PHILOSOPHY FOR CHILDREN AND McPECK'S CRITIQUE OF THE CONCEPT OF GENERIC AND TRANSFERABLE THINKING SKILLS

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LIPMAN'S PROGRAM, ITS GENERIC THINKING SKILLS AND MCPECK'S CRITIQUE

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ABSTRACT

This thesis attempts to apply McPeck's critique (one which contests the teaching of critical thinking by using lists of skills assumed to be generic; or applicable to all subjects) to Lipman's program, the "Philosophy for Children".

The hidden question is: "can Lipman's program withstand McPeck's critique?" Is there anything that can be salvaged? Though McPeck's critique undermines Lipman's claims regarding the use of generic thinking skills as a means of educating a critical thinker, this thesis suggests that the skills that Lipman calls "generic" seem to exist. In addition it is suggested that what is needed is to find out what impedes their transference.

This thesis suggests that McPeck's reflections and critique should send us to perpetual inquiry which is the very heart of "Philosophy for Children" where Lipman's program should be viewed simply as a resting place out of which to jump on to better answers.

Résumé

Cette these est une tentative d'appliquer la critique de McPeck (qui conteste l'enseignement de la pensee critique par l'utilisation des listes des habiletes ou aptitudes presumees d'etre generiques et generales) au programme de "Philosophy for Children" de Lipman.

La question cachee est la suivante: "Le programme de Lipman, peut-il resister a la critique de McPeck?" Cette derniere remet en question la position de Lipman sur l'usage des habiletes ou aptitudes generiques de la pensee critique comme moyen de former un penseur critique. Cependant, cette these suggere que ces aptitudes transmissibles, que Lipman appelle generiques, semble exister. De plus, cette these pretend qu'on a besoin de decouvrir ce qui empeche leur transfert.

Cette these suggere que les reflexions et la critique de McPeck devraient nous renvoyer a une recherche perpetuelle, ce qui est, en fin de compte, au coeur de "Philosophy for Children"; le programme de Lipman devrait donc etre percu comme un simple point d'appui a partir duquel on peut chercher des meilleures reponses.

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Chapter 1

Introduction

If one were to search for a justification for the subjects taught in schools since days immemorial, one would find that subjects like latin and mathematics and the sciences were taught in order to educate people to "learn how to infer and to explain and do all those good things that good thinkers do, but transferred into the other, more inert disciplines"[1]. Nash reports that the doctrine of formal discipline involves the idea that "certain subjects by virtue of their intellectual rigor and difficulty, were ideal educational instruments for exercising the "faculties" of the mind.... This "disciplining" of the mind by strenuous effort was considered more important than the actual content of study, an attitude caricatured by the phrase "it doesn't matter what you teach a boy as long as he hates it."[2] Teachers believe that the difficulty inherent in these subjects was sufficient to develop one's brains "the same way as one develops muscles"[3], such that the brain would thereafter be able to handle or solve any problems, found in human learning.

Lipman, like many others, reports that "this cheery Victorian optimism collapsed with Thorndike's findings, in the first decade of the twentieth century," and that transfer of learned thinking skills was an "illusion"[4]. However, Lipman overlooks Thorndike's findings in favour of

Herbert M. Kliebard's "notwithstanding" clause which Kliebard applies to Thorndike's, in order to move the motion in favour of general transferability. Lipman says;

> ...Thus Herbert M. Kliebard "Most humanists continued to insist that the study of certain subjects in themselves had the power to develop desirable habits of thought. Thorndike's experimental evidence notwithstanding, it is still plausible to assume that the prolonged and intensive study of certain subjects results not simply in the gaining of knowledge of skills (the furniture of the mind), but in enhancing certain ways of thinking (the discipline of the mind). What is implausible is that the study of these subjects in itself has that effect. The key to a modern version of mental discipline as a justification of humanism lives not in identifying disciplinary subjects and then proceeding dutifully to study them. The key lies in how the subjects are studied.[5]

To this Lipman adds that "obviously the author cannot bring himself to say that the "how" question has to do with approaching the subjects epistemologically, logically, ethically, aesthetically in a word philosophically"[6].

This polemical approach to Thorndike's charge that general transferability is an illusion, where Lipman takes sides with Kliebard that the study of certain subjects results in "the discipline of the mind" could place Lipman in the cheery Victorian belief of transference of learned skills. Traditionally the phrase "the discipline of the mind"[7] means or refers to transferability.

In 1968, already aware of the controversy surrounding general transference, Lipman devised the Philosophy for Children Program[8] which he claims would improve children's

thinking in general[9], by equipping them with generic[10] and transferable[11] thinking skills.

Generic Thinking Skills

While Lipman claims that his program "Philosophy for Children" improves children's thinking in general by consolidating, among other things, "generic" thinking skills, he does not provide a clear definition of the term "generic". In his article, "Presuppositions of the Teaching of Thinking", Lipman introduces the term "generic" in opposition to the claim that there are only "discipline specific skills" and that there are no skills that transcend a specific subject or discipline. To the claim that "there are what are sometimes called "discipline specific skills", historical skills, writing skills, which are distinctive of these disciplines and which are taught only by the teachers of these disciplines,"[12] Lipman contends that " it is a step that can be taken, but only with great caution. For although it may be the right move to make, it is easy to make it for the wrong reasons. There are two dangers here. The first is to assume that there are only discipline specific skills - in other words, there are no generic skills, such as generic inference, but that one learns to make mathematical inferences in mathematics, historical inferences in history

and genetic inferences in biology - while at the same time failing to include philosophy, the one candidate to be a source of generic thinking skills, among disciplines"[13].

The second danger, says Lipman, is that people would think that philosophy, "the subject that contains logic - and in particular, deductive logic - has no greater prepotency"[14] in teaching thinking in general than any other subject. For Lipman the claim that there are only discipline specific skills and that there are no generic skills is untenable.[15]

When we place this statement in its proper setting, we discern that the term "generic" is used to mean skills that are involved in every discipline, that is, skills that transcend the borders or limits of any specific discipline. In the above quotation Lipman mentions "inference is such a skill." In the quotation below Lipman claims that to "infer" is a necessary skill in all disciplines, hence our assumption that generic skills mean those skills which are involved or found in every discipline. Lipman says:

> Although the variety and complexity of human thinking is unlimited the linguistic expression of these enormously diversified thoughts relies on the same set of basic syntactical structures. One employs the same subject - predicate structures and the same noun-verb structures whether one is a professor or a toddler. Similarly, even when we engage in the most elaborate kinds of thinking long deductive chains, highly abstruse theoretical constructions, and the like - we demonstrate our familiarity with a relatively small number of mental acts, reasoning skills, and inquiry skills upon which the more elegant and sophisticated thought operations are predicated. Without the

> fundamental abilities to assume, suppose, compare, infer, contrast or judge, deduce or induce, to classify, describe, define, or explain, one's very abilities to read and write would be imperiled, to say nothing of one's capacities to engage in classroom discussion, prepare experiments, and compose prose or poetry.[16]

From the above quotation we can assume that for Lipman "generic skills" are "the abilities to assume, suppose, infer, contrast, judge, deduce, classify, describe, define, or explain" which we shall discuss in chapter three of this thesis. These are skills, which Lipman claims, are needed in every discipline.

However if we take the word "generic" to mean found or present in a similar form in every discipline, we will have to grapple with the questions that if that were the case: (1) In what way is "philosophy the source of generic skills" as Lipman claims; and (2) If these skills are in every discipline why introduce a new course in schools which alleges to teach these generic thinking skills as a subject in itself?

If the properties of "inference" (and the other abilities mentioned above) in history are the same as those of mathematics, biology, or any other subject, it could be argued that any subject, say biology, could teach, sharpen and equip children with those generic skills, that is if the elements of those generic skills are the same in every course. If that were the case then there would be no need to introduce a new subject to teach the same thing which could

be taught in and by the already existing courses. In this case, then Lipman's claim that philosophy is the source of generic thinking skills[17] would be rendered redundant or useless. The reason is that for philosophy to qualify for the title of the "source", it would have to be proved that if we were to take another subject, for instance biology, we would find that the generic skills such as "inference" are not naturally present in biology - rather, they are borrowed from philosophy. In this sense "inference" would be a secondary acquisition, a foreign element of biology borrowed from philosophy; otherwise philosophy could not lay claim on "inference" if "inference" were to be a natural, original property of biology.

However, if we were to assume that philosophy is nothing but clear thinking and attribute the properties of the aforementioned generic thinking skills (and anything else to do with thinking) to nothing else but philosophy, and at the same time call all other "subjects" the result of philosophy then it could be argued that by nature other subjects have a secondary or external relationship to thinking.[18] This is the claim that Lipman seems to make while discussing the relationships between philosophy and thinking.

> But there is a tradition that goes back to Plato and that insists that philosophy itself is nothing but "good thinking." This tradition suggests that the relationship between philosophy and thinking is different from the relationship between thinking and other disciplines - that the

former relationship is somehow an "internal" one, while the latter is "external."[19]

Keeping this in mind if we were to place emphasis on the word "source" in the sentence "philosophy is the source of generic thinking skills" we could render the term "generic", as used by Lipman a synonym for "transferable",as shown below.

Generic as Transferable

When we look at another context in which Lipman uses the term "generic" we find that it is possible to interpret the word "generic" as "transferable".

Lipman introduces us to the word "generic" after informing us that other disciplines continued to claim to be equipping children with transferable thinking skills. This, in spite of the fact that Thorndike had claimed that his experiments on the issue had proved that general transference was an illusion. Here Lipman shows his disappointment with fellow scholars of humanities for not mentioning philosophy as one of those disciplines that teach transferable thinking skills. In informing us why fellow scholars rejected the mention of philosophy as a candidate in teaching transferable skills, Lipman introduces us to the term "generic".

> ... to admit that philosophy is the custodian of reasoning would mean that it teaches generic thinking skills, and that this would in turn cause the entire argument that thinking skills are all specific to disciplines other than philosophy to

collapse like the proverbial house of cards.[20]

This quotation does not tell us much until we read the footnote that Lipman attaches, which was already quoted in this chapter, where we are informed that most humanities continued to assume that there are transferable thinking skills despite Thorndike's findings against such a thing. Thus the way Lipman uses the term "generic" in this context could lead us to the assumption that the word "generic" means the same as "transferable".

We could avoid this problem by arguing that the claim that a skill is "generic" is a claim about its epistemic status - that it is a skill which is required in justifying knowledge claims in any field or discipline. Thus if a skill is generic, it is also transferable - that is, if it is acquired in one context it can be "transferred" and applied in other contexts. This is a conceptual point.

However, this should be distinguished from the empirical, psychological or pedagogical claim that persons who acquire such skills in one context of learning will, in fact, also apply them in other contexts. On the latter point, Lipman seems to be claiming that such actual transference of the skills learnt in philosophy will take place, that is, will be applied in other fields of study, if these other fields are themselves approached philosophically. In addition, if children are equipped with cognitive dispositions, these dispositions will lead or

result in the actual importation of the skills learnt in philosophy to the study of other disciplines.

Whether or not Lipman consistently abides by the above mentioned distinctions is not the major point. For the purpose of this thesis, the crucial point is that Lipman claims that there can and should be a special course of study, specifically a philosophical course of study in which the student can learn thinking skills which are useful and necessary in all other areas of learning. This is the major concern of this thesis, not only because it is central to the educational process but also because it has been and still is a controversial issue in education (at least since Thorndike's findings in 1901).

This thesis limits its scope to Lipman's claims concerning generic skills and transferability of learned skills and John McPeck's rejection of the notion of generic and transferable thinking skills.

While Lipman claims that his program fosters generic and therefore transferable thinking skills, McPeck argues that:

> We can, at best, teach people how to reason in specific areas and in connection with specific types of problem, but the various types of reasoning have too little in common to be considered a single skill. I would therefore be suspicious of any book that purported to teach reasoning simpliciter, just as I would be suspicious of one that claimed, without qualification, to teach intelligence or thinking.[21]

It is the task of this thesis to examine McPeck's critique

advanced against programs that profess to teach either critical thinking simpliciter, or thinking in general, and to see its relevancy to Lipman's program. As such, the scope of this thesis is limited to the arguments by Lipman and McPeck. While Lipman takes the view that there are generalizable and transferable thinking skills by which to educate, for example, a critical thinker, McPeck takes the view that thinking skills are discipline specific and that if there is any transferability at all, it is negligible. This is the central problem of this thesis. But first, what is the "Philosophy for Children" program?

