr. Lipman has made the characters in the novel children who figure out for themselves the laws of reasoning, and who discover alternative philosophical views that have been presented through the centuries. The method of discovery for each of the children in the story is dialogue coupled with reflection. This dialogue with their peers, with teachers, parents, grandparents and others, alternating with reflections on what has been said, is the basic vehicle by which the characters in the nevel come to learn. And that same procedure is used with the students of the program—talking and thinking things out.

For this to be possible, for philosophy to happen in the classroom, the role of the teacher is extremely important. Teachers must shed their usual teacher attitudes, especially that attitude of power that so many of us teachers consciously or unconsciously carry around with us—that of possessing a storehouse of information, of facts, of solutions and answers to problems that we may or may not dispense at will. In the philosophy program, information is not dispensed. The teachers are guides, orientators who must learn the art of direct-

ing a philosophical discussion with students. Each teacher is really another member of the group that reads the story and discusses the themes of interest found therein. Teachers do not give out answers, nor do their philosophical opinions have more weight than those of the others in the group. However, teachers must be able to guide the students skillfully and tactfully in their philosophical inquiry. Through careful questioning, teachers can introduce alternative views, thus encouraging students to go beyond what is presented in the story. The teacher lets the students take the initiative, helps them build on what they manage to formulate, guides them to question underlying assumptions and to envision possible consequences of the answers they arrive at. The teachers do not impose their views on the students or "correct" the views of the students. Instead, students are allowed to discover basic meanings and reasoning skills through dialogue and reflection. In such philosophical discussions, the children learn to listen to the opinions of others and to compare them with their own. They learn to express and objectify their thoughts. Through this process they are gradually freed from mental habits that neither question nor criticize. They take the steps that will lead them to discover their own orientation toward the world and to formulate their own opinions concerning that world. And so they begin to take on responsibility for their own lives. It is very important for teachers to understand that the ability of their students to carry on a philosophical discussion is not an end in itself. It is merely a means to lead the children to a qualitatively better life.

Obviously, some preparation is needed for a teacher to teach the Philosophy for Children program successfully. Here in Chile, an initial workshop is given to the teachers to provide them with a basic understanding of the program and to launch them into the teaching of the first five or six chapters of *Harry Stottlemeier's Discovery,* which is enough material to last as many months or more. Follow-up courses are given later on to prepare them for the later chapters (there are 17 in all) where they must grapple with some formal logic such as syllogisms, contradictions, and the like. As most of the teachers have had very little philosophy in their background, and have forgotten the little they might have had, it seems much better to give them a series of short but intense courses than one long one that would cover all the program. I try to visit the schools using the program as often as possible to see how the program is going, to offer my help if it is needed and to give demonstration classes for the teachers. Because the material and the method are both so different from anything they have experienced in the educational system here, it takes a while for those teaching the program to feel at ease with it, so I try to give them all the encouragement I can. Besides, I enjoy being with them and I love having the chance to have some sessions with the children. As you all probably know, I have been, and still am the only one promoting the philosophy for children program in Chile.

Does a program such as Philosophy for Children have a place in the efforts of a missionary society? Is it in line with the documents of the Church, with the overall thrust of the Church that calls for an option for the poor?

We could take any document of the Church from Vatican II to the present, and we'd find innumerable references to the Church's concern for the development of the whole human person. Bear with me as I cite just a few that seem to me to call for and to support the use of a program such as Philosophy for Children.

Gaudium et Spes (Vatican II) speaks of the dignity of the person that ". . .demands that s/he act according to a knowing and free choice." Of course, for a choice to be knowing and free, the person must be equipped with mental skills that will help her/him to recognize the available options, to question and analyze them, to look beyond them to their implications and possible consequences. The philosophy program begins this preparation of the person at a very early age, encouraging her/him to look critically at life's situations as s/he grows to adulthood.

The Latin American bishops in Medellin (1968) addressed themselves to the historical reality of their countries. Their document on Education is very definite as to the role education should be taking ". . . as a basic and decisive factor in the continent's development". What they are asking for, it seems to me, is exactly what the philosophy program offers. Referring to the educational systems of the Latin American countries in general, the document says in part:

> ". . . the course content is in general too abstract and formalistic. Didactic methods are more concerned with the transmission of knowledge than with the creation of a critical spirit. From the social point of view, the educational structures are oriented toward supporting rather than transforming dominant social and economic structures. . . . Latin American education is called to respond to the challenge of the present and the future for our continent. Only thus will it be capable of liberating our people from the cultural, social, economic and political servitudes that oppose our development. . . . We could call it 'liberating education', that is, that which converts the student into the subject of his own development. Education is actually the key instrument for liberating the masses from all servitude and for causing them to ascend 'from less human to more human conditions' bearing in mind that man is responsible for and 'the principal author of his success or of his failure'. Therefore, education on all levels must become creative; . . . it ought to base its efforts on the personalization of the new generations, deepening their consciousness of their human dignity, favoring their self-determination and promoting their community spirit." (Medellin, 1968, Document on Education, #4, #7, #8.)

If we as missioners can aid the people of Chile, especially the children and young adults, to become the subjects of their own development and to form a critical sense within them by offering them an educational tool such as the Philosophy for Children program, we would be participating in a very positive way in that "liberating education" that the Medallin conclusions speak of.

Teachers in training workshop.

The bishops also call for an education that is creative, and I believe that the philosophy program not only is a creative form of education, but also that it fosters the development of creativity, as we saw then I pointed out the main objectives of the program. The objective of the program that proposes personal and interpersonal development responds to the idea that "liberating education. . . base its efforts on the personalization of the new generations, deepening their consciousness of their human dignity".

The last part of that quote from the Medallin conclusions that I just read, i.e., that education should promote the community spirit of the new generations, reminds me that I did not mention earlier an element of the philosophy program that Dr. Lipman stresses constantly. And that is that the process involved in philosophical inquiry, the dialogue and reflection that take place among the children participating in the program, very quickly turns the group into a community whose members grow together.

Although we could use Paul VI's *Evangelization in the Modern World* to support our argument for the use of the philosophy program, I'm going to skip that and just read a couple of quotes from the document from Puebla. There is a great deal in the section on Education, but numbers 1043 and 1045 will be sufficient for our purpose here. Number 1043 reads:

> "Give priority in the field of education to the numerous poor sections of our populace, to the materially and culturally marginated, directing preferably to them the educational services and resources of the Church."

And Number 1045 goes on to say:

> "Along with the alphabetization of the marginated groups should go educative efforts that will help them to communicate effectively, to be aware of their rights and duties, to understand the situation in which they live and to discern the causes of those situations, to enable them to organize themselves on civil, labor and political levels, and thus to be able to participate fully in the decision-making processes that concern them." (*Documents of Puebla,* 1978, "Education", 1043, 1045)

Here again I see the philosophy program as a valuable vehicle to be joined to other endeavors seeking to make those injunctions of the bishops present at the Conference in Puebla a reality. It has been our intention to offer the program to schools that serve the underprivileged before opening it up to those institutions whose pupils have so many more advantages than the majority of Chile's children.

I would like to add that I think that the use of the program also falls nicely under several of your Society's Mission Objectives. The formation of local lay readers, for example, would seem to indicate that you would want people who can think for themselves and make decisions, people who can convey their ideas to others and give good reasons for those ideas. The same could be said for the Objective calling for concentration on the formation of self-directing, self-sustaining and self-propagating Christian communities. It would seem that such communities would be possible only when the members are aware of themselves, of their innate worth, of their ability to think and make decisions for themselves, to question, criticize and evaluate the many facts of their lives.

The Philosophy for Children program is very small peanuts, I realize, in comparison with many other missionary approaches, but it is a new approach, and I'm convinced that it can be very effective.

Very briefly now, I would like to tell you how Maryknoll got involved with this program. When Dr. Lipman wanted to try out the philosophy program in a Latin American setting, Ken Aman suggested that Maryknoll might be interested. (It seems that a previous arrangement with some school in Venezuela had fallen through.) In February of 1975, Ken wrote to Jack Halbert, then pastor of the Madre de El Salvador parish in Santa Ana, El Salvador where I also was at the time. Jack asked me to check out the program and to accept the experiment of it if I thought it was worthwhile. I was very impressed at what I found, and so Ken came to El Salvador in January of 1976 for two weeks to fill me in, and to help me prepare and present a workshop to the teachers of the parish school where we did the experiment that year. (Little did I realize then that that was the beginning of a new apostolate for me.)

In 1978 when I was at Maryknoll on Congregational Services, Terry Cambias contacted me and asked me to explain the Philosophy for children program to some Maryknoll priests in from South America for a Justice and Peace meeting. From that conversation came the invitation from the Chile Region to come here with Ken Aman to begin the program in La Asunción school in Talcahuano and what was then the Escuela 18, and also in the rural parish school in Portezuelo. I spent two months here that year, and for the following two years I received permission to leave my work at the Center to return to Chile to continue with the preparation of the teachers, each year for a period of two months. Then when I finished my stint at the Center, your Region, through Jerry Brennan, asked me to continue the work on a full-time basis.

When we saw that the program was taking root here, it was evident that a good Latin American translation was needed of both the text and the manual.

Teachers in training workshop.

(Up to that point a very poor "gringo" translation of the text had been mimeographed for the children, and the teachers were using their notes taken at the workshops I gave them.) Through Dick Smmon, I contacted a young Chilean woman, María Victoria Cox, who was living in the States. She not only translated the English into Latin American Spanish, but also changed the North American situations in the story that would have had no meaning for the children in Chile, into comparable Latin American situations, although very careful not to violate the philosophical concepts. That translation was printed early this year under the title *El Descubrimiento de Arístides Hóteles.*

Up to this date, the Philosophy for Children program is being used in the parish school of La Asunción with the 5th, 6th, 7th and 8th grades, a total of about 750 students; in Portezuelo some 350 students are receiving it, including the five rural schools annexed to the parish. It is also in the Angol Franciscan Sisters' schools in Temuco, Ercilla, Nueva Imperial and CholChol where the Indigenous Institute is also using it.

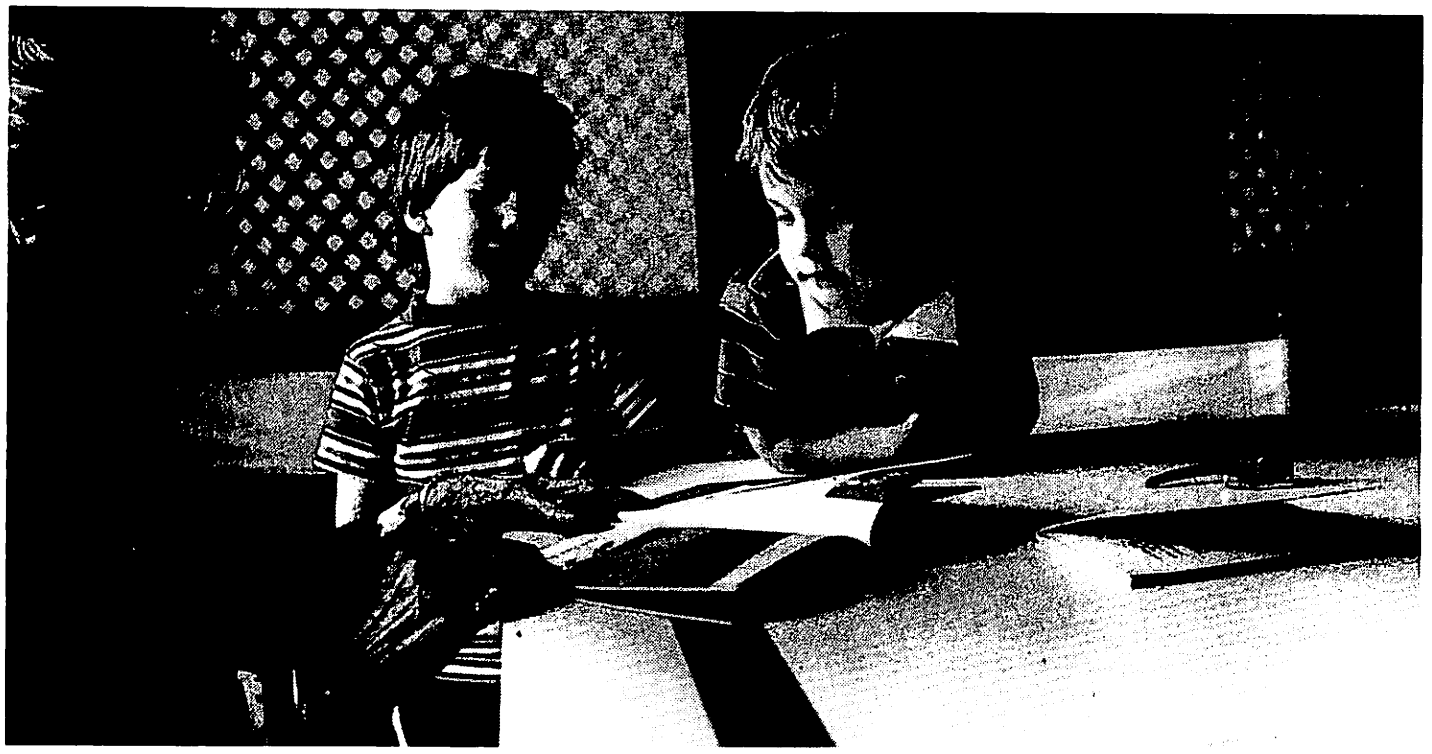
An adaptation of part of the program for adults is under experiment with seven or eight Fraternal Action groups in the diocese of Chillán. From what I've seen there, I think that the adaptation is being effective, but unfortunately, it is very particular to that reality and not appropriate for groups of other localities.

Another off-shoot of the program was a week-end workshop I gave to about 35 young people from the Concepción diocese. I took some of the exercises from the philosophy program on self-identity and on values, and adapted them to the youth.

The future of the Philosophy for Children program in Chile seems to be very bright. Enthusiasm for it is very evident in the schools where it is being used, and others are eager to have it in their curriculum. Julia Almonte, the principal of the San Vicente school in Chillán is organizing a meeting on September 3rd of the principals of Catholic schools that serve the poor in and around Chillán. She wants me to explain the program to them more fully than she has done, and to arrange a date for a joint workshop with the teachers of those schools. In Santiago, the Western, Eastern and Las Condes Zones are each considering workshops for the teachers of schools attending the poor in those sectors. Several large schools in the Concepción area have likewise expressed interest in having me go there to speak to them about the program.

As many Sisters and priests have asked for something that will promote good thinking among the members of their Basic Christian Communities, I hope to revise very soon the adult adaptation of the program so that it can be used with groups of any area.

One other project that I would like to accomplish rather soon is the translation of *Pixie,* the philosophy course for 3rd and 4th grades. Many teachers who take the workshop with me teach in the lower grades, and what we have translated now is for the 5th grade and up. They would like very much to have some material for their younger students.



Gareth B. Matthews is spending this year in Edinburgh, Scotland, where he is working on a book dealing with the concept of childhood. This article is reprinted, with permission from Metaphilosophy, *Vol. 7, No. 1, January, 1976.*

Philosophy and children's literature

by Gareth B. Matthews

Once upon a time, in fact it was on a Tuesday, the Bear stood at the edge of a great forest and gazed up at the sky. Away up high, he saw a flock of geese flying south. Then he gazed up at the trees of the forest. The leaves had turned all yellow and brown and were falling from the branches. He knew when the geese flew south and the leaves fell from the trees, that winter would soon be here and snow would cover the forest. It was time to go into a cave and hibernate. And that was just what he did.

Not long afterward, in fact it was on a Wednesday, men came . . . lots of men, with charts and maps and surveying instruments. They charted and mapped and surveyed all over the place. Then more men came, lots of men with steamshovels and saws and tractors and axes. They steamshoveled and sawed and tractored and axed all over the place. They worked, and worked, and worked, and finally they built a great, big, huge, factory, right OVER the TOP of the sleeping Bear's cave. The factory operated all through the cold winter. And then it was SPRING again.

Deep down under one of the factory buildings the Bear awoke. He blinked his eyes and yawned. Then he stood up sleepily and looked around. It was very dark. He could hardly see. Then he saw a light in the distance. "Oh, there's the entrance to the cave," he said, and yawned again. He walked up the stairs to the entrance and stepped out into the spring sunshine. His eyes were only half opened, as he was still very sleepy. His eyes didn't stay half opened long. They suddenly POPPED wide apart. He look-

ed straight ahead.

Where was the forest?

Where was the grass?

Where were the trees?

Where were the flowers?

WHAT HAD HAPPENED? Where was he? Things looked strange. He didn't know where he was.

But we do, don't we? We know that he was right in the middle of the busy factory.

"I must be dreaming," he said. "Of course that's it, I'm dreaming." So he closed his eyes very slowly and looked about. The big buildings were still there. It wasn't a dream. It was real.

At this point in Frank Tashlin's story, *The Bear That Wasn't* (New York: Dover, 1962), one smiles inwardly—or even outwardly. It's easy to appreciate the Bear's astonishment. Who wouldn't be astonished under such circumstances? But it's hard to take seriously the Bear's procedure for determining whether or not he is dreaming. Surely the procedure is unreliable: surely it won't work. But what would work? What would be a serious and workable method for determining whether one is awake or dreaming?

Many philosophers have thought that they (and we) should be able to answer that question. A few have thought they actually had the answer—Descartes, for example, in Part VI of his *Meditations* seems to think he has the answer.

Frank Tashlin, the author of *The Bear That Wasn't,* never supplants his whimsical procedure for determining whether one is dreaming with anything more serious. But the whimsical dream test is certainly not the only philosophical angle to Tashlin's story. The story's very title bespeaks a philosophical sensibility. The 'wasn't' in 'The Bear That Wasn't' hovers nicely between an intransitive complete use ('wasn't' = 'didn't exist') and an intransitive copulative use ('wasn't' = 'wasn't such-and-such'—e.g., 'wasn't a bear', or 'wasn't what it was thought to be'). It is with just such a hovering between complete and incomplete uses of the verb 'to be' that the Pre-Socratic philosopher, Parmenides, inaugurated philosophical discussion of non-being.[2]

In Frank Tashlin's story the Factory Foreman, the Third Vice-President, the Second Vice-President, the First Vice-President and the President of the Factory all insist that the creature before them is not a bear. Instead, they all say, he is a "silly man who needs a shave and wears a fur coat". And they want him to get back to work. If they are right about what he is, if what stands before them is not a bear, then he is an illusion and there really is no such bear as the one the story has supposedly been telling us about.

As the story progresses the Bear himself begins to lose his assurance that he is a bear. Is it that he once knew that he was a bear and now doesn't? And what was the basis for his former knowledge? And what now calls that basis into question? If he never really had good reason to think he was a bear, could he be properly said to have known that he was? How much basis does any of us have for knowing what we commonly say and think we know? The taunts of the zoo bears ("No, he isn't a Bear, because if he were a Bear, he wouldn't be outside the cage with you. He would be inside the cage with us.") reminds us of the inane conventionality that underlies so many of our claims to knowledge.

So philosophical themes that emerge in *The Bear That Wasn't* include at least these four: (1) dreaming and skepticism; (2) being and non-being; (3) appearance and reality and (4) the foundations of knowledge.

I don't, of course, mean to suggest that *The Bear That Wasn't* is a philosophical treatise, even a philosophical treatise in disguise. It isn't a work in philosophy at all; it's a children's story. But it's style (I shall call the style "philosophical whimsy") consists in raising, wryly, a host of basic epistemological and metaphysical questions familiar to students of philosophy. Although *The Bear That Wasn't* presents an unusually good example of philosophical whimsy, that style of writing is not at all unusual in children's literature.[3]

Another master of philosophical whimsy alongside Frank Tashlin is L. Frank Baum, author of the popular *The Wonderful Wizard of Oz* (New York: Dover, 1960). Perhaps no passage in the *Wizard* better illustrates philosophical whimsy than the autobiography of the Tin Woodman. As readers of unmacerated Baum will know, the Woodman began life as a creature of flesh and bones. He was gradually transformed by the successive amputation and tin replacement of each limb and gross segment of his body until, in the end, he was all tin. His life story (as it were) parallels one version of the familiar fable of the ship of Theseus;[4] and, like that familiar fable, the Tin Woodman's story raises baffling questions about continuity and identity. The Woodman's story, moreover, adds two new elements to the familiar puzzle about piece-by-piece replacement. One is that the Woodman receives tin parts for parts of flesh and bones; the change in kind of material affects our intuitions about whether anything persists through the transformation—especially when the kind of material we begin with (flesh and bones) is so closely linked to the kind of being the original entity is. A tin creature seems to have less claim to being a man (I am assuming that the Munchkins in the story are human beings), and hence less claim to being the *same* man, than would a creature made up entirely of fleshy "transplants". The second new element in this story is the Tin Woodman's memory. The Woodman, after all, tells the story of gradual transformation as the story of his life, as he remembers living that life. And this ought to be important—how important, and why, are matters for reflective consideration.

A third master of philosophical whimsy in children's literature is James Thurber. In his delightful story, *Man Moons* (New York: Harcourt, Brace, 1943), Thurber describes the efforts of a king to nurse to health his daughter, Lenore, by fulfilling her wish to have the moon. "If I can have the moon," she assures the King, "I will be well again."

Unfortunately for the King, neither the Lord High Chamberlain, nor the Royal Wizard, nor the Royal Mathematician can help the King grant Princess Lenore's request. The King flies into a rage, and then falls into despair. Only the Court Jester thinks to ask the Princess Lenore how big she thinks the moon is, and how far away. There follows this exchange:

[Court Jester:] "How big do you think [the moon] is?"

"It is just a little smaller than my thumbnail," she said, "for when I hold my thumbnail up at the moon, it just covers it."

"And how far away is it?" asked the Court Jester.

"It is not as high as the big tree outside my window," said the Princess, "for sometimes it gets caught in the top branches."

On hearing these answers the Court Jester has the Royal Goldsmith make a "tiny round golden moon just a little smaller than the thumbnail of the Princess Lenore" and string it on a golden chain.

The philosophically smug reader of this tale—and it may well be the parent rather than the child—will simply smile at the Princess Lenore's naiveté and turn his or her thought to other matters. But to the more reflective mind—and this may well be the child's—Thurber's beautiful story will raise a clutch of questions about perception, illusion, apparent size, and apparent distance that have intrigued philosophers for twenty-five hundred years.[5]

For my fourth example I turn to A. A. Milne's *Winnie-the-Pooh* (London, 1926). I shall quote from the passage in which Rabbit is explaining his plan to capture Baby Roo. When Kanga asks, "Where's Baby Roo?" the others are to say, *"Aha!"*

> *"Aha!"* said Pooh, practising. *"Aha! Aha!* . . . Of course," he went on, "we could say *'Aha!'* even if we hadn't stolen Baby Roo."
>
> "Pooh," said Rabbit kindly, "you haven't any brain."
>
> "I know," said Pooh humbly.
>
> "We say *'Aha!'* so that Kanga knows that *we* know where Baby Roo is. *'Aha!'* means 'We'll tell you where Baby Roo is, if you promise to go away from the Forest and never come back.' Now don't talk while I think."
>
> Pooh went into a corner and tried saying *'Aha!'* in that sort of voice. Sometimes it seemed to him that it did mean what Rabbit said, and sometimes it seemed to him that it didn't. "I suppose it's just practice," he thought. "I wonder if Kanga will have to practise too to understand it." (p. 91)

The puzzles posed by Pooh are strikingly familiar to worries expressed by Ludwig Wittgenstein in, for example, this passage from his *Philosophical Investigations* (Oxford: Blackwell, 1953):

> What is it to *mean* the words *"That* is blue" at one time as a statement about the object one is pointing to—at another as an explanation of the world "blue"? Well, in the second case one really means "That is called 'blue' ".—Then can one at one time mean the word "is" as "is called" and the word "blue" as " 'blue' ", and another time mean "is" really as "is"?
>
> * * *
>
> Can I say "bububu" and mean "If it doesn't rain I shall go for a walk?"—It is only in a language that I can mean something by something . . . (p. 18)

I conclude my brief survey of philosophical whimsy in children's literature with a poem by John Ciardi. Poetry is certainly as good a medium for philosophical whimsy as is prose—as this poem, perhaps, will show:

SOMEONE SLOW

I know someone who is so slow
It takes him all day and all night to go
From Sunday to Monday, and all week long
To get back to Sunday. He never goes wrong.
And he never stops. But oh, my dear
From birthday to birthday it takes him all year!
And that's much too slow, as I know you know.
One day I tried to tell him so.
But all he would say was "tick" and "tock".
—Poor old slow GRANDFATHER CLOCK.[6]

Time is perhaps the single topic most frequently dealt with philosophically by children's writers. Doubtless their favorite way of dealing with it is to have their characters move time back, or up, or, as we say, move "about" in time. Thus, in *Meal One* by Ivor Cutler (New York, 1971) the mother, when she wants to get rid of a horrible, unnaturally fast-growing tree that is destroying the house, reaches for the hand of the clock and moves time back an hour. One's five-year-old child grins and mutters appreciatively, "You can't do that". The child's grin and murmur acknowledge what philosophers of science, in their highfalutin way, call the "anistrophy of time"—the irreversibility of time's arrow.

The perplexity John Ciardi plays on in his poem, however, is much more basic than worries about time travel. What Ciardi is having fun with is the fundamental idea that times passes. If time really does pass, then it must move at some rate or other. At what rate then does it move? The only answer possible seems to be this: a minute a minute, an hour an hour, a day a day, a year a year. Some philosophers think this answer so ridiculous as to show, or help show, that time doesn't really pass at all. One defender of the view that time doesn't really pass has spoken of "the myth of passage".[7] Other philosophers think the answer, 'a minute a minute, an hour an hour, etc.' expresses a truism. We object to it, they suppose, because it is too obviously true; we reject the answer as too simple.

Ciardi's poem manages to suggest both responses at once. The child's impatience with Grandfather Clock is a playful device for expressing impatience with the rate at which time passes. The child wants to speed life up (". . . that's much too slow, as I know you know"). He wants to get older faster ("From birthday to birthday it takes him all year! And that's much too slow . . ."). The clock's response mocks the child's impatience. His slow "tick" and "tock" teach patience. After all, it really does take "all week long to get back to Sunday". But then again, maybe time couldn't be speeded up because it is only in a manner of speaking that time moves at all. The idea that speeding time up is an incoherent notion may be suggested in the poem by the fact that the clock responds—not in words—but with its interminable "tick" and "tock".

That ends my survey. I want to finish off my discussion with a few general remarks on philosophy and children. But before I do that I shall need to deal with an objection. The objection concerns my assumption that the strain of philosophical whimsy I have found in children's poems and stories reflects a way of thinking that is natural—not just to the adult who writes the poem or story, and to the adult who buys it—but to at least some of the children who read it or hear it read as well.

One way to deal with this objection would be to consult transcripts of the uninhibited conversation of rather reflective children to discover whether at least some of them naturally make remarks that could easily be spun into the kind of poem or story we have been discussing. But transcripts of this sort are not easily come by. The bits of conversation that, say, Jean Piaget lards some of his works with won't do. They have been selected to substantiate some theory about the stages children go through in their efforts to acquire what one might call "our adult conceptual scheme". But the reflective comments we need for the present purpose would raise playful and wry questions about the very adequacy and clarity of the scheme the children are supposed to be patted on the head for acquiring.

To be sure, there are sources for such material. One is a relatively informal book in developmental psychology by Susan Isaacs.[8] The brief items I shall now quote from that book are taken from relatively spontaneous comments recorded by parents of children who attended Susan Isaacs's progressive school in Cambridge, England, in the mid-twenties. I have chosen four items to quote. The philosophical weight of these comments should be apparent to any student of philosophy; and their delightfully whimsical tone should be obvious to all. If some children, some of the time, really do say such things as these (and I am entirely confident from my own experience that some do), then philosophical whimsy is for at least some children, some of the time, a natural style of conversation.

1. Some question of fact arose between James and his father, and James said, " I *know* it is!" His father replied, "But perhaps you might be wrong!" Denis [4 years, 7 months] then joined in, saying, "But if he knows, he can't be wrong! *Thinking's* sometimes wrong, but *knowing's* always right!" (355)
2. James, to his mother, was grumbling about "the fuss people make about getting up early, and things". Denis [6 years, 1 month, now], with his characteristically slow speech but penetrating thought, said, "Early and late *aren't* things. They're not things like tables and chairs and cups—things you can model!" (357)
3. Mother, "You know you're talking the most awful rubbish." Rose [3 years, 11 months], "Well, I'm thinking it." (358)
4. Ursala [3 years, 4 months], "I have a pain in my tummy." Mother, "You lie down and go to sleep and your pain will go away." Ursala, "Where will it go?" (359)

Now for some concluding remarks.

First comment. I don't want to come right out and say that children are philosophers, or that philosophers are children—though there would be some point in saying each of those things. Instead I want to say this: what philosophers do (in rather disciplined and sustained ways) is much closer than is usually appreciated to what at least some children rather naturally do (albeit fitfully, and without the benefit of sophisticated techniques). This coincidence finds itself reflected nicely in the strand of children's literature we have been discussing.

Second comment. This identification of philosophical whimsy in children's literature raises an interesting qustion about the place of philosophy in modern education. Most academic subjects taught in college are continuous with subjects taught in high school. Philo-

sophy is not. This fact, coupled with the very great difficulty one has in explaining to anyone what philosophy is, suggests that philosophy is some sort of intellectual aberration—perversion, even—that takes hold of certain people late in their intellectual life, in their intellectual senility, one might say, and that it owes its position of respect to the historical circumstance that once philosophy included under its canopy respectable disciplines like physics, biology, mathematics and psychology—disciplines that now happily housekeep for themselves.

My brief examination of philosophical whimsy in children's literature suggests a somewhat different story. It suggests that the impulse to do philosophy comes very naturally to at least some members of the human race. To have philosophical thoughts is for them as natural as making music or playing games, and quite as much a part of being human. If this impulse is frustrated in school and goes underground until college, that fact may have something to do with society's failure to reward any sustained qustioning that cannot be given a "useful" response. "Philosophy begins in wonder," Aristotle said. Perhaps our elementary and secondary schools reinforce only such wonder as will lead to the child's learning what we consider useful knowledge—reading, mathematics, some science and eventually what is called "social studies." Such a curriculum quite naturally leaves out a subject about which one of its greatest twentieth-century practitioners had this to day:

> Philosophy, if it cannot *answer* so many qustions as we could wish, has at least the power of *asking* questions which increase the interest of the world, and show the strangeness and wonder lying just below the surface even in the commonest things of daily life.[9]

Perhaps I should hint at a darker point. Sometimes there is something unsettling, even subversive, about philosophical questions. Understandably, most adults don't like their natural advantage over children subverted. So they discourage a child from pursuing questions to which neither they, nor anyone they know, can give definitive answers.

Final comment. Children's literature should not be condescended to. One reason is this: some very good children's poems and stories—not all, or even most, but some—excite in young minds (and a few old ones, too) perplexities that can't be assuaged merely by passing on information, even information of a very sophisticated sort. These perplexities demand to be worried over, and worked through, and discussed, and reasoned out, and linked up with each other, and with life.

Perhaps identifying philosophical whimsy as a bona fide style of writing in children's literature will help us find important new respect for children's poems and stories, and for children—indeed, for the child in each of us.

Footnotes

[1]Hard, but not impossible. At least one philosopher, John O. Nelson, in his article, "Can One Tell that He is Awake by Pinching Himself?" *Philosophical Studies* XVII (1966), 81-4, has argued for the effectiveness of the Bear's procedure. For rejoinders to Nelson see Michael Hodges and W. R. Carter, "Nelson on Dreaming a Pain" *Philosophical Studies* XX (1969), 43-6, and Jay Kantor, "Pinching and Dreaming" *Philosophical Studies* XXI (1970), 28-32.

[2]Or anyway, that's a plausible hypothesis about Parmenides. For an elaboration and defense of that hypothesis, see Montgomery Furth, "Elements of Eleatic Ontology", *Journal of the History of Philosophy* VI (1968), 111-32, but especially 111-3.

[3]The most obvious examples of writing in this style are, of course, Lewis Carroll's *Alice in Wonderland* and *Through the Looking Glass*. As an exercise in self-restraint I shall proceed without further mention of them.

[4]Whose boards were replaced, one at a time, until they were all new. For a recent discussion of philosophical issues raised by the old story see Roderick M. Chisholm, "The Loose and Popular and the Strict and Philosophical Senses of Identity", *Perception and Personal Identity*, N. S. Care and R. H. Grimm, eds. (Cleveland, 1969), 82-106.

[5]For a recent consideration of some of these issues see what John Austin has to say about 'The Moon looks no bigger than a sixpence' in his *Sense and Sensibilia* (Oxford, 1962), 41.

[6]From John Ciardi, *You Know Who* (Philadelphia, 1964), 21.

[7]Donald Williams, "The Myth of Passage", *The Philosophy of Time*, R. M. Gale, ed. (Garden City: Doubleday, 1967), 98-116. Williams's own attack on the "myth of passage" takes a rather different form from what I suggest above; it is too complex to reconstruct here.

[8]*Intellectual Growth in Young Children* (New York, 1930).

[9]Bertrand Russell, *Problems of Philosophy* (Oxford, 1959), 16.

Marie-Louise Friquegnon is Associate Professor of Philosophy at William Paterson College of New Jersey

Childhood's End: The Age of Responsibility

By Marie-Louise Friquegnon

At least in principle, the modern world is committed to protecting its young, educating them and exempting them from most of the penalties the law provides for adult offenses. This ideal is one of the proudest achievements of civilization. There are, no doubt, still places in the world where young children are executed; Iran is a notorious example. But its very notoriety testifies to the fact that most of the world considers such treatment of children as barbaric.

Nevertheless, the diversity of minimal ages of criminal responsibility is bewildering. In the United States alone, the differences between states as to ages of full responsibility can be as great as five years, depending on the crime. Until recent years, the general tendency was toward raising the minimal age of full criminal responsibility. But the recent growth of juvenile crime has raised questions in many people's minds as to the desirability of light penalties for juveniles. Still others have maintained that the family courts have failed to safeguard juvenile rights and that juveniles will be more fairly treated in adult courts despite their more severe sentences.

The treatment of juvenile offenders is thus in a state of crisis, and it is important that jurists, philosophers, psychologists and interested lay public develop guidelines that are both fair and realistic. In this paper I shall sketch a bit of the history of the problem and then discuss current opinions, including my own.

In an article published some years ago in the *American Journal of Legal History*, – T. E. James presented a fascinating study of the age of majority in western culture, beginning with the Romans, a study which reveals the variety of criteria which have been used for the age of majority. *Infantia* originally meant more or less what we now mean by "infant," namely, the age of incapacity for speech. By 407 A.D., *infantia* was fixed for legal purposes at seven completed years. The next stage, *tutela impuberes* (when a tutor was needed) ceased with puberty and the age of majority had been reached. For males this age was 14 completed years; for females, twelve. Thus the age of majority* in Roman times was determined by intellectual readiness.

The age of majority remained fifteen until the late eleventh century. By the time of the Magna Carta (1215) the age of civil responsibility had been raised for males of noble birth to twenty-one. James cites Gilbert Stuart and Montesquieu as suggesting that the main reason for this change was the increased weight of armor and consequent increased length of military training required to become a knight. For all males excluded from military service, the age of majority continued to be fifteen. Thus it was a matter of historical accident that the age of criminal responsibility and that of full civil rights became separated. When military tenure was abolished in 1660, wardship would have ended for the nobility at the same age (fifteen) as it did for commoners, except that noble fathers did not want to give up control over the property of their adolescent offspring, and Charles II therefore provided that "the father could . . . appoint a guardian by will or deed until his child attained twenty-one."[2] Nevertheless in England until the Marriage Act of 1735, persons as young as fourteen could marry. Thus the Roman criterion of maturity based on intellectual readiness gave way to that of physical strength and dexterity, which was then supplanted by financial considerations, and considerations of fairness toward the youth were lost from sight.

Commonly accepted ideas about the proper age of criminal responsibility stem from the Roman divisions of childhood. It was accepted throughout Cristendom that no child of less than seven years could be censured or punished for a crime in the external forum, that of the church and civil justice. A child of lesser years might, however, be guilty in the internal forum, that is, in the eyes of God. During the period from seven to twelve or fourteen, that is, up to puberty, the child was considered innocent in the external forum unless it could be proved that the child knew the difference

* "Age of majority" has a broader use than "age of responsibility", the latter tending to be used for matters of criminal rather than civil actions.

between right and wrong and acted with malicious intent. Catholic theology has retained this concept, according to which a child must be innocent in the external forum for seven complete years and must be viewed as innocent unless there is overwhelming evidence to the contrary, until fourteen. It is interesting that Catholic doctrine justifies holding children criminally responsible at fourteen, but not legally responsible in civil matters, because of the belief that "the ability to distinguish between good and evil actions is acquired much sooner than the ability to judge civil acts, in which capacity is not considered possible until the age of majority."[3] I want to question this view, which seems to me mistaken on two counts: a.) it overemphasizes the importance in moral development of purely verbal skills, paying too little attention to emotional and other non-cognitive factors in growth, and b.) it wrongly separates civil from moral responsibility.

a. The age of seven is thought to be the age of reason, because at that age children can recite the catechism and canon law, and can answer qustions such as is it wrong to steal, to lie, to commit adultery, with an obedient "Yes," as if being able to recite such rights and wrongs were all there was to knowing the difference, that is, as if knowledge were mere ability to recite. Even at a later age, knowledge of the law does not guarantee responsibility.

In attempting to deal with the problem of juvenile criminal responsibility, a Canadian court ruled in the case of a twelve year old who was tried for murdering his step-mother, as follows, as reported by J. Wilson:

> "The onus is upon the Crown to prove that the accused juvenile was competent to know the nature and consequences of his act and appreciate that it was wrong beyond a reasonable doubt." Based on these words (Wilson comments) it would seem that the court should consider the child's capacity to comprehend the moral implications of his act as well as a child's cognitive abilities. 'Appreciate' must be given a broader interpretation than mere knowledge of the physical nature of an act.[4]

It is implied by this passage that there is something seriously missing in a child's moral capacity. But it is not easy to specify exactly what this missing factor amounts to and at what age it may be expected to be supplied. What, for example, did the Canadian court mean by saying that a child does not appreciate or comprehend the moral implications of his act? While the full answer to this question would not be easy to spell out, it would seem at least to involve the ability to put oneself in another's place and to see matters from the other person's point of view, and realize the long-range effects of one's actions.

b. In the area of civil responsibility and rights, it is generally recognized that the ability to dispose intelligently of money and property, to enter into useful contractual agreements, and to pursue one's economic interests requires much more ability than to recite an economic or legal catechism; it requires also minimum self-discipline, a healthy degree of skepticism about people's professed intentions and motives, and enough experience of life to be able to estimate the probable long-range consequences of economic decisions and emotional commitments. Thus character, experience and emotional stability are factors at least as important as knowledge of rules when it comes to knowing what one is about, that is, to understanding the differences between good and bad actions. We seem to be more aware of these factors as essential to civil rights than as essential to criminal responsibility, perhaps because we tend to take financial decisions more seriously than moral decisions. As Machiavelli put it, in *The Prince,* "A man would rather lose his *pater* than his patrimony." His point was that people would prefer that the prince have his enemies assassinated than that he levy excessive taxes.

Another mistake implied by the religious tradition is the tendency to believe that it is easier to act morally than to act prudently in civil affairs. For moral responsibility, it is assumed, one need only be able to say what should or should not be done. For civil responsibilities one must have the practical wisdom to estimate probable consequences and the self-control to forgo immediate satisfaction for the sake of long-range benefits.

A similar mistake seems to me to be at work in the widely heralded studies of moral development in children conducted by the developmental psychologist, Lawrence Kohlberg, who also overemphasizes the ability to recognize moral rules and underemphasizes the development of character. Kohlberg maintains that his studies show that moral awareness develops in stages which, roughly speaking, involve initially a motivation of fear of punishment or hope for pleasure, then a tendency toward social conformity and finally, the understanding of moral principles. Kohlberg claims that many people never progress beyond the second stage of the second level (the second level consisting of a) conformity to the expectations of one's social group and b) respect for the law). If he is right about this, then the legal principle that for full criminal responsibility a defendant must know not only that his action was contrary to law but also that it was *morally* wrong, would absolve from full responsibility most of the adult population.

Although he claims that his tests are accurate indications of moral character as well as of moral reasoning, Kohlberg has been criticized on the ground that there is no significant correlation between the moral judgments children give verbal expression to and their actual conduct. His studies are marked by an excessive emphasis on the verbal aspects of moral responses, apparently assuming that those who can say what is right will do what is right, a view that seems unduly optimistic, to put it mildly. While Kohlberg's work has been justifiably celebrated for bringing out the necessary intellectual conditions of moral responsibility, it may occasionally mislead people into ignoring character illogical conditions such as prudence and self-control, the lack of which also helps account for the reduced legal and moral responsibilities of the very young.

Returning now to my criticisms of the traditional religious view that by the age of fifteen children are fully capable of understanding the difference between right and wrong, and therefore should be assigned full criminal, although not yet full civil responsibility, I want to argue that this view must be mistaken in at

least one of these two contentions. The same factors that mitigate civil responsibility should to the same degree mitigate criminal responsibility. For one needs as rich an understanding of siciety and its demands on its citizens in order to appreciate fully the long-range consequences of one's criminal actions, as one does with respect to one's financial transactions. Civil and criminal responsibility are matters of equal complexity, requiring equal knowledge of probable consequences and of value priorities. The most important non-cognitive aspect of both moral and prudential development is self-control. The immature adult whose development out of childhood has been arrested, and who is the most likely candidate both for criminal behavior and for personal, economic and political follies, is easily identified by his inability to forego immediate gratifications for the sake of long-range benefits. It is this lack of self-control, more than any other factor, that mitigates the responsibility of the child. Does it again also excuse childish adults from full responsibility? If it did, then few of those poor wretches who occupy our jails belong there. Philosophical hard determinists, such as Paul Edwards, John Hospers, A.J. Ayer and B.F. Skinner have in fact taken this position. But I shall later argue in defending an equal dividing line between childhood and adulthood that there are good and sufficient reasons to distinguish the childish grownup from the bona fide child that for these reasons the transgressions of the former are not excusable on the same grounds.

A widespread belief that underlies the Catholic tradition as well as the theories of Kohlberg, namely the belief that correct moral choices are easier to make than correct prudential choices, and that for this reason the age of criminal responsibility should precede full civil majority. This belief seems to me to be due to an inadequate appreciation of the factor of self-control, and an overemphasis on the purely cognitive factors in moral development, such as verbal skills in reciting rules and logical skill in giving reasons for decisions.

A serious objection may be made to my position, namely that, even granting the importance of self-control in both moral and civil matters, nevertheless, for criminal responsibility, one need only know what one must *not* do, while for civil responsibility one must also know enough about social institutions and other people to calculate effectively what positive courses of action to follow, and this latter kind of knowledge is far more complex and takes much more time to acquire. A Kantian moralist might sum up this difference by pointing out that moral knowledge is a priori while knowledge of civil matters such as economics, politics and social psychology is empirical, and the former kind of knowledge, since it is innate, requires only minimal maturity, while the latter might take a lifetime to acquire. But this counter-argument proves too much and thereby defeats itself. The fact is that we do not require young people to pass examinations in economics, political theory and psychology in order to receive their full civil rights, as if civil rights were like airplane pilots' licenses. Granted that the wise exercise of our civil rights requires a great deal of expertise in many fields, a democratic society, as J.S. Mill put it,

allows its citizens either to consult those more expert than themselves or to make and learn from their own mistakes. Prudential wisdom is, in fact, *not* a necessary condition for the exercise of full civil rights. Consequently, the epistemological difference, if any, between moral knowledge and civil knowledge cannot be the ground for distinguishing between the age of criminal and the age of civil majority.

Indeed, there is reason to wonder why the age of civil majority should not be set even lower than that of criminal responsibility, since many adolescents are more competent to manage their own affairs than many citizens of advanced age who border on senility. I think the basic reason for this a-symmetry between our treatment of the very young and the very old will prove instructive for my contention that criminal and civil responsibility belong together. The reason is, to put it with deliberate tautology, that children are children. Tautologies are supposed to be self-evident, but in this case perhaps I should spell out what I mean, which is this:

The incapacities of the child, unlike those of the aged, have, as Sartre suggested, the dialectical character of not being what they are and of being what they are not.* As Aristotle put it, they are unactualized potentialities, which it is the task of their parents, teachers and other adults to help them to realize. The naiveté of childhood is one of its greatest charms. The reason for this is that childhood is preparation for adulthood. What the child cannot yet do well is not a lack or a fault, because we evaluate her capacities, not entirely in terms of what she does at present, but primarily in terms of what we hope and expect her to do in the distant future, unlike the aged person who, to put it bluntly, has no future. This is not, I think, an unkind way to describe the difference between age and youth, because the aged person has something to compensate him for the lack of a future, namely, dignity. We rightly hesitate to deprive an aged person of his full civil rights even when he is in danger of misusing them because, having had those rights, he has acquired the self-image of a fully independent person and to deny that image would be an assault on his dignity. The aged person is just what he is, with all his faults, blemishes and failures as well as his achievements. He is fully defined. The child, we like to think, is much more what he and we hope he will become. His inadequacies are normally signs of growth rather than failure or decay. They are, we hope, initial but not ultimate inadequacies, and in order to help him overcome them, we postpone granting him those rights, the adequate exercise of which requires the knowledge, wisdom and self-control that we are helping him to acquire.

Understanding childhood thus involves seeing it, at least in part, as preparation for adult life. This way of seeing it, in turn, involves the appreciation of subtly different degrees of seriousness corresponding to different stages of preparatory rehearsal. For example, a child of three plays store by bringing objects from kitchen to living room and "selling" them to parents and friends, who then return them to where they belong. A year or two later the child may be given permission to sell her old toys and books outside the house for real money with which the child buys new toys and books. This, to the child, is now a "real" store, rather than a pretend store, but not to the parents who paid for the toys and books, nor the government licensing bureaus. For adults, it is still rehearsal for business, not the real McCoy. A few years later, a paper route looks still more serious and real, yet even then the youth who delivers the paper is less responsible for failures of service than, say, the adult milkman or postman.

Rehearsal for a theater performance becomes gradually more serious in stages. At first the lines are merely read, later they must be memorized and expressed with appropriate gestures. Still later costumes are worn and stage scenery employed. Finally, on opening night, the public and the critics must be faced—the performance is for keeps. Similarly the play acting of children becomes more serious and real as responsibilities intensify. Just how real our conduct becomes, in the sense of taking full responsibility for it, depends on just how fully we grow up. But the main point I want to make here is that the behavior of children and adolescents continues to a decreasing extent to have some of the quality of rehearsal until they reach majority, for that is what majority means, namely, full responsibility, and with it, liberty.

A recent news story reported that a girl of six was ordered to stand trial in adult court for striking another child. The injury thus caused was fairly grievous and the offender surely merited parental punishment, but the adults who treated the matter as a criminal offense behaved, I think, as ridicuously as would a policeman who arrested a six year old for selling lemonade without a license. Rehearsal, when done badly, requires rehearsal punishment, not opening night punishment, that is, criticism from the director, not from the public at large.

Psychoanalytic zealots, who believe that no one ever completely grows up, might argue against any definite age of majority. Socially concerned liberals might insist that disadvantaged children need much more time to develop a full sense of responsibility than well-educated and well brought up middle class children, so that there should be different ages of majority for different social classes.

Both these criticisms of a fixed age of majority have considerable plausibility. But all things considered, I think it is in the interest of all, even the socially or emotionally disadvantaged, to have a single and fairly early deadline for full criminal and civil responsibility, and I think the most reasonable candidate is eighteen years. In the overwhelming majority of cases, physical growth is completed at eighteen. This process cannot be socially controlled and so it sets a natural lower limit to the assignment of full responsibility. On the other hand, psychological and moral development are, to a much greater extent, dependent on social attitudes, rules and actions. It is all too often a self-fulfilling prophesy to tell young people that they are too young to take full responsibility for their actions. A balance must be found between not protecting the young sufficiently to develop their potentialities in safety and so over-protecting them

* i.e. they are *not* (really) incapacities in the sense of failings, but they *are* incapacities in the sense that they concern what the child cannot yet do.

that they never learn to handle responsibilities. Of course there is no exact line between childhood and adulthood, but the point is that *an exact line must be drawn* for legal purposes, and I suggest that eighteen is the least unreasonable point at which to draw it, because physiological growth is completed at that age, and because adolescents have an image of themselves as grown up at that age. Showing respect for that adolescent self-image is likely to serve as an agreeably self-fulfilling prediction.

This self-fulfilling social role of rites of passage has been well documented by anthropologists. The youth who crosses the boundary set by his culture has a new perspective on himself, one that would be seriously disturbed and muddied by conflicting messages if some indicated maturity and others childhood. When a teacher schedules an examination to follow a period of preparation, she may vary the preparatory period to suit slower and faster students. In fairness, the same time must be provided to all, and the most reasonable common interval will be long enough to accommodate the slowest. Thus society should set an age of majority for everyone equally, but set it late enough to accommodate those who develop slowly. For youths must be aware that by a certain date they will be held fully responsible for their actions and decisions. After puberty, young people are usually eager to begin careers and to raise a family. These activities involve grave civil responsibilities for the handling of which they need full rights and liberties.

I have argued that (a) limiting the rights of young people is justifiable only to the extent that such limitation can be shown to promote the fulfillment of their potentialities and (b) since children develop gradually toward adulthood, a progressive increase of liberty rights, permitting more and more serious rehearsal of such rights in the form of increased civil and criminal responsibility, should be provided to them. To set the age of civil majority higher than that of criminal responsibility is, I conclude, likely to frustrate rather than promote growing up, for the reason enunciated by John Stuart Mill in his essay *On Liberty,* that without the freedom to make mistakes, one cannot learn to do things right.

* Although Kohlberg's work has had the great value of bringing to light the necessary intellectual conditions of moral responsibility it has sometimes misled people into ignoring the characterological conditions such as prudence and self-discipline, which rightly mitigage the moral and legal responsibilities of children.

FOOTNOTES

[1] T.E. James "The Age of Majority" *The American Journal of Legal History* Philadelphia: Temple University, School of Law, pub: American Society of Legal History, vol. 4, 1960 pp. 22-23.

[2] Ibid. pp. 31

[3] *Dictionary of Moral Theology* ed. Mon. Pietro Palazzini, The Newman Press: Westminster, Maryland, 1962.

[4] J. Wilson *Children and the Law,* Toronto: Butterworth, 1978 p. 82.

Dr. Jordan, Associate Professor of Philosophy and Education at Emory University, questions the validity of claims that teaching machines make effective the principles underlying Socratic method. He makes a sharp distinction between the differences between the roles of "teacher" and "inquirer" and proceeds to examine the differences between Socratic inquiry and programmed instruction. The author concludes that while teaching machines and programmed texts may be efficient "teachers," they cannot simulate Socrates, who, Dr. Jordan argues, was a truth-seeker, not a truth-giver.

Socratic Teaching?

– **James A. Jordan, Jr.**

It is difficult nowadays to run into a claim that such and such teaching method follows the principles implicit in the method of Socrates. Perhaps the most recent group addicted to making such claims are the advocates of teaching machines or programmed instruction.[1] Over and over one hears the claim that teaching machines simply make precise and effective the age old principles underlying Socratic method. If one is willing to blur enough distinctions, perhaps he can swallow such a claim, but to a philosopher with some respect for the forefather of all Western philosophers, it seems nothing short of real sacrilege for the name of Socrates to be used in such cavalier fashion. In any case, perhaps it will be helpful to take a quick look at one example of Socrates at work in order to contrast it with an example of programmed instruction. If one accepts a claim that such and such teaching method uses the principles of Socrates, it is only sensible that he know what these principles are.

Let us note in the first place that Socrates does not fill the predominant role that we usually assign to a teacher.

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He does not claim to be imparting knowledge to others; he claims to be an inquirer after truth, at best a midwife to the ideas of others. he makes no claim to wisdom; he seeks only to expose fraudulent claims to wisdom or to learn from those who are wise. When he finds someone who is wise, he tries to learn what the other knows; but according to his own testimony, those who are wise are extremely difficult to discover. In his words,

> I am called wise, for my hearers always imagine that I myself possess the wisdom which I find wanting in others: but the truth is . . . that God only is wise; and by his answer he intends to show that the wisdom of men is worth little or nothing; he is not speaking of Socrates, he is only using my name by way of illustration, as if he said, He, O men, is the wisest, who, like Socrates, knows that his wisdom is in truth nothing. And so I go about the world obedient to the god, and search and make enquiry into the wisdom of any one, whether citizen or stranger, who appears to be wise; and if he is not wise, then in vindication of the oracle I show he that he is not wise . . .[2]

A person who is a teacher can, of course, function in the role of student. But the role of teacher, the role of student, and the role of inquirer are distinguishable. The following rough distinction will suffice. A teacher is primarily concerned to help others come to know. A student is primarily concerned to learn what others know. An inquirer is primarily concerned to learn what no one knows.

It would seem appropriate for a person consciously functioning in the role of student or inquirer to use the Socratic method. Ordinarily this person would not be one primarily concerned to bring others to know. Of course, in an educational system one may be nominally the teacher in the sense that he is designated "teacher," whereas in reality he is simply a co-inquirer with others, who may be designated anything from "student" to "dean." One may easily envision a level of education where there are no teachers, only inquirers of different levels of sophistication, skill, and experience. But it is extremely difficult to envision teaching machines or programs that do not "know." After all, presumably a teaching machine is one that teaches, *i.e.*, brings people to learn what is already known, not one that inquires.

It is more than a casual misreading of Plato's dialogues to think that Socrates is a teacher, for to say the least he disavows the claim himself. Particularly does he disavow the claim to know and the claim to be one who imparts knowledge. Christ taught. Socrates sought truth. There is a fundamental difference in the roles each fulfilled, and there is a fundamental difference in teaching from the point of view of one who knows rather than from the point of view of one who is inquiring.

There is a celebrated passage in the *Meno* almost always cited as as example of Socrates the forerunner of teaching machines. But one might cite this passage in support of automated instruction at least with fear and trembling. Socrates directly claims only that he is helping the slave boy remember, not teaching. "Attend now to the questions which I ask him," he says to Meno, "and observe whether he learns of me or only remembers."[3] In any case the issue in the *Meno* is whether virtue can be taught, and the bulk of the dialogue has to do with the nature of virtue and the difficulties of deciding whether it can be taught before one knows what it is. Though the dialogue with the slave may be a famous aside, it is nevertheless an aside. Even if Socrates admitted to teaching the slave, and even if there could be no question about whether the slave learned or simply remembered, there would be no justification for calling a method of teaching that resembled Socrates' handling of the slave, Socratic Method. The most the incident can represent is something Socrates once did. How can it represent his method when even in the dialogue in which it occurs it is peripheral to his central concern, used only as a demonstration, not to push the main inquiry? To think of the slave incident as typical Socratic method is much like thinking of Death Valley as typical of the United States.

In addition, Socrates' claim that he is only helping the slave remember is more impressive than it seems at first sight. What he draws out of the slave is a series of acknowledgements about the mean-

ing and relationships of terms like "square," "double," "line," etc. In fact the demonstration enables Socrates to point out to Meno that because the boy knows the meaning of "square," etc. in a sense he already "knows" that the square of the diagonal of any square is double the size of the square. All Socrates elicits from the boy are admissions about the meanings and relations of terms. Socrates teaches him "nothing" because what the boy already "knew" entailed the truth of what he was led to admit. Surely such is not the case in ordinary teaching nor is it the case with the kind of teaching called automated.

Let us turn now to a typical example of Socrates at work. We shall use the *Euthyphro* as our example of Socratic method. In the *Euthyphro,* the subject of discussion is piety, and Socrates is trying to discover the nature of piety from one who claims to know, in this instance, Euthyphro. Euthyphro is currently engaged in performing an act that by his own avowal is pious. His father neglected the care of a murderer in his charge so completely that the murderer died as a result. This neglect on his father's part Euthyphro considers tantamount to murder, and out of piety he is intent upon prosecuting his father. Socrates is much impressed with the knowledge of a man who can so nicely distinguish between piety and impiety that he can prosecute his father piously.

Socrates begins his inquiry by a straightforward request for definition. "And what is piety, and what is impiety?" he asks.[4] Euthyphro answers, "Piety is doing as I am doing; that is to say, prosecuting any one who is guilty of murder, sacrilege, or of any similar crime—whether he be your father or mother, or whoever he may be—that makes no difference; and not to prosecute them is impiety." Euthyphro cites the example of the gods as proof of what he is doing is pious.

After determining that Euthyphro really believes what he says about the gods, Socrates returns to his question, "At present I would rather hear from you a more precise answer, which you have not as yet given, my friend, to the question, What is 'piety'? When asked, you only replied, Doing as you do, charging your father with murder." Euthyphro answers, "And what I said was true, Socrates." Socrates returns, "No doubt, Euthyphro; but you would admit that there are many other pious acts?" Euthyphro admits there are, at which Socrates says, "Remember that I did not ask you to give me two or three examples of piety, but to explain the general idea which makes all pious things to be pious. Do you not recollect that there was one idea which made the impious impious, and the pious pious?"

Euthyphro remembers and Socrates asks, "Tell me what is the nature of this idea, and then I shall have a standard to which I may look, and by which I may measure actions, whether yours or those of any one else, and then I shall be able to say that such and such an action is pious, such another impious," Euthyphro then answers, "Piety, then, is that which is dear to the gods, and impiety is that which is not dear to them."

Let us pause a moment to examine what Socrates is up to. Clearly he is not conveying information to Euthyphro. He seems to be concerned to elicit a definition from Euthyphro that can be used to judge individual instances of piety or impiety. There is no suggestion from Socrates of what the definition may be, though he points out to Euthyphro that citing examples is not what he meant by defining. He wants to know what all acts of piety have in common. Once he elicits a proper definition from Euthyphro, he can begin to test the definition. But first he must attempt to capture the defining characteristic of piety. What is a definition that enables one to recognize acts of piety or impiety? Neither Socrates nor Euthyphro thinks the request improper nor is there any disagreement over whether or not there is such a thing as a defining characteristic. They are working within the framework of common agreements, and Socrates is trying to discover whether the way Euthyphro thinks of piety is true. If Euthyphro gives an adequate definition of piety, it will cover all the instances of piety that Socrates or anybody else can think up. If Socrates can construct from the definition a possible example of piety that Euthyphro does not want to admit that Socrates can force Euthyphro to acknowledge that the standard by which he recognizes an instance of piety is not the same as that set forth in his definition and, therefore, his definition must be modified. If his definition is modified, then Euthyphro must admit that he has not given a definition which shows he knows what piety is. Obviously the teaching principle involved in this rather complicated process is not a very simple one.

Let us return to the dialogue. Socrates gets Euthyphro to agree that the gods, like men, disagree over what things are good and evil. From this admission he proceeds, "Then the same things are hated by the gods and loved by the gods, and are both hateful and dear to them?" Euthyphro admits that this is true, and Socrates answers, "And upon this view the same things, Euthyphro, will be pious and impious?" This question obviously destroys Euthyphro's definition of piety, for if piety is what the gods love and some gods love one thing and other gods hate the same thing, then the same thing is both pious and impious.

For contrast, perhaps we could look at an example of programmed instruction taken from what is now acknowledged as a "classic," Holland and Skinner's *Analysis of Behavior.*[5] The questions and answers are presented on separate pages. There are blanks left in the ques-

tions that are to be filled in by the "slave boy." After he has responded, he can turn the page and see if his response was correct. I shall quote a section from the book in which the term "reinforcement" is being introduced.

Question: "Performing animals are sometimes trained with 'rewards.' The behavior of a hungry animal can be 'rewarded' with _____."

Answer: (on next page) "food"

Question: "A technical term for 'reward' is reinforcement. To 'reward' an organism with food is to _____ it with food."

Answer: "reinforce"

Question: "*Technically,* speaking, a thirsty organism can be _____ with water."

Answer: "reinforced (NOT: rewarded)"

Question: "The trainer reinforces the animal by giving it food _____ it has performed correctly."

Answer: "when (if, after)"

Question: "Reinforcement and behavior occur in the temporal order: (1)_____, (2)_____."

Answer: "(1) behavior, (2) reinforcement"

Question: "Food given to a hungry animal does not reinforce a particular response unless it is given almost immediately_____ the response."

Answer: "after"

Question: "Unlike a stimulus in a reflex, a reinforcing stimulus_____ act to elicit the response it reinforces."

Answer: "does not (will not)"

Question: "A reinforcement does not elicit a response; it simply makes it more _____ that an animal will respond in the same way again."

Answer: "probably (likely)"

Question: "Food is probably not reinforcing if the animal is not _____ _____."

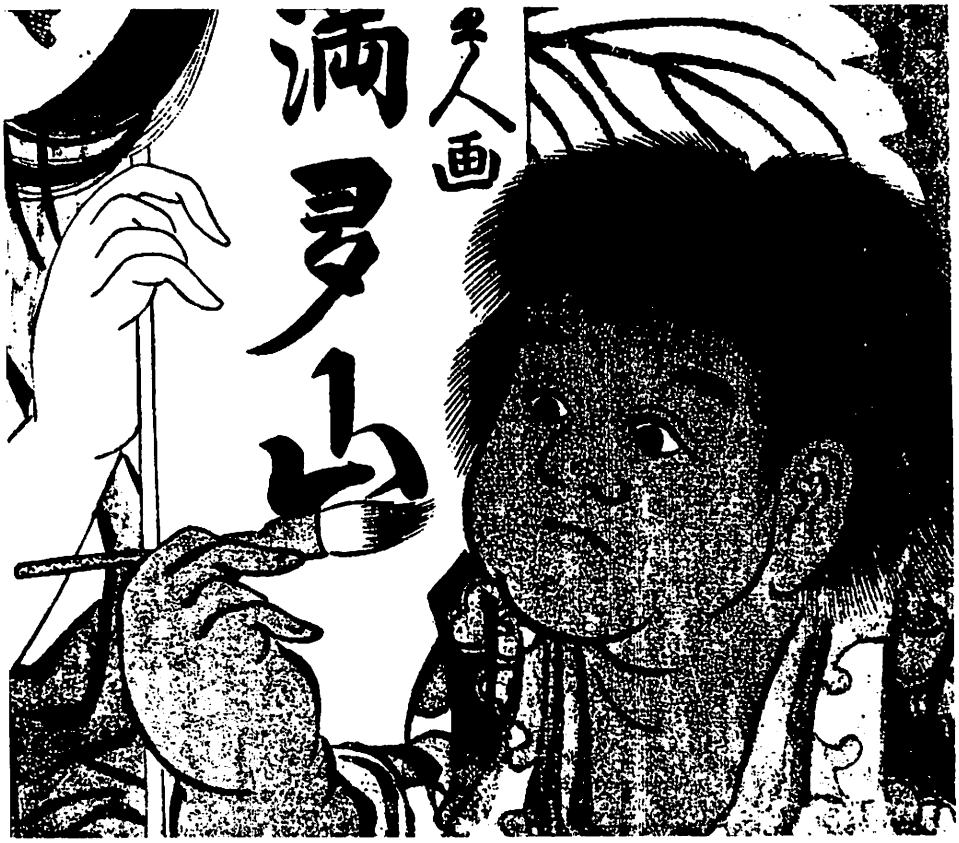
Answer: "deprived of food (hungry)"

Question: "If an animal's response is not followed by reinforcement, similar responses will occur _____ frequently in the future."

Answer: "less (in-)"

Question: "To make sure an animal will perform, the trainer provides _____ for the response frequently."

Answer: "reinforcement(s)"



The differences between the two techniques are so striking and so obvious that they scarcely need comment. No automated or programmed technique can be accurately labeled "Socratic" because every such technique sooner or later furnishes a correct answer after the learner furnishes an answer of some sort. An automated device cannot take an answer and explore its possibility in whatever kind of situation can be imagined. Its answers must be available when the pupil begins his tutorship. The best that an automated device could do with "What is piety?" is furnish numerous variant answers. How could it conceivably frame a direct response to whatever definition or lack of it the learner happened to propose? Perhaps responding to a wide open choice given to the learner is within the limits of our most complex computers, but one suspects that responding like Socrates is not. How much less is a Socratic response available to a programmed text!

We need not return to our Socratic dialogue to trace in detail the results of Socrates' inquiry with Euthyphro. Several results of the dialogue, however, are worth noting. Euthyphro is not enlightened when he leaves Socrates. He knows only that he has not been able to answer Socrates' questions with any success. One might guess that he knows he does not know what piety is, but this is not so certain. One suspects Euthyphro thinks in his heart of hearts that he really knows.

Perhaps a more serious consequence of the conclusion of the dialogue is that the reader does not know what piety is either. At least if he does, he did not learn it from Socrates, for Socrates does not offer any definition of his own. He does not teach anything about piety in any very obvious sense. The only thing the reader might claim to have learned from the dialogue is something about Socrates' method and, if the reader is clever, something about the assumptions Socrates brings to inquiry; but clearly Socrates does not teach these. What, then, is the Socratic method?

It is a method of inquiry in which one seeks to determine what the true natures of things are. The object of the inquiry is a definition that captures the very essence of a thing. Definitions are tested

by mentally seeking their consequences for different cases. In the inquiry, clear instances of the thing being inquired after are presumably recognizable by everyone. The experience of every rational adult supplies sufficient data for the inquiry. It is not an inquiry into things that have not yet been experienced but an inquiry into the meanings of experience as it is presently held. What is piety? The question presumes experience with pious acts. There is no indication that one cannot know what piety is, but there is some indication that most people do not know and that coming to know is an intellectually arduous process.

The inquiry is about how to organize the data common to adult experience. The first principle of the method is to begin with a trial definition and to test the definition against the combined wits of those engaged in the discussion. The procedure is necessarily unstructured because the direction of the inquiry depends entirely on the trial definition. Neither the appropriate questions nor the appropriate answers are apparent at the beginning of the inquiry, and what will be appropriate depends upon the initial formulation by the person who is presumably in the role of the student. In a very real sense, there is no right answer in the first attempt at definition. There is simply a starting point.

If one learns anything from the Socratic method, he probably learns to bring forth counter instances. He learns that what one does to a definition is test it by examples from his experience and imagination. He learns that the most serious mistake is to take a generalization or definition without thorough examination, and he learns that there are many worse things than doubt or uncertainty. But if he learns these things, he does not learn them because he has been taught them by the Socratic method. He may learn them by using the Socratic method. But to use it is hardly to have someone teach toward you with it. What would one teach by the Socratic method? Socrates did not teach anything unless one can say Socrates taught by his example. He developed his method to inquire after truth. It was a method for inquiring into the use of language and, he thought, into the accord between language and reality. Is this what one means when he claims that he teaches by the Socratic method? Hardly; who would have the courage to inquire into reality, or worse, to teach about reality?

Perhaps it is worth pointing out too that Socrates used his method only among people of full experience, that is, adults. Even the *Meno* is no real exception to this. He used his method to find out what people knew. One might say that he meant to lead them to truth by exposing their ignorance, by getting them to think. But in a very real sense he got them to think about what they already knew, *i.e.*, their own definitions and the relationship between these and instances covered by their experience. He certainly asked them to rely upon no authority for definitions other than themselves and no authority for the legitimate connections between ideas other than their own rational sense. The arbiter of disputes was what appealed to the inquirers' sense of rationality. There was no higher court and no authority other than this. Each man was granted to have a sense for what is rational, and Socrates never urged that one listen to him rather than to rationality.

Perhaps more than anything else one learns from contact with the Socratic method to believe that discussion is never fruitless because there is a spark of rationality in each man that will lead him toward the truth. Can one be taught something like this by the Socratic method? Perhaps so, but the farthest thing from what one can be taught by the Socratic method is a set of correct responses. The Socratic method is simply not useful when the proper answers to questions are already known. The method itself is a way of exploring the kinds of answers that can be given to questions and perhaps a way of weeding out bad answers and moving toward good ones.

Do teaching machines use the Socratic method? No, and neither do most other teaching methods. I repeat, Christ was a teacher; Socrates was an inquirer. No matter how much we would like the two roles to be the same, they are distinguishable. Of course, any teacher can function in both roles, but it makes sense to realize that they are not the same. It is simply confusion to think that teaching is inquiry or that an efficient method of inquiry is by that token an efficient method of teaching. Teaching machines may be most efficient at teaching, but how can they be efficient at inquiry? Perhaps we can just drop Socrates from the vocabulary of the teaching method devotees.

FOOTNOTES

[1] *The Carnegie Corporation of New York Quarterly,* October, 1961, Vol. IX, No. 4, furnishes an excellent example of one of the more moderate claims. It points out the effectiveness of Socratic Method as Socrates uses it in *The Meno,* indicates that every great teacher since Socrates has used the insights that underlay Socrates' method, then more or less straightforwardly (there is an impressive figure of Socrates printed on the front page) points out that these great insights are the foundations upon which the various forms of programmed instruction are based.

A typical claim appears in *Teaching by Machine,* by Lawrence M. Stolurow, published by U.S. Dept. of Health Education, and Welfare in 1961 as Cooperative Research Monograph No. 6. On page 60, Mr. Stolurow writes, "One can consider the communication process between the teaching machine and learner as analogous to that taking place when a student is taught with the Socratic method by a live teacher. The learner, through answering a sequence of questions, is led from one state of knowledge or skill to another."

Such claims are so common in fact that one can hardly read any introductory explanation of what automated instruction is about without running into the omnipresent Socratic Method.

[2] *Apology,* Jowett translation.

[3] *Meno,* Jowett translation.

[4] This and the following quotes are all from the *Euthyphro,* Jowett translation.

[5] James G. Holland and B.F. Skinner, *The Analysis of Behavior* (New York: McGraw-Hill Book Company, Inc., 1961). The following section is quoted from the beginning of Ste, pp. 41-45. Used by permission of McGraw-Hill, Inc.

James M. Redfield teaches in the Graduate School of Business, University of Chicago. *"Platonic Education" originally appeared in* The Knowledge Most Worth Having, *which was edited by Wayne Booth, and published by the University of Chicago Press (pp. 151-172). The article is reprinted here with the permission of both the publisher and author.*

Platonic Education

James M. Redfield

We are met here to consider the question, "What knowledge is most worth having?" or as I prefer to rephrase it, What is educational about education? I am going to talk today about some Platonic answers to this question. But a few prior warnings. In the first place I am not going to quote much from Plato or try to document my assertion that these answers are Platonic. Plato is hard to quote because he wrote not treatises but dialogues; he does not talk about education so much as he exhibits it. In any case, I have not composed a piece about Plato; I have composed a piece about education, starting from the picture Plato gives us of Socrates the educator. So I have not concerned myself with the question of whether the statements I make represent the views of Plato or of Redfield; it is enough if they are something like true statements.

In the second place, when I speak of education I limit it to that which can be learned from speech and writing and which can be expressed in symbols, verbal or otherwise. I exclude from my sphere of reference the school of hard knocks, mystical revelation, and all other educational modes whose teachings cannot be expressed in language.

In the third place, I begin from the assumption that the aim of education, like the aim of every other human activity, is happiness. Of course I am assuming a mere tautology, but even a tautology can serve to direct our attention. I think we should be asking, not what knowledge is reputable or exciting, but what knowledge is good for us. And since I am talking about statable knowledge my question is really, in the phrase of Hans Jonas, What are the practical uses of theory?

The question, "What knowledge is most worth having?" is dependent on a prior question: What knowledge is there? In the *Apology* Socrates tells us that he went looking for knowledgeable men. He went first to the statesmen and the poets, and he found that neither class knew anything; the statesmen worked from certain rules of thumb and the poets by divine inspiration. Neither class could explain what it did. Then he went to the craftsmen and found that they do in fact know "many and won-

derful things." The craftsman does in fact possess knowledge; he can do things other men cannot; he can tell us how he does them; he can point to his teacher and he can teach others. So when Plato talks about knowledge he always begins with the crafts.

Each craft, furthermore, is a kind of knowledge worth having, insofar as it meets human need and human wishes. We require craft because nature is recalcitrant to our will. We cannot simply do what we decide to do; we must also know how to do it. We cannot acquire a table simply by choosing to have it; nor

is it enough to have set aside the time and energy, the tools and materials required for tablemaking; we must also know how to make a table. We must come to terms with nature so that we can act according to nature's laws; if we possess no craft we will conclude our activity, not with a table, but with a heap of scraps and sawdust.