Lipman says that the "Philosophy for Children" program is not a watered-down philosophy but rather a philosophy devoid of technical jargon. As such one of the ways Philosophy for Children differs from philosophy as presented by most philosophers is that "Philosophy for Children" is transparent to the reader where the reader becomes "privy to the author's consciousness as it were." The traditional way of presenting philosophy has provoked "thinking only among professional philosophers" due to the fact that texts are opaque to non-professional philosophers.[22]

"Philosophy for Children" avoids opacity by not only using a language that is understandable by children but also by using stories about issues of concern and interest to children. These stories are presented in novels written for a specific age group, and are told in the same way that

children would tell them; thus the program is age-dependent.

While children are being entertained by the stories, they also become privy to the philosophical tradition which is "the persistence to think clearly", a tradition that Lipman traces back to Plato which "insists that philosophy is nothing but good thinking."[23] Through logic, a criterion "of excellence into the thinking process" is introduced which brings "order and clarity into" children's "understanding."[24]

One of the main objectives of "Philosophy for Children" is to help children learn how to "clarify meanings, uncover assumptions and presuppositions, analyze concepts, consider the validity of reasoning processes, and investigate the implications of ideas and the consequences in human life of holding certain ideas rather than others."[25]

In addition, Lipman claims that "Philosophy for Children" helps children obtain new ideas by first of all affirming "what is intelligible"[26] and then by helping them "speculate imaginatively concerning evermore comprehensive frames of reference"[27] and also by pointing out what is puzzling with wonderment, as well as by engaging in "a persistent search for both theoretical and practical alternatives."[28]

"Philosophy for children" takes the view that learning involves the interplay between the cognitive and the affective. To those who take the view that reason, which is

civilized, tames "emotions, which are somehow primitive and barbaric", Lipman says that, that kind of thinking is obsolete.

> The image of the rational thinker coolly keeping his head and making perfect deductions while emotions swirl all about him is a vestige of a psychology that should have been recognized as obsolete long ago.[29]

Thus, the interplay between the affective and the cognitive is a very important aspect of the "Philosophy for Children" program. Lipman, like many others, (such as Mandler, Gardner and Lambert) believes that emotions have a great influence on reason, even to the point that emotions could either edify or corrupt the intellect. Lipman says:

> It is indeed remarkable how persons of character, normally scrupulous in adhering to proper procedures of moral inquiry, can casually ignore considerations of the greatest gravity for other persons involved,should their own advancement be at stake.[30]

The research taken by Gardner at the University of Western Ontario as well as by Lambert at McGill University on attitudes and emotions in the learning of a second language do support Lipman's hypothesis that the affective or emotions play a major role in the corruption or edification of the intellect. This can be seen in the "sociopsychological theory of second - or -foreign - language learning" constructed by McGill and Western Ontario. This theory, in brief, maintains that the successful learner of a second language must be psychologically prepared to adopt various aspects of

behaviour which characterize members of another linguistic - cultural group. The learner's ethnocentric tendencies and his attitudes toward the members of the other group are believed to determine how successful he will be, relatively, in learning the new language. His motivation to learn is thought to be determined by his attitudes toward the other group in particular and toward foreign people in general and by his orientation toward the learning task itself.[31]

Like Gardner and Lambert, among others, Lipman believes that emotions are educable. With this assumption as well as the assumption that in order to educate a rational being, an effective educational system ought to teach both the affective and the cognitive without emphasizing one over the other. Lipman writes:

> That our feelings and desires and appetites do in fact become more sensitive, more knowing, more selective - in short more judicious - would seem to be difficult to deny. It is not our "minds" that compel our always raw, untutored desires to prefer works of art,better friends, better jobs, nobler deeds - it is rather the growing judiciousness of our desires themselves... If we can help children desire more intelligently, have more cultivated tastes and appetites as well as more rational preferences, we will accomplish far more towards making them moral beings than if we merely equip them with a smattering of logic, exhort them to love or respect one another, and induce in them a docile attitude towards our favourite doctrines and ideologies.[32]

Tomko also says that "to apply logical skills where appropriate does not seem to be a strictly cognitive factor. A 'critical attitude' is not straightforwardly cognitive either," as there is a need for the development of

"attitudes and tendencies which allow people to apply their logical intuitions."[33] Lipman says again that:

> One of the most perceptive of classic philosophers put the matter quite succinctly when he observed that it is not by reason that a passion can be conquered, but by another and still stronger passion. From this it follows that what should be encouraged in children if we wish to help them control their inclinations to irrationality is their impulse to rationality, their natural love of meaning, their desire for understanding, their feeling for wholeness and their passion for investigating the endless byways of their own consciousness.[34]

Keeping in line with this kind of thinking, Lipman constructed a program which perpetuates an inseparable relationship between the affective and the cognitive.

The "Philosophy for Children" program claims to nurture many cognitive dispositions, most of which the programs alleges to be natural to children. Primarily, these dispositions are: talking and listening carefully and respectfully (hence dialogue), wonder or curiosity (hence inquiry), trust, care for each other and each other's products, and persistence_ to name a few, which will be examined in chapter two

In chapter two, we examine the assumptions made by the "Philosophy for Children" program concerning learning, as well as the basis of its teaching approach such as the "community of inquiry" and dialogue, and its curricular materials.

Lipman's educational theory bends toward the "child-centered" as opposed to the "subject-centered" approach -

the implication of which is that the "Philosophy for Children" program concentrates on helping children to obtain answers or at least to think clearly, creatively and imaginatively about questions that they themselves raise. Here Lipman's concern is not how much "data" a child acquires by the end of the day; rather his concern is making sure that the child obtains "the necessary tools to find his own answers and the emotional maturity to be willing to revise those answers when new data appear that must be accounted for ".[35]

There are two major underlying assumptions to the above theory. Firstly, Lipman believes that children learn better if they tackle issues of interest and concern to them. Secondly, for Lipman, knowledge does not refer to "predetermined competencies or essentials", but "an opening, a becoming never a fixed end."[36]

With these assumptions Lipman and his associates produced a series of novels, each of which recapitulates life issues and interests of children of a specific age range. The stories in the novels draw children's attention to issues of concern to them, without solving the issues for the children. They simply stimulate children's desire for solutions which trigger questioning and hence inquiry. The "Philosophy for Children" program to a certain degree uses the Socratic method - dialogue as opposed to lecture-note taking, and the program assumes that the learning

environment,that is the classroom environment, enhances a child's learning. Hence the creation of a "community of inquiry".

The community of inquiry operationalizes Lipman's understanding of how children learn better. The community of inquiry demands an interplay between the cognitive and the affective. Lipman claims that, through the community of inquiry, children's cognitive dispositions and learning skills are nurtured and fostered, through dialogue, and that they are supported by an environment that cares not only for its process of inquiry but also for each individual and each individual's products.

Chapter three examines some of the "generic" thinking skills allegedly nurtured by the "Philosophy for Children" program. The objective here is to understand more clearly the skills that Lipman considers necessary for learning to occur in any field, the nature and character of these skills, and how the "Philosophy for Children" program nurtures them.

In chapter four, we examine McPeck's general argument that there are no "generic" or transferable thinking skills which could be taught to produce a critical thinker in all areas of learning. This view contrasts sharply with Lipman's. While Lipman believes that children acquire thinking skills in the "Philosophy for Children" program, which makes them good thinkers in all areas of learning,

McPeck takes the view that "thinking better" can only be achieved in a specific discipline by learning the rules and norms of that specific discipline and not by acquiring generic or transferable skills.

In chapter five, in order to understand his position more clearly, we examine McPeck's particular critiques against well established advocates of the teaching of critical thinking through "generic", "generalizable" or transferable thinking skills. Specifically we shall examine McPeck's critique against Ennis' position.

With a more elaborated understanding of McPeck's position we proceed to chapter six to consider the application of McPeck's critique directly to Lipman's program.

Throughout this thesis we shall take a philosophical approach with a proclivity to conceptual analysis. Although it is not the purpose of this thesis to review or to examine empirical studies, some which are considered relevant to the philosophical issues will be taken into account. This will be followed by a conclusion in which my personal views, questions and anxieties on the subject will be expressed.

Foot-Ends to Chapter 1

1. Matthew Lipman "Presumptions of the Teaching of Thinking" in Analytic Teaching Vol 6 No.1 (page 6)
2. Paul Nash: Authority and Freedom in Education (Page 122)
3. Robin Barrow "Skill Talk" (Page 23)
4. Matthew Lipman "Presuppositions of the teaching of thinking"in Analytic Teaching Vol. 6 No.1 (p.6)
5. Ibid.,p.8 (see footnote no.7 of Analytic Teaching Vol.6 No.1)
6. Ibid., p. 8
7. Ibid., p. 8
8. Judy Kyle, Philosophy for Children (McGill Thesis), p.7
9. Matthew Lipman "Philosophy for Children and Critical Thinking" in National Forum Phi Kappa Phi Journal. P.14

   He says, "...we must move the child towards 100 percent of full reasoning efficiency, and we should not expect less, just as we do not tolerate errors in spelling or syntax."
10. Matthew Lipman "Presuppositions of the Teaching of Thinking" in Analytic Teaching p. 4 & 6
11. Matthew Lipman Philosophy in the classroom, 2nd ed. p. 15, 44, 165, 169.
12. Matthew Lipman "Presuppositions of the Teaching of Thinking"in Analytical Teaching. vol.6. No.1. p.4

13. Ibid., p.4

14. Ibid., p.4

15. Ibid., p.4

16. Matthew Lipman "The Cutivation of Reasoning Through Philosophy"in Educational Leadership. p.54

17 Matthew Lipman "Presuppositions of the Teaching of Thinking"in Analytical Teaching. vol.6. No.1. p.4

18. Ibid., p.6

19. Ibid., p.6

20. Ibid., p.6

21. John McPeck Critical Thinking and Education. p.85

22. Matthew Lipman "Presuppositions of the Teaching of Thinking" in Analytic Teaching, vol.6. No.1. p.6

23. Ibid., p.6

24. Matthew Lipman Philosophy in the Classroom, 2nd ed. p.25

25. Ibid., p.108

26. Ibid., p.126

27. Ibid., p.102

28. Ibid., p.172

29. Matthew Lipman Philosophy in the Classroom, p.184

30. Ibid., p.172

31. R.C.Gardner & W.E.Lambert Attitudes and Motivation in Second-Language. p.3

32. Matthew Lipman Philosophy in the Classroom 2nd Ed. p.185

33. Thomas N. Tomko "Informal Logic: A Review" in Educational Theory Fall, 1979. vol.29. No.4. p.359

34. Matthew Lipman Philosophy in the Classroom, p.184-185

35. Matthew Lipman Philosophy in the classroom. 1st Ed. p.11-12

36. Tony W.Jonhson "Philosophy for Children:An Antidote to Declining Literacy" in The Educational Forum, Winter 1984 p.235

CHAPTER 2

"PHILOSOPHY FOR CHILDREN" AND ITS ASSUMPTIONS REGARDING LEARNING AND ITS PEDAGOGICAL BASIS

In this chapter we present the assumptions made by the "Philosophy for Children" program concerning learning as well as the basis of its teaching methodology and materials such as the community of inquiry, novels and dialogue. This is necessary for our purpose, because it could turn out to be the case that these variables determine what type of educated person the program aims to produce.

Reputable educational philosophers and psychologists, such as Jack Lockhead, argue that while the traditional assumption is that it is "innate intelligence and hard work" which makes one a successful student, where the teacher's role is "to present material clearly so that it can be grasped by some of the less clever students,... careful studies of the differences between good and poor problem solvers suggest that a third factor may be critical: that of the students' learning strategy. This in turn depends on the students' own theory of knowledge (i.e. their epistemology). Their actions are guided by their views on how they learn, their ideas on what is involved in thinking, and finally their concept of the nature of knowledge."[1]

Lochhead says that, in a sense, what he calls the "copy theory" arises from our daily experience, where our

perceptions "seem to be direct, unaltered reflections of an external reality. We seem to learn about our environment by copying and remembering what we see".[2] Lochhead says that due to the fact that the organization and interpretation processes of our daily experience are hidden from us, "by the time we are old enough to question how we learn, most of us have built a complete conceptual system founded on some form of copy theory".[3]

Paulo Freire makes the same point, though from a slightly different angle than that of Lochhead. Freire traces the beginning of "copy theory" to the instruments of capitalism and its institutions: the state, home, church and school. He says that by the time the child goes to school s/he finds that "the atmosphere of the home is prolonged in the school, where the students soon discover that (as in the home) in order to achieve some satisfaction they must adapt to these precepts which have been set from above. One of these precepts is not to think."[4] For Paulo Freire "copy theory" or "authoritarianism" "survives on the precept that thou shalt not think."[5] Fromm, like Freire and Lochhead, says that "copy theory" trains children to be copiers because it perpetuates the spirit that in order to succeed one simply needs to: listen attentively, copy the lecture material into note books, memorize and retrieve it unaltered on request at exams. According to Fromm, the only way a child raised in the "copy theory" system can think for

himself is when such a child takes "the path of authentic rebellion"[6] during his youth. Lochhead says that the "copy theory" system is so crippling that teaching students to think at a later age, in only one course, does not help them to think because they already "know" what constitutes success. As one of his students said:

> I know what you are trying to do, you are trying to make me think. I don't need that it won't help me get through this university.[7]

Matthew Lipman, being aware of the adverse effects of copy theory to thinking, constructed philosophy for children according to child centred theorists and in particular constructivist theory.