We do not ascribe knowledge to the craftsman, further, simply because he has a capacity for a given activity; a craft is not simply the capacity for shaping matter into form. If such a capacity were called knowledge we would have to ascribe knowledge to the nest-building bird and the web-making spider. Socrates went about asking, not for demonstrations, but for explanations. The statesmen and the poets can act, but they cannot explain their actions. The craftsmen, on the other hand, can explain, and they can teach others how to imitate them. In the Socratic phrase, their opinion is "accompanied by discourse."

The tradition of a craft, then, has two parts, practice and theory, skill and method. The skill of a craftsman is in the hand, like the instinctive behavior of the animals, but his method is proved in the specifically human mode of speech. Skill is a mode of doing, but method is a mode of knowing. The palsied carpenter is a carpenter no longer but he still possesses the method of carpentry; he cannot build a table but he can tell us how to build one. On the other hand, a man might have acquired the knack of building a table without ever learning the method of carpentry; his tables are satisfactory but he cannot teach us to make them. Probably, also, he does not know the limits of his knowledge until he tries to explain to us what he does. Skill is maintained by practice, but method is maintained by teaching.

So the crafts give us one model for education. We might take education to be the teaching of those methods which are likely to be useful to us. Furthermore, every activity is accompanied by some method; there are methods of practice and methods of theory; history and metaphysics have their methods, and so does ethics, and even poetry and statesmanship have some methodological statements to make—even though, the more serious the activity, the less adequately the method seems to explain it. Presumably we cannot create poets and statesmen, but we can teach our students what there is to know about these activities, and then, with whatever misgivings, leave them on their own.

But in this case education will not be adequate to happiness. In the first place, we do not know what methods are likely to be useful to us. Life is a chapter of accidents, and use is relative to the needs of the moment. Ten yards from a lifeboat in the mid-Atlantic we may find ourselves saying, "If only I had learned to swim," but such possibilities do not give swimming a necessary place in education.

In the second place, we usually do not know what our needs are, which is to say, we do not know what would make us happy. Should I try to make more money? Or do a job that interests me? Should I try to secure more time to myself? Or should I take on more students? Each of these choices can make a case for itself, and I won't know which is most rewarding until I try; once I have tried it will be too late to try something else. Only at moments of crisis, floundering around in the lifeboat, do our needs seem clear to us. That is the attractive thing about crisis: it tells you what knowledge is most worth having and so reduces the problem of knowledge to a technical problem. I have heard it suggested that the knowledge most worth having is the knowledge which would produce world peace, but while I am sure that a reasonable state of peace is necessary to happiness, I also know that it is not sufficient. And I do not know what else will be needed.

Man, in other words, is mortal. He is vulnerable, first, to circumstance, and since he cannot predict his circumstances, he cannot confidently equip himself to meet them. Second, in a limited life he must decide to do some things and not others, and so must decide to learn some things and not others. If we, like the Homeric gods, were immortal, we could learn all possibly useful methods and undertake all the activities for which they prepared us; over an infinite period of time we could perhaps come to happiness. As it is we must, in education as in everything else, make our best guess and launch ourselves into the void.

So far, however, I have only shown that the problem of education is insoluble, not that it is difficult. We are accustomed to coming to terms with our mortality; we make our choices within a known frame of ignorance. Even the carpenter does not know when he will strike a knot; nor does he know whether next year's customers will be asking for tables or for chairs. He studies his material as best he can, he makes his best guess at the future state of the market, and he equips himself accordingly.

Since carpentry is the art of transforming wood so that it meets human demand, the carpenter can tell whether or not his work is successful. If his products are demanded he is working well; if they are not he fails. So far I have been talking about happiness in the same terms, as though we could know whether or not we are happy. Socrates also sometimes makes this assumption, as in the *Protagoras* when he says that if happiness consisted in the greatest amount of pleasure and the least amount of pain, the knowledge most worth having would be that method which enabled us to predict, to the highest degree of human accuracy, the pleasures and pains resulting from our choices.

But Socrates knows that his assumption is fallacious, and from him I have learned so too. Happiness is incorrigibly plural. How shall I pass the evening? Shall I make a snowman? Read a more or less elevating book? Write a memorandum? Play with my child? Drink? I find all these activities rewarding and their rewards are incommensurate. I have no common scale of delight for the comparative measurement of politics, theory, play, art, and self-indulgence. All of these things are good; I know *that* because I am sure that a life in which they all appear is better than a life from which any one is excluded. For the same reason I know that one is not better than another; if politics were better than art I would want as much politics as possible and as little art, or vice versa. The best life seems to me a life in which all these things have their proper place, and determining what is good about any of them will not enable me to determine the proper balance between them. Yet, since the soul is bound by space, time, and its own singularity, I must at every moment make some judgment of proportion among all the good things that I see.

Method, therefore, can contribute to happiness, but there can be no method of happiness. Methods tell us how to achieve some stated good; the good is relative to the method. For the doctor *qua* doctor the good sought is health; the doctor's method enables him to have his best shot at healing his patients. But the art of medicine cannot tell him whether to visit three querulous old ladies or go home to dinner. He must make that decision for himself.

This, I think, is what Socrates means when he says that the knowledge most worth having is the knowledge of the Good,

> . . . that which every soul pursues and for the sake of which it does everything, making a prophetic guess that it is something, but uncertain and unable to take proper hold of it, nor to reach any permanent position about it as we can in the case of other things—and for this reason the soul fails to make proper use even of those other things that are useful . . .*(Republic* 505d,e*)*

> This, the idea of the Good, . . . is the highest knowledge; as we act according to it we make justice and everything else useful and beneficial. I suppose you also know . . . that we do not adequately know it. But if we do not know it, even if we should know everything else to the greatest degree of perfection, they are no help to us, just as if we should possess something and that thing should not be good. You don't think that we get anywhere by owning any possession if it is not in fact good? Or by having every form of intelligence without intelligence of the good, so that our intelligence is not related to the human good?
>
> Good lord no, he said. *(Republic* 505a,b*)*

The good is unlike other objects of knowledge in that it is both infinitely close to us and infinitely distant, perfectly immanent and perfectly transcendent. Each choice we make is a declaration of our judgment of the best thing for us as we are at that moment and in those circumstances; in this sense the good is infinitely various. Yet each choice is also a commitment of the whole self, a declaration that, starting from where we are, this step takes us one step closer to happiness.

Furthermore we are to some extent what we choose to be; so every choice is a choice of something and also a choice of self. The man who decides to make a table also decides to be a carpenter; the man who sets out to classify plants is guided by an idea of himself as a knower; the man who sets out to remedy an injustice is guided by an idea of himself as a charitable being. Since the process of self-creaction is indefinitely extensible, we are always guided, in choice, by a sense, however inchoate, of the perfection of man.

So Socrates sometimes talks about knowledge of the Good and sometimes about knowledge of the self. Nor are these two kinds of knowledge different. As we reflect upon our choices, as we make their real character clear to ourselves, our activity becomes more fully rational and thus more fully human. We come to be what we in fact are. He encourages us to know ourselves not as we happen to have become, but as we are capable of being.

It is also clear that prior to the choice of self is the choice to *be* a self. Implicit in our choosing activity is an assertion that we want to make ourselves and not be made by others. Man is distinguished from an animal or an instrument by his capacity for considered choice; our capacity for deliberation keeps us from being a mere part of the machine of nature. Our awareness of our freedom is the foundation of our sense of our own identity. Autonomy, therefore, is the necessary condition of happiness, and the man who has achieved autonomy,

who takes responsibility for himself, while he cannot be said to have *achieved* happiness, can be said to *really pursue* it.

For Plato, then, the aim of education is to bring man, not to happiness, but to the pursuit of happiness. . . And it should be clear that there is nothing educational about method. The essence of method is repetition. Practical method is the knowledge of how to predict and control nature; the craftsman or scientist tells us that if we do X, Y will result; he knows this because he and his fellows have done X countless times and Y has usually occurred. Theoretical method is, in Aristotle's phrase, "a capacity for demonstration," it provides us with the capacity to prove to ourselves or to another the truth of what we already know. The knowledge of method gives you a capacity to repeat yourself, and when you teach method you teach others to repeat after you. Method is memory systamatized into statement.

But choice is never repetitious. Choice is free because each choice is a new determination of the best. Insofar as a man repeats himself he becomes like an animal or a machine. The potter who transforms on his wheel lump after lump of clay into an endless row of identical jars does not choose to make each jar like the others; at most he chooses not to choose, letting his mind wander as his hands work. He is an excellent potter, he has mastered his method, but he is not choosing or judging; for the sake of the jars he has given up some of his humanity. So also the historian, if any there be, who applies the same method to one archive after another. To sit at the feet of the master craftsman and learn his method as he teaches it is to turn from the pursuit of happiness toward the loss of self.

What kind of education, then, contributes to the achievement of autonomy? In answering this question Socrates makes a few observations upon the human situation. In the first place, while it is good to satisfy our desires, happiness does not consist in the satisfaction of desire. My desires do not bear thinking on; I don't need Sigmund Freud to tell me that. At the core of every man is Plato's tyrant, devoted to the desires which, as Socrates says, appear in most men "only in dreams." Let me loose and I would turn to rape, cannibalism, incest. The energy at the core of every man is idle, self-destructive passion, primitive, inchoate, and therefore insatiable. We cannot find our principle of action in that which is itself perfectly unprincipled.

Man is a part of nature; he lives in contact with an environment, he occupies a body, and his soul also has a nature. "Of soul too there is a physics," says Aristotle, "insofar as it partakes of the material." But the Socratic self-knowledge is not the physics of soul; he does not mean that we pursue happiness by learning that "this is the sort of thing that always makes me angry" or "I'll bet I'll get a boot out of that." Our impulses are part of our situation, as the conditions of our choice. But to choose is to be free of our situation; therefore the pursuit of happiness begins from the denial of impulse.

The beginning of education, then, is temperance. But not such temperance as the world knows. We do not become autonomous by being good little boys and girls, but because we have caught sight of something more interesting than pleasure. Socrates recommends all the social virgues—temperance, courage, wisdom, and justice—but he does not recommend them for the reasons given by society.

Society is the method that men have corporately evolved for coexisting with nature. This coexistence has two parts. We have learned to live with our natural environment; we have invented techniques for controlling and shaping it to our comfort and safety. And we have learned also to live with the nature of man, to shape that also to our comfort and safety. To this end we have invented morality. Morality, says Socrates, is the controlled gratification of impulse. Society promises us some pleasures on condition that we abstain from others; if we break the rules society will punish us and see that our pleasures are turned to pains. The pleasures that are socially acceptable, on the other hand, are doubly rewarding; they please in themselves and they bring with them the assistance and approval of our neighbors.

Society is the grand method that validates all the others. Every activity aims at some good; every methodical activity works rationally toward some good; society rationalizes the whole pattern of our activities by telling us what particular goods are worth pursuing. In this social order technique and morality overlap; in any society that which is useful is also accounted honorable.

It is according to the standard of society that all methods are recommended to us. The potter works because there is a market for his pots; in the same way we tell our students that if they will learn the method of philosophy there will be open to them a well-paid and reputable profession. Society tells us, from its own point of view, what knowledge is most worth having; that point of view asserts that the aim of education is socialization. General education thus provides men with that knowledge which, as members of a single community, they all require, while special education fits them to make some special contribution to the common good.

Of course education, like every other human activity, cannot happen except within the social order. Because education requires the support of society, those institutions whose delcared purpose is educational are rightly expected to help society operate. But, says Socrates, socialization is not in itself educattional. Society as a mode of human existence bears against autonomy; if the social order were perfected we would all be reduced to the level of the bee or the ant. Society decides for us; we pursue happiness by learning to decide for ourselves. Therefore education always begins from the rejection of social tradition.

The foundation of the Socratic education, therefore, is the *elenchus,* the process of refutation by which the student is convinced that he does not know what he thought he knew, that he cannot defend whatever received opinions he carries about with him. In itself, the *elenchus* is a sophistical exercise; Socrates will use any means—fair or foul—to convince the student of his inadequacy. The aim of the *elenchus* is not to impart truth or even to convict error; it aims to show the student that he cannot defend himself with the weapons society has given him and suggests to him the necessity of learning to defend himself.

The *elenchus* is a dangerous process; Socrates often compares it to major surgery. Society has come to terms with the chaos of impulse by imposing on it an ordered routine of practice and opinion. Since society and impulse are in conflict they often come to seem alternative; we feel that we must choose between passion and duty. By cracking the structure of the student's habitual opinions Socrates is making an opening, it seems, for anarchy; if society's prohibitions are invalid, then perhaps everything is permitted.

Socrates meets this problem by simultaneously separating the student from his peers and involving him with the teacher. The *elenchus* is at once a shock and an invitation; "You do not know how to talk," says Socrates; "I have proved that. But at the same time I have shown that I, who assert that I know nothing, know more about talking than you do. Stay and talk with me, and perhaps you can learn it too." The Socratic *elenchus* makes the student helpless, and at the same time it makes him dependent on Socrates. By means of the *elenchus* Socrates recruits members for the Socratic circle, the group of young men who follow Socrates and answer his questions.

The Socratic circle is a subsociety with its own social norms. So there is another danger to the *elenchus:* it can free the student only to subject him to a new mode of social rigor—the more limiting in that the philosophical society is smaller and more compact. The teacher's task is to make this subsociety which he directs the arena of autonomy rather than conformity. The Socratic teacher must take care that his teaching does not degenerate into just another method. If he makes his students his disciples he has become a sophist, and has failed.

The Socratic dialogues tell us relatively little about the teacher's strategies for attaining this end. Most of the dialogues represent Socrates in battle with is sophistic competitors or recruiting the young for his own circle. Only two dialogues, the *Republic* and the *Phaedo,* take place within the Socratic circle, and they do not show us the whole pattern of Socratic education; they are at best representative samples, brief excerpts from a continuing conversation.

One thing, however, we can say. There are current in the Socratic circle, as Plato represents it, certain doctrines. These doctrines shift a bit from dialogue to dialogue but fundamentally Socrates is consistent about them. He tells his students that the soul is immortal, that they have lived before, that they will be judged after death, that the soul has three parts, and so on. These doctrines are never proved or defended; they are simply introduced into argument when they become necessary. Nevertheless they play an important role in the Socratic conversation, and by considering them we might learn something about the educational character of those conversations. Here I address myself to only one doctrine, perhaps the most important: the so-called Theory of Ideas.

The Theory of Ideas asserts that there are two worlds, one composed of the objects of perception, multiple, material, and mutable, the other of the objects of knowledge, simple, immaterial, and eternal. There are trees and there is Tree. By this doctrine Socrates points to a commonplace fact about our experience: that the intellect lives in a world not of things but of concepts. So long as we have no name for a tree, so long as we do not place it in any general category, we really have no experience of it at all; it remains for us a blob of inchoate perceptions. Before we can pay our tree *any* humane attention we must notice that it *is* something, that it is, for instance, a tree. So in a sense there is *no* knowledge of the particular: all knowledge is of the universal.

Socrates, however, goes further; he talks of the particular and the universal as separate objects of knowledge, and asserts that we know the particular by comparing it with the universal. Socrates talks about the ideas as if they were things; he has taken a fact about knowing and treated it as a fact about being. By so doing he falls into a set of logical absurdities, ably set forth by Plato himself in the first part of the *Parmenides,* and expanded by Plato's adversaries ever since.

Not content with this, Socrates asserts that the ideas are the realest things, and that the objects of our experience are merely their imitations. The trees we meet are more or less imperfect pictures of Tree; the plural trees have the sort of diminished reality that all imitations have. The experienced tree is really experienced but it is not really Tree, just as a picture of George is really a picture but it is not really George.

According to Socrates, however, those imitative things are the only things we *do* experience—at least in this life. In another life, he says, we saw the ideas themselves—but now we have forgotten them; we remember them only to the degree that things here are capable of reminding us of the original. We look at the picture and say, "that's George," but we are in the position of a man who knows George only through his pictures and who has never had an opportunity to check the picture against the original.

The Theory of Ideas is thus a troubling way of talking about knowledge. Since an imitation is by definition imperfect—otherwise it would be a re-crea-

tion—the knowledge that we have got is by nature the knowledge least worth having. And the knowledge most worth having is, according to Socrates, knowledge that we cannot acquire.

Here let us remember that according to the Simile of Light in the *Republic* the Good is both the source of the intelligibility of the other ideas and the source of their existence. That is, the true locus of knowledge is not contemplation but rather choice. And when we are choosing we are not concerned with what is but what should be; therefore precisely that which is *not* in the field of our experience is the focus of our attention. The nurseryman, for example, is concerned only secondarily with his trees as they are, primarily with his trees as they should be. His aim is to produce the best tree, that is, he has his eye on Tree. He works with his trees precisely when they diverge from the Tree he has in his mind. Therefore we can say, without departing from common sense, that the trees he sees are imperfect imitations of the Tree he has never seen. The Theory of Ideas, in fact, describes the world as it is encountered by the practical intelligence.

A man acting for a purpose is always, in Diotima's phrase, between Poverty and Resource. He must find his present situation unsatisfactory; otherwise he would sit still. he must see some prospect of improvement; otherwise he would have no place to go. Out of his present need he generates an idea of future improvement; this idea sharpens his sense of Poverty and leads him to action. As he begins to act upon the world, to realize his idea, his experience sharpens his idea and deepens his sense of Resource. Thus thought leads to action and action in turn leads to thought. Nor is the Resource at any stage something exterior to the situation of the actor; the Resource is the Poverty itself formulated, so that we feel our situation, not simply as lack, but as lack of something.

The clearest instance, I think, is the case of invention. Consider a man drinking water from his hands. The water trickles through his fingers, he cannot drink without getting his face wet, he cannot in this way carry water more than a few feet. Such a man, if he is gifted, may out of his discomforts conceive the notion of a cup. To begin with the cup is for him simply something that his hands are not. As he pursues his notion, as he shapes clay, metal, and even plastic to his purpose, he refines his idea; every cup he makes is both a cup and not *yet* a cup. Each invention is a partial success, but it does not yet satisfy its inventor; each new dissatisfaction, as it becomes explicit to the cup-maker, suggests a better cup. So in Socratic language, the process of invention is a progressive imitation of Cup.

In one sense the idea of a cup is an idea of the world, a world so transformed as to include cups. But in another sense it is an idea of self: the idea that a man could be a cup-maker and a cup-user. The cup will not be made until it has been both conceived and chosen; we must come to think both that cups are possible and that they are desirable. Therefore the invention of the cup implies that the cup-using man is a better sort than the cupless. Seen this way our sense of Poverty is a sense of our own imperfection; our sense of Resource a sense of what we could be.

Invention, in fact, is one of the modes of autonomy. The inventor of the cup, at the moment when he first takes the clay in his hand and begins to shape it, is free; the mark of his freedom is that he is both selfless and self-absorbed; he is neither methodical nor impulsive. There is nothing self-indulgent in his activity; he moves straight toward the human good as he sees it. Nor is he taking direction from anyone; his act, to the degree that it is creative, is entirely his own. So also the poet as the words form into music in his mind, and the statesman as he collects his resources for the reform of society. All of their products, when they succeed, become part of the cultivated routine, but the originators, as they shape society, are also free of it.

Creativity is occasional because it is unmethodical and therefore unrepeatable. We create precisely when we do not know what we are doing; we know our creative acts only in doing them. The poet knows how to write his poems; the proof is that he has written them. But he does not know how to write poems; having written some he is never sure he can write more. He cannot explain his method; if he can explain it he is not a creative poet. Creativity is the discovery of self in activity; it is therefore personal and incommunicable.

And yet we do not feel the creative experience as one of confusion. When we decide, in spite of the exhaustion of our energies and the doubts of our friends, that honor compels us to an unpopular and unpleasant act, we reach a state of moral certainty; our behavior, however eccentric, is not erratic. We are sure that we know what we are doing, even though we cannot explain it. Such moments are rare in any life, but memorable, and they are moments of lucidity. At these moments we best know ourselves engaged in the active pursuit of happiness.

By the Theory of Ideas Socrates asserts that the creator does not act

blindly. He has his eye on something, though not on anything at present in the world of his experience. By describing the ends of action as objects of knowledge, Socrates asserts that feeedom is action in a direction, that creativity is more than idle restless trial and error. Man, he says, does not blunder into autonomy; he *claims* his freedom from method and impulse because he has caught sight of something more persuasive to his act than either.

The Theory of Ideas thus describes a world in which autonomy is possible. And since autonomy is identity we all assent to that Theory insofar as we attempt at all to make our lives our own. The Theory does not have to be proved; it is simply a statement of the world in which as pursuers of happiness we all live.

Notice that the Theory of Ideas never appears at the beginning of a Socratic dialogue. It appears always in the middle, as a familiar doctrine now again appropriate. The relevance of the Theory of Ideas, in fact, is the test of the seriousness of any discourse. When that Theory becomes an appropriate element of our talk we are talking about the pursuit of happiness and can entertain some proper hope that our talk is educational.

The Theory of Ideas, however, is not in itself educational; at most it makes explicit the aims of education. Education, says Socrates, is the exercise of the soul; it occurs not by the comprehension of propositions but by the development of capacities. Therefore the Socratic student does not learn the Socratic doctrine; he becomes involved with those doctrines as a part of his involvement with the Socratic discourse. And this involvement develops in him the capacity for freedom.

But here we have a problem, for the Socratic conversations are not deliberative but theoretical. Socrates does not ask, What shall we do now? He asks, What is justice? He does not ask, How are you and I to get on together? He asks, What is friendship? The Socratic students do not practice virtue; they talk about it. So the dialogues raise in radical form the question of the proper use of theory.

Theory can be *seen* to be useful when it leads to an ordered routine of practice, when the theory is a method. Socrates often talks about his own discourse in this way. He talks as if we could come to know the Ideas through talk and then use this knowledge in action. When we have decided what justice is, he says, we will know why we should be just; when we have decided what friendship is we will be friends. But this is absurd. The Ideas are not hypotheses but objects of choice; we never work from them, only toward them. Socrates proposes to us a contradiction in terms: methodical creativity.

The man of true virtue, says Socrates, would pursue happiness with the same quiet confidence with which the craftsman approaches his work. The horsebreaker knows horses, says Socrates; therefore he can improve them; let us know ourselves and we will be able to improve ourselves. The carpenter knows tables; therefore he approaches his workbench with a serene hope of success. Let us know the Good and we will approach the human situation with the same serene hope.

But we cannot approach the human situation; we are in it wherever we are. If we try to determine in advance the criteria of choice, that activity of determining the criteria must in itself correspond to the criteria. The quest for theoretical knowledge of the act does not take you toward the act but away from it. Every explanation requires a further explanation. The philosopher seeks not only to know how to act but to know that he knows, but how can he know whether or not he knows that he knows?

The answer, of course, is that he cannot. In fact the one thing he knows is that he is never sure. Hence the well-known Socratic ignorance; Socrates' knowledge begins, and in a sense ends, with a knowledge of the limits of human knowledge.

What escape can there be from this regress? Here let us go back a step and observe that method is free from the regress only because it is instrumental, because it is theory in the service of some externally defined good. We are involved in the regress, however, whenever we attempt to define the good, to validate those things that are valued for themselves. So far I have talked only of practical autonomy, but the same problem arises in the sphere of pure theory, of knowledge pursued for its own sake. "All men by nature desire to know," says Aristotle; knowledge is one of the modes of happiness. And happiness is no more obtainable here than in any other mode.

Some historian, let us say, fired with curiosity about a given time and place, attacks the relevant documents. As he works he makes progress; certain truths can in fact be discovered by careful interpretation of the evidence. But the more he learns the more he comes to be aware of his ignorance. History is a tissue of lacunae; between any two facts the historian knows there exist an indefinite number of facts he does not know. One causal explanation always requires another: perhaps a social change caused a political change, but what caused the social change? No piece of history is self-contained; the better the historian knows one period, the more aware he is of the need for examining its sources, parallels, and results. Because the part has meaning only in relation to the whole the historian cannot be confident even of the knowledge he has obtained. He may completely misintepret the things he knows because he does not connect them with the things he does not know. Around any area of knowledge there is a perimeter of ignorance; as the area expands the perimeter expands also. The more the knower prepares himself to make adequate statements the more aware he becomes of the inadequacy of any statement he can make.

Yet this difficulty does not cripple historians. The historian does not expect to perfect his knowledge. He goes on until he feels ready to make a statement about what he's doing, to offer a lecture, an essay, a book. Each statement is a rough draft, an attempt to show the reader how far he has come. The reader is impressed by his learning; he himself is impressed by his ignorance. Yet because he can say something of interest to others his inquiry comes to something; it does not come to knowledge, but it comes to discourse.

That is the paradox of theory; it cannot be known but it can be taught. The theoretician does not, of course, teach definitive truth; that would be sophistry. He shows the work he has done; he ex-

plains to the reader where he is and enables the reader to come as far as he has come. *We* do not make progress by knowing what we know, but others can make progress by coming to know what we know. So our knowledge is not satisfactory to us, but it is, as they learn it, satisfactory to them.

As the pupil masters the learning of the teacher he becomes caught up in the same process; the more he learns from us the more he becomes aware of what we have not taught him. As he attempts to fill these gaps he ceases to be a student and becomes an inquirer; as his inquiry gives rise to statement he becomes a teacher. So we are not teaching him history; we are teaching him to be an original teacher of history. And to be an original teacher is the greatest happiness of the theoretician.

Inquiry, thus, makes possible discourse, and discourse inquiry. Many such inquirers, living in a community, constitute an intellectual tradition. If we ask what each inquirer seeks, we must answer that he seeks to know, but if we ask what he achieves, we must answer that he keeps the intellectual tradition alive. Discourse is not about nothing; on the contrary it is about truth. It can never be adequate to truth, however; it can only be adequate to further discourse. Through inquiry and statement the theoretician, as he seeks truth, establishes his relation to, and his independence of, the community of his peers.

Disputation is the mode of commonality of the community of discourse; alone among human communities this one thrives on disagreement. The community of discourse, therefore, is the proper home of the autonomous man. In this republic each citizen discovers himself in the other as each separately pursues the common and transcendent good.

The Socratic circle was such a community of discourse—dominated by a great teacher whose students in their turn became extraordinarily diverse teachers. Ignorant and questioning, Socrates pursued with his students his inquiry into the human situation and drew them into freedom. Wherever you are, he taught them, you can consider where you are and attempt to explain your situation. The pursuit of happiness cannot be founded on knowledge, but it can be activity "accompanied by discourse."

From his experience of the Socratic circle, Plato created the Academy and so founded the tradition of the universities. That tradition we still have with us. And we still have with us Plato's Socratic dialogues to remind us that no question is worth asking unless it raises, explicitly or implicitly, the question, "What knowledge is most worth having?"

Reflections childhood . . . education . . . philosophy . . .

Teachers as models

The variety among the teachers was astonishing; it is the first variety one is conscious of in life. Their standing so long in front of you, exposed in all their emotions, incessantly observed, the actual focus of interest hour after hour, and—since you cannot leave—always for the same, precisely demarcated time; their superiority, which you refuse to acknowledge once and for all, and which makes you keen-sighted and critical and malicious; the necessity of getting at them without making it too hard for yourself, for you still haven't become a devoted, exclusive worker; even the mystery of their outside life, throughout the time that they don't stand there in front of you, acting themselves' and then the alternation of their appearances, each one in turn appearing before you, in the same place, in the same role, with the same goal, thus eminently comparable—all those things, working together, form a very different school from the declared one, a school for the variety of human beings; and, if you take it halfway seriously, the first conscious school for the knowledge of human nature.

It would not be difficult, and it might be interesting, to scrutinize one's later life in terms of which and how many of these teachers were encountered again under different names, which people were liked because of that, which people were dropped only because of an old grudge, which decisions were made because of such early knowledge, what would probably have been done differently without that knowledge. The early childhood typology, which is based on animals, and which always remains effective, is overlaid by a topology based on teachers. Every class has pupils who mimic the teachers particularly well and perform for their classmates; a class without such teachermimics would have something lifeless about it.

—Elias Canetti, in *The Tongue Set Free* (N.Y.: The Seaburg Press, 1979) pp. 149-150.

Responsibility as being answerable when one is addressed

The idea of responsibility is to be brought back from the province of specialized ethics, of an "ought" that swings free in the air, into that of lived life. Genuine responsibility exists only where there is real responding.

Responding to what?

To what happens to one, to what is to be seen and heard and felt. Each concrete hour allotted to the person, with its content drawn from the world and from destiny, is speech for the man who is attentive. Attentive, for no more than that is needed in order to make a beginning with the reading of the signs that are given to you. For that very reason, as I have already indicated, the whole apparatus of our civilization is necessary to preserve men from this attentiveness and its consequences. For the attentive man would no longer, as his custom is, "master" the situation the very moment after it stepped up to him: it would be laid upon him to go up to and into it. Moreover, nothing that he believed he possessed as always available would help him, no knowledge and no technique, no system and no programme; for now he would have to do with what cannot be classified, with concretion itself. This speech has no alphabet, each of its sounds is a new creation and only to be grasped as such.

It will, then, be expected of the attentive man that he faces creation as it happens. It happens as speech, and not as speech rushing out over his head, but as speech directed precisely at him. And if one were to ask another if he too heard and he said he did, they would have agreed only about an experiencing and not about something experienced.

But the sounds of which the speech consists—I repeat it in order to remove the misunderstanding, which is perhaps still possible, that I referred to something extraordinary and larger than life—are the events of the personal everyday life. In them, as they now are, "great" or "small," we are addressed, and those which count as great, yield no greater signs than the others.

Our attitude, however, is not yet decided through our becoming aware of the signs. We can still wrap silence about us—a reply characteristic of a significant type of the age—or we can step aside into the accustomed way; although both times we carry away a wound that is not to be forgotten in any productivity or any narcotism. Yet it can happen that we venture to respond, stammering perhaps—the soul is but rarely able to attain to surer articulation—but it is an honest stammering, as when sense and throat are united about what is to be said, but the throat is too horrified at it to utter purely the already composed sense. The words of our response are spoken in the speech, untranslatable like the address of doing and letting—whereby the doing may behave like a letting and the letting like a doing. What we say in this way with the being is our entering upon the situation, into the situation, which has at this moment stepped up to us, whose appearance we did not and could not know, for its like has not yet been.

Nor are we now finished with it, we have to give up that expectation: a situation of which we have become aware is never finished with, but we subdue it into the substance of lived life. Only then, true to the moment, do we experience a life that is something other than a sum of moments. We respond to the moment, but at the same time we respond on its behalf, we answer for it. A newly-created concrete reality has been laid in our arms; we answer for it. A dog has looked at you, you answer for its glance, a child has clutched your hand, you answer for its touch, a host of men moves about you, you answer for their need.

Martin Buber, in "Between Man and Man" (New York: The Macmillan Co., 1947).

Reflections

childhood . . . education . . . philosophy . . .

Why study logic?

The popular notion is that Reason is far superior to any instinctive way of reaching the truth; and from your desire to study logic, I am perhaps warranted in presuming that such is your opinion. If so, in what respect do you hold reasoning to be superior to instinct? Birds and bees decide rightly hundreds of times for every time that they err. That would suffice to explain their imperfect self-consciousness; for if *error* be not pressed upon the attention of a being, there remains little to mark the distinction between the outer and the inner worlds. A bee or an ant cannot—could not, though he were able to indulge in the pastime of introspection—ever guess that he acted from instinct. Accused of it, he would say, "Not at all! I am guided entirely by reason." So he is, in fact, in the sense that whatever he does is determined by virtual reasoning. He uses reason to adapt means to ends—that is, to his inclinations—just as we do; except that probably he has not the same self-consciousness. The point at which instinct intervenes is precisely in giving him inclinations which to us seem so singular. Just so, we, in the affairs of everyday life, merely employ reason to adapt means to inclinations which to us appear no more bizarre than those of a bee appear to him.

An old friend of mine once remarked to me that if a being not human were to observe mankind, he would be struck with admiration at that instinct which leads a large number of men each to contribute an insignificant sum so as to make up a fortune in the aggregate, and present it to one person chosen by lot; although certainly men who buy tickets to a lottery refrain from taking credit for their highly altruistic conduct with a modesty which does credit to their hearts. In the ordinary conduct of everyday affairs, men really do act from instinct; and their opinions are founded on instinct in the broad sense in which I here take that term. A small dose of reasoning is necessary to connect the instinct with the occasion: but the gist and character of their conduct is due to the instinct. It is only a remarkable man or a man in a remarkable situation, who, in default of any applicable rule of thumb, is forced to reason out his plans from first principles. In at least nine such cases out of every ten, he blunders seriously, even if he manages to escape complete disaster. We shall therefore be well within bounds in pronouncing Reason to be more than a thousand times as fallible as Instinct.

Invariably follow the dictates of Instinct in preference to those of Reason when such conduct will answer your purpose: that is the prescription of Reason herself. Do not harbor any expectation that the study of logic can improve your judgment in matters of business, family, or other departments of ordinary life. Clear as it seems to me that certain *dicta* of my conscience are unreasonable, and though I know it may very well be wrong, yet I trust to its authority emphatically rather than to any rationalistic morality. This is the only rational course.

But *fortunately* (I say it advisedly) man is *not so happy* as to be provided with a full stock of instincts to meet all occasions, and so is forced upon the adventurous business of reasoning, where the many meet shipwreck and the few find, not old-fashioned happiness, but its splendid substitute, success. When one's purpose lies in the line of novelty, invention, generalization, theory—in a word, improvement of the situation—by the side of which happiness appears a shabby old dud—instinct and the rule of thumb manifestly cease to be applicable. The best plan, then, on the whole, is to base our conduct as much as possible on Instinct, but when we do reason to reason with severely scientific logic. It has seemed to me proper to say this in order that I might not be understood as promising for logic what she could not perform. Where reasoning of any difficulty is to be done concerning positive facts, that is to say, not mere mathematical deduction, the aid that logic affords is most important.

—from Charles Peirce, "Pre-logical notions," in *Minute Logic.*

On teaching philosophy irresponsibly

In my understanding of it, philosophy has no claim to be edifying or doctrinal. Its primary mission is to inquire into the way things are, and the teachers's mission, like Socrates', is to get his own thinking as straight as he can. I am not convinced that an original thinker is a better teacher than one who has no distinctive philosophy. He may be but only if he sternly represses the temptation to indoctrinate his students with his views. If he has his mind made up on most important issues, he is likely to make only disciples and followers, not students of philosophy . . . .

Those teachers who make disciples of students are morally irresponsible, for they transform the essence of philosophy into something alien.

—from J. Glenn Gray, "The Moral Responsibilities of Teachers of Philosophy".

Reflections

childhood . . . education . . . philosophy . . .

On intimations of cosmicity in childhood

Our childhood bears witness to the childhood of man, of the being touched by the glory of living.

From then on, personal memories, clear and often retold, will never completely explain why reveries which carry us back toward our childhood have such an attraction, such a soul quality. The reason for this quality which resists the experiences of life is that childhood remains within us a principle of deep life, of life always in harmony with the possibilities of new beginnings.

Like the archetypes of fire, water and light, childhood, which is a water, a fire which becomes a light, causes a great abundance of fundamental archetypes...

Taken in the perspective of its archetypal qualities, put back into the cosmos of great archetypes which are at the base of the human soul, meditated childhood is more than the sum of our memories. To understand our attachment to the world, it is necessary to add a childhood, our childhood to each archetype. We cannot love water, fire, the tree without putting a love into them, a friendship which goes back to our childhood. We love them with childhood. When we love all these beauties of the world now in the song of the poets, we love them in a new found childhood, in a childhood reanimated with that childhood which is latent in each of us.

Thus, the word from a poet, the new but archetypally true image is enough to make us recover the universes of childhood. Without childhood, there is no real cosmicity. . . .

When we are children, people *show* us so many things that we lose the profound sense of *seeing*. Seeing and showing are phenomenologically in violent antithesis. And just how could adults show us the world they have lost!

They know; they think they know; they say they know. . . . They demonstrate to the child that the earth is round, that it revolves around the sun. And the poor dreaming child has to listen to all that! What a release for your reverie when you leave the classroom to go back up the hill, your side hill!

What a cosmic being the dreaming child is!

—from Gaston Bachelard, "Reveries towards childhood," in *The Poetics of Reverie* (Boston: Beacon Press, 1969)

Ludwig Wittgenstein, Schoolteacher

A little later [Wittgenstein] took the job of country schoolteacher in some of the poorer Austrian villages. The desire for service or sacrifice of some kind was still with him.

His sister Hermine, who visited his classes on several occasions, tells us how passionately Wittgenstein flung himself into teaching his country schoolchildren. He made models, taught the children to build simple engines and to create their own visual pictures for what he was trying to teach them. "Show and tell" is the name of a common classroom game for children. Perhaps all teaching is in its way a version of this game; and the philosopher who teaches children may learn from them something more essential about the nature of language than he would from any formal calculus. To tell is to show: to bring something into the open and make it clear. . . .

It can sometimes be a more enlightening experience to instruct elementary pupils than advanced scholars. With the latter we can fall all too easily into the embrace of an available abstract language whose presuppositions thus remain hidden to us. In teaching the young you have to satisfy the schoolchild in yourself and enter the region where all meanings start. That is where, in any case, the philosopher has perpetually to start.

—William Barrett, in *The Illusion of Technique*

Education and Technology

As far as inner-city-ghetto unemployment is concerned, the problem comes down to whether you take people to jobs or you bring jobs to people, and it has always seemed to me that the most likely solution is to bring the jobs to the people. Otherwise, the one deals with a program of resettlement of a vast portion of our population—people who for both cultural and educational reasons would be reluctant to leave where they are and, even if they were willing, would be accepted only reluctantly wherever they were going. So it's better to bring jobs to people, and these jobs should be primarily private-sector jobs—subsidized, no doubt, in one way or another, by the federal government. They should be tied in to the local school system, because unless there is some way to induce inner-city kids to stay in school one is simply creating a whole layer of the population that is doomed. . . .

Since, in all likelihood, you can't ship the people now living in the ghettos out to Tucson or Phoenix to make microprocessors—for both cultural and educational reasons—you have to bring those jobs into the ghettos. But you also have to tie those jobs almost directly to the educational stream. An R.F.C. could be used not only to finance manufacturing facilities in the inner cities but also to tie the schools directly into the employment stream. I don't know if that can work here. Clearly, the Japanese have a different pupulation mixture and a different population psyche, if you will, but fuelling this is their educational system. . . .

In a conversation I had with the physicist I.I. Rabi, he said that we wouldn't be able to compete with the Japanese for the next twenty years, because we didn't have teachers who knew how to teach technology. From what I have been reading, I have come to the conclusion that Japanese productivity seems to have most to do with their primary- and secondary-school systems, and not at all with their quality-control circles or their labor rates.

—Felix Rohatyn, in *The New Yorker*, January 24, 1983.

Reflections

childhood . . . education . . . philosophy . . .

Getting students to question

Occasionally it will be found advantageous to vary the exercise by the employment of mutual questions; by setting the children, especially of an upper class, to question one another in turn on the subject of the lesson. They will be very shy, and unwilling to do this at first; but after a little practice they will learn to like it, and in the act of framing questions their own intelligence will be greatly strengthened. Lord Bacon said "a wise question is the half of knowledge;" and it is quite true that it takes some knowledge of a subject to enable us to put a good question upon it; such mutual interrogation as I have described will therefore be, in a double sense, a test of the knowledge and thoughtfulness of a class.

Every encouragement should always be offered to the children to put questions to their teacher, and to give free expression to whatever difficulties and doubts may be in their minds. A good teacher will never think such questions irksome or out of place, but will welcome them, and all the trouble they may bring with them, as so many proofs that the minds of his pupils are at work, and so many hopeful guarantees of future success.

For, indeed, the whole sum of what may be said about questioning is comprised in this: It ought to set the learners thinking, to promote activity and energy on their part, and to arouse the whole mental faculty into action, instead of blindly cultivating the memory at the expense of the higher intellectual powers. That is the best questioning which best stimulates action on the part of the learner; which gives him a habit of thinking and inquiring for himself; which tends in a great measure to render him independent of his teacher; which makes him, in fact, rather a skillful finder than a patient receiver of truth. All our questioning should aim at this; and the success of our teaching must ever be measured, not by the amount of information we have imparted, but by the degree in which we have strengthened the judgment and enlarged the capacity of our pupils, and imparted to them that searching and inquiring spirit which is a far surer basis for all future acquisitions than any amount of mere information whatever.

—from Joshua G. Fitch, *The Art of Questioning* (1879)

Conversing with texts

The dialectic of question and answer. . . .makes understanding appear as a reciprocal relationship of the same kind as conversation. It is true that a text does not speak to us in the same way as does another person. We, who are attempting to understand, must ourselves make it speak. But we found that this kind of understanding, 'making the text speak', is not an arbitrary procedure that we undertake on our own initiative but that, as a question, it is related to the answer that is expected in the text. The anticipation of an answer itself presumes that the person asking is part of the tradition and regards himself as addressed by it. . . .

If we seek to examine the hermeneutical phenomenon according to the model of the conversation between two persons, the chief thing that these apparently so different situations have in common—the understanding of a text and the understanding that occurs in conversation—is that both are concerned with an object that is placed before them. Just as one person seeks to reach agreement with his partner concerning an object, so the interpreter understands the object of which the text speaks. This understanding of the object must take place in a linguistic form; not that the understanding is subsequently put into words, but in the way in which the understanding comes about—whether in the case of a text or a conversation with another person who presents us with the object—lies the coming-into-language of the thing itself. Thus we shall first consider the structure of conversation proper, in order to bring out the specific character of that other form of conversation that is the understanding of texts. . . .Whereas up to now we have emphasised the constitutive significance of the question for the hermeneutical phenomenon, in terms of the conversation, we must now demonstrate the linguistic nature of conversation, which is the basis of the question, as an element of hermeneutics.

Our first point is that language, in which something comes to be language, is not a possession at the disposal of one or the other of the interlocutors. Every conversation presupposes a common language, or, it creates a common language. Something is placed in the centre, as the Greeks said, which the partners to the dialogue both share, and concerning which they can exchange ideas with one another. Hence agreement concerning the object, which it is the purpose of the conversation to bring about, necessarily means that a common language must first be worked out in the conversation. This is not an external matter of simply adjusting our tools, nor is it even right to say that the partners adapt themselves to one another but, rather, in the successful conversation they both come under the influence of the truth of the object and are thus bound to one another in a new community. To reach an understanding with one's partner in a dialogue is not merely a matter of total self-expression and the successful assertion of one's own point of view, but a transformation into a communion, in which we do not remain what we were.

—from Hans-Georg Gadamer, *Truth and Method* (New York: The Seaburg Press, 1975) pp. 340-341.

Raymond S. Nickerson is Senior Vice President of Bolt Beranek and Newman Inc., 10 Moulton Street, Cambridge, Mass. 02238. This article is an excerpt from a report, Three Uses of Computers in Education, *which he recently prepared for the National Institute of Education.*

Computer programming as a vehicle for teaching thinking skills

By Raymond S. Nickerson

There was a time when it was generally believed that in learning how to do geometry, one learned the generally useful skill of thinking deductively and rigorously. Similarly it was believed that in learning Latin one disciplined one's mind and made it thereby more conducive to learning in general. More recently, it has been suggested that the teaching of computer programming might be an effective vehicle for the teaching of generally useful cognitive skills (Feurzeig, Horwitz, & Nickerson, 1981; Papert, 1972). There is very little evidence that the expectations for geometry and Latin were warranted. What reasons are there to expect that the learning of programming would produce more substantive results?

Perhaps the basic reason for the belief that programming might be an effective vehicle for the acquisition of generally useful cognitive skills is the assumption that programming is prototypical of many cognitively demanding tasks. It is a creative endeavor requiring planning, precision in the use of language, the generation and testing of hypotheses, the ability to identify action sequences that will realize specified objectives, careful attention to detail, and a variety of other skills that seem to reflect what thinking is all about. Perhaps the best way to explore the plausibility of the assumption is to consider, in a conjectural way, what some of the generally useful cognitive skills that could be acquired through programming might be.

In what follows the term "skills" will be given a sufficiently broad connotation to include abilities, methods, knowledge, and attitudes (Nickerson, 1981). The following conjectural list was pro-

duced with this connotation in mind. It contains examples of skills, broadly defined, that seem to be involved in programming and that one might therefore hope to be able to teach via the teaching of programming. No great care has been taken to assure that the items on the list are independent of each other; indeed there undoubtedly is considerable overlap from item to item, but given the objective of composing a conjectural list, that seems acceptable.

- *Planning.* Programs are by nature purposive or goal-oriented entities. Every program and every program component is written to serve some purpose or to perform some specific task. Programming can be thought of then as being composed of two rather different activities: (1) specification of the tasks that are to be accomplished; and (2) generation of the sequences of instructions that will accomplish those tasks. Planning may be involved in both of these activities, but especially in the former. Moreover, how difficult the second task is may well depend on the quality of the planning that has gone into the first one.

  The ability to plan effectively is a skill the utility of which clearly extends far beyond the programming domain. Unfortunately, in many activities feedback is sufficiently delayed that difficulties that stem directly from poor planning can easily be attributed to other causes. The immediacy of the feedback in programming contexts may help to make the causal link between adequate planning and effective performance more apparent. It seems reasonable to hope that the cultivation of the habit of planning in a situation in which its effects are apparent could generalize to situations in which those effects may be less apparent but no less real.

- *Anticipating.* Closely related to planning, and equally essential to effective programming, are anticipation of events and provision for the various contingencies that may arise. Novice programmers typically find it easy to anticipate the most likely contingencies with which a program will have to deal, but they just as easily overlook low-probability events. Among the more difficult debugging problems for either novices or experienced programmers, are those that are a consequence of failure to anticipate events that occur only infrequently or under unusual conditions.

  In this regard, it seems likely that program debugging is typical of many other tasks that involve troubleshooting or diagnosis. Whether the task is one of medical diagnosis, criminal investigation, or fault detection in a complex electromechanical system, it is the unlikely problems, and especially those that occur only intermittently and under unforseen circumstances, that are the most difficult to isolate and fix. To the extent that experience in programming enhances skill in anticipating and providing not only for events that are considered likely to occur, but for less likely ones too, it enhances a skill the usefulness of which should extend to contexts other than programming as well.

- *Problem Decomposition.* It is not unusual for programs that would be considered only of modest size to have tens of thousands of instructions. People find it possible to write such programs only by following the advice purportedly once given to a man who would eat an elephant, namely to begin by cutting it into very small pieces. Programmers manage the complexity of large programs by decomposing the complex task that is to be performed into a set of simpler subtasks. If the subtasks themselves are still too complex to think of as wholes, they in turn are decomposed into yet smaller subtasks. This process can be repeated indefinitely until one arrives at tasks that are sufficiently simple to be representable in terms of a sequence of statements in some computer language. When these simple subtasks have been programmed, they then can be used as components in the programming of higher level components, which in turn can be components in higher-level components still.

  The principle of decomposing complex tasks into simpler tasks, inventing procedures for performing the simpler tasks, and then using the lower-level modules as components from which to build higher-level modules is a general and extremely powerful one. It is certainly one of the most useful ideas in programming, and it is an idea that is broadly applicable to a variety of problem domains.

- *Hypothesis Generation and Testing.* Debugging is a prototypical form of trouble-shooting and diagnosis. In looking for program errors, one exercises the same types of hypothesis generation and hypothesis testing strategies that the physician uses in diagnosing medical illness, that the electronics technician uses in diagnosing a faulty circuit, that the criminal investigator uses in sleuthing a crime, and that the scientist uses in constructing and testing a scientific theory. In all these cases one has the problem of generating plausible hypotheses about cause-effect relationships on the basis of incomplete information. And having generated such hypotheses one wants to test them, either conceptually or empirically, by determining whether their implications are in fact true. That is, one engages in reasoning of the sort "If my hypothesis is true and I do X, I should observe Y." The "doing of X" may involve conducting an experiment or simply gathering more observational data. The programming context has an advantage over most other hypothesis generation and testing situations, in that the hypotheses that are generated can be tested empirically without delay, and the confirming or disconfirming feedback can be obtained immediately.

- *The concept of an algorithmic procedure.* If there is a single idea that deserves to be considered the most important idea related to computer programming, it must be the idea of an algorithmic procedure. An algorithmic procedure, or algorithm, is a prescription for performing a particular task, the specification of a sequence of steps that, if followed pre-

cisely, will accomplish a specified goal. The business of programming is the business of inventing algorithms that can be executed by a computer.

The concept of an algorithm is not restricted to computer programming. Indeed, it predates the development of computer technology by many centuries. The word "algorithm" (sometimes "algorism") derives from the name of a 9th century Arab mathematician Muhammad ibn Musa Al-Khwarizmi, who wrote a book entitled, *ilm al-jabr wa'l mugabalah* ("the science of transposition and cancellation") from which the word "algebra" found its way into Latin and then English. Al-Khwarizmi is also remembered as the individual who introduced Hindu numerals, including zero, to the west, which is why the number system that is used more or less universally throughout the world today is referred to, inappropriately, as the Arabic system (Asimov, 1972).

A recipe for baking a cake can be an algorithm, as can a specification of the steps involved in doing long division, or the instructions for assembling a bicycle. Programming does provide, however, an unusually effective vehicle for making the properties and power of an algorithmic procedure clear.

- *The concept of a heuristic procedure.* A distinction is often made between algorithmic and heuristic procedures. The critical difference is that an algorithm is guaranteed to accomplish its objective whereas a heuristic procedure is not. (A heuristic procedure may contain many algorithms each of which accomplishes some particular task that is considered an essential component of the effort to accomplish the high-level objective of the program.) A heuristic procedure, as the term is typically used, is a procedure that is believed to have a reasonable chance of accomplishing its goal, but is not guaranteed to do so. It is:

  > a rule of thumb, strategy, trick, simplification, or other kind of device which drastically limits search for solutions in large problem spaces. Heuristics do not guarantee optimal solutions; in fact, they do not guarantee any solution at all; *all that can be said for a useful heuristic is that it offers solutions which are good enough most of the time* (Feigenbaum and Feldman, 1963, p. 6, italics theirs).

  And again

  > the adjective "heuristic," as ued here and widely in the literature, means *related to improving problem-solving performance;* as a noun it is also used in regard to any method or trick used to improve the efficiency of a problem-solving system. A "heuristic program," to be considered successful, must work well on a variety of problems and may often be excused if it fails on some (Minsky, 1963, p. 407-408, italics his).

  Heuristic procedures are widely used on problems that are sufficiently complex that the specification of algorithms that will guarantee solutions are either impractical because of the computing resources that would be required, or impossible because not enough is known about the problem to permit the writing of such a procedure. Examples of such problem areas are complex pattern recognition, natural language understanding, and the playing of difficult games such as chess. It is possible in the case of chess, for example, to specify heuristic procedures that will often result in a win. It is not possible, at the present time at least, to define an algorithm that will guarantee a win. It is only a slight oversimplification to say that the general goal of research on problem solving by computer is the discovery or development of effective heuristic procedures. And, of course, the more generally applicable the heuristic discovered, the more successful the quest.

  As is the case with algorithmic procedures, heuristic procedures are not unique to programming. The word "heuristic," which comes from the Greek *heuriskin,* meaning "serving to discover," appears sporadically in the literature of philosophy and logic as the name of a branch of study dealing with the methods of inductive reasoning. It was revived by Polya (1954) in his classic treatise on problem solving, and used to connote inductive and analogical reasoning leading to plausible conclusions, as opposed to the deductive developments of rigorous proofs.

  The possibility of improving problem solving in a general way by teaching specific heuristics or strategies is receiving a great deal of attention by researchers at the present time (Hayes, 1981; Wickelgren, 1974; Newell & Simon, 1972; Whimbey & Lochhead, 1980). Among the specific heuristics that are emphasized are many that have been exploited effectively in the writing of programs that are intended to perform cognitively-demanding tasks. These include:

  - breaking a problem into parts or defining subgoals
  - working backwards
  - testing a procedure for boundary conditions or extreme cases
  - finding an analogous problem
  - generalizing the problem
  - finding a simpler but related problem
  - representing the problem with a diagram

  There can be little doubt that the use of such heuristics can indeed facilitate problem solving in a variety of contexts, including that of computer programming. Whether programming represents the best vehicle for teaching such heuristics is open to question; that it represents one possible vehicle is really not debatable.

- *The idea of a parameterized procedure.* The idea of a parameterized procedure (sometimes called a closed subroutine) is very closely associated with the notions of algorithms and heuristics. A subroutine may be thought of as a program segment that has a name and that performs a particular task. A closed subroutine is one that has been written in a general form, which is to say that it

has been written in such a way as to be able to perform a particular task when supplied with specific items of information (parameters) that are essential to the performance of that task. Although the task is performed in the same way on different occasions, the result of its performance may differ from occasion to occasion, depending on the values of the parameters with which it is supplied. The use of parameterized procedures, or closed subroutines, accomplishes three important things for the programmer:

- It simplifies the problem of thinking about and structuring complex programs. In writing subroutines one is, in effect, decomposing the top-level problem into a set of simpler problems of more manageable size.
- It accomplishes a significant economizing of computer storage. If the same task has to be performed many times by the same program, representing the prescription for that task once and having a means of calling upon that prescription whenever it is needed is far more efficient than representing the prescription within the body of the program every time that it is used.
- It makes possible the building of a library of procedures that is customized to one's own computational needs. Once a subroutine has been properly written it need never be written again. The user need only remember what the subroutine does and how it is called into action. By enlarging his subroutine library the programmer acquires a more and more powerful and versatile bag of tools, which means that for an experienced programmer writing a new program sometimes means little more than producing a sequence of calls to existing subroutines.

In school we learn a number of parameterized procedures. The procedure for doing long division is a case in point. The parameters for the procedure are the dividend and the divisor. Given any two such parameters we apply the procedure and generate a quotient. There are numerous things we do in our everyday lives that might be thought of as parameterized procedures. One may have a procedure, for example, for preparing a meal, for conducting an interview, for changing an automobile tire, for writing a paper, for making a dress. The specifics of the way the procedure is instantiated will change from occasion to occasion as a function of the circumstances in which it is invoked. The fact that the basic procedure remains the same and only its parameters change is what makes learning a practical endeavor. Again, although parameterized procedures are not unique to computer programming, programming provides one vehicle for making this concept explicit and for illustrating its utility.

- *The idea of a procedural hierarchy.* This idea is closely related to that of a parameterized procedure or closed subroutine. It extends beyond this notion, however, by incorporating the possibility of procedures that use procedures or subroutines that call subroutines, nested to arbitrary depth. The idea is also related to that of breaking a problem into parts, and includes the notion of applying the decomposition strategy recursively, breaking the main problem into parts, then breaking the parts into parts, and so on to whatever depth is necessary to make the problem manageable.

  A procedural hierarchy is an extremely useful program structure and is probably equally useful in other domains as well. When one calls such a hierarchy into action, one need be concerned only with the problem of communicating with the top-level node of the organization. Once that node is called into action, it, in turn, will call all its subsidiary components.

  It is in the nature of hierarchies that their components are also hierarchies. Any given node in the hierarchy serves as a subsidiary to the node above it, but also as a top-level node for all the nodes that are subsidiary to it. The programmer, therefore, can treat any node in the hierarchy as a top-level node, and by calling it into action he gets along with it all those subordinate nodes to which it delegates tasks.

  Many of the complex psychomotor skills that people acquire probably can be thought of as hierarchies of subskills. The skilled playing of a musical instrument is perhaps a case in point. Some complex cognitive skills can probably also be appropriately thought of in this way.

- *The importance of the precise use of language.* Computers are perversely literal. They do precisely what they are told and only what they are told. The importance of precision in the specification of the procedures is a lesson that the beginning programmer learns early, and one that is reinforced every time one tries to run a program in which some necessary instruction has been stated incorrectly.

  The ability to use language precisely is essential to effective reasoning in general. Indeed, the relationship between competence in language usage and skill in reasoning is sufficiently close that it is sometimes difficult to distinguish one from the other. Several investigators of human reasoning have recently argued that some of the errors that people commonly make in solving syllogistic reasoning problems might be more appropriately considered failures of language comprehension than errors of reasoning. If, for example, one considers "A implies B" to mean "A is equivalent to B," or fails to distinguish the difference in meaning of the statements "All A are B" and "All B are A," as some people appear to do (O'Brien, 1973; Thornton, 1980; Revlis, 1975), one may produce errors on syllogism problems that are indistinguishable from those that would result from a lack of understanding of rules of inference.

- *The importance of thoroughness in procedure specification.* This point relates closely to the preceding one regarding precision in the use of language. To specify an effective procedure it is necessary but not sufficient to use language precisely. It is also necessary to specify the procedure completely. When writing a procedure, it typically is necessary to establish some initial conditions, such as to set the initial values of the procedure's parameters. It is also necessary to make sure that after the procedure has been executed any results that have been produced are made accessible to the program segment that called the procedure into action. Another aspect of completeness is that of anticipating and providing for all the conditions under which the procedure is expected to be used.

  Thoroughness, no less than precision in the use of language, is essential to effective reasoning. The ability to fill in premises that may have been omitted from an incomplete argument to make tacit assumptions explicit, and to extrapolate a sequence of assertions to its logical conclusion, is essential to the evaluation of the kinds of arguments one encounters in daily life. Incompleteness in the descriptions of procedures, which sometimes results from unwarranted assumptions about what the intended users of those descriptions already know, is a common cause of failures of communication between people. Computers are relatively unforgiving of incompleteness in the information and instructions that are fed to them. One might hope that development of the habit of thoroughness in communicating with them would generalize to other situations in which thoroughness is also required.
- *The importance of avoiding unnecessary complexity.* The complexity of a computer program resides in its organization and not in the elements of which it is composed. The basic operations that computers can perform are few and simple. What makes complex computer programs complex is the fact that they combine a very large number of elementary operations in nontrivial ways. It is very important in programming, however, to avoid complexity that is unnecessary. An example involving the use of subroutines will suffice to make the point.

  When a program is executed, control is continually transferred from one location to another. When a program is complex and has many contingent branch points, it can become extremely difficult to track that flow of control; consequently the program may become difficult to understand, especially by someone other than the individual who wrote it. Often it is possible to facilitate the understanding of a program by imposing on it a structure that is as regular and neat as possible.

  In general, for example, subroutines should be structured so that they return control to the program component from which they received it. If subroutine A calls subroutine B, B should return control to A when it has finished its task. If A calls B and B calls C, then C should return control to B when it finishes, and then B can in turn return control to A. The calling of a subroutine into action can be thought of as analogous to delegating some task to a subordinate. If X delegates a task to Y, he expects Y to see that task through to completion. If Y in turn decides to delegate some portion of it to Z, that is his business. When Z finishes his task, he gives the results of his work to Y who in turn can incorporate it with the results of other things he may have done or have delegated and send it all off to X.

  The policy of avoiding needless complexity would seem to be a generally useful one with broad applicability. In the domain of problem solving, in particular, it often is helpful to attempt to simplify a problem by stripping it of irrelevant or marginally relevant aspects and reducing it to its barest essentials before attempting to solve it. Moreover, as in the case of computer programming, complexity can sometimes be reduced through a restructuring of the problem or of the approach one takes to working on it.
- *The fact that there are many ways to represent the same procedure.* In learning to program, one learns that the same program can be represented in various ways; as a flow diagram; as a sequence of statements in a high-level or "symbolic" language such as Fortran, Lisp, Algol, or Ada; as a sequence of machine code instructions; as a sequence of binary numbers representing compiled code as it resides in the machine's memory; as a pattern of polarizations of physical memory elements. These representations, although very different from each other in important ways, all represent the same information structure.

  The notion of representing the same information in a variety of ways is also a fairly general notion and one that is applicable across a broad range of contexts. Many investigators, for example, have stressed the importance of finding an adequate representation of a problem as a critical step in solving it (deKleer, 1977; Novak, 1977; Simon & Hayes, 1976). Bruner (1967) has noted the importance of the role of representations in the learning of mathematics: "Observing children in the process of learning mathematics, I have been struck repeatedly by the economical significance of a good mode of representing things to oneself" (p. 26).

  An important aspect of learning to construct and use representations is the realization that usually a problem can be represented in a variety of ways, not all of which are equally useful. It is also important to recognize, however, that the representation one chooses for a problem will influence strongly the way in which one thinks about the problem and the approach one uses in trying to solve it. Typically some representations will be more suggestive of how to find a solution than will others. A problem-solving strategy that is often promoted as an effective one to apply when a problem proves to be particularly recalcitrant is that of

trying to find a radically different way to represent it.

- *The notion of leverage.* An important ability in many contexts is that of being able to assign priorities to tasks and to assign available resources, such as time, to the performance of these tasks in accordance with those priorities. The principle is seen in programming in a variety of ways. One example is that of deciding when it is worthwhile to spend time and effort to improve working code so as to make it run more efficiently. Greater efficiency is usually gained by decreasing the number of instructions that must be executed by a program component. In general, the value of decreasing the number of instructions in a segment of code depends on how frequently that segment of code is executed when the program is run. Shortening, even by a little bit, a low-level subroutine that is called into action frequently by higher level program components can produce a noticeable increase in the program's efficiency. Similarly, in a program with deeply nested loops, the shortening of an inner loop that may be executed many times for every execution of the loop within which it is embedded will improve efficiency by a much greater amount than the similar shortening of an outer loop. In programming there are many such examples of opportunities to get leverage by focusing effort on certain parts of a problem or process rather than on other parts. The principle that is represented by such focusing is a very general one and has applicability in any situation in which limited resources must be spread over a complex task.
- *The idea of indirect reference.* In many types of programming it is advantageous to make use of various types of "pointers," which may be thought of as addresses of addresses or, in some cases, names of names. Such pointers to information are used in a variety of ways, but one example will suffice to make the case. Consider the situation in which one has several instructions in a program each of which refers to the same memory location. Suppose that for some reason the location to which each of these instructions refers must be changed from time to time. One might change the address part of each of the instructions involved every time the change is required. Alternatively, one might store the address that must be frequently changed in a "pointer" cell, and then, instead of referring directly to the address in the body of the program, one might refer to it indirectly through the contents of the pointer cell. In other words, rather than having several instructions, each of which makes reference to memory address X, all of these instructions make reference to the memory cell whose address is stored at Y (the pointer). Then if one wishes to have the program refer to memory cell Z instead of X, rather than changing all the references to X in the body of the program one need only change the contents of the single pointer cell, making it now point to Z instead of X. There are many other examples that could be given of how the use of pointers and indirect addressing can be advantageous in programming. For present purposes the point is that the use of this device involves a higher level of abstraction than does direct addressing. The question of interest is whether in learning to use such devices one's ability to engage in abstract thinking in general is to any degree enhanced.
- *The difference between syntactic and conceptual errors.* A syntactic error in programming is a violation of one of the rules that define the grammar of the programming language. It is an example of what might be referred to as a surface-structure error or an error of form. Detection of such errors (and sometimes correction of them) does not require an understanding of what the program is intended to do. In contrast, a conceptual error is an error in specification of the instructions that are to be executed by the program. Such errors might be referred to as deep-structure errors or errors of content. Such errors typically cannot be detected or corrected except by someone who understands what the program and its various components are intended to do.

  This distinction is analogous in some respects to the distinction between editing a manuscript for errors of spelling, grammar, and punctuation versus reading it critically for the purpose of judging the quality of its content. The latter type of activity requires a knowledge of the subject matter and the writer's intentions whereas the former does not.

  The distinction between form and content is a fairly general one that arises in numerous contexts. In reasoning, for example, one distinguishes between the question of the validity of an argument, which has to do with form, and the empirical truth or falsity of the assertions that comprise the argument, which has to do with content. The form of a poem is different from its substance; the form of a coded message is different from the information that message conveys; and so on.

- *The difference between functionality and elegance.* The sine qua non of an adequate computer program is that it do what it is intended to do. Functionality is not the only property of programs, however, with which programmers are concerned. Elegance and cleverness in the coding are characteristics to which some importance is attached. Great effort is sometimes put into the elimination of a few unnecessary instructions, and in general there is an interest in making programs as short and fast as possible.

  In this regard too programs are perhaps typical of many products of human endeavor. The distinction between a product's utility and its aesthetic appeal is often a meaningful one. Moreover frequently it is not possible to maximize both either because there is not the time to do so, or because the two objectives may conflict with each other to some degree. When this is the case, one must decide what kind of a trade between functionality and elegance one is willing to make.

To the extent that computer programming is prototypical of many cognitively demanding tasks, we should not be surprised if research revealed that it could serve as a vehicle for teaching a variety of generally-useful cognitive skills. Although evidence on the issue is sparse nearly to the point of nonexistence, it seems reasonable to entertain the hypothesis that such things as those on the above list could be taught effectively via the teaching of computer programming. Moreover, this list of things that might be learned via the learning of programming could easily be extended.

Whether such things might be taught even more effectively in other ways is also a question for research. The attractiveness of programming as a means of teaching generally useful thinking skills stems in part from some of the same considerations that make computer-assisted instruction an attractive approach to education and training in general, such as the fact that one receives immediate feedback regarding the effects of one's programming efforts, and the apparent motivational advantages of working with computers.

Another reason for exploring the question of whether programming could be a useful vehicle for acquiring thinking skills is the fact that more and more young people are learning to program either because of school requirements, job requirements, or just for the fun of it. Moreover, on the assumption that computers will become increasingly pervasive and that the ways in which they effect our lives directly and indirectly will continue to multiply, one might make an argument that "computer literacy" will become as important as the ability to read has become since the advent of universal free education. All of us will be users directly or indirectly of these machines. A basic understanding of how they work and of what they can and cannot be expected to do will be essential to an intellectually adequate view of life and society in a computerized world. Thus there are many reasons why people are learning to program and why even more people will do so in the future. It would be fortunate indeed if in the process of learning to program one also could improve one's ability to think.

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A Note on the Legal Liberties of Children as Distinguished from Adults

by Mary Vetterling-Braggin, Ph.D.

I. Introduction

Although the types of legal rights that there are are many and varied, the children's rights debate in the psychological arena is mostly confined to discussions about legal claim rights and liberties.

As defined by Hohfeld, one individual (the right holder) has a legal claim against another (the duty holder) for an act or forebearance if and only if "should the claim be in force or exercised, it would be legal, other things being equal, to use coercive measures to extract either the specific performance, or compensation in lieu of it."[1] There are two sorts of claim rights, positive ones and negative ones. When a right holder has a positive claim right against a duty holder, he or she has the right to demand a specific doing of the duty holder. When the right holder has a negative claim right against a duty holder, he or she has the right to demand a specific not-doing of the duty holder. Examples of positive claim rights include the right to rehabilitation for crimes and the rights to be provided with minimum subsistence level housing, food, education, medical care and proper moral environment. Examples of negative claim rights include the rights not to be abused and to privacy.

Legal liberty rights are to be distinguished from legal claim rights in that what they entail is the "absence of duties in the ones who have the liberties, and so the absence of correlative claim rights in others."[2] Examples of legal liberties include the right to select one's own religion, sexuality, education, reading material, food, manner of dress, where to go and when to go there, when and where to work and to treatment to counselling for specific health problems.

Because the most heated debate on the question of whether adults should be distinguished from children with respect to right-granting centers on the more controversial of the two types of rights, legal liberties, the discussion here will be confined to them.

II. Liberationism, Strong Paternalism and Soft Paternalism

Children, as everyone knows, currently enjoy fewer legal liberties than do adults and they are under a greater degree of restriction than are adults with respect to those legal liberties that they and adults have in common. The question has arisen as to whether this state of affairs is just; whether, that is, there are justified moral grounds for treating children differently from adults with respect to legal liberty rights. A complete answer to this question should tell us at least two things, namely (1) how adults ought to be treated with respect to liberty rights to begin with (and why), and (2) whether children ought to be treated in the same way or in a different way (and why).

There is one standard liberationist answer. It is that adults ought to maintain those liberty rights we already have and that children ought to be "liberated" by getting them too.[3] There are two, quite different, standard paternalist answers. One (call it "strong paternalism") says that adults ought to maintain those liberty rights we already have but that children ought to be denied them or at least severely restricted with respect to them.[4] The other (call it "soft paternalism") says that adults ought to have even greater liberties than we now have, although children ought still be denied these greater liberties or at least severely restricted with respect to them.[5] Unfortunately, no one argues for an intriguing fourth view that adults ought to be restricted, but children liberated, with respect to any current legal liberty rights, or for other variations on the theme such as that both adults and children deserve liberation from (restrictions on) current legal liberties.

The global advantages and disadvantages of each of the positions that are defended, however, point the way to a new direction for the metaethics of children's liberty rights theory in general.

III. Advantages and Disadvantages

As was mentioned earlier, the standard liberationist thesis is that it is time for all the legal rights now enjoyed by adults in our society to be extended to children as well. The core argument for the view runs something like this:

1. All people ought to be treated alike unless there is a justification for differences in treatment.
2. There is no justification for treating children differently from adults with respect to the granting of liberty rights adults are now granted but which children are not.

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3. Children ought to be granted the same rights adults are now granted but which juveniles are not.

The main difficulty with the liberationist argument is that premises (1) and (2) do not, strictly speaking, entail the thesis or conclusion (3) which amounts to the claim that children ought to be

granted current adult liberty rights. What they do entail is the demand that children and adults ought to be treated *equally* with respect to the granting of those liberty rights adults currently have that children do not. The equal rights demand could, of course mean that children ought to be granted the same rights adults now have that children do not. But it could also mean that adults ought to be relieved of liberty rights we currently have that children do not; or it could mean that children ought to be granted some of these rights and adults relieved of others; or it could mean that some adults should maintain these rights, others lose them and some children gain them. In order actually to derive the liberationist thesis from premisses (1) and (2), in short, substantial further argumentation against all the alternatives other than the one the liberationist desires would have to be provided. In their quest to liberate children, liberationists tend to overlook the question as to whether adults couldn't use a little too; if, as convincingly argued by some,[6] justice requires even just a modicum of adult liberation, the implicit liberationist committment to current adult liberty law in premise (2) renders senseless the claim that children ought also be subjected to that law.

Although both the liberationist and the paternalist assent to premise (1) above, the key difference between them lies in the latter's denial of premise (2) above. The standard paternalist argument has the following form:

1′ All people ought to be treated alike unless there is a justification for differences in treatment.

2′ Adults ought to have liberty rights X, Y, Z, etc. (Examples of particular liberty rights are provided.)

3′ There is a justification for treating children differently from adults with respect to liberty rights X, Y, Z, etc.

4′ Adults ought to have liberty rights X,Y,Z etc. but children ought to be denied X,Y,Z etc.

Strong paternalism differs from soft only in which particular liberty rights X,Y,Z etc. it selects and in its justification for that set of choices. Strong paternalists, like liberationists, plug in current adult liberty rights for the X,Y,Z etc. terms, whereas soft paternalists want to liberate adults from many current liberty restrictions, thus ending up with a different set of plug-ins for the X,Y and Z terms.

Paternalism's key advantage over liberationism lies in the fact that it does provide a moral justification (convincing or not) for which rights adults ought to have and which we ought not; it is forced to do so in defense of premise 2′. But strong paternalism, like liberationism, must end up providing a justification for current adult rights. Not only does much of strong paternalist literature end up appealing to typical middle-class establishment conscience rather than to reasoned moral argument in the effort to accomplish this goal, it also freezes liberty law into a time frame at best suitable for this day and age, but perhaps not for future ones. Soft paternalism outright rejects this mode of so-called justification for legal theories and in so doing, places children's rights theory on a healthy new track.

The question remains, however, as to whether this new track is healthy enough. The consistent inability of any paternalist theory to defend adequately the premise (3′) to the effect that children as a class and adults as a class actually are different in any way morally relevant to the granting of legal liberties remains a thorn in the side of both soft and strong paternalist theories. No matter what property is selected, be it "having the capacity for rational choices," being of the age of consent," "being able to borrow someone else's capacity to do something," or whatever, even when adequate definitions for such terms are provided and even when the property selected is by some stretch of the imagination morally relevant to the granting of liberty rights to begin with, some children, like some adults, turn out to have that property and some children, like some adults, turn out not to. This renders moot the original class distinction between adults and children and suggests instead that persons with certain morally relevant properties ought to have certain liberty rights, those without the properties denied them, whether these persons be adults or whether they be children.