Constructivist epistemology regards lectures and text-books as "inefficient mechanisms for stimulating conceptual change."[8] According to constructivists it is exploration, not learning by rote, which aids conceptual change or thinking.

Lochhead says:

> Our most effective leverage is obtained not by telling students what we think, but by placing them in situations where they must confront the relevant differences themselves. It is only after they have formulated the essential concepts that our attempts to communicate with them can be effective.[9]

As a consequence, constructivists reject "copy theory" in favour of learning by discovery. They believe that, among other things, "socratic dialogue and argument can be effective mechanisms for encouraging conceptual growth

(Arons, 1973, 1974). The alternation between listening and explaining can force students to reformulate their ideas and to test them against those of other students. The simple fact that this situation forces students to play with ideas leads the constructivist to have faith in it."[10] This is the approach taken by Matthew Lipman in his "Philosophy for Children" program.

Philosophy for Children's Assumption of Knowledge.

Lipman's understanding of knowledge is unlike that of "copy theory" and is similar to Jaspers' understanding of "reason". Just as Jaspers' claims that reason "has no assured stability, it is constantly on the move. Once it has gained a position it presses on to criticize it and is therefore opposed to the tendency to free oneself from the necessity for all further thought by once and for all accepting irrevocably fixed ideas."[11] Likewise, Lipman says that knowledge does not consist of memorizing fixed infallibly true answers rather, knowledge constitutes treating answers as a resting point, from which to leap on to better answers.[12] Or what Margaret Ann Sharp, a close associate of Lipman, calls approximations of "warranted assertions that are always subject to revision."[13]

The "Philosophy for Children" program is structured to aid children to grow up knowing that to be educated is not simply to be in possession of banked data faithfully

received from the knower; rather, it is to master thinking skills so as to discover one's own truth. The truth is not always obvious. It can be elusive. It can change. It is not always fixed truth. Therefore to be educated is not only to be able to construct one's truth but to be willing to re-construct it in view of new evidence. This requires many skills, summed up in the phrase "effective thinking." Therefore Lipman favours teaching "effective thinking" over data acquisition because, in Lipman's opinion, to be an effective thinker, is to be educated.

Lipman says:

> ...the amount of information or knowledge children acquire is less essential to their philosophical intellectual judgement. It is less important that children remember certain data than that they learn to think effectively.[14]

Elsewhere he says:

> ...what must be improved is each and every skill and the manner of synchronizing or orchestrating all of them. We must move the child towards 100 percent of full reasoning efficiency, and we should not expect less, just as we do not tolerate errors in spelling or syntax.
> This is not illusory. It has already been shown that children taught reasoning through philosophy will show an 80 percent greater improvement in reasoning than children not exposed to philosophy. Three years of improvement at a similar rate would be more than enough to give such children a kit of reasoning tools which they would know full well how to employ in both in-school and out-of-school situations.[15]

The last sentence in the above quotation does implicate Lipman to be advocating for the general transference of learned thinking skills. Traditionally, educators thought

that if a child were to master mathematics, latin and the classics s/he would transfer the learned thinking skills to all aspects of life; and this is what Lipman says of reasoning tools, for example, that they would be employed in both in-school and out-of-school situations. This could allow us to assert that knowledge, to a major degree, according to Lipman constitutes possession of general transferable thinking skills. This controversial stand will be discussed later on in this thesis: for the moment, let us examine Lipman's understanding of the nature of the child's mind and learning.

The nature of the Child's mind, as assumed by "Philosophy for Children" Program

In this section we are going to take the view that for Lipman and his associates there are two major assumptions as to the nature of the child's mind, and they are: firstly, that the child's mind is perpetually curious[16] and secondly, unlike "copy theory" (which assumes that the child's mind is empty and hence must be filled by the knower), the "Philosophy for Children" program assumes that the child's mind, as Sharp says, by the time s/he comes to school, is both "educated and educative," and hence children can teach and learn from each other.[17]

Child's curiosity

Lipman takes the view that a child's curiosity is the greatest resource for a child's learning,[18] because it is curiosity which gives him/her the drive to seek for an understanding of that which perplexed him/her.[19] Children are curious about things that concern their being, as well as about the world in general.[20]

The power of curiosity to foster learning can be understood better through Berlyne's motto, "My First Interest is Interest."[21] John J. Furedy and Christine P. Furedy, who wrote an article which bore the same title as the Berlyne's motto, say that Berlyne's "life as an academic appears to serve as a clear example of the power of curiosity and intrinsic motivation."[22] Berlyne once said:

> When I was in Manchester Grammar School, before the sixth form, I was very much of an auto-didact. I read a lot of stuff on my own. I read economics and I read philosophy; I even read some psychology. And this is one thing I suppose that makes me less capable of understanding our present students who say, "We want courses on this, that, and the other." When we wanted to know something, we didn't ask for courses, we read it.[23]

Curiosity or wonder points to the fact that a problem exists somewhere and if children are naturally curious it could mean that they naturally seek out difficulties. Lipman, like Dewey, takes the view that children begin to think "when problematic situations emerge" in which they can no longer take their beliefs for granted.[24] Lipman takes the view that children learn when they are "actively involved in

exploration",[25] particularly about issues concerning "their own interests and their own problems".[26] The program assumes that this way of learning reinforces and sustains curiosity which, in turn motivates further learning. This is derived from Lipman's claim that one of the reasons adults lose curiosity is not because of a biological clock (that destroys curiosity); rather it is due to the fact that "many adults have never had the experience of engaging in wondering and reflecting that somehow made a difference in their lives."[27] As we shall see later, the literature used in the "Philosophy for Children" program helps children to discuss and explore issues of interest and concern to them. The program assumes that the discovery of solutions to issues of concern and interest to them reinforces their curiosity as well as comprehension, appreciation, knowledge and skill at using rules of inquiry -because they discover that engaging in inquiry is a profitable exercise, it expands their knowledge and it helps them solve their problems. As Johnson says:

> ...to wonder is a necessary step in the expansion of knowledge and understanding. To achieve greater understanding the child's sense of wonder, his natural inquisitiveness must be fostered.[28]

A child's mind is both

Educated and Educative

Sharp, Lipman and Oscanyan believe that by the time a child comes to school, s/he is not an empty headed person, who has to be filled by the teacher. Rather, that child has acquired logic in the same process by which s/he acquired language. Oscanyan says that since by the time children come to school they "more or less" are "able to speak and be spoken to, under the language-logic hypothesis, this means that they also reason."[29] This is probably what Sharp refers to as "educated and educative."

Oscanyan points out four implications of the belief that by the time children come to school they are both educated and educative.

> First, we should picture logic as something to be elicited from the children rather than derived from a book or series of exercises; thus we should view logic teaching as the development of abilities the children already possess, not as bestowing new and unfamiliar skills.
> Second, children exhibit varying degrees of reasoning ability among different children and from the same child day to day.
> Third, children are more interested in certain linguistic settings and less in others; thus we should expect them similarly to display their abilities to reason in different ways and different contexts.
> Finally, language has uses in a tremendous variety of situations; thus we should expect a similarly broad number of settings in which reasoning skills can be elicited and improved upon.[30]

These reflections on what it means to be educated and educative are a good introduction to the benefits of the "why dialogue" rather than the "copy theory" approach. While

it is true that children have learnt some 'logic' with their language acquisition, as Oscanyan says, it is also true that due to the variety of linguistic interests and situations, there are differences from child to child and variations in different situations. In addition, children, says Lipman, are inclined "to be speculative and comprehensive rather that analytic and sensitive to differences,"[31] their intuition is unsystematic[32] and "very often they are unable to do more than simply enunciate an insight."[33]

However the "Philosophy for Children" program takes the view that "learning to think philosophically takes place primarily in the process of inter-personal discussion, and in the reflection that follows such a discussion."[34] This type of education could be attributed to th. .ild-centred approach, as explained (for example) by Paul Nash, who states that the "important aspect of the learning process is the student's active participation in and responsibility for his own education."[35] It could be imagined that when a child engages in a reflective discussion, such a child could begin to form questions not only about what others are saying but also about his/her own thoughts. The result will be better learning. That is, if and only if, Lipman, Bruner, Nash and J. T. Dillon are correct: for example, as Dillon says, "no event better portends learning than a question arising to the mind."[36] This understanding of learning makes the "Philosophy of Children" program turn teachers into "mid-

wives" - or, to use Lipman's words, "a facilitator and clarifier."[37] He encourages children to "articulate exactly what they mean"[38] and through questioning, helps them discover for themselves how to formulate their positions better. He works as a facilitator, a model for good thinking, as a co-inquirer. In other words, the teacher confirms that which is intelligible "but what is puzzling is noted with wonderment, and a sense of the need for further inquiry is experienced by teacher and student."[39]

In brief, the "Philosophy for Children" program assumes that while it is the case that children - by the time they come to school - have learned logic, it is also the case that whatever logic has been acquired is not necessarily complete. Due to the variety in each child's interests, the acquired logic may vary from that of another child. The consequence is that each child will be able to teach and learn from one another. Furthermore, the incompleteness in the acquired logic by the time children come to school demands that the program be teacher-dependent. However the teacher's role is to help children, through questioning, to elaborate, articulate, classify, analyze, formulate and reformulate their own ideas, as well as to model the need for continued inquiry. The teacher's role as a model of perpetual inquiry is very important because s/he is, more likely than not, considered to be the "significant other" in the community of inquiry which means that s/he is, in a

sense, looked up to. We shall now tackle the child's learning.

A Child's Learning As Assumed by The "Philosophy For Children" Program

One of the most important nutrients of a child's learning, according to the "Philosophy for Children" program is a supportive ENVIRONMENT. Lipman says:

> ...native to the child are innumerable dispositions that, if encouraged, could lead to any kind of human behaviour, and often do. What is important is that the environment in which the child grows up should be such as to screen out those forms of conduct that do not contribute to growth, while encouraging those that do.[40]

This understanding of the power of environment is shared by such scholars as Emile Durkheim who said that "human beings are not born human but are made human by society."[41] And also by Vernon who compares genetic intelligence to a good seed, and said that if one were to expect a good plant from that good seed, one had better facilitate that good seed's growth with "certain environmental conditions, such as moisture, light, warmth, and nutrient."[42] This is what D. O. Hebb postulated years earlier -- that what we call "cleverness, the efficiency and complexity of perceptions, learning, thinking, and problem solving... is not genetic, nor is it merely learned or acquired. Rather, it is the product of the interplay between genetic potentiality and environmental stimulation, whether favourable or

unfavourable to growth."[43]

The "Philosophy for Children" program (which assumes that environmental stimulation - or if you like - society, has a lot to do with the educational performance of the child) cannot function without first establishing a community of inquiry.

Sharp defines a community of inquiry as "a community of persons-in-relation, speakers and hearers who communicate with each other impartially and consistently, a community of persons willing to reconstruct what they hear from one another and submit their views to the self-correcting process of further inquiry."[44]

The community of inquiry operationalizes the "Philosophy for Children's" authors' understanding of education, of a child's mind and of a child's learning as seen earlier. According to the authors of "Philosophy for Children", it is the community of inquiry which nurtures both the affective dispositions and cognitive learning skills in the child. It works as a stimulating environment for thinking. This environment consists of a classroom, students, teacher, and specially constructed novels with the common goal of inquiry. In other words, it is an environment characterized by inquiry.

The Affective part of the community of Inquiry

Some of the qualities required in a community are "care" and "trust." This, in turn, Sharp claims, eliminates intellectual "fear", and in a sense, creates a positive self-awareness. In the community of inquiry, members are required to "care for the procedures of inquiry, care for one another as persons, care for the creations of one another."[45]

Children begin to learn to care for each other and each other's creation by discovering that, in a community of inquiry, success does not come as a result of destroying everyone else's ideas. Rather, success (in the community of inquiry) arises out of building on each others ideas and efforts. The final product could be similar to what G. H. Mead called "the generalized other."[46] R. S. Peters seems to hold the same view as Mead when he says that "the point of view of the others has in fact been represented."[47]

Thus, in time, through practice and observation (for example from the teacher), children move away from the selfish competitive spirit to the communal spirit expressed in the form of "a matter of we, and not just personal success...each one's happiness means as much to each of them as their own."[48]

This process involves an awareness or a discovery that both students and teachers do not always have answers.