IV. Conclusion

It would seen that the combined strengths of available theories point strongly toward a new theory of liberty rights, one which accepts the paternalist demand for provision of a moral justification for particular adult liberty rights and at the same time accepts the liberationist plea to treat adults as a class no differently from children as a class. The argument for this new view would have the following general form:

1″ All people ought to be treated alike unless there is a justification for differences in treatment.

2″ Adults with morally relevant properties (A,B,C etc.) ought to have legal libeties (X,Y,Z etc.) and adults without (A,B,C etc.) ought to be denied (X,Y,Z etc.)

3″ There is no justification for treating children as a class differently from adults as a class with respect to the granting of (X,Y,Z)

4″ Children with morally relevant properties (A,B,C etc.) ought to have legal liberties (X,Y,Z etc.) and children without (A,B,C etc.) should be denied (X,Y,Z).

The key questions remain, of course, as to which particular rights and properties we are going to select and why, the controversial answers to which remain for legal philosophy to provide.

NOTES

1. Hohfeld's terminology is discussed and explained in detail by Laurence Houlgate in the latter's *The Child and the State* (Baltimore: The John Hopkins University Press, 1980), Introduction.
2. *Ibid.*
3. This viewpoint is advanced, for example, by Howard Cohen in his *Equal Rights for Children* (Totowa N.J.: Littlefield, Adams and Co., 1980), John Holt in *Freedom and Beyond* (New York: E.P. Dutton, 1972), and Richard Farson in *Birthrights* (New York: MacMillan, 1974).
4. This viewpoint is defended by Houlgate, *op. cit.*
5. A good example here would be Graham Hughes' *The Conscience of the Courts* (New York: New York University Press, 1978).
6. See, for example, Hughes, *op. cit.*

The Case Against the "Thinking Machine"

By Paul Froiland

Alice had not been in Wonderland long when she heard some piping little voices that seemed to rise from a small clearing in the wood, just beyond a large pine tree that stood a little in front of her.

She pulled back a branch to command a better look, and saw an entire pack of cards displayed on the green, with the King and Queen of Hearts seated on their throne opposite her, and in between her and them an entire courtroom assembled—and a very queer courtroom it was, most of the jury being animals and birds, with a lizard here and there for good measure.

Beside the King stood a White Rabbit, bearing a rolled-up parchment in one hand, and a trumpet in the other, and before the King stood the Knave of Hearts. In the middle of the courtroom there was a very curious machine, that looked like nothing Alice had seen ever before, and Alice thought, "I wonder what that machine may be."

Alice decided she would push the tree branch aside and come quietly into the back of the courtroom, but when she began to do so, the branch pushed back, and Alice found herself tumbling head over heels through the air, finally landing in the left side of the spectators' section, directly on top of the Dormouse, who had been peacefully asleep.

The Dormouse, who had not cared much for Alice before, cared for her even less after this.

"Why don't you watch where you're flying," he asked irritably, "and why don't you cry out when you're about to land, so that those you are about to land upon will have notice?"

"I am very sorry," said Alice in a meek voice. "I truly am."

"She truly is," said the March Hare, sitting on the other side of the Dormouse, but by then the Dormouse had fallen asleep again.

The King had by now put a great powdered wig upon his head, and his crown again on top of that, and in this condition he appeared quite foolish-looking to Alice. The twelve jurors were all writing away on twelve slates, even though the trial had yet to begin.

"I wonder what they can be writing?" she asked in a low voice, and, looking over their shoulders (for she again had grown quite tall, even since she had sat down), she saw that they all had written, "I wonder what they can be writing?"

"How silly!" she exclaimed loudly, and she saw them all scratch "How silly!" onto their slates.

Before she could speak another word, the White Rabbit shouted, "Silence in the Court!" and the King put his spectacles on and looked round the room.

"Read the complaint," the King said.

The White Rabbit blew three times on his trumpet, unrolled the parchment, and read these verses:

The Knave of Hearts, he took some parts,
All on a summer day,
And fashioned him a great machine
For thinking thoughts away.
So clever this machine, said he,
Its words and numbers link;
I dare a soul to prove to me
That this thing cannot think.

"This is very plain," said the King, and he rapped a small hammer on the arm of his throne (as he had no table to rap it on). "Guilty! Of making a machine that thinks!"

The White Rabbit hastily interrupted. "No, your Majesty. If it thinks, he has proved his point. And besides, there is a great deal to be heard before this decision."

"Very well," said the King. "Call the first witness."

The White Rabbit again blew three times on his trumpet, and shouted, "First witness!"

The first witness was the Knave himself. Before he was seated the Mad Hatter ran up to him with a teacup in one hand and a piece of bread-and-butter in the other.

The Hatter raised his right hand, the one with the bread-and-butter, and said to the Knave, "Raise your left hand."

"Right," said the Knave, raising his right hand.

"Exactly," said the Hatter, looking from one hand to the other, and raising his left hand instead, the one with the teacup. "Do you swear to tell part of the truth, all of the truth, some of the truth, or most of the truth, or may God strike you dead with thunder?"

"Yes. With lightning," the Knave replied.

The Hatter turned to the King. "You may examine him, your Majesty, and he will answer you just like *that*!" he said, snapping his fingers and sending his bread-and-butter sailing across the courtroom toward the jury box, where one of the jurors, a duck named Fred, swallowed it in three bites.

The Hatter rushed back to his seat, in the row in front of Alice, miraculously produced another bread-and-butter from his coat pocket, and began to have tea all by himself.

The King then started to ask questions of the Knave very rapidly.

"What is your suit?" he asked

"Hearts," said the Knave.

"Do you belong to any clubs?" asked the King.

"Yes," said the Knave.

"Do you ever dig in the garden with spades?" asked the King.

"Sometimes," the Knave replied.

"Have you ever bought a diamond?" the King asked.

"No," said the Knave. "I haven't the money."

"Answers of one word will do," the King said, in an admonishing tone.

At this point the White Rabbit turned to the King and said in a low voice, "You needn't ask him so much about cards. Ask him about the machine."

The King turned back to the Knave. "From now on," he said, "don't answer so many questions about cards. Answer more about the machine."

"Yes, your Majesty," the Knave replied.

Yes will do!" the King said sharply.

"Yes. Will do," the Knave said.

"Just *yes*," the King thundered.

"Just yes," the Knave said.

"YES!" screamed the King.

"YES!" shouted the Knave.

"Very well," the King said, becoming calm again. "Can this machine think for itself?"

"Yes," replied the Knave.

"What constitutes thinking?" the King asked.

"Thoughts," the Knave said.

"So thoughts alone constitute thinking?"

"Yes," the Knave replied.

"Does not intelligence have more qualities than merely thought?" the King asked.

The Knave shrugged, and said nothing.

"Answer in one word!" the King demanded.

"Don't," said the Knave.

"Don't what?" asked the King.

"Know," said the Knave.

The White Rabbit turned at this point to the King and said in a low voice, "It seems that sometimes he needs more than one word to be able to answer."

The King peered at the Knave suspiciously for a little while, and then opened a note-book and began reading in it. "Rule number 31," he said. *"If any witness cannot answer in one word, he shall answer in a sentence."*

"Thank you," said the Knave.

"So more fully: What constitutes intelligence?" the King asked.

"The quality and quantity of a person's or thing's thoughts," the Knave said. "An intelligent being would have more thoughts, better thoughts, and different thoughts than a less intelligent being."

"More . . . better . . . different," the King repeated slowly. "I can see how you could determine the quantity of a person's thoughts, but how would you determine the quality?"

"By seeing if the thoughts address the way things really are," the Knave said.

"Who determines the way things really are?" the King asked.

The things themselves," the Knave replied. "Sooner or later it becomes evident what the truth is about the way things really are."

"What about the way things may be?" asked the King.

"That is thought guessing about the future," the Knave replied.

"Does thought have no *effect* on the future?" the King asked.

"It does not *determine* the future," the Knave said. "The past determines the future, and thought speculates on the way it will turn out."

"Can I not decide to do something tomorrow that I have never done before, and then do it just out of my having said it?" the King asked.

"You can think that or decide that," the Knave replied, "but your doing it will be out of something that has happened to you in the past; in fact, it may be that you will do something you've never done before out of not having ever done it before. So your fate is sealed in any case."

"Your fate may be sealed in another moment or two," the King said, staring down at the Knave.

"It already is," the Knave said. "No matter what you decide, it is already decided for you."

"You irritate me greatly," the King said.

The Knave threw up his hands. "Of course; it was determined that it would happen this way."

"Don't you think," said the King, "that you are reducing intelligence and thinking to just a little less than they really are?"

"On the contary," the Knave replied. "They are so frequently overrated. What I have told you is what they really are."

"And your machine can perform all these functions of thinking?" the King asked.

"Yes," the Knave said, "and perform them better, faster, and in greater numbers than any person can."

The King stared at the Knave again for a long time, wearing a look of great puzzlement. Finally he put an elbow on the arm of his chair, and with a wickedly clever expression said this: "All right. Can the machine tell me what it is like to be sitting in front of a cherry tart that one is about to eat?"

"The machine could tell you exactly," the Knave replied with a sniff. "It would diagram your position in the chair and the cherry tart's position on the table. It would tell you how many inches away you are sitting from the tart. It would tell you the distance you and the tart are from the Equator. It would calculate the angle of the tart in relation to your lips—"

"That's not it at all!" growled the King. "Try this: What is it like to eat a cherry tart? What would the machine say to this?"

"Why, that's simpler yet than the first," the Knave said. "The machine would say that you first cut off a bit with your fork, then you lift it into your mouth, you close your mouth on the fork, and then pull the tines out through your closed lips. Then you keep your lips closed while you bring your teeth together over and over until the piece of cherry tart is completely crushed into small particles—"

"That's even worse than the first one!" the King growled again. "I shall give you one last question: What is the closest experience one could have to eating a cherry tart?"

The Knave folded his arms across his chest. "That's the easiest one of all," he said. "The machine would say that the closest experience one could have to eating a cherry tart would be to eat a lemon tart."

"A *lemon* tart?" the King roared. "Why, that is utter foolishness! The machine's answers are completely wrong. The real answers are these: What it is like to be sitting in front of a cherry tart that one is about to eat is that it is exactly like the first day of spring. What it is like to eat a cherry tart is that it is like being in heaven. And the closest experience one could have to eating a cherry tart would be for one to fall in love. Those are the correct answers."

"That is balderdash!" the Knave replied. "You are just sore because the machine is telling you the truth, and the truth hurts."

The King leaned over and looked directly into the Knave's face.

"Don't forget: I am still the King, and you are but a ruddy Knave, and you're on trial besides."

The Queen suddenly spoke up: "*I* say, off with his head!"

The King turned to her, "But, my dear, we have not yet completely determined whether his head is more valuable to him than the machine."

"Then we'll find out! Off with it,

then!" the Queen shouted. "Off with his—"

She was interrupted by a trumpet blast from the White Rabbit.

"The jury has established its verdict," he announced.

Alice could not tell whether the jury had established *anything,* as the jurors had paid less and less attention during the course of the examination, to the point that two of them were now soundly sleeping in the back row of the jury box, with their noses in the air, two others had left off taking notes, and were using their slates to play tick-tack-toe, several others had sent out for cherry tarts, and the rest were making unusual faces at the spectators, trying to get them to laugh. The head juror was a mole with very thick spectacles, but even with these he had difficulty seeing well, and, as he stood to read the verdict, he turned round with his back to the courtroom and began reading to the back row of jurors.

"The jury—" he began, only to be interrupted by the King.

"Turn around," the King said.

The mole put his slate down and carefully turned around in a circle, so that he ended up with his back to the courtroom again.

"The jury—" he began.

"Turn *half-way* around," the King said.

This time the mole faced the courtroom properly. "The jury are stumped," the mole said.

"The jury *is* stumped," the King corrected.

"The jury is *hung,*" the White Rabbit said.

"The jury is *hanged,*" the King returned.

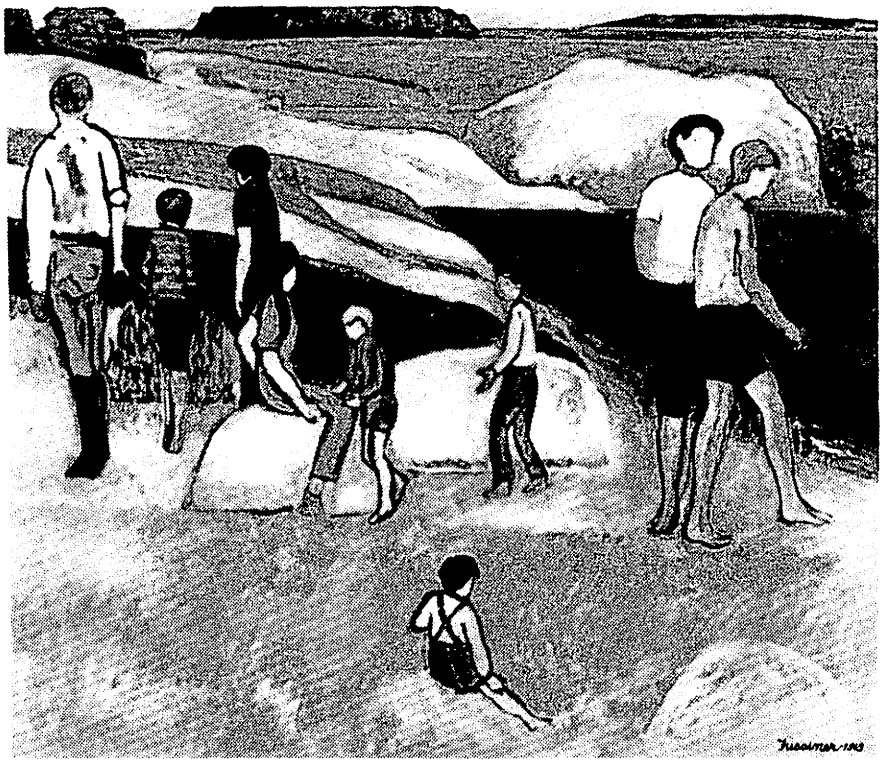
"Hang the jury!" the Queen shouted. "Off with their heads!"

At this there was a great scrambling in the jury box, and all the jurors rushed out the door, remembering sudden engagements they had made.

"Bailiff!" roared the King. "Collect the jury again!"

The Hatter stood up quickly. "But your Majesty, it's only just tea-time, and, besides, they are no help at all, why—"

The Queen pointed her finger at the Hatter. "Off with his—" she began, but the Hatter was quite out the door before she had finished.



Alice looked out the window and saw the Hatter chasing after the jurors. He would run for a short spell, then stop to have a sip of tea and a bite of bread-and-butter, then he would run again, waving his bread-and-butter at a squirrel, or preventing the escape of a rooster by holding his teacup at arm's-length.

The March Hare leaned over and whispered in Alice's ear, "He's quite mad, you know."

"I should think he is," Alice said.

As she watched the Hatter, she noticed that, no matter how many times he took a bite out of his bread-and-butter, it always looked as though it had only one bite taken out of it, and no matter how many times he sipped at his tea, the cup seemed always to stay full.

"This is a queer sort of world indeed," Alice thought to herself.

She looked out the window again, but the jurors and the Hatter had disappeared, much to her amazement, and, when she turned to ask the March Hare what had happened, he, too, had disappeared, and the Hatter was in his place, calmly taking tea. When she looked to the front of the courtroom, Alice could see the jurors back in the jury box, furiously scratching onto their slates all that had just happened.

Before she could say a word, the White Rabbit had blown his trumpet and was unrolling his parchment.

"Next witness: Alice," he said.

"What?" Alice cried, leaping to her feet. "Oh—I mean, *here,*" she said, "and I beg your pardon."

Alice walked to the front of the courtroom (at this point she had shrunk to the size of a hen, and she fit quite well in the room). By the time she was in place the Hatter was standing in front of her.

The Hatter raised his right hand, the one with the bread-and-butter, and looked from Alice's right hand to her left and back to her right again. This time he took no chances.

"Raise this hand," the Hatter said, pointing to her right hand.

Alice raised her right hand.

"Do you swear to tell part of the truth, all of the truth, some of the truth, or most of the truth?" the Hatter asked.

"I swear to tell the truth, the whole truth, and nothing *but* the truth," Alice said. "So help me God."

The King turned to the jury and said, "Why, that's a *much* better oath. Write that down."

Alice could see the jurors writing away on their slates: "A *much* better oath. Write that down."

"You must answer in one word or

two," the King said.

"I shan't!" Alice said angrily.

"You just did," the King said.

"Well, I shan't ever again," Alice said.

"Do you know where you are?" the King thundered.

"It seems to me," Alice said (and she was amazed at her boldness), "that this is a court of justice, and I shan't answer in one or two words because it's not just."

"It's not just?" asked the King.

"It's just not," Alice said.

"Well, which one is it?" asked the King.

"Both," Alice said. "Or neither. I shall answer in sentences because that is the way proper people speak."

The King looked at her for a moment, and then said, "Very well. You are a most contrary and headstrong child. The first question is this: What is intelligence?"

"Why, it's a very long word," Alice said.

"It means the same as thinking," the King said. "So the first question is, what is thinking?"

"Thinking is having thoughts," Alice replied.

"Could you put these thoughts down on paper?" the King asked.

"Why, of course you could," Alice said.

"Once you put the thoughts on paper, does the paper start thinking them?" the King asked.

"Don't be silly," Alice said. "Paper can't think. What a foolish idea!" And she began to laugh.

The White Rabbit broke in. "The witness will kindly not laugh during her testimony!"

"Oh, I beg your pardon," Alice said. "I *shall* attend better. Truly I shall."

The King paused a moment. "Let us pretend," he said, "that we have a machine. Now this machine is very wonderful because you can tell it a thought, and go away for a fortnight and come back and ask it what the thought was, and it will tell you. Now, can the machine think?"

"I should like to *see* this machine," said Alice.

"We are pretending," said the King. "Now, can the machine think?"

"If we are pretending, I believe the machine *remembers,*" Alice said. "But this remembering is quite different from thinking. This remembering is only saying again someone *else's* thoughts."

"Very good," said the King. "Now pretend that this machine is so very wonderful that you can tell it every thought you have, and it will remember them. It will not only remember them, but it will remember that it remembers them, so that if you tell the machine one day, 'I take my kitty for a walk nearly every day,' and 'My kitty hates to get wet,' and, if you then tell the machine another day, 'It is thunderstorming outside,' the machine will tell you, 'You won't take your kitty for a walk today.' Now, did the machine think?"

Alice looked at the King for the longest while, until the White Rabbit had begun to stand on tiptoes, waiting to hear her answer, and until the jurors had all left off scratching on their slates and were leaning toward her, and until the Queen had begun to look quite cross indeed.

"Yes," Alice said. "The machine did think. That is a machine that thinks. But I should *still* like to *see* such a machine, a real one, not a pretend one, for a pretend machine can do anything you wish."

"There is the machine," the King said, pointing to the Knave of Hearts' machine, which stood in front of the throne.

"That is the machine that thinks?" Alice asked. "What a wonderful machine that is. And this machine was made by the Knave of Hearts?"

The Knave, standing beside his machine, bowed and tried to click his heels, but, being made of cardboard, they made almost no sound at all.

"May it please your Majesty," said the Knave, "if I may explain to the witness more fully how wonderful this machine is?"

"Yes, you may," the King said.

The Knave turned to Alice and started walking back and forth in front of the machine as he talked, sometimes tapping it with his hand as he went by.

"This machine can truly think," he began, "and it can think so many thoughts that there is not a thought that you can think that this machine cannot also think. Not only that, but it can usually think its thoughts much faster than you can think yours."

Alice thought a thought about that, and the thought she thought was the thought that the machine could have thought the same thought that she just thought faster than she thought it. She thought she rather liked the machine less well because of that.

"So this machine," the Knave continued, "has as much of a mind as you do. In fact, if you were not here, and you had told the machine all that you knew, we could operate quite as well in your absence, because who you were would be represented in the machine."

"No!" Alice shouted, leaping suddenly to her feet. "There is more to who I am than you can put in your machine. Can you make your machine laugh or cry?"

The Knave chuckled. "A good point. A good point," he said. "No, the machine cannot feel; you are right there. The machine has no feelings, and shall not have any. After all, what is most truly you? Your thoughts or your feelings?"

"Right now," said Alice, growing angrier and angrier, "it is my feelings."

"Of course, of course," said the Knave, and he walked back and forth in front of his machine, stopping once to pat it as he went past, and smiling very assuredly all the while. "Of course, there are times when feelings are *everything*. But suppose you were to take a trip to the moon—this is mere fancy, you understand—and you wanted to leave something of yourself behind so that people wouldn't forget you while you were gone. Would you leave behind a thought, or a feeling?"

"I should leave behind joy, happiness, and love," Alice said, "and those are all feelings."

"And how would you express these feelings to people?" the Knave asked.

"I should say, 'Good people, I leave to you joy, happiness, and love till I return,' " Alice said.

"That's a thought," the Knave said.

"But those are feelings!" Alice protested.

"Yes, but it's a thought about feelings," the Knave said. "Every time you open your mouth, you express a thought. And since everything you say can be put into this machine, we can say that this machine an tell us exactly who you are. There is no essence or being

you have that this machine cannot capture."

"No! No! No!" Alice cried. "There is more to me than that. There is a way that I am that that machine can never know."

"Describe it," the Knave said.

Alice thought a moment, and then said, "I can't tell you *what* it is, just that it *is*."

"If you can't describe it," said the Knave, "how do we know it even exists?"

"Because I am here. Because I *am*," Alice said, growing more and more fretful. "What does your machine say to that?"

"We shall see," said the Knave, and he wrote down "Alice is" on a sheet of paper, and placed it in a small opening in the side of the machine. The machine made a frightful whirring sound, like twenty or so bats caught in a small chimney. Then another piece of paper miraculously popped out of another opening on the other side of the machine.

The Knave snatched the piece of paper up, and read, "Alice is: need predicate nominative or predicate adjective to complete."

"Try this: 'Being is,' " the King said.

The Knave repeated the process, and, when the piece of paper popped out, he read, "Being is: need predicate nominative or predicate adjective to complete."

"Try 'What is being?' " the King said.

The Knave tried the procedure yet again, and this time the piece of paper read, "Being: absolute existence in its perfect and unqualified state; the essence of existence."

"But this is not *being* being," said the King. "This is another *thought* about being."

The Knave turned at last to the King. "I suspect, your Majest, that all there *is* is thought, that the whole realm of existence is expressed in thought."

"And *I* suspect," replied the King, "that you are partly right, that the whole realm of existence *is* expressed in thought, and that the machine has mastered every fact of the realm. But I suspect even *more* strongly that *being* is the realm *itself,* so that thought, even though it is capable of expressing everything *within* the realm, cannot express the realm itself. The realm itself must be expressed in a higher system, or else it cannot be expressed at all. There is a way that Alice is that the machine can never capture. And there is a way to be in the presence of a cherry tart that the machine will never understand.

"So I conclude," the King concluded, "that your machine can perform many of the thinking functions of humans, but there are many other thinking functions that humans have that the machine has no idea of. Further, the machine cannot, by its maker's own admission, perform feeling functions. And so, since human beings are made up of thoughts and feelings and indescribable ways of being, we cannot say that the machine has captured their essence. What the machine can do, and do remarkably well, is to improve on some of the thinking functions of humans.

"And so," the King continued, looking at the Knave, "I forbid you to say that this machine thinks, in the human sense of the word, because thinking is a function of being, and it is done in a state of beingness, which is uncapturable and irreducible purely to function."

"Just as I thought all along," said the Queen. "Off with his head!"

The courtroom suddenly took on the appearance of a great carnival, as the jurors all threw their slates into the air and cried "Hurrah!" The Hatter was put into such a state of excitement that he began wearing his teacup on his head and drinking tea from his hat. The spectators stood up and cheered for the jury. The jury stood up and cheered for the spectators. The Queen ordered the Knave out into the yard to be beheaded, and the King pardoned him before he could leave. The Knave made a present of his machine to the King, and the King accepted it, and knighted the Knave Sir Jack.

The cherry tarts were brought, and everyone experienced them in a way no machine could understand: To some, they were like a kiss from an angel; to others, they were like the time their mother slapped their hand for taking too many sweets. To each they were something different, and no one could say just exactly what eating them was like, but the general opinion toward them seemed to be quite favorable.

And Alice, escaping finally into the wood, looked back on the scene and said, "What a great lot of folderol that was. I scarcely understood a word of it!" And she was very happy that she was but a little child, and could just *do* things and did not have to think about them so much.

This article is reprinted, with permission from The Monist, 39, *1929, pp. 350-56. Since philosophy for children is so intimately bound up with the questioning process, the problem of what a question is cannot help being of importance for anyone wishing to improve children's skill in formulating their queries. The contention of the author of this article, that "questions are variables whose values are answers," is undoubtedly controversial, but its very provocativeness may be helpful in focusing the discussion.*

What is a Question?

By Felix S. Cohen

"What is a question?" is a question which seems to have been almost totally ignored by logicians. The problem is, however, about as important for rational thought as the more common inquiry into the nature of propositions, assertions, or judgments. And if the former inquiry does, in its claim to significance, presuppose a solution, so too does the answer to the latter. That is to say, in order to answer the former question we must assume that it is a question, just as we must assume that any real definition of a proposition is a proposition.

In neither case, however, does this consideration involve a vicious regress. And if our question can be answered, the ultimate value of such a solution to philosophy must be considerable. For it is obvious that many apparent questions lack significance, that for want of recognizable criteria of interrogatory significance much philosophical discussion consists of a useless attempt to answer meaningless questions, that a good deal of superficial and unjustified support is given to the skeptical or inquiring attitude as opposed to the dogmatic because of a failure to realize the intellectual responsibilities determined by the logical presuppositions of significant questions, and that a cloud is thrown across many philosophical problems by a failure to analyze the general relation of a question to an answer.

I

A question is not, as some logicians imply by their treatment or lack of treatment, simply a psychological provocation, on a par with pin-pricks and miracles, to the formation of assertions. If it is true that questions are valuable because they lead to judgments, it may also be true that judgments are valuable because they lead to inquiries. Perhaps it is an undue pre-occupation with rats in mazes which leads some of us to assume that thought is valuable only as a method of getting out of difficulties, a "means of converting the dubious into the assured, and the incomplete into the determinate."[1] In our intellectual mazes there is wonder and adventure more thrilling, frequently, than the cheese which lies outside the cage. Those who have formulated the world's problems have more often deserved the name "philosopher" than those who have settled them. There is thus a certain superficiality in the ethics which regards thinking as wholly pragmatic and concludes that the question is the beginning of thought, important only as an instrument for attaining the end of thought, the judgment. Some such valuation seems to be at the basis of the logician's exclusive concern with propositions and his indifference to questions.

But we trespass upon the domains of psychology and ethics. Whatever the reason for its neglect, and whatever the value of its cultivation, there is, in the analysis of the question, a virgin field for logical exploration.

The question has usually been described as a request for information. But while it is true that we generally ask questions in order to get information, it is also true that certain questions (e.g. rhetorical questions) are presented with no intention of receiving answers. Other questions (e.g. "What is the largest number?") have no answers. And, finally, the idea that a question is a request for information does not in the least explain the nature of questions. If I ask who discovered America, I am none the wiser as to what I have done when told that I have requested information. What information? Why, of course, information as to *who discovered America.* In short, our desire to receive an answer when we ask a question is, like our desire to be believed when we assert a proposition, neither universally present nor in any way constitutive of the meaning or content of what we ask or assert. What is it, we must go on to inquire, that we want believed? What is it that we want answered?

On another common view, a question is simply an ambiguous assertion. But clearly, Spencer's definition of evolution, however ambiguous, is not a question. If an ambiguous assertion is a sentence which has more than one meaning, then a question is not such an assertion. For many questions have only one meaning, and, on the other hand, many sentences that have several meanings are not interrogative. If by 'ambiguous assertion" is meant some kind of proposition, then no such assertion can be a question, since every proposition is either true or false and no question is true or false.

Finally, a question, like a proposition, is not simply a psychic event or a physical object,—it is a logical entity,. Marks on paper, sounds in the air, activities of brains, and incidents in psychical history cannot be true or false or have true or false answers. They are objects or events to be evaluated in terms not of logic but of ethics. It is only with the meaning of these signs, the content of these thoughts, that logic is concerned. Unfortunately we have not two words to denote these different entities. Logicians distinguish between a statement (or judgment or declarative sentence) and a proposition (or assertion). The one is a human act or a symbol; the other, a logical entity, a meaning. But the word *question* is used indiscriminately to refer on the one hand to the act of questioning or the verbal symbol, and on the other hand to the content of the thought, the meaning that is entrusted to and communicated by a conventional language sign. From the confusion of these two entities no adequate consideration of our problem can emerge. We shall therefore use the word *question* to denote exclusively the logical entity, and refer to the act or symbol embodying this as an interrogation or interrogative sentence. It is with the former entity alone that we are directly concerned. And with these qualifications we return to our original problem, "What is a question?"

II

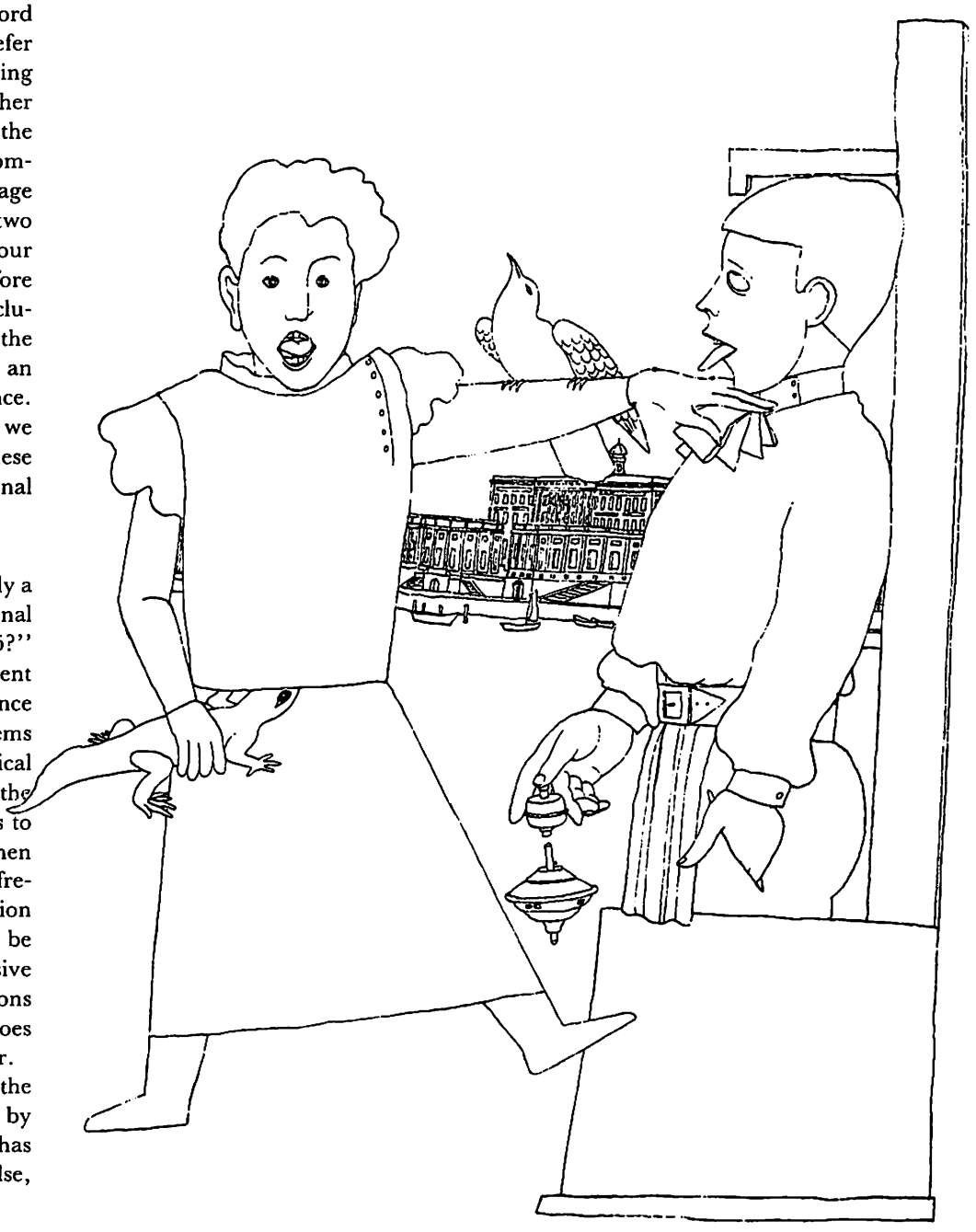
A question, it is submitted, is simply a propositional function (or propositional form). "What is the sum of 3 and 5?" seems to be identical in logical content with "x = 3 + 5." Whatever difference appears between the two phrases seems to reside merely in the psychological connotations commonly adhering to the different styles of expression. That is to say, we generally want an answer when we ask a question, although we frequently put a propositional function without any demand that its values be supplied. But this matter of compulsive flavor, in which our two expressions may find a shadowy distinction, does not go to the logical content of either.

As a logical entity the question is the clear embodiment of the characters by which the propositional function has been defined. It is neither true nor false, while its values (answers) are true or false. It is of the form of the proposition, yet differing from the latter by the substitution of a variable for some constant. *Who, which, what, when, where, why,* etc. are the variables of every-day speech.

As in mathematical logic, these variables have a dual use. As "real variables" they appear in the role of interrogative pronouns or adjectives. As "apparent variables" they are termed relative pronouns or adjectives.[2] So we may go through the uses of the propositional function as an independent and as a dependent entity, and find exact, though frequently cumbersome, translations in the questions of common speech.

On this analysis, an answer to a question must be simply a proposition which is a value of the given propositional function (or, by ellipsis, a constant term which is a value of the variable in this function,—the difference between these two views is unimportant for our present inquiry).[3] A true answer is simply a value that is true. We shall defer further consideration of the relation of questions and answers to another section.

There are some questions, finally, that do not possess in so obvious a form as those thus far considered the character of the propositional function.



Such in general are the questions that contain no interrogative pronoun or adjective (e.g., "Is Caesar dead?", "Caesar is dead?"). In what way, we may ask, does the logical entity denoted by these sentences differ from that which is denoted by the related affirmation "Caesar is dead." Again we must dismiss from consideration such psychological data as our desire for information in the former case and our belief in the latter. Considering simply the content of our thoughts, we find, I think, that in the former case there is no assertion, but simply the ascription to a specified (but unasserted) proposition of an undetermined truth-value. Whereas in the questions previously considered, a specified term was the variable and was denoted by a special interrogative word, now the variable is the truth-value, or validity, of a proposition. There is obviously no logical reason why there should not be an English word representing the variable whose values are *is* and *is not*. Were that the case, we should represent our question as "Caesar blankety-blank dead?" But this fortunate grammatical omission in the English language should not obscure the fact that questions of this sort are essentially similar to those already considered,—that they are in fact a subclass of propositional functions, in which a variable taking the two values truth and falsity, or fact and not-fact (commonly represented, in the answer, by the words *yes* and *no*) appear. The identification of questions with propositional functions is thus complete. . . .

III

The foregoing considerations may be viewed as defining question and answer in the widest sense of the terms. Thus every propositional function is a question, although it may be indeterminate or insignificant, and every value of such a function is an answer, although it may be false. This terminology does not constitute an untoward strain of language, since we do commonly apply these adjectives to certain questions and answers. And in any case, it offers a clear verbal framework for the essential problem that remains to be considered. What questions are significant, and what answers are correct?

By a significant question, I mean a question to which some proposition is *the* true answer. Two things are thus demanded for interrogatory significance. In the first place, there must be at least one true proposition that is a value of the given propositional function, and in the second place, there must be not more than one such proposition. Questions which violate the former condition may be appropriately called *invalid*. Thus "What cat has eight lives?", "Who discovered America in 1491?", and "$x \cdot = 1$" are typical examples of invalid questions. We may, without committing any logical fallacy, ask such questions as: "When did you stop beating your wife?", "What is the highest good?", "Where is the mind?", and "What are the ultimate simples of sense-experience?" But we do fall into error when we assume, (as we usually do when we ask questions), that such questions must have true answers, and ignore the fact that to justify the validity of these questions it is necessary to show that the person addressed has stopped beating his wife, that there is a highest good, that the mind exists in space, that there are elements of sense-experience which are ultimately simple, etc.