Teachers, like students, "experience the world as confusing and frustrating at times."[49] This, one could imagine, raises the question "how do I know that what X has said is not correct or is not a step in the right direction?" The quest for proof arises from this doubt, hence inquiry. It should be noted that since the program assumes that both the "affective" and the cognitive go together, the inquiry into X's pronouncement is treated with respect and care. The program assumes that this is possible because "answers" are treated simply as resting points out of which to move on to better ones.[50]

The same process triggers "trust". Like care, "trust" is a very important nutrient of learning because, as Lipman states, unless the teacher has already succeeded in establishing "a relationship of trust and mutual respect for opinions among the children in her class and between those children and herself" and if instead the teacher were to criticize the product of the child's own thinking,[51] this would make the child lose "the trust essential to the learning process" and s/he would become "afraid to open up".[52] Lipman says that the teacher could develop the "trust" needed by discussing, with care, the "illustrations and tests of the rules provided by the imaginary children in the novels."[53] In addition the teacher ought to create an "intellectual environment" in the classroom, which makes children free to criticise "the teacher's methods or values"

without fearing that the teacher will be offended. Rather, they should feel that s/he "will consider such criticism from them fairly."[54] Lipman says that:

> It has been observed that in such an atmosphere of intellectual give-and-take, students hitherto withdrawn or reserved begin to put forth their opinions because they realize that, in such an atmosphere, each point of view will be respected and taken seriously.[55]

The program claims that the development of "care" and "trust" for each other and each other's products eradicates intellectual fear, a situation characterized by condescension and humiliation of children by the adults. No matter how slight the "put down" might be, it makes children lose "the trust essential to the learning process" and they become "afraid to open up."[56]

Anne Margaret Sharp thinks that fear is the worst disease of the mind. She says:

> Fear referred to as corruptness of consciousness by Collingwood is the worst disease of the mind, and is the most serious hindrance to the development of classroom communities of inquiry in which doing philosophy plays a central role.[57]

Sharp attributes the cause of intellectual fear to the reliance on ideas as if they were infallibly true,[58] while Lipman, as seen earlier, seems to argue in the same vein, blames it on the "put-down" behaviour on the part of the teacher towards the child. In addition, Sharp thinks that "selfish competition" as well as the lack of care and trust for each other and each other's creation plays a role in creating intellectual fear. Sharp therefore thinks that the

eradication of selfish competition and the creation of care and trust as well as the creation of a collaborative spirit eliminates intellectual fear and helps children "engage in inquiry without fear of rebuff or humiliation. They can try out ideas that they would never have thought of expressing before, just to see what happens."[59]

Lipman, who also recognizes fear as a crippling agent to children's thinking and attributes such fears to lack of situations in which children could use their powers constructively, claims that this situation could be corrected by the fictional communities in the novels which model children using their imagination. Such models convert children's "fear into hope."[60] Once that fear has been overcome, and children are able to try out their ideas without fear, real learning begins. They are now able to engage in dialogue and inquiry where they obtain answers to their own questions and which produces better learning.

Self-Fulfilment Prophecy

Lipman claims that the most important thing that fosters one's ability to think is the discovery of ones potential or "capacity" to do something. This can be inferred from the following sentence:

> ...that they invented tools was perhaps less important than that they discovered that they had the capacity to invent tools and all sorts of other things.[61]

James L. Hilton, John M. Darley and John H. Fleming point out that "one of the most theoretically important

findings to emerge from the sociological and psychological literature has been the discovery that expectations frequently create the conditions that bring about their own fulfilment - an effect that Merton termed the Self-fulfilling prophecy"[62]

Lipman attributes the lack of a positive fulfilment prophecy to both "put-down," as we shall see soon, as well as lack of opportunity to use one's powers.

In regard to "put-down," Lipman claims that when a child is scolded for making a mistake, the child could develop the idea that s/he is not capable of producing useful, fruitful, respectable thoughts and hence loses the drive to learn. Therefore Lipman cautions teachers not to "put down" a child, but instead to help that child develop the trust that you care for her and her thoughts. He says:

> Most children are extremely sensitive to the whole spectrum of techniques that enable an adult to condescend to children and humiliate them. A slight or "put down" will have only a momentary shock, but it leaves a scar and that scar means that the trust essential to the learning process has been lost.[63]

Lipman says that when children feel that they are being "put down" they refuse to "open up."[64] It is probable that they do this in order to protect themselves against such condescension, or simply to shy away from circumstances that cause shame or a feeling of shamefulness, or loss of one's pride. One could argue that the act of refusing to open up is analogous to the behaviour known as "self-handicapping"

where a person engages in self-defeating behaviour simply because he wants to protect himself "from circumstances that threaten self-esteem."[65]

In "Philosophy for Children", where learning takes place through interaction and by formulating one's answers to one's own questions, a "put-down", which triggers the self-handicapping behaviour of refusing to open up, is - or could be - catastrophic to the learning process.

James L. Hilton et al seem to support Lipman's claim when they say that while in the beginning, the idea of self fulfilling prophecy was controversial, now there is enough evidence that "it is clear that the expectations held by one individual can have dire consequences for the target of those expectations."[66]

The second external force which could make children develop a poor self-concept and hence engage in self-defeating behaviour is as Rebecca Curtis says, "the lack of a clear history of sufficient positive, contingent reinforcement for self-actualization behaviours, which in turn results in the experience of poor outcomes or the expectation of poor or unpleasant outcomes."[67]

Lipman seems to be arguing in a similar vein when he says that " one reason why children are often taciturn or reticent, even to the point of being withdrawn, is perhaps that they cannot see the feasibility of using their powers in a constructive fashion."[68] Lipman claims that the

"Philosophy for Children" program ensures that children are "motivated to think"[69] and are "guided into the particular channels of thinking excellence"[70] through philosophy's tradition of "good thinking" with its pedagogical methodology, discipline and curriculum in a spirit of accepting the challenge of difficulties.[71] In other words, we could say that the "Philosophy for Children" program helps children to develop a positive self-fulfilling prophecy by first of all providing an environment that cares for each individual and each individual's products to the extent that any "put-down" of an individual or an individual's product is a taboo. Secondly, the program claims to provide discipline, curriculum, tradition, methodology and opportunity for children to use their mental powers productively.

After the affective has been taken care of, the cognitive development begins, as Sharp says (elsewhere) "students ...can engage in inquiry without fear of rebuff or humiliation. They can try out ideas that they never would have thought of expressing before just to see what happens."[72]

Teaching Methodology (Dialogue)

There are several underlying assumptions that prompted Lipman to use dialogue as the teaching and learning methodology. In this thesis we have already discussed some

of them. For example we have seen an associate of Lipman state that by the time children come to school they have learnt something which they can share with each other. Contrary to "Copy theory," which assumes that by the time children come to school they are empty headed and have to be filled in by the teacher, the "Philosophy for Children" program takes the view, summed up by Sharp, that they are "educated and educative" or that they can give something just as they can take something. This assumption, therefore, rejects "lecture note-taking" as a teaching methodology and encourages dialogue or,if you like, interactionism; that children are not empty heads to be filled by the teacher but can teach and learn from each other is an assumption which, in my opinion, cannot be "sniffed at" when discussing the "why dialogue".

The other equally important assumption, which definitely plays a role in shaping dialogue in the teaching and learning methodology of the "Philosophy for Children" program, is the classical child-centred theorists' assumption that children learn better when they use things of their interest.

It appears that Lipman used dialogue because in dialogue, people "talk," and Lipman claims that almost all children "love to talk,"[73] hence dialogue.

According to Lipman, dialogue is like the "raw power of the engine (converted) into the disciplined and directed

movement of the wheels."[74] In other words, dialogue is organized talking. Thus "the use of dialogue as a teaching strategy is central to the 'Philosophy for Children' program."[75]

One of the things that plays a major role in dialogue, as used in the "Philosophy for Children" program, is **questioning**. It is assumed by the program that encouraging children to ask questions helps them "to think for themselves", which in turn fosters resourcefulness and hence turns kids into independent thinkers.[76]

Lipman says that "When teachers are skilled in cultivating their students' thinking through questioning themselves, the end result is children who can think for themselves about everything in their own experience."[77] "Philosophy for Children" ensures that, through dialogue, children come to discover that perpetual inquiry, as opposed to obtaining dogmatic answers, is the rule of the game of learning. This can be seen or deduced from the dialogue in **Lisa** (also reproduced in **Philosophy in the Classroom**[78] where the child asks his father to tell him what a "question" is). The last two sentences of that lengthy dialogue are:

> "So the reason I ask questions is not so much to get answers, as to get to know what the problem is?" Mr Stottlemier touched Harry's hand lightly with his hand.
> "I couldn't have put it better myself," he said.[79]

In addition, teachers are asked to model that perpetual questing themselves - being "intellectually open, curious,

self-critical, and willing to admit ignorance or indecision."[80] The benefits of such an approach to learning, claims Lipman, are that through discussion "disciplined by logical considerations", children who engage in such philosophical dialogue are virtually assured "that reasoning, inquiry, and concept formation skills will have to be employed, and it is by employing such skills in a classroom community of inquiry, where their use can be monitored and corrected by one's fellow students, that one's cognitive dispositions can be enhanced and one's cognitive proficiencies sharpened."[81]

Lipman's kind of thinking is supported by many scholars, particularly child-centred educationalists as well as interactionists and psychologists. For example, J.T Dillon believes that questions arise from an individual's mind which foster better learning for that individual.[82] Dillon states that "the questions themselves, the sequence of questions, the systematizing of question-answer knowledge - the instruction is genuinely and inevitably individualized."[83]

Children in the "Philosophy for Children" program learn from both the "question" and the "answer" given. First, with regard to the question asked, the teacher is able to see the type of thinking going on. For example Gary Cavanagh and Ken Styles point out the following types of questions and their implications vis-a-vis thinking:

-Factual recall questions (which) ask a person to remember and express accurate details.
-Convergent thinking questions (which) require a person to comprehend the essential information and explain the right answer.
-Divergent thinking questions (which) invite a person to explore a range of possible answers and to suggest suitable alternatives.
-Judgemental thinking questions (which) invoke a person in evaluating available information in order to present a logical conclusion.[84]

If we were to agree with Cavanagh and Styles that "the type of thinking a person is motivated to do is triggered by the kind of question asked",[85] then we would find "questions" asked in dialogue to be a great resource for teaching children to think. For example, if the educational program were to reject "copy-theory" and foster independent thinking, such a program would shy away from convergent-type questions, because convergent-type questions encourage, to borrow Jastrow's words, "allegiance to the past, and a dogmatic insistence"[86] to what is given and, therefore, makes one a victim of (what Roger Bacon in the 13th century called) the obstacles to, or the violation of good thinking. Those obstacles were:

(i) overweight of authority;
(ii) the slavery to custom;
(iii) the dominance of the opinion of the unskilled masses;and
(iv) the concealment of ignorance by the pretence of knowledge.[87]

"Philosophy for Children," the purpose of which is to encourage individual thinking, rejects convergent questions in favour of perpetual inquiry by letting children discover

or learn that answers are not guaranteed infallible truths - but rather, as we already saw in this thesis, answers are simply resting points from which to get on to better answers, as can be derived from the following dialogue:

> "Well, what's the connection between a question and a problem?" "What's the connection between an iceberg and the tip of an iceberg?" "The tip of the iceberg is all you can see; the rest of it is under water."
>
> "So isn't it possible that your question is just the tip of the problem?" ... "So the reason I ask questions is not so much to get answers, as to get to know what the problem is?" Mr Stottlemeir permitted himself a faint smile and nodded his agreement. "So dad", Harry persisted, "if underneath every question is a problem, does that mean that underneath every statement there is a question?" Harry's father said nothing, Harry waited, then added, "And for that matter, does it mean there's something underneath every problem?" "That", Mr Stottlemeier responded, "is a mystery."[88]

If we were to argue that Harry's tentative proposal that "underneath every question is a problem" and his question whether "underneath every statement there is a question...", are the heart of the "Philosophy for Children" program then we would say that the program teaches children to reject convergent questions because, at least in most controversial questions or issues, there is a question "underneath every statement".

There are at least three important points that arise from the above mentioned dialogue. The first and easiest part to note is that underneath every question is a problem and underneath every answer is a problem. This means that there can be no use for convergent-type questions because

there is no such thing as a non-problematic statement, at least on perplexing issues. What is needed is to understand the problem.

The corollary to that is the second point, which is: that since underneath every statement is a problem, it follows that, in my opinion, another value of questions in the "Philosophy for Children Program" could be to provide the opportunity for teaching the spirit of perpetual inquiry epitomized by the program's belief (as already seen) that "answers are simply resting points out of which to leap on to better answers." The program trains children to reject learning by rote, by nurturing the belief that underneath every statement is a problem. That implies that there are no complete and infallibly true answers which, further, should imply that there is nothing to copy. There is perpetual inquiry.

In brief, the types of questions one asks indicate one's thinking. This is very important for the "Philosophy for Children" program because it helps the teacher to discover the child's thinking which, in turn, helps the teacher to direct the child to the desired orbit - namely, original thinking.

Answers and questions indicate to the fellow dialoguers the level of thinking the child is at, and hence trigger the process of self improvement, which happens through reflecting on what one has said in reply to the questions

that were asked by other participants. Those questions could demand clarity, classification, consistency, comprehensiveness, better inferences, such as better deduction or induction from the speaker, as well as simply affirming what is true but not emphasized by the speaker.

In regard to affirmation of what is true but not emphasized by the speaker Lipman gives the following example:

> For example, not long ago, in one of the experimental classes in philosophy for children, a ten-year-old compared the relationship of the body to the mind with the relationship between the "grapefruit and the taste of the grapefruit." Some adults might have judged a remark of this kind "cute". Others might have not noticed it at all. But for a teacher who knows something about the nature of philosophical thinking, such a remark stands out as extremely perceptive and insightful, and the child should be encouraged to elaborate it.[89]

Lipman says that the child who made such a remark may not necessarily know "the possibilities inherent in his own words unless someone encourages him to articulate and develop such ideas so as to recognize the importance of having such insights".[90]

The dialoguers call on their fellow dialoguers to articulate, clarify, and look for implications and consequences as well as for alternatives to that which has been said. In so doing the dialoguer is being equipped with the tools that the program assumes that s/he needs for being a self-thinker.[91]

R.S. Peters seems to support Lipman's assumption

regarding the value of questions and answers vis-a-vis learning, when he says that these make the student learn how to think.

> The best ways of making sure of such a living organic structure of thought is probably to employ the adhominen method of question and answer used by Socrates. This brings the learner very quickly to probe into his presuppositions and to make explicit principles which were previously only dimly apprehended. If the learner is constantly prodded into doing this he gradually begins to think in a more clear, coherent, and structured way; for there is a sense in which we do not really know what we think about anything until we have had to state it explicitly and defend it.[92]

We can argue that answers given in dialogue have three main cognitive values. Firstly, they raise the opportunity for one to affirm one's thought, the implications and consequences of which one knew very little about. Finally, and corollary to the above, is that answers raise the opportunity for one to be helped to articulate what otherwise was vaguely known and hence vaguely presented. Lastly, answers serve the purpose of being the beginning of learning in that one is helped to correct one's position. As Johnson says, dialogue "compels us to be on our toes intellectually... in such an activity there is no place for mindless banter or slovenly reasoning."[93] Every person's point of view is subjected to "the most rigorous test of logic and experience,"[94] and "all ideas and thoughts are scrutinized in the search for greater understanding."[95] This dialogue does not only help children to acquire thinking skills but it also gives them the opportunity, as Johnson

says, "(to gain a mastery of thinking) skills as they assemble and use them in their reasoned response."[96]

In dialogue, claims Lipman, children learn "to listen to others, as well as to respond effectively". They learn "to follow the various lines of reasoning taking place as the discussion proceeds; sizing up the assumptions that underlie each utterance, drawing inferences, testing for consistency and comprehensiveness, learning to think independently by freely choosing one's own premises".[97]

Furthermore, by the fact that dialogue rejects a reliance on "pronouncements" or unexamined statements as if they were true and dictates that such pronouncements be submitted to the rigour of logic and experience, children who undergo such exercises are thus opened up to the disposition of "endurance". This endurance is further affirmed, as we have already seen, by the fact (and practice) that to be educated is to ask more questions and that beneath every statement is a problem, hence perpetual inquiry. The value of this practice is better presented by Tomko who says that

> Philosophers know that one often needs a large measure of patience and perseverance when dealing with a philosophical problem: one needs to go slowly and examine minute details carefully. Most people I believe, are not willing or able to do these things, but it may be that by developing in our students the tendencies to be patient and to persevere, we will find that they will write and speak more logically than they would if we concentrated on teaching them strictly cognitive skills alone.[98]

In brief, it is the aim of the "Philosophy for Children" program, through dialogue as used in the community of inquiry, to equip children with thinking skills as well as the dispositions to use them. It is assumed that this occurs through dialogue about issues of concern and interest to children. Their issues are contextualized in the Novels used by the program.

Novels

Lipman wrote novels for children with the intention of introducing children to the "formal and informal rules of thought."99 The novels that have been written by Lipman are age-group dependent and are written to tell a story the way a "child might tell it." [100]

The novels are written in simple, easy to understand language, without compromising the philosophical content.[101] This way of writing Philosophy differs from the traditional one in that, as Lipman says, the traditional way uses highly technical terminologies. More important is the fact that novels in the "Philosophy for Children" program eliminate "pretensions to wisdom replacing it with institutionalized naivete and a sense of wonder at things in the world normally taken for granted."[102]

It is the absence of "pretensions to wisdom" as well as the creation of perplexity that triggers inquiry or dialogue.

In order to do this, the stories (as told by the fictional children) explore, but do not resolve the issues that they introduce. Rather they present those issues in such a way that they provoke real children to think. This is in accord with the program's assumption that when an issue is presented as complete, it does not provoke thinking.[103] The program therefore takes the view that:

> Children who discuss clear-cut matters of fact may become bored if they feel they are merely being asked to learn what their teachers already know. But children who discuss contestable concepts like person, freedom, rights and knowledge tend to become more and more adept at concept formation, a facility which stands them in good stead when they have to acquire concepts in other disciplines.[104]

However, the fact that novels present incomplete and complex issues is in discord with "the underlying presupposition of reading specialists and child psychologists that the bliss children seek is the passive lethargy of the totally immobilized spectator, itself akin to the presupposition endemic in the culture that the happiness workers crave is retirement to a condition of utter impotence only partially disguised by the flood of hypnotic stimuli in which one luxuriates".[105] Lipman argues that while it is commonly assumed that "children can be motivated to read by the sheer pleasure of appreciating a good story, whereas offering them literature so problematic as to force them to think can only have the effect of dissuading them from reading,"[106] it is the case, as previously mentioned that difficult situations force the

child to think. This is why "Philosophy for Children"'s novels present difficult, incomplete, unresolved and sometimes unsolvable issues.

The use of novels is in accord with the cognitive science finding that "children will more readily understand what we are trying to teach them if we contextualize it,that is, put it in the form of a story, than if we present it as a dry-boned skeleton which we mistakenly assume they will be only too eager to flesh out."[107]

Children, as Lipman says, "read an episode from one of the philosophical novels and identify what they want to discuss. The things they pick out range from ambiguous words or phrases to unclear or contestable concepts. (The pages of each novel are strewn with just such lures to discussion.) They discover that some concepts are inherently vague, although useful nevertheless, some have fuzzy aspects or zones, and some (like explanation and description) seem to be fundamentally leaky and drain into each other."[108]

Modelling

Oscanyan says that as real children in the classroom read and hear fictional characters in the novel think and grapple with issues of concern to them, so children in the classroom do "imaginatively and in a highly vivid manner directly experience the characters' mental acts and styles of thinking."[109] Oscanyan is of the opinion that this method helps children to learn logic better than the method that

makes them memorize the rules of logic. He says that "observing the efforts to think reasonably, by the fictional characters in the novel, provokes similar actions on the part of the readers."[110]

The style used in the novels where fictional children grapple with issues of interest and concern to them is in accord with the "recent findings of cognitive science that students who are being invited to think about specific problems need models of students thinking about similar problems."[111]

The novels model not only the cognitive but, also, the affective skills or dispositions such as the readiness to listen, trust and co-operativeness. These are, according to Sharp, very important variables for the development of a true community of inquiry.

In order to participate in dialogue, one has to develop the ability to listen so as to be able to take "into consideration the points of view.... of one's associates."[112] If one were to respond to another's statement, without having paid full attention to what has been said, one may respond to things other than what had been said. The stories sensitize the children about not listening attentively.The following example illustrates this, even though it is not part of what we would call a dialogue.

> It probably wouldn't have happened if Harry hadn't fallen asleep in science class that day. Well, he

> didn't really fall asleep either. His mind just wandered off. The teacher, Mr. Bradley, had been talking about the solar system, and how all the planets revolve around the sun, and Harry just stopped listening, because all at once he had the picture in his mind of the great flaming sun and all the little planets spinning steadily around it.
>
> Suddenly, Harry knew that Mr. Bradley was looking directly at him. Harry tried to clear his mind so that he could pay attention to the words of the question, "what is it that has a long tail and revolves about the sun once every 77 years?... Harry knew he had a few moments, which might be just enough to figure out something to say. "All the planets revolve about the sun," he recalled Mr. Bradley saying. And this thing with the tail, whatever it was, also goes around the sun. Could it also be a planet? It seemed worth a try. "A planet?" he asked rather doubtfully... If he'd been paying attention, he would have heard Mr. Bradley say that the object he was referring to was Halley's comet and that comets go around the sun just as planets do, but they are definitely not planets.[113]

True dialogue demands listening, because some of its attributes are checking for inconsistencies, fallacies, partiality and sloppiness in order to help the dialoguer to reconstruct his/her ideas in a more coherent and sound manner.

As we approach the end of this chapter, it is important to remember that the "Philosophy for Children" program claims to equip children with generic thinking skills, as well as dispositions to use them, through the process of dialogue about issues of concern and interest to children. These issues are presented provocatively in specialized children's novels, with the intention to stimulate inquiry. Hence children in this program (unlike

"copy theory" where children learn by rote) learn through discovery.

It is assumed by the program that learning by discovery, particularly when reinforced by dispositions to use the learned skills, should influence the transference of the learned thinking skills. With this in mind, we should now discuss "generic" and "transferrable" thinking skills.

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CHAPTER 3

GENERIC AND TRANSFERABLE THINKING SKILLS FOSTERED BY THE "PHILOSOPHY FOR CHILDREN" PROGRAM

In this chapter we will discuss the thinking skills that Lipman regards as generic. For the most part, the examination of these skills will be fairly concise, but adequate to the major purpose of this thesis - namely, considering McPeck's critique against Lipman's claim. However, in those instances where I believe Lipman's account is subject to criticism, I will be more elaborate.

As we saw in chapter one, the "Philosophy for Children" program claims to "sharpen a wide spectrum of thinking skills."[1] Ronald Reed, while answering the question "what is the objective of "Philosophy for Children"?, wrote:

> ... The answers spring to mind almost like a litany. The purposes of "Philosophy for Children" include building a community of inquiry, developing the thinking skills of children, improving children's scores on standardized tests, improving their performance in their other subjects, and enhancing their attitude toward things academic.[2]

As such, "Philosophy for Children" covers too wide a range of thinking skills to be covered in this thesis. We shall confine our attention to examining those skills that, as Reed says above, would improve children's "performance in their other subjects" or which Lipman claims to be necessary

for any learning to take place and hence are "generic" - such as those mentioned earlier, repeated here for convenience:

> ... without the fundamental abilities to assume, suppose, compare, infer, contrast or judge, deduce or induce, to classify, describe, define or explain, one's very abilities to read and write would be imperilled, to say nothing of one's capacities to engage in classroom discussion, and compose prose or poetry.[3]

We will try to cover these skills, most of which are in the domain of formal logic.

Formal Logic

Lipman says that "the main purpose of formal logic in "Philosophy for Children" is to help children discover that they can think about their thinking in an organized way".[4] Children make this discovery by engaging in dialogue about matters of interest and concern to them. As they discuss these issues they are introduced to the rules of syllogistic logic.

Lipman, who as we saw in the previous chapter claims that "children love to talk", says that children find the study of syllogistic logic interesting because its rules govern and hence improve on that which naturally fascinates them - namely "language."[5] They acquire rules of syllogistic logic not only by reflecting on their own statements, sentences and mental products, or by simply listening and reflecting on the communicated mental products of the other

dialoguer but also in each individual's use of those skills while constructing or reconstructing his /her own idea.

Arising from the assumption that children love to talk or to use language - Lipman further claims that they find the learning of syllogistic logic interesting, because its rules deal with that which they habitually do or in Lipman's words, "mental procedures that have become habitual".[6] Also closely related to this assumption is Lipman's belief that since the rules deal with issues and things of concern to children, they are not abstract and therefore they are easy "to understand and use"[7], they are "tolerably easy to state and to remember, there are not too many of them, and they do not require prior knowledge of logic or philosophy".[8]

Lipman talks of at least two major benefits of learning syllogistic logic. First, there is no problem of applicability of the learned rules to daily life experiences because these rules are, or have been, discovered by the children from their discussion of issues of interest and concern to them.