Every propositional function lays down a range of significance determined by the possible values of the variable term, and an inner range of truth further determined by the constant terms of the expression. Thus the presumption of validity in a question is an assumption that this latter range (and therefore the former range as well) contains at least one member. Such an assumption will be true or false. When false, any answer to the question must be incorrect. The chief usefulness of questions (apart from riddles) arises from the fact that we can sometimes know that such a value exists without knowing what it is.

The second condition of what we have called a significant question is that it have not more than one true answer. Questions which violate this requirement may be called indeterminate. Thus, "Who did what when?", and "$1^x = 1$," are indeterminate and therefore non-significant (in our defined sense of that word,—we do not mean to imply that invalid or indeterminate questions have no meaning). To such questions we may indeed give true answers, but we can never give *the* true answer to any of them. Thus in claiming significance or simply determinateness for a given question,—and we do this whenever we attempt to show that one answer is incorrect by demonstrating that a materially different answer is correct,—we are under the responsibility of

showing that not more than one true proposition is a value of our propositional function. The relevance of this principle to philosophical discussion is obvious. "What is the first mover?" in a world where rest and motion are relative to variable coordinates, is the type of a great class of questions which lead inevitably to error when they are regarded as determinate. The fundamental question of ethics, "What is the good?" has regularly been treated as if it were (abstractly) determinate. Thus the more basic question of whether *good* is a constant or a variable (similar to *mine*) is never clearly faced and always unconsciously answered.

At this point a distinction of crucial importance must be made between questions that are indeterminate and those that are ambiguous, applying the latter predicate to questions which have no uniquely determined meaning. An indeterminate question we have seen to be a definitely denoted propositional function which has more than one true value. But an ambiguous question is not, in the logical sense, a question at all. It is rather a group of questions, or, more accurately, an ambiguous symbol, a verbal matrix from which various questions may be derived. In asking whether certain things are real or practical or right, I may have in mind something quite different from what another person understands by the words. What would constitute a correct answer to the question in my mind may be a false answer or no answer at all to the question in my neighbor's. But both of these questions may be determinate and significant. Ambiguity, then, is something which attaches not to the idea which a set of words suggests, (and it is with the analysis of such ideas that we are concerned), but to the set of words itself in so far as it suggests various meanings.

That words and sentences, declarative or interrogative, do convey different meanings to different people and even to the same person in varying circumstances is too obvious a fact to be labored, yet the ignoring of this fact is perhaps the most fertile source of philosophical and non-philosophical argument. Bertrand Russell somewhere says that no two philosophers ever understand each other. If one may confess to an understanding of that remark, it appears to be very near the truth. Certainly we shall never bridge the chasms about a human soul with our primitive marks and noises, but if there is to be any rational intercourse between man and man, we must somehow approach the ideal of unambiguous speech. And to do this we much remember that the ideal is beyond the language that pursues it.

Ambiguity is as prevalent and as dangerous in our interrogations as in our statements, but the problems which it raises in this connection are problems of thought and human intercourse in general, and as such are irrelevvant to a study of the logical nature of a question, except in so far as they help to explain what we are not talking about. If, as Professor Whitehead hopes, we shall find real propositions in the kingdom of heaven, there too shall we find real questions. But it is the divine task of the logician to examine these ideal entities that we may better discern meaning and direction in the world of human thought. The significant question is, like every object of reason, an abstraction from actual experience.

The possibilities of analysis and classification which unfold with the realization that questions are variables whose values are answers go far beyond this problem of interrogatory significance. In particular some light is thrown upon the nature of complexity in questions. In the days when logic was thought of as a branch of ethics, the textbook writers used to tell us that we ought to phrase our inquiries so as to ask one question at a time. By this they meant, sometimes, that we should avoid ambiguous speech, at other times, that we should not ask questions in which assumptions are already implicit. The former condition is perhaps psychologically unattainable, although there are important differences of degree in its approximation. The latter is logically impossible, since, as we have seen, although no question as such makes an assumption, every question in so far as it demands *a* or *the* true answer does make definite assumptions.

But there is a third more important dimension of complexity in questions, namely that which relates to the number of variables in a given propositional function. In common speech, questions containing more than one variable are usually indeterminate, and such questions as "Who's who?", "What's what?", etc., are frequently convenient precisely because of their wide range of true answers. but there is no logical correlation between complexity and determinateness or validity. We may have double questions (i.e. propositional functions containing two variables) which are valid and determinate,—e.g., "Who discovered America in what year?", "Did Caesar kill Brutus or did Brutus kill Caesar?" The same is true of questions of higher degree of complexity. In the analysis of complex questions and of their relations to simple questions and to answers, many points of interest are raised. Their discussion, however, would take us beyond the bounds of space and subject-matter we have set.

FOOTNOTES

[1] Dewey, *"Experience and Nature,"* p. 67.

[2] For example, in "What is red?" *what* appears as a real variable and produces a question, a propositional function. In "What is red is colored," we find an apparent variable (*what* equals *whatever*), producing a universal proposition. The two uses of *what* are more easily confused in mathematics and logic than in ordinary conversation.

[3] The word *information* is, I think, very significant. Even in its purely psychological aspect, indetermination or doubt is not, as is often maintained, a wavering between different certainties, but the grasping of an incomplete form, a variable.

[4] It might be supposed that "No cat has eight lives" is a correct answer to this question. But although this may be a very appropriate retort to an invalid question, it is entirely different in form from a real answer, being a negative universal, while the values of the propositional function advanced are all particulars. An oversight at this point tempts the inference that since one cat has one more life than no cat, one cat has nine lives.

[5] The distinction between indeterminateness and ambiguity is paralleled by the more obvious distinction between invalidity and meaninglessness. A symbol which has no meaning,—e.g., Wittgenstein's creation, "Is the Good more or less identical than the Beautiful?"—is not, in the logical sense, a question. But a question may have no true answer. In other words, the predicates meaningful, meaningless, ambiguous, and unambiguous refer to interrogations and interrogative sentences, but not to questions. Meanings do not *have* meaning.

George Spivack is Professor of Psychology and Director of the Graduate Program in Evaluation and Applied Social Research at Hahnemann University in Philadelphia. Myrna B. Shure is also Professor of Psychology at Hahnemann, and is in the same Graduate Program.

Children face problematic situations, as all persons do. To be able to think effectively about such problems, children's cognitive skills must be fully developed, and they must be alert to the linguistic and logical cues which call for the appropriate deployment of such skills. It is just this goal which Drs. Spivack and Shure have in mind, which teachers may seek to achieve in utilizing this training script.

The Training Program Script

By George Spivack and Myrna B. Shure

This chapter presents the detailed script the trainer uses to increase problem-solving ability of four-year-old children. The general outline of the program, the rationale of each game, and general instructions to the trainer have been described in Chapter Three. The program script in this chapter contains the detailed day-by-day description of the program including dialogues, how to apply the games and procedures, stage cues to the trainer regarding techniques in presentation, and the materials used.

It is not necessary to memorize the script. The trainer can put it in her lap and casually read from it while talking to the children, even when presenting the puppet stories. The book can be put on a table or chair when the trainer is pointing to pictures placed on the blackboard. Children's names mentioned in the script should be replaced by the names of children in the group.

As described in Chapter Three the program takes a maximum of twenty minutes per day. Because of illness, too many children absent, holiday preparations, and the like there are days when formal training is not possible. Though the forty-six days in the script total about nine school weeks the program generally takes eleven or twelve weeks to complete.

The day numbers are only a guide and can be adapted to the pace of the group.

Once the trainer begins using the script she may begin to create variations in specified games or problems. But only technique may be changed, not the purpose of the lesson. A teacher may, for example, create a new situation to elicit consequences but in so doing she must not lose sight of the meaning of the lesson and the seven principles of teaching outlined in Chapter Two.

The materials that were developed for the research project may be replaced with similar materials at hand or made by the trainer.

The 2 x 3 foot flannel magnetic board and magnets are obtainable through the Instructo Corporation (Paoli, Pa. 19301). There is no reason why a plain blackboard and some tape (to hold up the pictures) would not work just as well. Artificial flowers and animal trinkets may be obtained from party or novelty shops and dime stores. The alligator (or dragon), whale, duck, (or crow), and finger puppets depicting people may be obtained through Creative

Playthings (Princeton, N.J. 08540).

The following pictures are available from the David C. Cook Publishing Company (Elgin, Ill. 60120): My Community, Food and Nutrition, Transportation, Social Development, Helping and Sharing (flannel board). The picture set Big Little Animals is available from M.A. Donohue and Company (Chicago). The two storybooks—*Will I Have A Friend?* by Miriam Cohen (1967) and *The Circus Baby* by Maud and Miska Petersham (1950)—are published by Macmillan.

PREREQUISITE SKILLS

—DAY 1—

GAME 1: IS

Now we're going to play a game. Are you ready? OK. Watch me very carefully.

Johnny IS a boy. Is Johnny a boy? *Children reply.* Yes, Johnny IS a boy. *Repeat in quick tempo with each child in the group. If a child does not respond, ask him again and shake his hand saying "good" when he does respond. If a child is teasing by responding with the opposite answer, say:* Johnny are you a boy? *If he continues to tease just say:* O.K. I know you're teasing me.

If a child still does not respond ask him again. If he responds shake his hand and say: Good! *If not, encourage him just to shake his head to the question "Is Johnny a boy?" Then shake his hand and reinforce. If he still does not respond encourage him to shake his head with you. Say:* Let's shake our heads together. *Shake your head dramatically.*

Now watch me carefully. When I point to someone who is a girl, raise your hand like this. *Teacher raises hand.* What are we going to do when I point to a girl? *Children reply.* That's right, raise our hand. *Go through motion.*

When I point to a boy, tap your knee like this. *Teacher taps knee.* What are we going to do when I point to a boy? *Children reply.* That's right, tap our knee. *Go through motion.*

OK. Now watch. *Point to a child and call him by name.* Johnny. *Wait for children to tap.* Good, we tapped our knee because Johnny is a boy. *Continue with each child in the group.*

If a child does not join the group ask him again. If he still does not respond encourage him to tap his knee with you. Say: Let's tap our knee together. Good, we are tapping our knee because Johnny IS a boy. *Do not push the child further at this time.*

—DAY 2—

GAME 2: A-SOME

Remember yesterday when the game was pointing to A boy and to A girl? Well today we are going to point to SOME girls.

OK. Are you ready? Now watch me very carefully.

Johnny and Bobby are SOME boys. Are Johnny and Bobby SOME boys? Yes *(nodding head),* Johnny and Bobby are SOME boys. Peter is A boy. Peter and Ralph are SOME boys. Is Peter A boy or is Peter SOME boys? *Children reply.* Yes, Peter is A boy. *Continue with each child in the group, sometimes in pairs (some) and sometimes one (a) child.*

Now watch me carefully. I am going to point to SOME girls. When I point to SOME girls, raise your hand like this. *Teacher raises hand.* What are we going to do when I point to SOME girls? *Children respond.* Right, raise our hand like this.

When I point to SOME boys, we will tap our knee like this. *Teacher demonstrates.* What are we going to do when I point to SOME boys? *Children respond.* Right, we're going to tap our knee. *Go through motion again.*

OK. Now watch. *Point to two children and call them by name.* Johnny and Jimmy. *Children respond.* Good, we tapped our knee because Johnny and Jimmy are boys. Sally and Mary. What do we do? *Children respond.* Good, we raised our hand because Sally and Mary are girls. *Switch between pairs of boys and girls in random order.*

If a child does not respond say: Johnny, what do we do when we point to SOME girls? *Encourage him to raise his hand together with you. When he responds say "good" and shake his hand.*

—DAY 3—

GAME 3: NOT

Point to a child. Johnny is a boy. Johnny is NOT *(pause)* a girl. Johnny and Jimmy are boys. Johnny and Jimmy are NOT *(pause)* girls.

Is Peter a boy? *Nod head and say:* Yes, Peter is a boy.

Point to girl and ask: Is Sally a boy? *Shake head and say:* No, Sally is NOT *(pause)* a boy.

Sally is not a _____. *Let children respond.*

Sally is a girl.

Sally is NOT a boy.

Sally is not a _____. *Let children respond.*

Is Sally a boy?

No, Sally is not a boy.

Repeat with each child in the group and then switch to pairs and use of the word "Some." Sally and Susie are SOME girls. They are not SOME boys.

Then try to trick. Sally is a boy. Oh, you caught me. Sally is a _____. *Let children respond.*

Encourage nonresponding youngsters to shake their head in the appropriate direction, and shake their hand if they do.

—DAY 4—

GAME 4: FUN WITH NOT

Yesterday we talked about the word NOT. Today we're going to play a game with the word NOT again. Are you ready?

Johnny is a boy. Johnny is NOT a _____. *If the group does not respond say:* Johnny is NOT a piano. Let's have fun. Let's be silly.

Johnny is NOT a _____. Mary is NOT a _____. Good, Mary, Johnny is NOT a *(repeat response).* Peter is NOT a _____. Good, Peter, Johnny is NOT a *(repeat response).*

After three or four children respond to what Johnny is not, proceed to a new child. If a child says, "Johnny ain't no _____" or "Johnny is not no _____," do not correct him. Just casually repeat: Johnny is not a _____. *Learning the concept of the negation is more important than correct language use.*

At the end of the game, after each child in the group has had a turn being the subject of what he is NOT, switch to: Johnny IS a _____. Good. Johnny is a _____. *Repeat with as many children as interest permits.*

—DAY 5—

GAME 5: OR, IS-NOT

Today we are going to talk about the word OR.

Am I pointing to Johnny OR *(emphasize and pause)* am I pointing to Jimmy? *Children reply.* Good, I am pointing to Jimmy.

Am I pointing to Sally OR am I pointing to Susie? *Children reply.* Good, I am pointing to Sally.

Have the children close their eyes and give them some party hats or trinkets. Open your eyes. Who is NOT holding a hat? Raise

your hand. Who IS holding a hat? Raise your hand.

Kevin, is Sally holding a hat? *Ask individual children who is and who is not holding a hat. If time permits let those who did not get a hat have a chance to hold one and repeat the game.*

—DAY 6—

GAME 5 (continued): OR, AND

Am I pointing to Richard OR am I pointing to Peter? *Children reply.* Good, I am pointing to Richard. I am not pointing to _____. *Continue with a few children, switching between AM and AM NOT and pointing to* _____.

Diane and Barbara, come and stand up front. Is Diane standing up front? Is Barbara standing up front? *Children respond.* Yes, Diane AND Barbara are standing.

Is Carol standing OR is she sitting? *Children respond.* Yes, Carol is sitting. *Continue the game, pointing to a different child. Switch between the following choices: standing or sitting; boy or girl; am I pointing to Tom or to Sam?; two children standing in front, Paul AND Pat; Bobby is NOT standing; Don is NOT sitting; I am NOT pointing to* _____.

If children stand up or walk around without asking, refer to whatever they are doing, such as: Is Johnny walking or sitting? *Do not insist that he sit down; make his actions part of the game.*

—DAY 7—

GAME 6: SAME-DIFFERENT

Close your eyes. *Give some children hats and some children flowers or trinkets.* OK. Now open your eyes. Some children have flowers and some children have hats.

Everybody who has a hat, hold it up high. See, some of you are holding hats. *Name each child who has a hat.* Now everybody who has a flower hold it up high. See, some of you are holding flowers. *Name each child who has a flower.*

Is a hat DIFFERENT from a flower? *Children reply.* Yes, a hat is DIFFERENT from a flower. A hat is NOT the SAME as a flower. Is a hat the SAME as a flower? *Children reply.* A hat is DIFFERENT from a flower.

Point to a child who is holding a hat. Who is holding something that is the SAME as what *(child with a hat)* is holding? *Children respond.*

Who is holding something that is DIFFERENT from *(same child as before)? Repeat with a child holding a flower.*

Johnny, do you have a hat OR do you have a flower? *Child replies.* Yes, Johnny, you have a hat.

Billy *(who has a hat),* do you have a flower? *Child replies.* No, you do NOT have a flower. *Then to the group:* Does Billy have a hat?

Does Sally have a flower AND a hat? *Children respond.* No, Sally does not have a flower and a hat.

What does Sally have? Sally has a _____.

Call on each child and ask him to tell what he has and what he does not have. Yes, Sally has a hat. Sally does NOT have a _____.

Good, Sally does NOT have a flower.

—DAY 8—

GAME 6 (CONTINUED)

Today we're going to play another game with the words SAME and DIFFERENT. Now watch carefully.

I'm raising my hand. Now I am raising my hand again. I just did the SAME thing. I raised my hand.

Now I'm going to do something DIFFERENT. I'm going to tap my knee. *Tap.* See, tapping my knee *(keep tapping)* is DIFFERENT from raising my hand. *Raise hand.*

Is tapping my knee *(go through motion)* DIFFERENT from raising my hand *(go through motion)? Children respond.* Yes, they are DIFFERENT. Tapping my knee is NOT the SAME as raising my hand.

I am tapping my knee. *Go through motion.* Can you all do the SAME thing? *Let children react.* Good, we are all doing the SAME thing.

A nonresponder can be encouraged by saying: Let's do it together. *Dramatize the act emphatically.*

Johnny, can you do something that is NOT the SAME as tapping your knee? *Let child react.* Good, Johnny is *(name his act).* _____ is not the same as tapping our knee. _____ is DIFFERENT from tapping our knee.

Now let's have some more fun with the words SAME and DIFFERENT. Now I'm stamping my foot. *Stamp foot.* Is stamping my foot the SAME as patting my head? *Children reply.* No, stamping my foot is NOT the SAME as patting my head. It is _____. *Let children say "different." It will probably be necessary to give the choice of same or different, at least at first.* Good, they are DIFFERENT.

OK. Let's play a game doing the SAME things or DIFFERENT things. Now watch me. Let's all do the SAME thing. *Go through three or four different motions such as rolling hands and tapping head, each time repeating:* Let's all do the same thing.

Now let's change the game. Now I'm rolling my hands. Can you do something that is NOT the SAME as rolling my hands, something that is DIFFERENT? *Let children react.* Good, Tanya is shaking her arm. Shaking arm is DIFFERENT from rolling hands. *Repeat as long as interest permits, sometimes asking for something that is the same as what you are doing, sometimes asking for something different.*

Let a child be leader by having him come up to the front and perform a motion. Ask the group to do the same thing as the child leader, then something different.

If a child indicates he does not want to play try to bring him into the game by noting whatever he is doing such as: Johnny is walking around. That's different from jumping *(or whatever the rest of the group is doing). Such an approach might motivate the child to join the game.*

—DAY 9—

GAME 7: REVIEW

Repeat Games 1 through 6 with pictures, mixing the following word-concepts: "is," "not," "or," "some," "same," "different." Occasionally use the device of tricking. Place pictures on magnetic board or tape to the blackboard. Any pictures of children in action can be used. One pair of pictures should show different children doing the same thing, such as running.

This is a picture of a boy. Is this a picture of a boy? *Group responds.* This is a picture of a boy.

This is NOT a picture of a boy. Is this a picture of a boy? *Group responds.* No, this is NOT a picture of a boy. This IS a picture of a _____.

Is this a picture of a boy OR is this a picture of a girl? *Group responds.* Good, this is a picture of a girl.

Is this boy standing OR is this boy sitting? *Group responds.* Good, this boy is sitting. He is NOT standing.

These are SOME boys. *Point dramatically back and forth to each picture, emphasizing the word "some."*

Are these SOME boys or are these A boy? *Group responds. Again point dramatically back and forth to each boy.* Good, these are some boys.

Is a boy *(point to picture)* the SAME as a girl? *Group responds.* No, a boy is NOT the SAME as a girl They are _____. *Give choice of same or different if necessary.*

This boy is running. This boy is running too. Are these boys doing something that is the SAME or are they doing something DIFFERENT? *Group responds.* Yes, they are doing the SAME thing. This boy is running and this boy is running too.

Is this boy running OR is this boy sitting? *Group responds.* Yes, this boy IS sitting.

What is this boy doing? *Group responds.* Yes, he is playing with a ball.

Is this boy who is playing with a ball doing the same thing as this boy who is running? *Group responds.* No, they are doing something _____. *Give choice of same or different if necessary.*

Point to a boy who is not eating. say: This boy is eating. *Wait for group to respond.* Oh, you caught me—NOT eating. He is _____.

Point to a boy. Say: This is SOME boys. *Wait for the group to respond.* You caught me again. This is A boy.

Point to some boys. Say: This is A boy. *Wait for the group to respond.* You really are catching me now. These are _____. *Use choice of a boy or some boys.*

Peter, tell me, who IS here today? *Let Peter name the children present.* Robert, who is NOT here today? *If he names someone who is present say:* Robert, is Tommy here today? *Let Robert respond.* Tommy is here today? Who is NOT *(pause)* here today?

—DAY 10—

GAME 8: IDENTIFYING EMOTIONS

With pictures: This boy is smiling. Is this boy smiling? *Group responds.* Yes *(Nod head),* this boy is smiling.

This boy is NOT smiling. Is this boy smiling? *Group responds.* No, this boy is NOT smiling.

Terrence, point to a picture of a boy who is not smiling. Right, this boy is NOT smiling.

Sally, you point to a picture of a girl who is crying. *Switch between pointing to pictures of a boy and a girl, smiling and not smiling, crying and not crying. Let all the children in the group have a turn at pointing.*

GAME 9: IF—THEN—NOT

IF Billy is a boy, THEN Billy is NOT a girl.

IF it is daytime, THEN it's NOT nighttime.

IF Sally is a girl, THEN Sally is NOT a _____.

IF your name is Susan, THEN you can NOT jump. Can Susan jump? *Group responds.* No, Susan can NOT jump.

IF your name is NOT Susan, then you CAN jump. Can you jump, Rodney? *Rodney responds.*

Now if your name IS Susan, you CAN jump. Can you jump now, Susan? *Susan responds and can be encouraged to jump.*

—DAY 11—

GAME 10: HAPPY-SAD, SAME-DIFFERENT

Today we're going to talk about the words SAME and DIFFERENT again. We're also going to talk about some new words. One new word is *(pause)* HAPPY and another new word is *(pause)* SAD.

Use pictures of a laughing child and a crying child. Point to child who is laughing. This child feels happy. *Point to crying child.* This boy feels sad. *Point to laughing child.* How does this child feel? *Group responds. Give choice of happy or sad.* Yes, he feels happy. How does this child feel? *Point to crying child. Group responds.* Yes, he feels sad.

Point to laughing child. IF this child feels happy and *(point to crying child)* this child feels sad, they do NOT feel the SAME way. They feel DIFFERENT ways.

Point to laughing child. Does this child feel the SAME way or a DIFFERENT way from this child? *Point to crying child.* Same or different? *Group replies.* Yes, they have DIFFERENT feelings. They do NOT feel the SAME way.

Point to laughing child. If this child is laughing (imitate sound), then is he happy or is he sad? *Group responds.* Yes, this boy *(point)* and this boy *(point)* is happy. Do they feel the SAME way OR DIFFERENT ways? *Group responds.* Yes, they both feel the SAME way.

—DAY 12—

GAME 11: AND, NOT

Today we're going to talk about the word NOT again. We're going to talk about a new word too. The word is AND.

Use any picture of people in action, such as a boy reading a book and a librarian behind a desk. Let's see about this boy. He is sitting down. What else can you say about this boy? He is sitting down AND _____. *Respond to what one child says.* Good, Johnny, he is sitting down AND he is *(repeat what the child said).* What else can we say about this boy.

Always repeat what the child says and all responses stated thus far: He is sitting down AND he is reading a book AND _____. *Responses regarding the clothes he is wearing can be elicited, such as "a hat AND a shirt." As a motivation technique raise your arms like an orchestra leader, simultaneously shouting the word "and." Encourage the group to shout the word "and" with you.*

Now listen carefully. This boy is NOT standing. This boy is not _____. Good, Jimmy, this boy is NOT *(repeat child's answer).* He is NOT _____. *Elicit as many responses as possible. Repeat the game with a new picture.*

—DAY 13—

GAME 12: HAPPY-SAD AND HOW CAN WE TELL?

Today we're going to talk about how we can tell if someone feels happy or if he feels sad.

A boy can be happy. A boy can be sad. *Show picture of a boy smiling.* Do you think this boy is happy or do you think this boy is sad? *Group responds.* How can you tell? *If the group says he is smiling or laughing follow with:* Yes, he is laughing. We can tell he is laughing by seeing with our _____. *Point to eyes dramatically.*

If this boy *(point)* is crying, is he happy OR is he sad? *Group replies.* IF a boy is sad, THEN he is not _____. *Give choice of happy or sad.*

Is this a penny? How can you tell? You can see with your _____. *Point dramatically to your eyes.*

Hide a pencil behind your back so that it

cannot be seen. I am hiding either a pencil in my hand or I am hiding a key in my hand. Do I have a pencil or do I have a key in my hand? You cannot tell because you cannot see it now. *Bring the object into sight.* Now tell me what this is. *Children respond.* How can you tell? You can see it with your _____. *Point to eyes.*

After playing this game with an object the children will understand that seeing is one way to tell what something is. Now repeat the first part of the game using pictures of crying and laughing children.

—DAY 14—

GAME 13: MORE HOW CAN WE TELL?

Let's talk about our eyes some more. Show me your eyes. Point to your eyes. We can see with our eyes. What do we do with our eyes? *Group replies.* Yes, we can SEE with our eyes.

Now close your eyes. Keep them closed. Cover your eyes with both hands. Can you see with your eyes closed? *Group replies.* No, you CANNOT see with your eyes when they are closed.

Now open your eyes. Can you see with your eyes open? *Group responds.* Yes, you can see with your eyes when they are open. You can see with your eyes when they are closed.

Now let's talk about our ears. Point to your ears. We can HEAR with our ears. What can we do with our ears? *Group replies.* Yes, we can hear with our ears.

Can we SEE with our ears? *Group responds.* We CANNOT see with our ears.

What CAN we do with our ears? *Group replies.* Yes, we can hear with our ears. Can we hear with our eyes? *Group responds.* No, we CANNOT hear with our eyes. What can we do with our eyes? *Use choice of see or hear.* Yes, we can SEE with our eyes.

I am laughing. *Demonstrate.* Am I happy or sad? *Group responds.* How can you tell I am happy? *If the response is "you're laughing" say:* How can you tell I am laughing? Did you see me with your eyes? *Let them answer.* Did you hear me with your ears? *Let them answer.*

Yes, you can tell two ways. Way number one *(show one finger)* you can tell I'm happy is to see me with your eyes. *Point to eyes.* You can SEE I am laughing. Way number two *(show two fingers)* you can tell I'm happy is that you can HEAR me with your ears. *Point to ears.*

—DAY 15—

GAME 13 (CONTINUED)

My eyes can _____. *Point to eyes.*

My ears can _____. *Point to ears.*

Do my eyes and my ears do the SAME thing? *Group responds.* Good, my eyes can see. My ears CANNOT _____. *Children reply.*

What can my ears do that my eyes CANNOT do? *Children respond.* Yes, my ears can HEAR. My eyes CANNOT _____. *Children reply.*

Cover your face with a big book or sheet of paper and laugh dramatically. Am I happy OR am I sad? *Children respond.* How can you tell? *Keep book over your face. If the children say "you're laughing" follow with:* How can you tell I am laughing? *If the children do not say they can hear you, follow with:* Can you SEE me? *Let group reply.* No, you CANNOT see me now. Can you HEAR me with your ears? *Let group answer.* Yes, you can HEAR me with your ears. *Take the book away.*

Now we have two *(show two fingers)* ways to find out if someone is happy. One way is to SEE with our eyes. *Point to eyes.* What is one way? To see with our _____. To _____ _____ _____ _____. *Keep repeating slowly until the children say "see with our eyes."*

Way number two is to hear with our _____. Way number two is to _____ _____ _____ _____. *Keep repeating slowly until the children say "hear with our ears".*

Now we have two ways to tell if someone feels happy or sad. Can anyone think of a third way to find out if he is happy? *If no new idea is given, end the lesson. If a child offers "ask him" encourage him to ask.*

—DAY 16—

GAME 14: FINDING OUT ABOUT INDIVIDUAL PREFERENCE

I'm going to show you some pictures of animals today. We're going to find out what you would choose. We're going to see that SOME of you will choose the SAME animal and SOME of you will choose something DIFFERENT. We will see that sometimes DIFFERENT children choose DIFFERENT things.

Show pictures from the Big Little Animals set. Who can tell us what this is? *Group responds.* Yes, a dog. Who knows what this is? *Group responds.* Yes, a cat.

If you could choose a cat OR a dog to play with—it means you can only choose ONE *(show one finger)*—which one would you choose, Johnny? *If Johnny does not respond verbally encourage him to point to the one he would choose.*

Angie, which one would you choose? *Ask each one in the group. Depending on the choices, continue the conversation using the words "same" and "different."*

Angie and Johnny chose the cat. Did Angie and Johnny choose the SAME thing or something DIFFERENT? *Group responds.* Yes, Angie and Johnny chose the SAME thing.

Steven chose the cat. Tanya chose the dog. Did Steven and Tanya choose the SAME thing or did they choose something DIFFERENT? *Group responds.*

Yes, Tanya chose the dog. Steven chose the cat. They are DIFFERENT. Do you know what? We found out that SOME of you chose the dog and SOME of you chose the cat. Different children choose DIFFERENT things. Is it OK for Tanya to choose something DIFFERENT from what Johnny chose? Group replies.

Yes, it's OK for different children to choose different things. Do all of us choose the SAME thing? *Group replies.* No, we do NOT all choose the same thing. We choose _____ things. *Use choice of same or different.*

Show two new animals from the Big Little Animals set. Peter, would this turtle make you happy? Maybe yes and maybe no. How can we find out? *If no answer is given, elicit one in the following way:* Let's ask him. Peter, would a turtle make you happy? What did we just do to find out if the turtle would make Peter happy? *Let group respond.* Yes, we asked him AND we heard him tell us with our _____. *Point to ears.* Robert, come on up here and point to the animal that you would choose. Oh, Robert pointed to the chipmunk. We found out what Robert chose by watching him point. We could see him point with our _____. *Point to eyes.*

We can find out what children would

choose in three ways. We can watch them, see them with our _____. *Point to eyes.* That's way number one. Way number two, we can ask them. When they tell us, we have way number three. We can hear what they say with our _____. *Point to ears.*

Repeat the games with as many pairs of animals and as many children as possible.

—DAY 17—

GAME 14: (CONTINUED)

Repeat Game 14 with pictures from the Transportation set.

—DAY 18—

GAME 14: (CONTINUED)

Repeat Game 14 with pictures from the My Community set. Interesting choice pairs include the policeman, fireman and beach-park. Besides asking each child what he would choose, encourage the children to ask each other. Kevin, what do you think Robert would choose? *Encourage Kevin to ask Robert. Repeat with other children.*

—DAY 19—

GAME 15: DO YOU LIKE?

Today we're going to think of ways to make other children feel happy. OK. Are you ready?

Let's think of all the ways we can, you know, all the things we can DO or SAY to make Sally happy. Anybody have an idea? *Let group respond.*

Maybe that would make Sally happy. Maybe that would not make Sally happy. Let's ask her. Let's say together, Sally, would that make you happy? *If Sally answers yes follow with:* That's one way to make Sally happy. Now let's think of a different way to make Sally happy. Way number two. *Group responds. If Sally answers no follow with:* OK, that idea did not make Sally happy. We'll have to think of something DIFFERENT.

If Sally replied yes to both ideas say: Now we have two ways to make Sally happy: _____ *(repeat first idea* AND _____ *(repeat second idea).*

Turn to a new child. Johnny, Sally said ice cream makes her happy. Does ice cream make you happy? *If Johnny says yes follow with:* Ice cream makes Sally happy. Ice cream does not make Johnny happy. Sally and Johnny do not like the SAME thing. They like _____ things. *Use choice of same or different.*

Now we're going to play a game called Do You Like? Asking "do you like?" is one way to find out what makes people happy.

Kenny, do you like to build with blocks? *Let Kenny reply.* Do you like ice cream? *Let Kenny reply.* Do you like to run? *Let Kenny reply. If Kenny says yes to all three follow with:* Kenny likes blocks AND ice cream AND running. Different things make the SAME child happy. Who does NOT like to build with blocks? *If a child responds say:* Janie does not like to build with blocks. Kenny does like to build with blocks. Everybody does NOT like the SAME thing.

Donald, does Peter like dolls? *Donald will probably answer yes or no but will not ask him without guidance.* Can you ask him? *Encourage him to use the phrase "do you like?" If Peter says no follow with:* Ruth, do you like dolls? *If Ruth says yes say:* Peter does not like dolls. Ruth does like dolls. Different children like different things. We have to find out what other people like. *Continue the game as long as interest permits, encouraging the children to ask each other what they like or what makes them happy. Allow the children to get carried away with the phrase "do you like?".*

—DAY 20—

GAME 16: EMOTIONAL REACTIONS

Julie, can you show me a happy face? *If Julie does not respond say:* Let's make a happy face together.

Paul, can you show me a SAD face? We know two ways people can feel. One way is happy. Way number two sad. There is way number three. MAD. *Demonstrate a happy look, a sad look, and an angry look.*

Mad and angry are the SAME feeling. *Again demonstrate an angry look.*

Let's make up a story. Let's pretend we know that Sandra likes cookies. If Joan let her have a cookie, would that make Sandra happy? *Let children reply.* Yes, that would make Sandra happy.

How might Sandra feel if Joan would NOT let her have a cookie? *Let children reply.* Yes, she might feel sad (mad).

Now let's pretend Sandra had a cookie in her hand and Joan grabbed it from her and ate it. How might that make Sandra feel? *Let children respond.* Maybe that would make Sandra feel MAD *(show expression)* OR SAD *(show expression).* Let's find out. Sandra, if Joan grabbed a cookie from you, how would that make you feel? *Let Sandra reply.* See, we asked her and we found out how she would feel. She told us she would feel (mad) and we heard her tell us with our _____. *Point to ears.*

Now this is just a game. *Give two children a cookie or raisin and tell one child (Steve) to grab a cookie from the other (Paul).*

Ask Paul: How do you feel about that? *Let Paul reply.* OK, Steve, now give the cookie back to Paul. Paul how do you feel now?

Let's pretend we know that Tommy lost his dog. Tommy, can you look sad? How does Tommy look? *Let the group reply.* How would Tommy feel if he found his dog again? *Let group reply.* Yes, he would probably feel happy.

Now let's pretend Peter found that dog and would not give it back to Tommy. How might that make Tommy feel? *Let group respond.* Maybe that would make him feel mad and maybe that would not make him feel mad. How can we find out? *Encourage children to ask.*

Let's pretend it's real cold outside and Sammy does not have any mittens. So he took YOURS. *Point to a child.* Would you feel happy or mad? *Let child reply.*

What would make you feel mad, Jimmy? *If Jimmy does not respond encourage other children to ask him what would make him mad. Other examples that can follow the same dialogue include: not being invited to a birthday party; if someone broke Peter's milk glass; if someone broke his cookie and ate it; if someone scribbled on his painting; if someone gave Judy a puppy.*

—DAY 21—

GAME 17: WHY-BECAUSE

Use a picture from the Social Development set: two boys sitting on the floor playing ball. How does this boy feel? *Use choice of happy or sad if necessary. Let group respond.* How can you tell? *If "he is smiling" is given, say:* How can you tell he is smiling? We can _____. *Point to eyes.*

Now we're going to ask a new question. The question is WHY. Now listen. WHY *(pause)* is this boy happy? Because _____. *Group responds.*

The idea of this game is to think of

lots of reasons why this boy might be happy. He might be happy because *(repeat first response)* OR _____. Can anybody think of a different because? *Continue until the group runs out of reasons. If a child says he is sad ask him why. He may have a logical thought, such as "the ball might hit him in the eye."*

From now on, if an answer is opposite to what is expected always ask why.

When a child is asked for a different "because," the first child's response should be repeated, followed by: That might be why. Now the idea of the game is to think of lots of becauses. *In this way the first child does not think his answer is incorrect but instead feels part of the game.*

Another useful picture from the Social Development set is that of a girl falling off her bike with a boy standing beside her. How is this girl feeling? *Use choice of happy or sad if necessary.* How can you tell? *If "she is crying" is given, ask:* How can you tell she is crying? We can _____. *Point to eyes.*

Why is she sad? *Group responds.*

Why did she fall off her bike? Because _____.