Lipman contrasts this with learning rules by rote from the teacher or text-books, without relating them to life experiences, and says that learning by discovery - particularly from life experiences - develops reflective thinking, while learning by rote destroys it.[9] This view is indeed held by many child-centred theorists and constructionists. Lipman himself claims that:

> If you have ever taken a logic course, you probably have some doubts about using formal logic to encourage children to think for themselves. Because formal logic is often presented in textbook fashion, with rules to memorize and apply to bookish exercises, it might seem to develop the very opposite of reflective thinking. But in Philosophy for Children, formal logic is presented in a novel instead of a text, and the children are especially encouraged to think up their own examples to illustrate the rules. And these two variations make all the difference.[10]

Secondly, and corollary to the above, the discovery that the learned rules do in fact improve, clarify and purify one's way of presenting one's thoughts could reinforce children's curiosity which, as we saw earlier, is also a major concern of the program. Lipman's thoughts on the importance of the sustenance of children's curiosity are not unique, but are also held by at least one contemporary American sociologist, psychologist and educator - Leo F. Buscaglia, who says:

> If we could only help children become hooked on learning we could do away with schools. They would find out somehow for themselves.[11]

Sentences which "do not directly conform" to rules of syllogistic logic are standardized. Standardization in "Philosophy for Children" refers to the translation or re-organization of sentences into standard logical forms. For example, "first impressions are deceptive"[12] is rewritten by Lipman as "all first impressions are deceptive experiences"[13]

Probably a better translation should be "all first impressions are deceptive impressions"

Standardization makes it possible, in such cases, for children to apply the rules of syllogistic reasoning to determine whether or not a particular inference is valid. This point is basic to all approaches to the teaching of logic. Secondly, says Lipman, learning to standardize equips children with "the capacity to recognize diverse expressions as variant ways of expressing the same, or nearly the same thing (eg. the way "each" and "any" are all rendered more or less adequately by the word "all")[14]. However the process of standardization entails also the discovery that there are sentences that defy standardization into the four basic syllogistic forms, such as "sentences with singular subjects" for example, "Jesse James was an outlaw...", sentences expressing relationships such as "Ronald is to the right of Jimmy", sentences with mixed quantifiers such as "everybody loves someone", and sentences that are not descriptive, such as "please don't stand on my foot", "I promise I'll be there", and "you can't go out today".[15]

Syllogistic logic introduces many thinking skills to children such as coherence, consistency, classification, imagination and inference, most of which are considered by Lipman to be "generic" thinking skills.

In regard to coherence, children discover that there are rules that govern or guide one's thinking and acts. In the novel entitled Lisa, for example, the character named Harry compares rules to beliefs and says that rules, like

beliefs, shape how we act, say, and think.[16] In the same novel, the character Fran affirms this when she discovers that there is a rule which says that "at any one time, if something's false, it can't be true. It's got to be one or the other; it can't be both".[17]

Consistency

In both novels Harry and Lisa, we see that Lipman regards consistency as the basic "criterion of all reasoning" and hence "a fundamental characteristic of all discourse and communication".[18]

The word "consistency" means three things in the "Philosophy for Children" program. When this is used to describe single "terms", it means conserving "the same meaning when the term is employed several times in the same context"[19] Lipman gives the following examples to help children discover that the inconsistent use of terms can lead one astray.

> Goliath was very big
> Israel was not very big
> Therefore, Goliath was bigger than Israel.[20]

The "Philosophy for Children" program aims to help children over-come such inconsistencies, by encouraging them to ask each other questions that help them discover their own inconsistencies.

Secondly the term "consistency" is used by Lipman to mean avoidance of contradiction, that is, that no "sentence

and its contradictory... be asserted together."[21] Lipman points out that while the rules of syllogistic logic do not tell us which of the two contradictory sentences is true or false, the principle of non-contradiction forbids us to assert both a claim and its contradiction simultaneously.[22] The point is that only one can be true.

Thirdly, Lipman uses the term "consistency" to mean that our actions express what we said we were going to do. In other words, that our actions are consistent with our words. For example, says Lipman, "when a teacher tells a child that she is deeply concerned with his welfare but then ignores him", her verbal claim is inconsistent with her action.

However what Lipman doesn't explain here is that this example contains some complexities. It could be argued that ignoring the child need not directly contradict the teacher's statement that she is deeply concerned for the child. In order for there to be a contradiction, we have to infer or suppose that the teacher's ignoring the child reveals that she actually is not concerned about the child's welfare. But this inference or supposition is open to question. It is quite possible that the teacher believes (and has good reason to believe) that ignoring the child is an appropriate or even necessary way of serving the welfare of the child.

Putting aside the complexities mentioned above, Lipman

claims that "Philosophy for Children" helps children to "perceive inconsistencies involving actions"[24] with the intention to help children actually become consistent.

However, Lipman goes on to say that children also discover that there are situations where contradiction is permissible or even desirable. He gives the example of the clown who puts one foot up on a stool only to reach down and tie his other shoe, and of the comedian who swears that his next obviously fabricated story is true, as cases of experts presenting "joyful inconsistencies".[25] Lipman maintains that the "Philosophy for Children" program helps children to recognize when consistency is obligatory and when inconsistency is "confusing, misleading, and even deceptive, and when it is playful or profound."[26]

Here one could also deduce that, as far as consistency is concerned, Lipman seems to be training for some kind of general transference by letting children discuss the term "consistency" in both theory and practice. It could be said that here Lipman shows to children that the principle of consistency is not restricted to class intellectual exercises but is equally applicable to daily human activities, hence training for general transference or at least showing that consistency is a "generic" skill.

Describe, Define and Explain

As was mentioned previously, Lipman claims that describing, defining and explaining are generic thinking skills. Since the functional purpose of each of these skills is to achieve clarity, they will be discussed together.

In "Wondering at the World",[27] Lipman and Sharp provide a variety of exercises designed to help children develop the skill of describing. These include "fill in the blank" exercises to learn the correct usage of various adjectives and adverbs, matching given descriptions to what is later observed, and generating oral and written descriptions of what is observed. An example of the latter is to "write a paragraph describing the appearance of a squirrel"[28]

The purpose of these exercises is to help children develop a clean or good perception of that which they observe, so as to be able "to "tell the truth" about the thing."[29] This entails paying attention to all the properties of the given thing; noting differences and similarities and translating into words what has been perceived, in a way that is both "grammatically and syntactically above reproach."[30]

Classification and Definition

In the "Philosophy for Children" program, classification simply refers to the ability to judge that something 'x' belongs to a class 'y' because 'x' has the

features that members of the class 'y' share in common.[31]

Lipman says that classification entails two things, that is, "inclusion and exclusion".[32] Children learn how to classify by engaging in both class inclusion and class exclusion.

Some exercises give a number of things with different names, but having something in common which has to be figured out by the children. In this sense they move from the particular to the general, and are thus required to name the class to which those objects belong.

In some exercises the "general", or the class, is given but at the same time children are required to reason out what particulars belong to the given classes. They are asked questions that could make them determine whether the particular and the general are interchangeable or whether one is a subset of the other. These kinds of questions demand, among other things, that children set out to know the characteristics of the "general" as well as those of the "particular" in order to tell whether the general and the particular are not interchangeable. Exercises related to class exclusion are also provided.

In brief, educating children to do classification entails teaching them not only what makes a thing 'x' a member of a class 'y' but also what disqualifies 'w' from being a member of 'y'.

Lipman's approach to definitions is similar to that of

Plato and Aristotle[33] where Lipman makes children define terms in form of "species and differentia." That is, for Lipman, defining a term consists of figuring "out the class to which the thing in question belongs" and how it "differs from other members of the class."[34]

In the instructional manuals accompanying the novels, children are given exercises that help them find the classes to which terms belong.In addition, there are exercises that request a definition with the intention to ensure that children have learnt that a fair definition, according to Lipman, entails knowing both the defining features of the class and differences between the member in question and other members in that class.

Furthermore,in "Harry", children are given exercises that introduce them to the complexities of definitions. For example

> 1. A gem is usually defined as "a precious stone". If you had a semi-precious stone, would it be a gem of less value than if it were precious, or would it not be a gem at all?[35]

While there are problems in finding an exact definition, finding a fair definition has one major value - namely, as Dauer also points out, avoiding "verbal disputes and committing the fallacy of equivocation"[36] In brief, the purpose of providing definitions is to clarify and avoid ambiguity.

If the term "generic" as in "generic thinking skills", were simply to mean what is needed in all disciplines, it

would be difficult to find a discipline where definitions are not needed. In this situation, Lipman's hypothesis would have been indisputable. However there is the problem that "generic" does mean "present in a similar form", or "transferable". It is in this sense that what appears to be generic may turn out not to be. If we could be allowed to save McPeck's critique of this to the end of this thesis, we could still appeal to problems such as that pointed out by Wittgenstein - for example, the definition of the term "game" as an example of the non generic-ness of definition.

> Wittgenstein pointed out the virtual impossibility of defining the word 'game'. If one thinks that winning and losing a competition is essential, one has the difficulty of including Ring-around-the-Roses; besides, wars can be won and lost as well as games. To think that playfulness is essential to the definition of a game would be folly because poker may be anything but playful for a professional gambler. Skill or talent is important for many games, but one would wonder about the skill involved in playing bingo.[37]

If we were to talk of this as an exception and probably place it in the group of those terms for which there is no bigger set in which to place them, still the genericness of definitions as here presented will be void - because, first of all, in my opinion exceptions occur in most burning issues where we actually need "clarity" most. Secondly, in regard to definitions there will be too many exceptions to allow us to admit the genericness of definitions. However, definitions where obtainable are of great value to learning, as well as critical thinking since they help us

avoid ambiguity.

Explanation

For Lipman "explanation" "lives between undistorted restatement and interpretation" and entails selecting and emphasizing "certain features of what" has been asserted.[38]

The program aims to help children learn how to make explanations by giving them exercises of the "fill in the blank" type. In addition children engage in discussions relevant to questions that solicit clarity. Some of those questions are:

> Is the point you are making that...?
> Which points in what you've said would you like to emphasize?
> So you think the following points are important...?
> Can I sum up your argument as follows...?
> Could you give us a quick summary of the points you're making...?
> Here's what I take to be the gist of your remark...[39]

Compare and Contrast

These skills can be classified as skills that seek clarity. Here they are treated together because there is a sense in which they are similar. For example, while the word "contrast" is defined as "(a). a juxtaposition or comparison showing striking differences, (b). a difference so revealed," and "compare" is defined as ... to express similarities in, liken"[40]. When the word "compare" is followed by "with", in the American Heritage Dictionary it

is defined as "...note similarities or differences of"[41] and that is where the terms "compare" and "contrast" meet. More than that they both entail placing "things side by side"[42], for example juxtaposing. Lipman claims that "it is not altogether unreasonable to say that our understanding of the world primarily consists in our being able to identify the ways in which similar things are similar and different things are different. Conversely, the best way to misunderstand the world is to think that similar things are different, or that different things are similar. Much of the process of education necessarily involves a reflection on experience which yields knowledge of similarities and differences."[43]

Lipman says that to look for similarities and differences is a question of seeking for relationship. And looking for relationships is "a major aspect of each scholarly field. There are arithmetical and geometrical relationships, moral relationships, part-whole relationships, means-end relationships, etc."[44] In other words, Lipman is implying that to "compare" and to "contrast", or to seek for relationships are generic skills. Lipman claims that to make comparisons is to discover relationships which in turn trigger understanding. He says:

> ...to understand is to grasp relationships, and relationships are discovered by making comparisons.[45]

Children deal mainly with two types of comparisons -

namely, what Lipman calls "exact" and "inexact". "Exact"[46] type exercises deal with identical relationships, the type that are in mathematics represented by the sign = "equal to" as in a = b +c.[47]

Inexact comparisons are those which are represented with exaggerations or figuratively according to Lipman.[48]

Exercises like the following are given to children to help them learn comparisons.

Exercise: **Making comparisons which are exact and inexact**

Would you say that the following comparisons are exact or inexact?
1. Gary: "I have as many fingers on one hand as I have on the other."
2. Carrie: "When I told her my secret, her eyes grew as big as saucers."
3. Nell: "There are as many inches to a foot as there are months in a year."[49]

To help children learn to "contrast", exercises are given requiring the children to find opposite or contrasting terms (e.g. inside - outside) and comparative relations (e.g. high - higher).

Supposing and Assuming

"Supposing" and "Assuming" are very closely related terms. In both, something is taken to be true, but there is a difference. In "supposing" we take something to be true even though we know or believe it is not.That is, we can pretend or imagine to be true what we know or believe to be false. In "assuming", on the other hand, we do not take to

be true what we know is false. Rather, we take to be true a statement (or account,etc.) whose truth or falsity we are not sure of.

Lipman says that finding underlying assumptions to a given statement is a chief characteristic of philosophical dialogue.[50] For Lipman, the discovery of an underlying assumption is important because it makes one re-think his/her original statement vis-a-vis the discovered underlying assumption. In addition, it could help the dialoguer to know whether the question at hand is answerable or not . For example, says Lipman, "if someone asked you how far it is from here to never-never land" the question could be rejected " on the ground that it assumes that never-never land exists, that the distance to it is measurable, that "here" is a specific location, and so on".[51]

Children engage in various exercises which, Lipman assumes, could help them learn how to discover underlying assumptions. Some of these exercises involve listening to the speaker, finding out the underlying assumptions that one thinks the speaker had in mind when s/he made the statement in question. For example the following questions are used:

> Aren't you assuming that...?
> Doesn't what you say presuppose that...?
> Doesn't what you say rest on the notion that...? Is what you've just said based on your belief that...? Would you say that if you didn't also happen to believe that...?[52]

In some other exercises multiple choices are used, and the child is asked to choose the "correct" assumption that

is, the assumption that would warrant the claim made _ or render an inference valid. For example

> 5. Nancy said, "look at those people with their skis! They must come from Canada". Nancy is assuming that: (a) Everyone from Canada uses skis.
> (b) Everyone with skis is from Canada.
> (c) Neither (a) or (b) is the right answer.[53]

Some other exercises involve discovering assumptions from a single sentence. For example:

> Exercise: What do they assume?
> 1. Why are dolphins such stupid fish?
> .....
> 3. What happens when an irresistible force meets an immovable body?[54]

Question number three in the above example is of special interest to me because it seems to indicate that children do not simply engage in finding underlying assumptions to <u>simple</u> issues or statements but also to quite <u>complex</u> issues. To regard this question as meaningful requires the assumption that there can be, simultaneously, both an irresistible force and an immovable object _which can stimulate the Children to discuss this perplexing question.

<u>Infer: Deduce: Induce</u>

To infer, according to Lipman, consists of two main branches of mental activity - namely, deductive and inductive inferences. What takes place in this exercise is to discover what is "suggested or implied"[55]. Thus, says Lipman, "inferring is one of the most important cognitive acts that we perform in the educational process. It enables

us to go beyond what is given, and to draw a conclusion which we may not before have known. Inferring enlarges the range of meanings for which we are able to reach out."[56]

Lipman states elsewhere that to infer is a generic skill, and that it is useful and indeed needed, not only in school-work but also in giving meaning to the activities that children engage in outside school. He says:

> ...the capacity to draw inferences correctly is of the highest importance in establishing the meaningfulness of these activities that children engage in both in and outside of school.[57]

In this section we will look at both deductive and inductive inferences as used in the "Philosophy for Children" program.

Deductive Inferences

A deductive inference is strictly logical in character and is also known as a formal inference.[58] It is an inference that logically follows from "what is already known"[59], and in a sense it could mean "to decipher". For example if we were to agree with Lipman that "if someone tells a child winters at the equator are never cold, the child should be able to infer that the statement, 'last winter was cold at the equator' is false..."[60] we will have to deduce from this example that the statement "winters at the equator are never cold" contains another message - namely, that any "winter season", as long as it occurs at any place along the equator, cannot possibly be cold. Hence

the falsity of the statement, "last winter was cold at the equator". However, this example deserves scrutiny.

The statement "winters at the equator are never cold" logically implies that the statement "last winter was cold at the equator" is false. So that if the first statement is accepted or assumed to be true, in the sense in which "to assume" was discussed earlier in this chapter, the child can infer that the second statement, "last winter was cold at the equator", is false; so, the falsity of the second statement can be inferred from the first statement.

The question as to whether or not the first statement is true, and admits of no exceptions, is another matter. For the truth to be established, we require evidence (and scientific backing). What is weak about Lipman's example is his commencement with, "if someone tells you that...": this is clearly not an adequate reason for accepting the truth of the first statement. So the problem here is as follows: the truth of the first statement does logically imply the falsity of the second. Thus if the first statement is accepted as true, one can and should infer that the second statement is false. But since no adequate grounds are given for accepting the truth of the first statement, the student should not infer that the second statement is false.

The problem here is confusion of "implication or entailment" with inference. Implication or entailment is a logical relationship that holds between propositions or

statements, while inference is an act which persons perform. In this case we should refrain from inferring the falsity of the second statement from the first statement because, even though the falsity of the second statement is logically implied by the first statement, the truth of the first statement has not been adequately demonstrated. What we can say is that if we know (or if we assume) that the first statement is true, then one can and should infer that the second statement is false.

Induce

According to Lipman, and many others, to induce is to move from "specifics to generalities, where the generality projects beyond the evidence base given in the specific area."[61]

Generally, says Lipman, inductive inferences come from analogies between our past experiences and our present experience in order to predict the probable outcome of our present experience. Lipman says that "when we try to figure out what will happen based on what has happened in the past, and what we then surmise, is based on the probability that something is likely to happen, we are engaged in inductive inferences."[62] Thus inductive inferences entail "examination of evidence", comparing it to past experiences and then making a prediction by assessing the probable outcome.

Lipman is not alone in assuming the genericness of

inductive inferences, in particular as it applies to analogy, probability and prediction. Irving M. Copi, among others, can be said to be subscribing to the same thought when he says that "most of our everyday inferences are by analogy.... Analogy is at the basis of most of our ordinary reasoning from past experience to what the future will hold."[63]

However, as Lipman himself points out, there are many problems involved in inductions. Lipman, for example, points out that "At present, there are no simple formal criteria for inductions - there is no known rule of induction that works for all inductions in the simple and direct way..."[64] Secondly, there is the problem of evaluating what has been inferred, about which Lipman says that "...for the present at least, evaluating inductive inferences requires considerable familiarity with the evidence on which they are based, as well as with the scope of the generalization they are intended to support."[65]

But does this in any way answer Hume's question in regard to the problem with induction, "what right do we have to suppose that the future will be like the past? or better, what right have we to suppose that certain information about what has been observed can confirm certain hypotheses about what has not been observed?"66

The popular story of the chicken and the farmer could come in handy here; in it, the chicken gets used to seeing

the farmer as a nourisher, a sustainer and a feeder - in essence one who fosters their well being. Their past and present experience is that s/he provides all the necessary nutrients for their growth. What if the chicken had brains to predict from their experience of the farmer what s/he will do to them tomorrow (when each weighs three pounds). It is unlikely that they would imagine, postulate, predict this farmer as being one who will wring their necks because that would be inconsistent with their collected statistics and hence the probability of this event occurring, based on or deduced from their past experience of this farmer is zero. Lipman recognizes the problematic nature of induction. He says:

> A central problem of induction is this: how much evidence do we need before we can formulate a reliable generalization? How large a sample is a reliable sample?[67]

The exercises that Lipman gives children make them aware of the fact that inductions are problematic. In the case of the farmer and the chicken it is not simply a matter of looking at the farmer feeding the chicken when they are young, protecting them and nourishing them as they grow, which qualifies one to postulate that therefore it appears that s/he will do the same tomorrow. These exercises could lead to these kinds of inferences, but they also demand that children imagine under what circumstances such inferences could be wrong.

Familiarity with evidence

In the previous section, we saw Lipman claiming that in order to evaluate what has been inferred - specifically, through induction - one needs to be "familiar with the evidence" that triggered the inference. In addition one has to be aware of the possibility of exceptions to the generalization that the evidence is supposed to support. It is therefore important to try to understand Lipman's understanding of the phrase "familiarity with evidence." he says:

> Sometimes, the more familiar may actually be wrong. For instance, while the bumps you get on your skin at a horror movie are often explained by reference to the chilling effect of fear, they really are hair raisers that function as a protective mechanism (much as a cat distends its fur). But generally speaking, a reason that refers to something well-known is better than a reason that leads to obscurities.[68]

In claiming that in general familiar reasons are best, Lipman seems to be abandoning the philosophy he advocates elsewhere, which is similar to Aristotle's that philosophy by nature is aporetic or difficulty - seeking. The aporetic nature of philosophy, according to me, appears to be opposed to the spirit inherent in Lipman's claim as seen in the last sentence in the above quotation.

That sentence seems to imply that Lipman here has abandoned or contradicted his own understanding of philosophy as seen in chapter one of this thesis - that philosophy is inherently difficulty - seeking. That is, it

is difficult to assume that Lipman is serious with the validity of his claim that philosophy by nature is aporetic, and at the same time assume that in general one has to avoid obscurities in favour of familiarities. This issue is significant in view of what I think should be the spirit of philosophy as espoused by Socrates, and many after him, which I think is well paraphrased by Barber when he says that:

> If we are intellectually critical, if we wish to be able legitimately to claim that we know the things we most confidently believe, then we shall continually be examining the array of statements to which we subscribe, seeking to winnow out those that it is foolish to believe: and we shall seek also to add whatever new statements it is reasonable to believe.69

Philosophy, as I understand it,challenges and criticizes common sense familiarities,without fear of being regarded as obscure. The assessment of reasons in "Philosophy for Children" entails inquiry that leads to clear understanding of the reasons. The clarity of evidence is a necessary condition to evaluating it. Lipman, on assessing reasons, says that children cannot assess reasons "for something unless they clearly understand what it is. So, they need to learn to listen to themselves and to each other as they discuss topics at issue. They especially need to get a hold on the reasons offered and to have time to think about those reasons in the context of inquiry."[70]

What is meant by the phrase or the term to "understand clearly"?, What does it entail? This question could itself

be a subject of an entire thesis. Even here, if properly treated, it could lead to paraphrasing the entire "Philosophy for Children" program. Therefore we cannot assume a comprehensive work on this subject in less than one chapter. For example, to understand clearly entails the interplay of all the thinking skills plus dispositions. It entails part-whole relationships; cause-consequence relationships; comprehensiveness; consistency; objectivity and impartiality just to mention a few. This is what Lipman seems to imply when he says that, in order to understand something clearly, that thing must be placed in its proper setting - so that one knows "what went before" and "what went after", as well as seeing the connection between the two.[71] He argues that "the more comprehensive the setting of an idea is, the richer will the idea be in meaning."[72] This means that apart from knowing what precedes and succeeds the idea in question, there is a need to know the relationship that it has with its surroundings. Is it an independent entity, or is it a part of a whole?. Is it a cause or a consequence?. All of these variables affect the credibility of the reason forwarded to evaluate an inference. Therefore there is a need to examine them briefly.

Part-whole Relationship

If one were to discover the relationship of one's idea to the "whole" this could lead to a better understanding of

what one is dealing with. For example, suppose one were sailing on the St. Lawrence River in spring, and were to notice a one meter wide piece of ice ahead, one would be at an advantage if one knew whether that "one meter piece of ice" is all one had to steer clear of, or is it simply the tip of an iceberg.In this case to sail safely, there would be a need to know the relationship of the visible to that which is hidden beneath, otherwise the ship could crash into the iceberg and capsize.

Like the possible connection of the one-meter piece of ice to the ice-berg, as well as the possible consequences of neglecting it, likewise there could be a problem if one were to hastily support an argument without finding out about the reasonableness of the supporting evidence, an issue that demands knowing the relationship of the reason to the whole picture. For there are some cases in which a piece of information <u>in isolation</u> may not be a good reason to support a claim, but in combination with others may be so. Lipman says that, "as long as one does not know the context of an episode, it may seem meaningless."73 One of the examples Lipman gives is that "...someone is told to make a choice when she has only one option. In effect, the choice is meaningless. Suppose now she discovers alternatives and sees the connections between them, as well as the consequences that would follow from each of them. Immediately, her choice becomes meaningful."[74]

What we could infer from this brief examination of the relationship of part-whole vis-a-vis reason, analysis, or assessment, is that we are not in a position to give a good assessment of a given reason until, among other things, we have set that reason into a more comprehensive situation. Of course there are exceptions to this. For example, if professor X believes P, that could be used as a good reason for us to believe P, if professor X is an expert in the field relevant to P. Otherwise we need to place a given reason into a comprehensive setting in order to evaluate it effectively.

Comprehensiveness, among other things, demands also the knowledge of cause-consequence relationships.

The understanding of the relationship between "cause" and "consequence" could sometimes be tricky. Lipman points out that there are people who think that "if one event precedes another, the first must inevitably be the cause of the second,"[75] though this is not usually the case.

Children learn this concept by addressing such issues as:

> 1. Because I always get hiccups when I see a mouse, and I only get hiccups when I see a mouse, must the cause of my hiccups be my seeing a mouse?
> 2. Which part of the sentence describes the cause, and which the effect: "The rivers were flooded, due to the heavy rains".76

The first example covering the relationship between seeing a mouse and getting hiccups could go either way. It

could for example be argued that the sight of a mouse induces fear. What if it were to be proved that such fear induces hiccups? Then it could be a valid argument to say that, the sight of a mouse for person X causes hiccups.On the other hand, the sight of a mouse could be purely coincidental to the occurrence of hiccups.