That's one because. Let's think of lots of different becauses.

Do you have a different because, Kevin? *Continue until the group runs out of ideas. Encourage the children to look at the whole picture (including the tree) for ideas.*

What can this boy *(in the picture)* do or say to make her feel happy? *Group responds.*

That's one way, Ralph. Can anybody think of why number two? Let's think of lots of ways to help this girl feel better. *After another child gives an idea say:* Good, now let's have way number two. He can *(repeat first idea)* OR he can *(repeat second idea).* Who has way number three? *Continue until no further ideas are offered.*

—DAY 22—

GAME 18: FINDING OUT ABOUT INDIVIDUAL PREFERENCE

Use the picture of a composite of fruits (grapes, watermelons, bananas, apple, orange) from the Food and Nutrition set. Today we're going to find out what people like again.

Carrie, if you could choose one of the fruits to eat, and only one, which one would you choose? *If no verbal response is given encourage the child to come and point.*

Steven, would you choose the SAME fruit as Carrie chose or would you choose something DIFFERENT? *Ask each child in the group, pointing out that different children like different things.*

Stacie, is there something here that you do NOT like? *Let Stacie reply.* You do NOT like *(repeat Stacie's answer).* Is there anything else you do NOT like? *Continue with the same child to check his knowledge of the negation. Let child reply after each question. Point to each fruit shown in the picture.*

Stacie, do you like apples?

Do you like grapes?

Do you like watermelon?

Do you like bananas?

Robert, can you find out what Michael likes? *If the child says "ask him" say:* Go ahead and ask him. *Encourage children to ask each other what they like.*

Is it OK if Robert likes bananas and Stacie does NOT like bananas? Yes, it is OK for different children to like different things.

—DAY 23—

GAME 18 (CONTINUED)

Use the picture from the My Community set depicting a child sick in bed. How does this girl feel? *Let group respond. The children will probably say she feels happy. The girl in the picture is smiling. The following dialogue demonstrates to the children that different children might feel differently about the same thing.*

Who would NOT feel happy to be sick in bed? *The child who answers:* Why do you think this girl might be happy? Because _____. That's one reason she might be happy. Does anyone have a different reason, a different because? *Let the group respond.*

Go back to other pictures from the Food and Nutrition set and repeat the game on finding out about individual preferences. Continue as long as interest permits, the entire lesson not exceeding twenty minutes.

—DAY 24—

GAME 19: A STORY

The story "Will I Have a Friend?" is suitable for reviewing concepts to date. After the line in the story "Sarah was telling Margaret a secret. Jim looked at them. Where was his friend?," add the following dialogue: You know Jimmy really wants a friend. Nobody is playing with him. How does Jim feel now? *Let children respond.* Why do you think he feels sad? *Let children respond.*

—DAY 25—

GAME 20: WHAT MIGHT HAPPEN NEXT? (BEGINNING CONSEQUENCES)

Let's make up a story together and I'll help you. Let's pretend Bobby scribbled on Bernard's painting and Bernard did not like that.

Now let's play the What Might Happen Next? game. If Bobby scribbles on Bernard's painting, what might happen next in the story? *Let group respond.*

Yes, that's one thing that MIGHT happen. What else MIGHT happen next? *Continue until group offers nothing new.*

If not already offered ask: How might Bernard feel, happy or mad? *Group replies.* Yes, he might feel mad. Why might Bernard feel mad? Because _____.

Let's make up what might happen next in the story. What might Bernard DO next? Remember, we're pretending that Bobby scribbled on Bernard's painting. *Make scribbling motion. Let group respond.*

That's one thing he might do. If Bobby scribbles on Bernard's painting, Bernard might *(repeat first response)* OR he might _____. Who can think of something else he might do? *Let group respond.*

Repeat second response. That might happen. Now we have two things that might happen. *Repeat both responses.* Can anyone think of a third thing that might happen? *Group responds. When no new responses are offered, switch to:* What might Bernard SAY if Bobby scribbles on his painting? *Continue until no new consequences are given.*

—DAY 26—

GAME 20 (CONTINUED)

Using any pictures, repeat the game for Day 25, substituting scribbling with "one boy calls the other a crybaby." Referring to the boy who gets called a crybaby, use such questions as "How might he feel?", "What might he DO next?", "What might he say next?"

GAME 21: ALLIE STORY—PART ONE (EMOTIONAL FEELINGS)

Use alligator and whale hand puppets. The commercial dragon puppet can be used as an alligator. Tell the following story with different voices for Allie the Alligator and the whale. Move each puppet's mouth as it talks.

ALLIE: I am Allie the Alligator. I

have no legs. I cannot run and play with the children. I wish I could run and play with the children.

TEACHER: *(Sad voice, turning the puppet's head down).* How does Allie the Alligator feel now? *(Group responds.)* Why does he feel sad? Because _____. One day a big whale saw Allie crying.

WHALE: Allie, why are you so sad?

ALLIE: Because I cannot run fast and play with the children.

WHALE: But you can swim. You can swim faster than all the other alligators. All the other alligators want you to play with them. They like you very much.

TEACHER: Allie smiled and laughed. *(Open the puppet's mouth wide.)* How does Allie the Alligator feel now? *(Group replies.)* Yes, he feels happy. How did he feel before? *(Put his head down again. Let group reply.* See, before he was sad and now he's *(open the puppet's mouth dramatically, pause)* happy. He feels different now. Allie the Alligator swam with the other alligators and he showed them all how to swim very fast. *(Demonstrate swimming motion.)*

—DAY 27—

GAME 21: ALLIE STORY-PART TWO (HOW CAN I FIND OUT?)

Keep the whale puppet hidden under the table or behind your back.

TEACHER: Here's Allie again. Remember yesterday we found out that Allie LOVES to swim. How did he feel when he was swimming yesterday? *(Use choice of happy or sad if necessary.)* Yes, he felt very happy because he loves to swim. He's a very fast swimmer too.

ALLIE: I've been swimming all morning. This morning some of my friends asked me to swim with them and I said yes. They know I love to swim. *(With Allie on one hand and the whale on the other, bring the whale in slowly from the side.)* Here comes one of my friends, Whipple the Whale. He loves to swim too.

WHIPPLE: Hi, Allie. We sure had fun swimming this morning. We both love to swim, don't we? Let's go swimming again now. That would make me very happy. *(Pull Allie's mouth in so that he looks sad with his head down, and hold a minute.) What's the matter, Allie, why do you look so sad? I thought it would make you happy if I asked you to swim.*

ALLIE: I was happy when we swam this morning. We swam for a long time. I would NOT be happy to swim again today.

WHIPPLE: (turns away from Allie, speaks in a whispering voice): I guess he doesn't want to play with me. I'll have to think of something so he'll WANT to play with me. Oh, I know what I'll do. *(Turns back to Allie, speaks in a dramatic and enthusiastic voice)* Allie, if you don't want to swim right now, do you want to play with my new ball?

ALLIE: No, I don't like that game.

WHIPPLE: *(puts head down, then turns to Allie and speaks enthusiastically):* Would you like to go find some food to eat?

ALLIE: Not now, I just ate and I'm not hungry.

WHIPPLE: Gee, Allie, I really want to do something with you. What would you like to do now?

ALLIE: I'd like to play hide-and-seek.

WHIPPLE: OK. I'd like that too. I'm glad I ASKED you. I thought maybe you didn't want to play with me today.

ALLIE: Oh, no. I like you. I just didn't want to swim because I wanted to do something different now. Maybe tomorrow we can swim again. Maybe tomorrow I will want to swim again.

WHIPPLE: OK. Let's play hide-and-seek now. *(Hide Allie behind your back and have Whipple find him.)*

TEACHER: They played hide-and-seek for a while and they were very happy. The next day they went swimming again.

ALLIE: *(to children):* Do I like to swim SOME of the time? *(Let group reply.)* Do I like to swim ALL of the time? *(Let group reply.)* No, sometimes I like to swim and sometimes I do NOT like to swim. If I swim too much, I might get tired. *(To child.)* Karl, what do you like to do? *(Karl responds.)* Do you *(repeat Karl's response)* ALL of the time or SOME of the time? *(Karl responds.)* I bet you would get tired if you _____ ALL of the time.

Ask different children these qustions; then let them have turns playing with the puppets. You can now leave the puppets as play materials in the classroom and help make Allie and Whipple characters in the class.

—DAY 28—

GAME 22: REVIEW

Using the remaining pictures from the Transportation, Big Little Animals, and Food and Nutrition sets or any other interesting pictures, repeat Game 18, Day 22. It is particularly important to ask one child to find out what another would choose. Point out individual differences in preference and review the negation by asking a child what he would not choose, then asking him again to determine his consistency of choice.

—DAY 29—

GAME 23: MORE WHY-BECAUSE

Using the duck hand puppet, tell the following story with a different voice for Dilly the Duck. Move the puppet's mouth as he talks.

DILLY: I'm Dilly the Duck. I came to play a game with you today. I came to play the Why-Because game. Let me show you how to play. First I'll play with *(name of teacher). (Turn Dilly toward you.)* Miss _____, I'm very tired.

TEACHER: Why Dilly?

DILLY: Because I forgot to take my nap. *(Turn Dilly to children.) Now I'm going to play with you. When I say something, you all ask real loud, WHY? I'll tell you the BECAUSE. Let's try it. I'm very hungry. Now ask why. (Let children shout "why?")* Very good. I'm very hungry because I haven't had my lunch. I like going to school. *(Elicit "why" from the children.)* Because the children are my friends. I can't sing today. *(Elicit "why" from the children.) Because my throat hurts. Now let's change the game. I'm going to ask you WHY and you make up the BECAUSE. Now listen. (Turn Dilly to teacher. Dilly continues.)* I am going to the store. I am going to walk. I am not going to take the bus. Can you guess why I'm going to walk?

TEACHER: Because It's a nice day out?

DILLY: MAYBE. Can you think of a different BECAUSE?

TEACHER: Because your friend is walking to the store and you want to walk with your friend?

DILLY: *(to teacher):* See, there's more than one BECAUSE. Now let's play together. Johnny won't come to my house and play with me today. Why won't Johnny come to my house and play with me today? Does anybody have a BECAUSE? *(Group responds.) Maybe he won't come BECAUSE (repeat response).* Does anybody have a different because? *(Continue until group offers no new reasons.)* Let's play this game again. I like birthday parties. Can you guess why I like birthday parties? *(Group responds.)* Very good. Maybe I like birthday parties because (repeat answer). Now let's think of a different because. I like birthday parties because _____. *(Continue until group runs out of reasons.)*

TEACHER: Very good. Maybe Dilly likes birthday parties because *(repeat first answer) OR because (repeat second answer)* OR because *(repeat third answer).*

DILLY: I see *(child in class)* is NOT here today. Can you guess why _____ is not here today? *(Repeat dialogue, asking for different reasons.)*

—DAY 30—

GAME 24: FAIRNESS

Today we are going to learn about the word FAIR. I have a raisin here for each of you and I'm going to let each of you take one. *Give each child one raisin.* Now do not eat it yet. We're going to play a game.

It is FAIR for each child to have one raisin. It is NOT fair if someone has two raisins and someone else does not have any raisins.

It is fair for each child to have one raisin? *Group replies.* Yes, it is FAIR for each child to have one raisin. I only have enough for each of you to have one.

If Johnny takes two raisins *(take a raisin from one child and give it to another)* then Peter will not have any raisins. Is that fair? *Group replies.* No, it is not fair for Johnny to have two and for Peter not to have any.

How might Peter feel if he wants a raisin and does not have any and Johnny has two? *Group responds.* Yes, he might feel sad (mad, not happy).

Why might he feel _____? *Let group respond.* Because it is not fair for Johnny to have two raisins and Peter not to have any. Johnny, now let Peter have his raisin back. OK, now you can all eat your raisins.

If two children want to look at a storybook and one keeps it and does not let the other one see it, is that fair? *Group replies.* No, that is not fair. If two children want to look at a storybook, what is fair? *If no response:* What can they do if they want to look at the SAME storybook? *Let children respond.* Is it fair to *(repeat child's response)?* Why is that fair? *Group responds.*

How might William feel if Karl did not let him see the storybook? *Group responds.* Yes, he might feel sad (mad). What can Karl do to make William feel happy again? *Group responds.*

Is it fair for one child to look at a storybook and then keep it so that the next child can NOT see it? *Group responds.* Why is that NOT fair? *Group responds.*

Can you think of things children do that are NOT fair? *Group responds.* If *(repeat an answer)* is NOT fair, what is the fair thing to do? *Group replies.*

—DAY 31—

GAME 25: MORE FAIRNESS

Today we're going to play a new game with the word FAIR.

Let's go on a pretend trip to the zoo. We will go in a car. Let's make a car. *Use big blocks or chairs to form a car with enough seats for half the group.* Now the car is only big enough to take SOME of you. It is NOT big enough to take ALL of you. Some of you can go on the first trip, trip number one and some of you will go on the second trip, trip number two. Let's have *(name half the children in the group)* go on our first pretend trip. The rest of you will wait because the car is not big enough to take all of you.

All the children over here *(name children)* are going on the trip now. The rest of you will go later. Wait for us here, we'll be back soon.

If you're going on the trip now, raise your hand. *If any child not going on the first*

trip raises his hand, correct him. If anybody in the first group does not raise his hand, correct him.

OK. If you're going on the trip now, let's open the door (go through motion together with the children), let's all get in *(have the children sit down),* and let's go *(demonstrate by bouncing).* Can we make the sound of a horn? Let's all drive. I see a cow. What do you see, Terry? *Encourage the children to name animals they see on the trip.*

Very good. We had a fun ride, didn't we? Let's open the door and get out. Now we're back.

Now I'm going on another trip with some children. We're going in the SAME car and I can only take some of you. Who should go on the trip? *Let children answer.*

Name a child who did not go on the first trip. Did Julian go on the first trip? *Group replies.* No, Julian did not go on the first trip. *Name a child who did go on the first trip.* Did James go on the first trip? *Group replies.* Yes, James did go on the first trip.

Is it FAIR for Julian to go now? *Group replies.* Why is it fair for him to go now? *Group responds.* Yes, it is fair for him to go now BECAUSE he did NOT go on the first trip.

Is it FAIR for James to go now? Remember, he did go on the first trip. *Group responds.* Why is it NOT FAIR for James to go now? Because _____. Right, it is not fair for James to go now because he went the first time. We have to give all the children a chance to go on a trip. *Name a few more children and ask if it is fair for them to go on the second trip. Name some children who went on the first trip and some who did not. Then go on the trip with the second group.*

PROBLEM-SOLVING SKILLS

This section has twelve problems divided into three parts: alternative solutions, alternative consequences, and solution and consequence pairing. Before each section is an introduction that discusses the goals, techniques for eliciting responses, and suggestions for applications of the techniques to real-life incidents. Between problems are stories and games to maintain interest.

ALTERNATIVE SOLUTIONS

For problems 1 through 4 the goal is to teach the child to think in terms of alternatives. Using skills he has acquired in preceding lessons he asks the question "What else can I do?" when confronted with a typical interpersonal problem.

To elicit responses, use the following technique. Place a picture on the corner of the board, state the problem, and encourage the children to repeat the problem. Then say, "The idea of this game is to think of lots of different ways *(or ideas)* for *(repeat problem).*" Say: "I'm going to write your ideas on the board. We want to fill up the whole board." Although the youngsters cannot read, this is a useful motivating technique. After the first idea has been given, say: "That's one way. Who's got a different *(new, another)* way? What can _____ do to *(repeat problem)?* After a few ideas have been given count on your fingers: way one *(repeat solution),* way 2 (and so on). Then encourage the group to say *or* in unison and in a rhythmic tone. You can raise your arms like an orchestra leader and in a rhythmic voice say: "Let's all say together *(pause)* OR." After a few more solutions have been given use the same technique with the phrase "what else?" When ideas are no longer offered change your question to: "What can he say to *(repeat problem)?*" Let the group respond. "That's one thing he can say. Can anyone think of something else he can say?" If a youngster jumps the gun and offers a consequence to a solution, recognize it, do not discourage it, then continue asking for solutions. Record solutions and responses if desired.

An enumeration is a variation of the same solution but not a different solution. The most common enumerations are: giving something (give him candy, give him ice cream, give him potato chips); telling someone (tell his daddy, tell his mommy, tell his sister); hurting someone (hit him, kick him, bite him). Let the children enumerate for a while; then classify using the following words: "Giving ice cream and candy and potato chips are all giving something. Can anyone think of an idea that's different from giving something?" Classifying in this manner helps the children distinguish between mere enumerations and solutions that are categorically different.

If a child suggests a form of giving something such as potato chips, use the following approach: "He would have to find out if he would like potato chips. Do all boys like potato chips?" Group replies. "No, all boys do not like potato chips. Maybe he would like potato chips. How could he find out if he likes potato chips?" Group responds. "Yes, he could ASK him. What could he say?" Group responds. "If he would NOT like potato chips, what else could he do?"

If an enumeration such as "give him ice cream" is offered simply say: "He'd have to find out if he likes ice cream." Classify. "Can anybody think of an idea that's different from giving something?"

If a child offers "make him happy," ask: "What can he do or say to make him happy?"

If an idea is relevant to the stated problem it is acceptable, and value judgments are not communicated to the child. "Hit him" is just as relevant as "please." The general dialogue is: "That's one way. Who can think of a different idea? Remember, the idea of the game is to think of lots of ways."

There are, however, some responses that seem irrelevant to the problem as stated. If the solution does not appear relevant always ask: "Why is that a good idea? Tell me a little more about that." Two commonly given solutions are questionable: "cry" and "be good." In Problem 1, for example, child A wants child B to help him put the toys away. An answer of "cry" could be a reaction to B's not helping him or a solution to make the other child feel sorry for him. Whether "cry" is a reaction or a solution should be questioned. The solution "be good" is typical to problems dealing with adult figures. Often "be good" is not a solution; it is just a phrase commonly used by young children. Ask what he means by "be good" and determine its relevance. An explanation such as "look at TV" is not relevant.

—DAY 32—

PROBLEM 1

Child A wants child B to help him put the toys away. Use any pictures of children playing with toys or the pictures of two boys with a

box of toys from the Helping and Sharing set.

Let's pretend both these boys were playing with toys and it's time to put them away. A and B were playing with the toys.

Point to boy. This boy wants that boy *(point)* to help him put the toys away. *Have children give names to the boys.*

What does _____ *want* _____ *to do?*

_____ *wants* _____ _____ _____ _____.

With children: _____ wants that boy to help him put the toys away.

Now remember, both boys were playing.

Was _____ playing? *Group responds.* Was this one playing? *Group responds.*

Is it fair for _____ to clean up all by himself and not _____? *Group responds.*

No, it is not fair for _____ to clean up and not _____.

Is it fair for *(other boy)* to clean up all by himself and not _____? *Group responds.*

Is it fair for both boys to help clean up? *Group responds.*

Yes, it is fair for both boys to help clean up.

Why is it fair for both boys to help clean up? Because _____.

It is fair for both to clean up because both were playing.

Now let's pretend _____ will not help _____ put the toys away.

What can _____ DO so _____ will help him put the toys away? *Group responds.*

Repeat a child's response and say: That's one way. The idea of this game is to think of lots of ways that _____ can get _____ to help him put the toys away.

I'm going to write all your ideas on the board. Let's fill up the whole board. Who's got a different (new, another) idea (way)?

He could *(repeat way number one)* OR he could _____. Can anybody think of way number two? *Show two fingers. Group responds.*

Good, Sean gave us an idea. *Shake his hand.* That's way number two. Now we have *(repeat ways number one and two, counting on fingers).* He can _____ OR _____. What else can he do? *Write each new idea on the board as the child gives it.*

Repeat solutions given thus far and then say: All together, OR. *With children:* OR.

Can anybody think of way number three? *If not already given, follow with:* What can this boy *(point)* SAY to this boy *(point)* so he'll help him put the toys away? Let's fill up the WHOLE board.

Let's all say together, what else? *With children:* What else?

It is important to classify enumerations. For example: Can you think of an idea that is different from (giving something, hurting someone, telling someone)? *If giving something is mentioned ask children how the child in the picture can find out if the other child wants or likes what he suggests. Avoid saying "That's a good idea." The children will evaluate ideas themselves later. It is all right to say:* Good, you gave a DIFFERENT idea.

—DAY 33—

PROBLEM 2

A girl wants her mother to buy her a box of cookies. Use the picture of a girl with her mother in a grocery store from My Community set. Point to girl. This girl wants her mommy *(point)* to buy her a box of cookies.

What does this girl *(point)* want her mommy to do?

With children: This girl wants her mommy to buy her a box of cookies.

What can this girl *(point)* DO so her mommy will buy her a box of cookies? *Group responds.*

Repeat a response. That's one idea. What's the idea of this game? To think of lots of DIFFERENT ideas. She could *(repeat way one, write it on the board)* OR she could_____.

Let's all say together, OR. *With children:* OR.

Can anybody think of a DIFFERENT way? *Let group respond.* Good, Angela gave a new idea. This girl can *(repeat first idea)* OR she can *(repeat second idea).* All together, let's say, what else? *With children:* What else?

If not already given, ask: What can this girl SAY to her mother so she will buy her a box of cookies?

Keep going, repeat responses, and use the words "or" and "what else?" If the group enumerates, classify as described. Be sure to complete the classification. Do not say, Hitting, kicking, biting are all hurting. Can anybody think of something different? *Instead finish the sentence:* Hitting, kicking, biting are all hurting. Can anybody think of something different FROM HURTING? *If the child offers a trade such as "give her cake," ask how the giver can find out if the other person would like cake.*

—DAY 34—

PROBLEM 3

A girl wants a lady to read her a story. Use the picture of a librarian and a girl looking at a book from the My Community set. Elicit solutions using the same dialogue as for Problem 2.

—DAY 35—

Read a story. "The Circus Baby" lends itself to the style of the program. In appropriate places in the story ask: How does _____ feel? Why does_____ feel that way? *After the line in the story "Mother elephant decided that her baby must learn to eat properly just as the circus people did," the trainer can add the following dialogue:* Elephants pick up their food with their trunks. *Dramatize.* People pick up food with their _____. *Let group reply.* Do elephants and people pick up food the SAME way? *Group replies.* No, they pick up their food in a _____ way. *Use the choice of same or different if necessary.*

After the line in the story "But she was careful not to break anything," add: Why is it a good idea not to break anything? Because _____.

After the line in the story "Then Mr. Clown's stool gave a loud creak and split into many pieces," the following is suggested: How might Mr. and Mrs. Clown feel when they see this? *Group replies.* What might happen next (what might they say or do)? *Group responds.* What could you do if you spilled everything on the floor? *Group responds.*

—DAY 36—

PROBLEM 4

A child (in a red shirt) wants another child (point to book) to sit down so that he can see the picture book with the picture of a group of children listening to a story from the Social Development set. Elicit solutions using the same dialogue as for Problem 2.

Consequential Thinking

For Problems 5 through 8 the goal is to teach the child to think in terms of consequences to an act. Using skills he has acquired in the preceding lessons, he

must answer the question "What might happen next if," for example, "Why him?" Although no value judgments are placed on solutions, the goal is to encourage the child to think for himself, what are the pros and cons of an act, and then decide whether an action is a good idea.

A relevant consequence is a reaction by a person not in direct relationship to an act performed by (A). For example, if A hit B, B might "hit him back," "tell his mommy," "not play with A anymore," "cry," and so forth.

When B reacts to A's act, A may continue a chart of events. For example, if B hits A back (a direct consequence of A's hitting B), A might "throw a block at him and fight." Throwing the block and fighting is a chain reaction to the hitting A back, not the direct consequence of A's first hitting B.

To elicit responses, use the following technique. Present the problem in the same way as previously. Elicit alternatives in the usual way until one is given that is conducive to naming consequences. Usually "hit," "grab," "ask," and "tell someone" are the easiest solutions for eliciting consequences. Then say: "OK. Let's make up a different kind of story, a story about what might happen next. Pretend the boy *(repeat solution given).* What MIGHT happen next in the story?" Then say: "I'm going to write all the things that MIGHT happen next on this side of the board." Draw a line down the center. "I'm going to put your IDEAS over here *(left of line)* and what might happen next over here *(right of line).*" Consistent recording of solutions on the left side of the blackboard and consequences on the right side helps the child distinguish between solutions and consequences when being questioned. Then say: "Let's think of lots of things that MIGHT happen next if (repeat same solution)." In eliciting consequences, avoid using the word *idea* when the children respond because it will confuse the distinction between solutions and consequences.

After the first consequence has been given, follow with: "That's one thing that MIGHT happen if (he hits him)." Emphasize the word *might.* "Can anyone think of something different that might happen if this boy *(point to boy)* (hits) this boy *(point to boy)*? "Now we have two things that might happen. This boy MIGHT *(repeat consequence)* OR he might *(repeat consequence).*"

When thoughts about what might happen next are no longer offered, change the question to: "What might B *(point to B)* DO if A *(point to A)* (hits him)? Point to the character being asked about to avoid confusion. Frequently the children will tell you that B will say "I'm sorry" if A hits him. Point dramatically to B when asking: "What might B do if A *(point now to A)* hits him?" Such pointing helps distinguish the role played by each character.

If not already offered, the next question can be: "What MIGHT B SAY *(point to B)* if A *(point to A)* (hits) him? He MIGHT SAY_____."

If not already offered, ask: "How might B feel if A (hits) him? Give choice of happy, sad, or mad if necessary.

After it is evident that the children will offer no further consequences, ask: "Who thinks (hitting) IS a good idea? Why?" Child responds. "Who thinks (hitting) is NOT a good idea? Why?" Child responds.

Using one solution at a time, elicit all the consequences you can before going to a new solution. Try to pick different solutions, nonforceful as well as forceful, for evaluation each day. Record consequences if desired.

Treat enumerations of consequences as was the case for solutions. That is, repeat the enumerations, classify, and ask for something different from, say, hurting back.

Handle irrelevant answers in the same way as irrelevant solutions.

It is especially important to question the child about who is doing the act. It could determine whether an act is a consequence or a solution. For example, in Problem 5 the boy wants the girl to let him feed the animals. If a child says "grab the food," it is a solution to getting the food if the boy grabs it. If the girl grabs the food, however, then grabbing might be a logical consequence (she might grab it back if it were grabbed from her). If it is not clear which character is performing the act stated, ask: "Who is doing that?" If the act is an apparent solution when you are asking for a consequence, repeat the question: "What might the girl DO or SAY if the boy grabs the food?"

—DAY 37—

PROBLEM 5

A boy wants a girl to let him feed the animals. Use the picture of a girl in front of a hamster cage from the Social Development set. Elicit solutions in the usual way. This boy *(point)* wants this boy *(point)* to let him feed the animals. *After a solution is given that is conducive to naming consequences, the following dialogue is suggested, using the solution "push her out of the way" for illustration.*

OK. Let's make up a different kind of story, a story about WHAT MIGHT HAPPEN NEXT. Pretend the boy *(repeat solution given). Draw a line down the middle and say:* That's something the boy can do. I'm going to put that over here. *Point to the left side of the line and write the response on the board.*

Now listen carefully. This is a new question. If the boy (pushes the girl out of the way) what MIGHT happen next in the story? *Group responds.* OK, Cheryl, the girl MIGHT (push him back). I'm going to write all the things that MIGHT happen next over here. *Point to the right side of the line and write the response on the board.*

Good, Robert told us what MIGHT happen next. *Write his thought on the board to the right side of the line. Point to girl.* The girl MIGHT (push the boy back if he pushes her). *Point to boy.* That's one thing that might happen. The girl might (cry) if he pushes her. *Continue pointing to each character as it is being described. Repeat the whole sentence; that is, "The girl might cry if the boy pushes her," not just "the girl might cry."* Now we have two *(show two fingers)* things that might happen.

When no further thoughts are offered, change the question to: What might this girl *(point to girl)* DO if the boy (pushes her out of the way)? *Let group respond.* OK, Donald, that's one thing she might do. Can anyone think of something different the girl might do if the boy pushes her? *Elicit different things the girl might do.*

If not already offered ask: What MIGHT the girl SAY to the boy if he (pushes her out of the way)? *Let group respond.* She MIGHT say *(repeat response)* OR she might say _____. Can anyone think of something DIFFERENT she might say?

If not already offered ask: How MIGHT the girl feel if the boy pushes her out of the way? Do you think she might feel happy, sad, or mad? *Let group respond.*

When all thoughts have been completed, follow with MAYBE SOME of us think (pushing her out of the way) is a good idea. Maybe some of us think (pushing her out of the way) is NOT a good idea.

If you think (pushing her out of the way) IS a good idea, raise your hand. Mary, why is (pushing her out of the way) a good idea? *Let Mary respond.* OK, Mary, MAYBE it IS a good idea because *(repeat Mary's reply).* Tommy, why do you think (pushing her out of the way) is a good idea? *Let Tommy respond.* OK, Tommy, MAYBE that's a good idea because *(repeat Tommy's reply).*

If you think (pushing her out of the way) is NOT a good idea, raise your hand. Tyrone, why do you think that is NOT a good idea? *Let Tyrone reply.* OK, Tyrone, MAYBE that's NOT a good idea because *(repeat Tyrone's reply). Continue to ask each child who raises his hand.*

If a consequence seems irrelevant ask: Why might that happen next?

If consequences are enumerated, such as "she'll hit him," "kick him," and so on, classify in the usual way: She MIGHT hurt him if he (pushes her). What else might she do that is different from hurting him?

If there is time, elicit another solution, write it on the left of the line, and repeat the same line of questioning with a new solution. Use non-forceful solutions such as "say please" and "give her candy" as well as forceful ones such as "hit" or "snatch" for eliciting consequences.

If a child wants to change his mind about a solution being or not being a good idea, ask: Why do you think_____ now?

—DAY 38—

PROBLEM 6

A boy wants a teacher to look at his painting too. Use the picture of a girl and a teacher putting up a painting and a boy holding a painting in front of him from the Social Development set. Elicit consequences using the same dialogue as for Problem 5.

—DAY 39—

SIMULATED REAL-LIFE PROBLEM

The purpose of this day's lesson is to review many previously learned concepts and to introduce an action game to break up the flow of repeated picture problems. *Give each child a different animal (or other) trinket.* Johnny, what animal do you have? *Ask each child the name of the trinket he is holding.* Brian, would you like to have an animal that someone else has? *If Brian says yes follow with:* Can you think of something you can do or say so_____ will let you have the _____? *If Brian does not succeed say:* Oh, Brian, can you think of a DIFFERENT idea? *Let each child in the group have a chance to obtain an animal that someone else has. If the child's idea is successful follow with:* How does that make YOU feel? *Let the child respond.*

If grabbing or hitting occurs ask: How does that make him feel? *Let child respond.* What might happen next (what might he do or say if you grab that from him)? *Let child respond.* Can you think of a different idea so he will not (be mad, grab it back)?

After each child ends up with the trinket he likes pick an animal that one child is holding (such as a bear) and say: Who is NOT holding a bear? *If the child holding the bear raises his hand say:* Now listen carefully, Who is NOT holding a bear? *Repeat the questioning, sometimes asking who IS holding a_____, and sometimes asking who is NOT holding a_____.*

—DAY 40—

PROBLEM 7

A child wants his brother to stop breaking his toys. Use any appropriate pictures. Elicit consequences as for Problem 5.

—DAY 41—

PROBLEM 8

A boy wants his mother to buy him a new puzzle. Use any appropriate pictures of a boy and a woman. If necessary, draw a puzzle on the board or use a real puzzle from the classroom. Elicit consequences as for Problem 5.

—DAY 42—

PUPPET STORY: REVIEW

The purpose of this lesson is to review earlier concepts through finger puppets. *Use finger puppets of a boy and a girl.*

BROTHER: *(making crying sound).*

SISTER: I wonder why my brother is so sad. *(Turn girl puppet toward boy puppet.)* Why are you so sad?

BROTHER: How do you know I'm sad? How can you tell?

SISTER: I can see with my eyes that you're crying.

BROTHER: I'm going to put my hands over your eyes. *(Hold the boy puppet so that he is covering the girl's eyes.)*

BROTHER: Now you can't see me crying.

SISTER: I can still tell you're sad.

BROTHER: How? *(Crying.)*

SISTER: I can hear you with my ears.

SISTER: *(aside)* I wonder why he's so sad. *(To children):* How can I find out? *(Let children respond).*

SISTER: I'll ASK him. Let's ask him together. Why are you so sad? *(Have children repeat after you.)* Why are you so sad?

BROTHER: Why do you think I'm so sad?

SISTER: Because you cannot go out and play?

BROTHER: No! *(Pause).* That's not why I'm so sad.

SISTER: *(to children):* Does anybody know why he is so sad? MAYBE because_____. *(children respond).* Maybe because *(repeat response)* OR who has a different because? *(Children respond.)*

SISTER: I think I know. You want to go to the zoo and no one will take you. Going to the zoo would make you happy, right?

BROTHER: No!

SISTER: No? Going to the zoo would make me happy. I thought that would make you happy too.

BROTHER: I do like the zoo. But I went to the zoo already today. I do NOT want to go to the zoo again now.

SISTER: Oh, I did not know you just went to the zoo. Would going for a walk make you happy?

BROTHER: No! I do NOT like to walk.

SISTER: Walking makes ME happy. I thought walking would make you happy too.

BROTHER: Different people like different things. You like to walk. I do NOT like to walk.

SISTER: *(to children)* Do you have any ideas? What might make my brother happy? *(Encourage the responding child to ask the brother puppet if his idea would make him happy.)* Can you ASK him?

Have the brother puppet agree sometimes and disagree sometimes with the

children's suggestions. For an inhibited child have the brother agree. If the brother is going to disagree with a suggestion such as candy, follow with the brother saying: Do you like candy, Sally? *Let Sally reply.* Does candy make you happy, Sally? *Let Sally reply.* Candy makes YOU happy, Sally. Candy does NOT make me happy.

SISTER: Can anybody think of something different that might make my brother happy? *(Let child respond).* Can you ask him? *(Encourage child to ask the brother puppet. If the brother is going to agree with the suggestion such as going to the store, follow with the brother.)*

BROTHER: Do you like to (go to the store) Robin? *(Let Robin respond.)* You like to go to the store and I like to go to the store, too. Yes, going to the store does make me happy.

SISTER: Who has another idea? *(Let group respond. Encourage the child who responds to ask the brother puppet if his idea would make him happy. After several more ideas have been offered, have the brother agree to several of them and continue.)*

BROTHER: Yes *(repeat child's suggestions),* jumping makes me very happy AND apples AND swimming. See. More than one thing makes me happy. You asked me and you found out what makes me happy and also, by asking, you found out what does not make me happy. Now that you made me happy, I would like to make you happy. Would you like to play with me?

Let each child have a turn playing with the puppets. If more than the two finger puppets are available, distribute them for the children to play with.

Solutions and Consequences Pairing

For Problems 9 through 12 the goal is to teach the child to think of a solution and then think immediately of its consequence. Ultimately it is hoped that the child will learn to think of a solution, weigh its pros and cons, and then decide which alternative is most appropriate before taking action.

Place the picture in the upper left-hand corner of the board and present the problem. You can now use the word *problem* with the children. The problem today is_____. Have the children repeat the problem as usual. Then draw a line in the middle of the board. Say: "Today we're going to play our game in a new way. I'm going to ask you for one idea. I'm going to write it over here." Point dramatically to the left side of the line. "After we have an idea, I'm going to ask you about what might happen next. I'm going to put what might happen next over here." Point dramatically to the right side of the line. This visual distinction will help clarify the difference between a solution and a consequence.

After eliciting one solution ask immediately what might happen next as a consequence to that solution. To elicit consequences ask one of the following questions until one consequence is given: "What might happen next?" "What might B do if A_____?" "What might B say to A_____?" "How might B feel if A_____?"

Ask for one consequence only. Then go to the second solution. After one new solution has been given switch to eliciting a consequence. Occasionally call on one child at a time and ask: "What's your idea, Shelly?" Let Shelly respond. "Shelly, if *(repeat Shelly's response)* what might happen next?" Occasionally follow with: "Is that a good idea?" Let the child respond. "Why is (is that not) a good idea?" Treat enumerations, acceptable and questionable responses, and chaining as for alternative solutions and alternative consequences.

—DAY 43—

PROBLEM 9

A girl on a bike wants a boy on a wagon to get out of her way. Use the picture of a girl and a boy riding in a playground from the My Community set.

The problem today is: This girl on a bike *(point)* wants this boy *(point)* on the wagon to get out of her way.

What is the problem? What does the girl want the boy to do? *Children repeat the problem.*

Today we're going to play our game in a new way. I'm going to ask you for one idea. I'm going to write it over here. *Draw a line down the middle of the board and point dramatically to the left side of the line.*

OK. Who has an idea of what this girl *(point)* can do so this *(point)* boy will get out of the way?

After one solution has been offered say: OK. Now listen carefully. This is a hard question. If *(repeat the solution)* then what MIGHT happen next? *If a consequence is not offered follow with the remaining questions, such as:* What might B do (say) if_____? *As soon as one consequence is offered say:* OK, that might happen. I'm going to put all the things that might happen next over here. *Point dramatically to the right side of the line.*

Now listen again. I'm back to this side of the board *(point to the left side of the line).* Now we need an IDEA again, something the girl can DO or SAY so the boy will get out of the way. Ralph, what's your idea? *Let Ralph respond.* OK, if the girl *(point to the girl and repeat Ralph's idea),* then what might happen next? What can I write on this side of the board? *Point to the right side of the line.*

Repeat this line of questioning, always alternating solution and consequence, intermittently asking: Is that a good idea? Why is that a good idea? *Such questions should be asked for nonforceful ("ask him") as well as forceful ("hit him") solutions.*

—DAY 44—

PROBLEM 10

A girl on top of a slide wants a boy at the bottom to get off so that she can slide down. Use the picture of children in a playground from the Social Development set. Follow the dialogue for Problem 9.

—DAY 45—

PROBLEM 11

A boy wants a man to give him a ride on the firetruck. Use the picture of a boy, a dog, and two firemen from the My Community set. Follow the dialogue for Problem 9.

—DAY 46—

PROBLEM 12

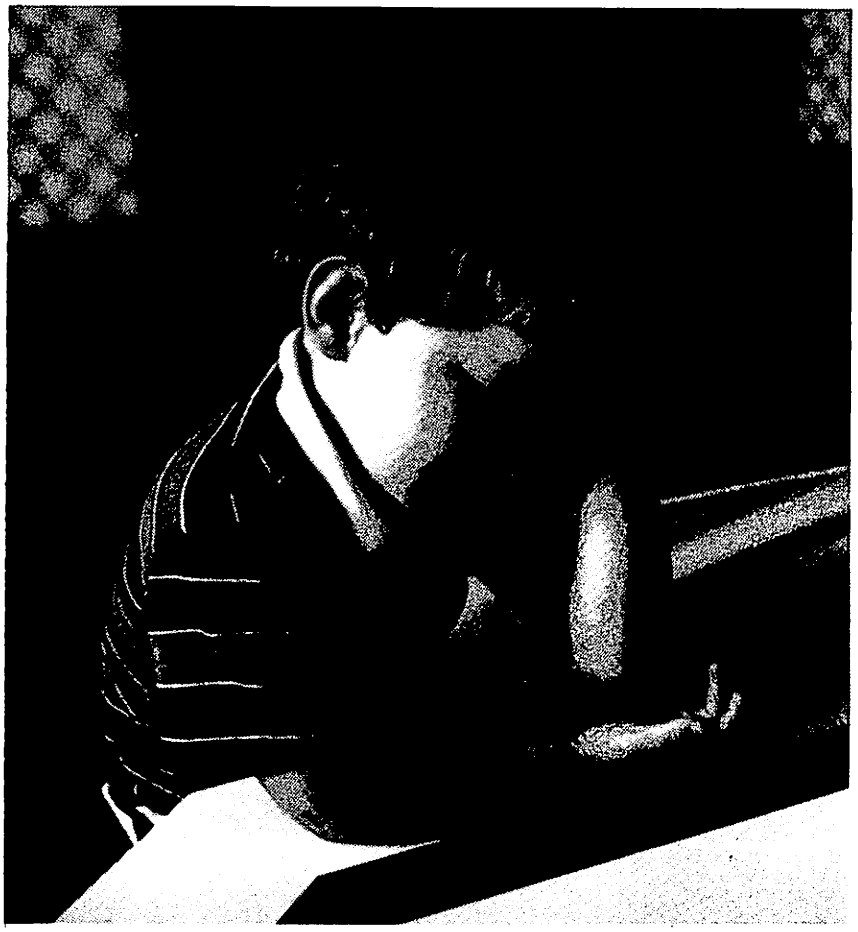
One child wants another to come to his house and play. Any pictures of children are suitable. Follow the dialogue for Problem 9.

At this point the formal preschool script ends. But interacting with the children on the basis of this approach should not end here. As described in Chapters Five and Six, there are ways to use the program informally throughout the day.

Eugenio Echeverria is presently a graduate student in the Masters Program in Philosophy for Children at Montclair State College. As part of his degree program, he is teaching philosophy to a third, fourth, fifth and seventh grade class in Totowa, New Jersey, to a small group of teenagers at a West Orange facility for children with social problems, and to a number of classes at P.S. #207 in Harlem. Prior to coming to the United States, Mr. Echeverria had studied Philosophy for Children in Mexico and had published an article on it in a leading Mexican magazine. The following is a selection from a daily journal which he kept with regard to one particular philosophy course he taught to a third grade school at the Watchung School in Montclair, New Jersey. The class was using the early childhood program, Kio and Gus.

Third grade students discuss Kio and Gus

By Eugenio Echeverria



15 of September

I had never been in front of a group of 30 kids seven and eight years old, so I really didn't know what to expect. But the idea of teaching philosophy for children was for me an exciting and challenging adventure.

After reading the introduction to *Kio and Gus,* I asked them what ideas they had found interesting.

We talked about animals and did an exercise about how we perceive things. The idea of a haunted house attracted the attention of several students.

ME—When is something scary?

—When it happens suddenly, when you are not expecting it.

ME—Is a surprise something that happens suddenly?

—Yes.

ME—Are surprises scary?

—Not always. When you discover that you have got a new bicycle for your birthday, it is a surprise and it is not scary.

22 of September

They sat on the floor making a circle

in front of the classroom. Janice liked the idea because in that way, we didn't need to push all the desks around, and since the students were all together in a smaller place, their temptation to be distracted or thinking of something else was reduced.

During this session, more children participated for the first time. I felt pleased about it. I asked David (who is a very good reader) to read the first part of Chapter One, and he did this using a surprisingly accurate intonation where it was needed. This time they understood the content. I knew this when they were able to answer some questions about it.

We talked about putting ourselves in the place of another person. I was not able to carry the discussion to where I wanted—towards understanding other people's points of view. Instead of that, they wanted to talk about pretending they were Superman, Wonder Woman, a tree, Bam Bam, etc.

One of the interventions that I found interesting was the one of David R. He said that "Gus did a very good interpretation of Roger, because he (sic) was able to express what Roger really felt." Then he asked if Gus was a person. This was a good opportunity to explore what makes a person a person; unfortunately, I didn't do it.

During that class, we talked about giving reasons when making certain statements; like: "Why would somebody say that there is going to be a storm?" Or, "Why or when should somebody say that someone else is eating like a pig?" They seemed to enjoy this exercise very much.

Later on they talked about how we can detect cues from the environment, and how these cues can lead us to make certain statements.

ME—What reasons could there be for not coming to school? Are there bad and good reasons for not coming to school?

DAVID R.—When you want to go to a special movie, even if it is *E.T.*, you have to plan to go on the weekend. Because, isn't there a law that says you must go to school if you are able to?

PETER—Yeah! The only reason you can *not* come to school, is if you are going on a special trip, or you are sick.

ME—So there's no way that you could stop coming to school if you wanted to?

SOMEBODY—It's terrible not to go to school, because there's knowledge there; you can learn things.

ME—So you think that if you don't come to school you are not going to learn anything?

SOMEBODY—No; but really, if you don't want to go to school you shouldn't stay at home.

29 of September

We read the third and fourth part of Chapter One of *Kio and Gus*. I think that it was too much material for one session. The children found many ideas that they wanted to talk about, and the time we had to do it did not allow us to explore all of them.

One of them brought up the idea of a horse with wings. This led us to analyze what exists and what is real. We tried to identify the conditions needed to call something real or existent. They said that for something to be existent you have to be able to feel it; another said you have to be able to touch it; another said you have to see it; one said you have to know it; and one more said you only need to think about it because something can exist in people's thoughts.

"Dinosaurs don't exist,," was one of the comments; "They are extinct." But David R. said: "I think in a way they exist, they exist in people's imagination, and they wish they could find something unusual; so they think about it and try to find it.

PETER—I guess Eric is right because there is such a thing as a dragonfly.

David West said that dinosaurs and flying horses are like the rainbow; "You can't see it when you are standing by it, but you can see it in your imagination." They got involved in a discussion about whether there's an end to the rainbow or not. "The rainbow is a circle around the world; so if it goes through the desert you can't see it because it doesn't rain there, and you need rain to see a rainbow." "You can't see a rainbow from outer space." "Then how can you get to a rainbow?"

Eric said that David W. and David R. were saying the same thing, but in different words.

Another comment was: "I've seen a rainbow; it makes you believe in it more than in a flying horse." Eric said that you believe more in something if you can see it. Another one said that something can exist in pictures, in our imagination.

I asked them what else was needed for something to exist.

DOUGLAS—Well, if someone thinks about something, then it exists.

DAVID W.—Lots of people get tricked by illusions.

ME—Do you think an illusion is not real?

DAVID R.—Well, the rainbow is real because there it's drops of water that form it. But the illusion itself is not real.

ERIC—You know the rainbow is just water, but you can see it. So then you say, no, it's just water, and then you have a fight with your own self, your soul and your body, they are fighting; and then, whichever one wins, you could tell, because you could feel it. Because if it is, you could hear it by the splash if it's water, and it would disappear if when you get there it's not water, and then you can't see it. Now I'm having a fight with myself. I don't know how the rainbow can stay up there.

(I feel the need to have more or less structured exercises with specific topics, because the children are now exploring many concepts at the same time. By Monday I will have some exercises, and I will try to do some with them.)

There was a lot of talking going on. I don't find this necessarily bad, but I feel that I need to give more attention to each child, and encourage others to participate.

4 of October

We read the part of the story where Gus asks her mother: "Besides seeing, is there anything else I can't do, mama?" I was surprised to discover that none of the children thought that Gus was blind. They argued that she didn't see very well, but she could see. They said she couldn't know if she was beautiful because she had never seen herself in a mirror. This carried us to a discussion about mirrors.

Eric argued that you can't see a mirror. You can only see reflections. David answered that there has to be a mirror in order to see the reflections. Eric said that

he was talking about a mirror without any color: with the color of water.

ME—And what's the color of water?

ERIC—No color.

DAVID R.—It is like when you see through a glass. You can't see the glass.

We did the exercise about hearing, and how you can prove if someone hears better than someone else. They distinguished between people hearing more or less when they are asleep, or when they are awake.

ME—Can you learn how to hear better?

DAVID R.—No, you don't learn how to hear better, but you understand words better. You can't get lessons about how to hear better, you pick it up.

ME—What's that you pick up; the words, or the sounds?

DAVID R.—You really pick things orally, you really don't pick them up, you pick them up by listening to them. I think you do pick them up by saying them also, because you learn how to pronounce them.

ME—Is it the sounds, or the meanings of the words?

DAVID R.—I think the sounds, cause, some people just can read ahmm.. maybe ten paragraphs without knowing their meaning.

ERIC—Are you saying that you don't learn how to hear better, but you are learning the words?

DAVID R.—I don't think you learn how to hear better when you grow up.

ERIC—No! You learn the words better, you understand.

DAVID R.—I don't think you learn to hear better when you grow up, I think you. . . .

ERIC—You understand better?

DAVID R.—Yeah, you understand better.

ERIC—That's what I say, and you say you disagree with me.

DAVID R.—I do disagree in a way, because sometimes, you do, you do hear better, because you hear words more often.

6 of October

We read again the part of the second chapter of *Kio and Gus* that we had read during the last class. We talked about it, because I thought that many issues had been left untouched.

David West argued that it's difficult to measure if somebody can smell well or not. He said (talking about Gus) that maybe some people think that she can smell well, and that might not be true. It's difficult to prove it.

We did an exercise that talks about how we can know if something is true. What they had to do was to say if they agreed or disagreed with the statements that I read them, and give reasons for their position.

ME—Are there giants, or not?

ERIC—The biggest man in the world is a giant; so giants exist.

DAVID W.—I think they are talking about make-believe (the statement talked about a giant in a story); they are not talking about real people. Besides, Jack couldn't have killed a person.

ME—I know that one plus one equals two, because I wouldn't be able to figure out anything if that weren't true.

DAVID R.—I disagree with that statement, because you don't need to know that one plus one equals two, to know that Afkin is wearing blue jeans. Now, naturally, when you get into mathematics, that helps, but you don't need to know it. It isn't like you've got to have that, or else you can't know anything.

ME—Whatever you know, you believe.

DAVID W.—I know my sister, but I don't believe that she is nice.

Time was almost over, so we stopped. Since they all wanted to listen to the tape recorder, I asked them to tell me their ages and names; then they listened to their voices in the tape recorder. It was good, because children that had never before opened their mouths, did it this time. Maybe the next class they will feel more confident and talk during the class.

7 of October

We read the part of Chapter Two where Gus' father tries to describe her appearance to her, using similes. The one that they liked best was the one that talks about the banana split. I asked them to make up examples like the ones on the book about similes, but they were not able to do it.

Many of them said that Gus was trying to get out of the conversation. I didn't understand what they meant by this.

One of them told me that the examples that Gus' father gives to describe her, are similar, and different. They are similar, because they are all being related to Gus. They are different, because one talks about smell, the other about taste, and the third one talks about sound.

We did an exercise on how or in which way different things could be alike. Maria was still struggling with the one about a shirt and a towel when she raised her hand. But by the time we were talking about a story and a fairy tale, I called on her and she said that we could wash our face with both. This triggered the laughter of the others that immediately started saying things about washing their faces with a fairy tale or a story.

13 of October

We read Part Three of Chapter Two, where they are making things out of clay. We talked about how Gus made the head in a special way, beginning from the inside and finishing with the outside. Someone said something about copying a head in certain way.

ME—Is Gus doing a copy of a head?

PETER—Well. . . Gus is showing Kio how to make a head.

ME—Is that a real head? (Silence)

ME—Is it real?

SOMEBODY—Yes.

ME—Everybody agrees? (I heard some no's)

DAVID W.—I disagree. Of course it's a real head, but that doesn't mean it's living. But it's a very good copy.

SOMEBODY—But it's not a real thing. It's a copy of a real thing.

ME—So is that head a copy, or a real thing? Who thinks it's a real thing? Nobody? Everybody thinks it's a copy?

SOME OF THEM—Yes.

ME—So, if it's not real, then it doesn't exist?

DAVID W.—No. It does exist. I think that in one way, exists means that it is there, but in some way, it means that it's living. Of course it's not living, but it still exists.

ME—So you say the head exists?

DAVID W.—No, I'm not sure, I'm not sure now.

ME—It doesn't exist?

DAVID W.—No. It doesn't exist.

ME—So, there's no head.

DAVID W.—Well, no. I mean, I'm just not sure which word it is.

DAVID R.—I think it could also be a copy, and I think it exists.

ME—It exists.

DAVID R.—Because, clay is something, and clay exists; so that what you make out of the clay exists.

DAVID W.—It doesn't exist, because extinct means not alive.

DAVID R.—But clay exists, doesn't it?

DAVID W.—But it's not alive. It's natural. You're talking about the natural world, it's not alive.

DAVID R.—Then what do you call the microorganisms inside clay? You call them dead? I don't think so.

DAVID W.—I know! But I. . . I mean, they aren't exactly alive.

DAVID R.—Is that table alive?

DAVID W.—I know; but it exists.

DAVID R.—Does it exist?

DAVID W.—No, because the trees die.

DAVID R.—If it doesn't exist, then it wouldn't be here. What I'm trying to show to you is that things don't have to be alive to exist. Can you tell me that that desk, even though it's made out of wood, is alive?

DAVID W.—I know! But that doesn't mean it exists.

DAVID R.—It doesn't mean it doesn't exist.

DAVID W.—I know. It may not be here. . . except. . . except that . . .

DAVID R.—In a word, where we are getting to is at a tic tac toe game that can't be won.

ME—So you think that desk doesn't exist?

DAVID W.—It doesn't exist the way it is alive. It's just that objects aren't alive.

(Unintelligible interchange. They were very excited)

JOHN—How could the table be alive? It could just walk out the door if it was alive.

ERIC—It is made out of chemicals; it's made out of animals in the air; so, it's alive.

DAVID W.—I know!

JOHN—It's made out of atoms.

DAVID R.—Do atoms exist?

ERIC—No.

JOHN and others—yes. . . yes.

JOHN—You wouldn't be here. You . . . you wouldn't exist if atoms didn't.

(For a moment they tried to talk all at the same time)

DAVID R.—So I think you're saying you don't exist. (to David W.)

(unintelligible)

DAVID W.—We are not talking about non-exist; we are talking about that table, ahh. . .

JOHN—That table is made out of atoms; and atoms are alive.

DAVID R.—So that table does exist.

ERIC—Atoms and chemicals. Yes! Because the paint is made out of chemicals.

DAVID W.—I know! Because of the atoms. That's what I'm trying to say. Now John; then this whole big thing is an atom? (point to a table).

ERIC—That whole thing is made of a million atoms.

DAVID W.—I know that!

DAVID R.—Molecules are made out of atoms ahh. . . molecules mm. . . do molecules exist?

DAVID W.—I'm saying what you're saying. Yes.

DAVID R.—Well; that (pointing to the table) is made out of molecules and atoms; and that exists, right?

ME—Let's listen to what Peter wants to say.

PETER—I don't know what you all are talking about; but ahmm. . . When I see this table here, and . . . all I say is it exists, but it is not alive; you see, if it were alive, it could walk right out the door. (laughs)

ME—It can exist without being alive?

DAVID W.—Yea. That's what I'm trying to say.

ME—Yes? Something can exist without being alive?

—Yes

—Yap

DAVID R.—Nothing can exist without being alive.

DAVID W.—Ohh! Now you're being my part, and I'm being yours. See, I said it had to be alive.

DAVID R.—That's right. Does that table exist?

SOME others said yes.

ERIC—How come it's not walking out the door then!

DAVID W.—I know! Exists doesn't mean alive. Does it?

SOMEONE:—Yes it does! (some others said no.)

DAVID W.—No! I'm only saying part of it means alive.

DAVID R.—Only part of it, but not all of it.

DAVID W.—I know. Now we are saying the same thing.

DAVID R.—Only one fourth.

DAVID W.—I know. I say that. Does the other parts beat that out. It's not alive, except that it still exists; it's still there, and he said exists means it's still there.

(there was some confusion)

I mean. . . I know. I know only one fourth is alive. That's what I'm trying to tell you.

ME—So only one fourth of the table is alive?

DAVID W.—Yeah.

ME—What fourth; this one, or this one or. . .

JOHN—Wait! Let's say one fourth of that table was alive. Atoms are alive. Aren't they? What fourth of that table is alive? This here? That leg and part of the top? The rest of it wouldn't be there.

They went on trying to decide if existence meant or not being alive, and if atoms were alive and everything was made out of atoms.

They were very involved and excited with the discussion.

14 of October

We read the last part of Chapter Two. I was asked by one of them if we could talk more about atoms. I asked them who would like to talk about atoms, and who would prefer to talk about what we had just read. To my surprise, most of them wanted to talk about atoms.

DAVID R.—That's what I wanted.

ME—Yes?

ERIC—That's what John wanted too. David W. must want that too.

SOMEONE—We want to discuss about atoms.

JOHN—The atoms, really got a point yesterday, and we want to get. . . and we want to, either David W., and whoever was in his side, or us; to get somewhere.

ME—You want to get somewhere.

JOHN—To finish the conversation.

ME—Okay.

During the whole class we talked about atoms. All of them seemed very

interested in the dialogue; even when it was only five or six of them that were being active participants.

John argued that if we could arrange the atoms of anything, in such a way as the atoms of the brain, then that object or thing could actually think.

JOHN—You don't have to walk around, or you don't have to breathe, all you have to do is to be made out of atoms to be alive.

By the end of the period, the opinions were divided. Some agreed with the idea that the brain is made out of atoms, in the same way as anything else is made out of atoms. Some said it was different, and that you could not arrange the atoms of a chalk in such a way as to make it think.

The chalk that thinks came into the picture when I was responding to one of the comments of John, and told him that "if we could arrange the atoms of anything in the same way as the atoms of the brain, then we could even make a chalk think." To my surprise almost everybody said this was possible.

This instance made me aware of the risk that we run when we play devil's advocate with small children. They believe most of the things that we say, and sometimes, instead of trying to challenge an argument that is obviously absurd (at least for us), they try to back it with their opinions. We have to be careful with the use of this technique, because small children view the teacher as an authority who KNOWS. It is difficult for them to discriminate between the instances in which the teacher is challenging them in order to motivate their reasoning, and the ones in which he is asserting something as a fact.

27 of October

We read Part Three of Chapter Three. They identified the ideas in which they were interested, and then we talked about the possibility of knowing what other people think. They said they could tell by mind reading, guesses, and by emotions.

David R. said that we can tell if people are angry, because they are upset, and you can see that. But if they are crying, you cannot tell if they are actually laughing, or if they are upset.

We did the exercise called: What happens when we think?

ERIC—There's two different ways you could think about the future and remember about the past.

ME—How is that?

ERIC—Like thinking what's going to happen when I go to Great Aventure next year; and remembering last year, what I did on my birthday, so I can do it this year.

I found an interesting distinction when I asked them; "What do you do when you think about your best birthday?" Most of the girls said; "I imagine", and most of the boys said "I remember." Rakeesh said "I believe", and David R. said he remembered and understood.

ME—What kind of thinking do you do when you don't think about an elephant?

Most of them said wondering, but when I made it clear that it was when you *don't* think about an elephant, Laureen said: "I think in something else". Almost all of them said that they were imagining when they thought about an enchanted island.

ME—What kind of thinking do you do when you think about thinking? Can you think about thinking?

ERIC—When I'm lying in my bed, thinking of this guy lying in bed, it is thinking that he is thinking that a guy lying in bed was thinking, and that guy lying in bed uhmmm. . .

DAVID R.—Could you say that again?

ERIC—UHMMM. . . So, I'm wondering.

ME—What kind of thinking do you do when you think about your next vacation? Rakeesh?

RAKEESH—I'm . . . wondering.

ERIC—You're wondering because that can't happen yet, and you're wondering ahead.

DAVID R.—It's anticipation.

ME—Because you're thinking ahead?

DAVID R.—Yeah. You're anticipating what's going to happen.

ME—What kind of thinking do you do when you think about your best friend?

ERIC—Believing.

ME—Believing?

ERIC—I'm believing about him.

ME—Do you agree?

DAVID R.—I'm sort of between remembering and believing.

(I don't remember how this class ended. Something went wrong with the tape-recorder and I don't have a record of the rest of it.)

1 of November

We read Part One of Chapter Four. I asked them what had been interesting for them. They had many ideas. Unfortunately, the tape was not very clear.

They talked about getting or not getting married. One of them thought this was embarrassing. I related the subject with an exercise on intentions. Thinking about taking the necessary actions to do something that we want to do. Eric came up with one suggestion; he wanted to talk about the chalk that thinks. Many of them supported him. I don't know why this subject was so exciting for them.

ME—We are talking about intentions, but let's see; what do you want to say about the chalk that thinks?

JOHN—I wanna go home right now, get my chemicals, and I'll be right back.

DAVID W.—How could you make a chalk think?

ME—You're still wondering about that?

DAVID R.—Yeah, yeah, the chalk that thinks.

Eric started talking about the right size of chalk needed for making it think.

ME—Next time, Eric, you can bring us here a chalk that thinks; and then, we talk about it, okay?

ERIC—Okay.

JOHN—November the second; we will have here the chalk that thinks.

3 of November

I thought that Eric had forgotten about the chalk that thinks, but the first thing I saw when I entered the classroom, was Eric, with a big smile, calling my name, and showing me a piece of chalk that he held proudly in his hand. After I organized them in a circle, we read Part Two of Chapter Four. Then I asked them if they would like to talk first about the the chalk that thinks, or about the part of the story that we had read. Eric's chalk was the favorite. He went to the blackboard, and as he ordered the chalk to write "mammals", he did this on the blackboard. I asked the others; "Who is doing the thinking, the chalk,

or Eric?'' They decided that Eric was the one that was doing the thinking, and not the chalk. (I hope this will be the last incident with the chalk that thinks.) John had already started to tell Eric that the first thing they had to do to make the chalk think, was to mash it. After almost everybody decided that it was quite difficult to make a chalk think, and after I managed to persuade them to take their seats and stop playing with chalk at the blackboard, we discussed the ideas from what we had read.

ME—If they send the chickens to the market to get killed, why don't they do the same with Roger?

ERIC—Because he is part of the family.

ME—Do you think that an animal can be part of the family?

MOST of them—Yeah, yes.

ERIC—I'm part of the family; and I'm an animal.

ME—In the same way as your pet?

(laughs from Eric and others)

DAVID R.—Do you eat cat food or dog food?

ME—What's the difference between the chickens and Roger?

DAVID W.—Roger is lovely, and besides, you have lots of chickens and you don't have lots of Rogers.

ME—So if you have too many, it is okay to kill them?

DAVID R.—Yeah. Because then, umm. . . then, it will be a chicken world, if you let them live.

ME—What about people? If they are too many, it is okay to kill them?

DAVID R.—Well. I don't think you need to kill humans, because they are already killing themselves.

After a while of discussion, David R. asked: ''What came first; the chicken, or the egg?

ERIC—What do you think?

SOMEBODY—The chicken.

ERIC—(with certainty) No, the egg. Dinosaurs laid an egg, and it turned out to be a chicken instead of an egg; so that the egg came first.

DAVID R.—How come the chicken didn't lay an egg and it became a dinosaur?

ERIC—Nobody knows.

ME—Where do you think that dinosaurs came from?

ERIC—They came ahmm. . . from the water. Got legs, just like ahmm frogs, from tadpoles.

DAVID R.—That does not answer that question, which came first?

ERIC—Yes it does!

JOHN—Yes it does. The chicken came first, and then came the egg.

ME—And where did the chicken come from?

JOHN—It developed from the early birds.

ERIC—Where did the early birds come from, then?

SOMEBODY—The early birds came from lizards.

ME—John, where did the early birds come from?

JOHN—They developed from fish.

DAVID W.—They developed from dinosaurs. But that doesn't answer the question.

JOHN—I know. How did the fish come here?

Eric stood up and asked Miss Jacobs, ''Where did the early birds come from?'' He returned and said: ''Okay, the early birds, —I just asked Miss Jacobs—, the early birds,—John was right—, they came from reptiles.

JOHN—Everybody was wrong.

ERIC—They came from ahmm. . . Listen! they came from little particles in the water.

DAVID R.—And where did those little particles in the water come from?

ERIC—They formed.

ME—How?

ERIC—They just formed.

4 of November

We read half of Part Three in Chapter Four. I wrote their ideas on the board. We talked about Kio and the bat that appears in that part of the story.

One of them asked if it was a baseball bat. He knew it wasn't, but I guess he was stressing the fact that the word bat had different meanings. We agreed that sometimes, the same word can mean something different when it is used in different contexts.

We did an exercise from Pixie; where they talk about a cat that didn't like to eat mice. It only liked birds. This cat found itself in trouble when it encountered a bat, because it couldn't decide whether to think of it as a mouse, or as a bird.

ME—The cat had become very fat from eating birds. Is this possible?

DAVID R.—This can't be. Probably, because if it had gotten fat from eating birds, then it couldn't go chasing them anymore; cause it can't be very fat, and try to catch birds.

ME—Do you think the family where the cat lives would like it if it catches the bat?

ERIC—Yes! Because he would catch a mouse and a bird at the same time. That's great!

JOHN—Half mouse and half bird.

ME—Do you think that the cat would feel well, when we know that it doesn't like to catch mice?

DAVID W.—Yes. Because he thinks that he is catching a bird because it is flying. He doesn't know what the animal is. He just knows what the procedure is. If he uses one procedure to get the animal; then it's a bird.

ERIC—But now it's a bat!

DAVID W.—I know! But in the procedure, he knows which procedure is which. He has to jump to get a bird, and he has to crouch to catch a mouse.

ME—So you think it may decide to catch the bat, because it would be using the same procedure as for catching a bird?

DAVID W.—Yeah.

DAVID R.—No. He couldn't. He couldn't do that; cause with the bird, the easiest thing would be to scratch out all the feathers. Right?

SOMEONE—Right.

DAVID R.—So, you can't scratch out the webbing from a bat. Also, birds can't see all the way around. Bats can't. . . they can't see, but they can hear; so they can hear the cat, whereas a bird would have to look around, just like us. They can't look behind themselves. Bats could just be flying around, and they'll know what's behind them, to their left, to their right, to their front.

DAVID W.—I know! But that's still the same procedure. It'll just have to do the same procedure over and over again.

DAVID R.—No, it isn't; cause you've got to jump right up. You can't jump at an angle, cause then the bat could see you.

JOHN—It's better to jump at an angle; cause it's more difficult to grab it if you jump right up.

Book Review...

Childhood and Cultural Despairs: A Theme and Variations in Seventeenth-Century Literature by Leah Sinanoglou Marcus. Pittsburgh: University of Pittsburgh Press, 1978. 305 + xii pp.

In the first chapter of her stimulating study, Leah Marcus quotes the following words of T.S. Eliot, taken from a review of Edmund Blunden's study of the 17th-Century poet, Henry Vaughan:

> It does not occur to Mr. Blunden that the love of one's childhood, a passion which he appears to share with Lamb and Vaughan, is anything but a token of greatness. We all know the mood; and we can all, if we choose to relax to that extent, indulge in the luxury of reminiscence of childhood; but if we are at all mature and conscious, we refuse to indulge this weakness to the point of writing and poetizing about it.(8)

Marcus says this in reply:

> . . . the poetic "regression" of a significant number of intellectuals cannot be dismissed as only weakness or self-indulgence. By reading all six seventeenth-century poets [Herbert, Herrick, Cranshaw, Vaughan, Traherne and Marvell] against a background of wider social and intellectual attitudes, we will become more attuned to larger resonances behind the poetry, more sensitive to the depth and implications of a pessimistic malaise perhaps best termed cultural despair. (8-9)

Two questions need to be distinguished: (1) Is a reverence for childhood, perhaps including a love of one's own childhood, a commendable attitude? (2) Is the idea of revering childhood important for understanding the poetry of Henry Vaughan and other 17th-Century poets?

To the second question, Leah Marcus answers, "Yes," and her book backs up that reply in an entirely convincing manner. The motif of childhood, including the idea of a "return" to childhood, does seem characteristic of the six 17th-Century poets she discusses. Attention to this motif helps us to understand what these poets were about. For them, "retreating to childhood serves as a way of preserving within [themselves] virtues which seemed to have vanished in England at large—unity, stability, simplicity, and communion with God." (201-2)

Not only do we understand each of these six poets better by appreciating more fully the role of the childhood motif in their poetry, we also understand them better when we note that this 17th-Century interest in childhood echoes a similar preoccupation in the 14th Century and prefigures that much better known interest in childhood that Wordsworth and other Romantic poets show at the beginning of the 19th Century. In all these periods, Marcus suggests, there is "a connection between the experience of cultural breakdown and an idealization of the undifferentiated wholeness of the child's perception." (242-3)

That leaves our first question, Is the reverence for childhood a commendable attitude? Eliot thought not. Marcus's own answer seems curiously at odds with itself. On the one hand she is anxious that we come to a finer appreciation of those great 17th-Century poets who themselves reverenced childhood. (So there must be something in it!) On the other hand, she herself seems to swallow Piaget in a way that invites Eliot's strictures. "Jean Piaget's research," she writes,

> has clearly shown the inability of young children to distinguish themselves from their surroundings. The world around them seems simultaneously to flow through their minds. They cheerfully hold paradoxical beliefs—a thought or a dream is a voice in the head and at the same time outside it. What appears paradoxical to the adult is simple to the child because he has not yet learned to see boundaries between things. (180)

In fact, it is quite doubtful, in my opinion, that Piaget's research has shown any of these things. But suppose it had shown some or all of them. Then surely Eliot would be right; celebrating the "child's wholeness and unity of mind" (90) would be an altogether unfortunate regression, not a "token of greatness."

Gareth B. Matthews

Book Review...

The Erosion of Childhood
by Valerie Polakow Suransky.
Chicago: University Press,
1982. 221 + xiii pp.

The center section of Valerie Suransky's admiral book is a sensitive description of day-to-day life in Five Midwestern nursery schools and day-care institutions. The Golda Meir Nursery School, we learn in rich detail, provides a highly structured environment that is both protective and supportive, but that breeds conformity and stifles fantasy. In contrast, the Busy Bee Montessori Center, we are told, offers a chillingly effective setting aimed at inculcating the virtues of individual initiative and the work ethic.

A third center, the Lollipop Learning Center, emerges as a frankly commercial enterprise where the shame of advertising breeds self-deception in the staff and management. The Pine Woods Free School is described as a "counter-cultural institution" in which teachers are oppressed by their "commitment to an ideology of unlimited freedom for the child." (166) Only the Martin Luther King Childcare Center sounds like a place where a child would really want to be; unfortunately, as we discover, "cognitive skills" fail to develop well in that setting.

From the wonderful detail of these five central chapters there emerges the picture of institutions that devalue the experience of childhood and, in one way or another, ignore or stifle the child's point of view. Here, for example, is the description of an episode in the Golda Meir Nursery School, certainly one of the best of the five institutions observed:

> During "free play," Jerry tried to climb "into" a fire game taking place within the block area. Two other children shouted, "But you can't go in." Teacher Lesley, who was watching, said, "Here's another firehat so he can play in the fire too." The two boys who were holding brooms shouted, "No, we can't play in it. It might burn us. We have to squirt it." Teacher Lesley: "I don't want you to climb with brooms; you might fall and it could hurt you." Two boys: "But we need to squirt the fire." Teacher Lesley: "You can only sweep the floor." (73)

Of course children sometimes control us adults with their games of imagination. Our younger daughter used to ask her rag-doll companion, Timmy, if he wanted to play in the sandbox, or go down the slide, or whatever, and then announce solemnly, "I'm sorry I can't do it because I have to stay with Timmy and he doesn't want to."

Still, Teacher Lesley seems to have undermined the activity of these children in an unnecessarily careless or heartless way. To be told that the very best firehose one has available is only a broom for sweeping floors is to have the emergency one was desperately trying to cope with, denied its legitimacy.

Flanking the center section of *The Erosion of Childhood* are three introductory chapters and two concluding ones. The introductory chapters provide a sketch of the history of concepts of childhood and a brief history of daycare in the United States; they also address the question of methodology in the study of children and childhood.

The concluding chapters adumbrate a phenomenological approach to childhood and offer a brief consideration of the politics of childhood. The very last chapter offers comments on childcare institutions in other countries and makes the important point that efforts to liberate women, by relieving them of special responsibilities for the care of their children, may further oppress children, by consigning them to institutions that deny or disregard their point of view.

Especially tantalizing is the penultimate chapter. It invokes familiar themes from phenomenology—becoming at home in the world, the lived-world of the child, becoming oneself in the mode of play, authenticity, choosing one's project—to inform the critical evaluation of daycare institutions and to suggest an alternative approach to the study of childhood and of children. The philosophical reader will, no doubt, want to read much more about the phenomenology of childhood than this chapter provides. From the helpful footnotes, though, one could put together a modest bibliography for that purpose.

Valerie Suransky was wise to set her close observations of daycare institutions in the broader context of history and theory. But it is the patiently recorded details of her sensitive observations that give her book its very special value. The incidents and comments she records may pain us, but without that pain we may never think any harder about childhood, or do any better by our children.

Gareth B. Matthews

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Published by The First Mountain Foundation for the Institute for the Advancement of Philosophy for Children, Montclair State College, Upper Montclair, N.J. 07043.

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INSTITUTE FOR THE ADVANCEMENT
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MONTCLAIR STATE COLLEGE
UPPER MONTCLAIR, N.J. 07043

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