In these exercises it is assumed that through dialogue in the community of inquiry all points of view will be brought out for discussion; for example, through such questions as "How do you know?" or through the exercise of looking for alternatives.

In the second example, we see that children are helped to learn the concepts of cause and effect, and how they are expressed. For example A is due to B. However it is possible for one to argue that this type of exercise does not go very far to foster critical inquiry about cause-effect relationships, and in particular how they affect the assessment of reasons. This could be a valid objection, however the teaching of any thinking skill in "Philosophy for Children" consists of various exercises which, if put together, would at least appear to foster "cause-effect" thinking. Among these are those that sensitize children against fallaciousness or sloppy thinking. For example:

"after this therefore because of this" fallacy

> ...I kept thinking about his pitching a no-hitter. That's why he failed to pitch the no-hitter: I jinxed him.77

When children discuss exercises such as the above, in a community of inquiry, the dynamics of the community of inquiry dictate that they will have to give good reasons for believing that the "no-hitter" was the result of jinxing, and that this is the only reasonable explanation.

But the community of inquiry consists of people with different thinking styles, as Lipman says, including those who are scientifically minded, who will demand a proof whose reasonableness is in accord with acceptable scientific modes of verification. Since, in the community of inquiry it is the case that one ought to respect each other's ideas and questions, no idea or question will be dismissed on the ground that "it is irrelevant to one's personal style of thinking"; rather, the new idea or question will be given its due respect and (hence examination) as if it were one's own view or idea. In addition, since the other necessary condition of belonging to the community of inquiry is the ability to change one's idea in view of the new evidence. This is to say that one abandons whatever is unreasonable and adopts whatever is sound. What will probably happen is that one will move from mere superstition to a better mode of proving relations of cause-consequence.

However there is still a problem that Barber raises, which is "why choose one mode over another?". He says:

> ...What mode of non-demonstrative argument should be regarded as the fundamental valid one; why ought it to be trusted in preference to other possible modes of argument? Why trust the engineer

more than the gypsy?[78]

In other words, why trust the scientific explanation against "hunch thinking" or non-scientific thinking?

This is the problem not only of cause-consequence but of induction in general. And though relevant to this thesis it raises more questions than could be sufficiently covered here. For example, even if we were to take Lipman's answer that the combination of "facts; relevancy; plausibility; intelligibility and experience"[79] is the best judge - or Barber's answer, that a statement is reasonable if it "is well confirmed by the evidence that experience provides",[80] still there would be a problem. For example, what if the child who said that he did not make a no-hitter because I jinxed him, says that such a thing has consistently happened fifty times without fail over a period of two years, and I have witnesses to testify to this because I used to tell them that I am going to jinx someone, that he will not make a no-hitter. And if such testimony were to be available, then what? Will this evidence be preferred to that of the psychologist who examines all fifty cases and discovers that, that was a period of hay-fever, in which all these players were victims, and who concludes that this is why there was not a no-hitter in each case? Both represent experiences. This difficulty, while important, is beyond the scope of this thesis.

Probably what is more relevant to the above mentioned

possible objection to the creation of a critical "cause-effect" thinker is the fact, already stated a few times in this thesis, that the learning method used by the "Philosophy for Children" program - dialogue- appears as if it encourages "cause-effect thinking" because it entails questions, which ask for reasons and proofs whose credibility is beyond doubt. Some of those questions are; "how do you know...?, have you considered...?" .

In addition, we have to remember that each exercise concerning cause-consequence, part-whole, and assessment of reasons requires a deployment of all thinking skills of which we are only discussing a few in this thesis. But in order to understand something clearly and to be able to assess it, it requires all of them.

To say that one will have to use all learned thinking skills, is to talk of a mission that is almost an impossibility - firstly, because of the variety of the skills needed; secondly, because of the energy needed to do so. However the "Philosophy for Children" program claims to train children to do both.

The methodology used by the program requires the use of many thinking skills, as well as the dispositions to use them. For example, when a child in the community of inquiry "makes a statement" in reply to a question and is then asked "have you considered this?"... some of the thinking skills that could be fostered by such a question are categorizing,

comparing, contrasting and judging as to whether his or her original statement was better than the proposed alternative. Each of those skills entails many others. In other words, to participate in the community of inquiry requires the use of a variety of thinking skills. The question is, how does "Philosophy for Children" motivate children to use them?

In my opinion, the first step which "Philosophy for Children" uses in order to encourage children to use the learned thinking skills is, as we saw earlier, to sustain their natural inquisitiveness through the creation of a community of inquiry where everyone, including the teacher, is a co-inquirer. This makes the child feel that it is normal to be inquisitive because everybody else in the community of inquiry is inquisitive. This is, in itself, a motivating factor because it fulfils the requirements for being accepted in the community of inquiry.

Secondly, Lipman maintains that the children's inquisitiveness is sustained by the material in the novels that the children use. Novels read by children are full of issues of concern and interest to them, but these are presented to them in a way that provokes thinking or inquiry, since they present and do not solve those problems, thus provoking children to inquire or to search for solutions to those problems. In this way it is hoped that the children's inquisitiveness will be fostered.

In addition, it is alleged that children's motivation

or inquisitiveness is sustained by the fact that any answer given is treated with respect, there is no putting-down of any one. Rather, a given answer is used as a platform from which to reach out to better answers. It is hopped that the process reinforces inquisitiveness, because it rewards the child with a solution to his/her problems. Through dialoque, self-reflection, construction and reconstruction one is able to leap from a shaky answer to a better one. The consequence is that, through this process, one discovers that s/he is a thinker. This is the first assumption made about the child in "Philosophy for Children". The "Philosophy for Children" program assumes that the "self" (child) is a thinker who is curious to understand the world around him/her. It is this self-awareness that "Philosophy for Children" nurtures, through its curriculum.

It is these thinkers, who are curious to understand their world, that "Philosophy for Children" equips with tools that will help them discover what they are searching for. For the purpose of this thesis, those tools are the generic thinking skills which we have covered in this chapter.

If one were to believe in the effects of the environment on our intellect, then,it would be possible to hope that these learned generic thinking skills will be applied, because of the fact that children in this program have been socialized to believe that they are thinkers,and

that the learned thinking skills can improve their thinking. This is the self-image that each child carries around with him/her self, and it is this awareness that is practised in their daily activities in the community of inquiry, for dialogue demands that one thinks. Also, it is this self-image that qualifies one to be a member of the community of inquiry.

Since it is assumed by Lipman, as we have already seen in this thesis, that children are "naturally inquisitive" and that they "love to talk"81 - we could infer that to belong to a community that allows them and in fact encourages them to do what they actually naturally want to do, is in itself self-reinforcing, because as we say in Luganda "**oba osindise munya mu ssubi**".(it is like giving the lizard the punishment of running through the grass). For those of you who have never seen a lizard, an analogous thing would be it is like giving a fish you have found trapped on the sea-shore, the punishment of going back to water. That is not a punishment, it is a reward because you are getting it back to its natural habitat. Likewise, if Lipman is correct in assuming that by nature children are inquisitive and love to talk, it means that belonging to a community of inquiry is a treasured privilege - because it is a milieu that is natural to them. One could argue that this is self-fulfilling because it is in accord with what scholars like Kuhl think results in self-actualization.

> Khul's (1987) action control model involves a motivation system and three memory systems (action memory, semantic memory, emotional memory). He assumes that if "an activated plan has activated the motivation memory it becomes a 'dynamic plan'", that is; it gains access to the executional system and it is maintained (energized) and protected against competing plans.[82]

As we have seen above, "Philosophy for Children" fulfils all Kuhl's conditions through the community of inquiry. Participation in inquiry such as seeking for reasons, alternatives, construction and reconstruction of ideas could be taken to be analogous to what Kuhl probably means by "action memory". Here dialogue could be taken to be the equivalent of "semantic memory", and finally the fact that the process solves or deals with issues of concern to children is in itself an appeal to "emotional memory". Furthermore if it were true that curiosity or inquisitiveness could be equated with motivation then it could be assumed that because "Philosophy for Children" sustains and fosters children's natural inclination to curiosity, it also keeps them motivated.

Thus if Lipman's claims for "Philosophy for Children" are correct, children in the program do come to believe that they can think effectively for themselves, and communicate effectively amongst themselves and with the teacher. In addition, they discover that by doing so they gain acceptance and respect, rather than "put-downs" for thinking and expressing what they think. They simply get support

where necessary, but only to help them re-formulate their own thoughts about things that they are concerned with. Therefore emotionally, semantically and by action their minds are being activated in the direction of self-actualization, the self who is a thinker; the self who is aporetic.

It could be said that the process of learning in the community of inquiry provides what Rebecca Curtis (as we saw earlier in this thesis) refers to as "a clear history of sufficient, positive, contingent reinforcement for self-actualization", which, one could speculate, is an important pedagogical and psychological factor vis-a-vis the utilization of learned thinking skills. Children learn that it is not criminal to use their learned thinking skills. Rather, they learn that it is a blessing to use them, because that earns them acceptance and respect. Hence it is hoped that they will use them, at least whenever the environment allows them to do so.

In this chapter we have seen that "Philosophy for Children" aims to equip children with not only the generic thinking skills but also with the motivation to use them.

In the following chapter we shall examine McPeck's rejection of the existence of such generic skills.

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CHAPTER 4

McPECK'S GENERAL ARGUMENT AGAINST GENERIC AND GENERAL TRANSFERABLE THINKING SKILLS.

In this chapter we present McPeck's general argument against the view that we can educate critical thinkers - those who think critically in all disciplines - or that we can improve people's thinking in general, by teaching them what are alleged to be generic and transferable thinking skills.

Basically, McPeck's argument is that the claim that one can improve thinking in general, or that one can produce critical thinkers by teaching them generic and transferable thinking skills, is an illusion because sound or critical thinking is discipline-specific: that is, each discipline has its own norms and modes of critical thinking which differ from those of other disciplines.

In his attempt to explain his position, McPeck refers to the analogy used by Toulmin in the latter's defense of a similar, but stranger claim, with respect to discipline-specific logic where Toulmin says that logicians should learn "to tolerate in comparative logic a state of affairs long taken for granted in comparative anatomy." In anatomy, says Toulmin, "A man, a monkey, a pig...each will be found to have its own anatomical structure: limbs, bones, organs and tissues arranged in a pattern characteristic of its

species." In anatomy, says Toulmin, "normality and deformity are 'intra-specific' not 'inter-specific' notions, "for example "A man with a hand the shape of a monkey's would indeed be deformed, and handicapped in living a man's life, but the very features which handicapped the man might be indispensable to the ape - far from being deformities, they could be of positive advantage." Toulmin claims that "the same kind of situation holds for terms of logical assessment. If we ask about the validity, necessity, rigor or impossibility of arguments or conclusions, we must ask these questions within the limits of a given field, and avoid, as it were, condemning an ape for not being a man or a pig for not being a porcupine."[1] While McPeck abstains from Toulmin's stronger view that "each field has its unique logic" and that it is therefore senseless to talk about "learning logic simpliciter, but only the logic of this field or that," McPeck takes the view that as far as critical thinking is concerned, "each field of inquiry has its own peculiar epistemology."[2] He says:

> Thus, where the 'strong' view claims that there are significant syntactical differences that distinguish discrete fields, I am merely claiming that there are (at least) significant semantic and epistemic differences that distinguish them. Both views clearly imply that there is no single or monolithic route to effective critical thinking for all, or even most fields.[3]

Pursuing this type of reasoning, McPeck claims that to say that anyone is going to improve another's "reasoning ability" or "critical thinking" is as ridiculous as anyone

saying that he will improve another's "speed." The question McPeck asks is, "speed at what? running, reading, typing, or changing mufflers?" The argument is that since the things in which we desire to increase our speed differ in structure and laws of maneuverability, it makes no sense to talk about "improving one's speed" as a general ability. Likewise it is senseless to talk about teaching critical thinking as a general skill because whatever makes one a critical thinker in a specific subject "x" does not necessarily make anyone a critical thinker in another subject "y."

This is so because the phrase "critical thinking" describes the way a specific subject is being thought about and not the "what" and the "why" of what is being thought about. The adjective "critical" "describes a kind of thinking just as do 'precocious', 'imaginative','creative','sensitive', and so on."[4], and as such "simply qualifies 'thinking' (both grammatically and in fact), and so critical thinking too must be directed toward something."[5]

Secondly, "thinking" is not a neutral activity either. Thinking is always thinking about something and not everything in general.[6] McPeck argues that while actions that deserve the description "critical thinking" are numerous and that one could identify the intended meaning of the phrase "critical thinking" when applied to each of them, it does not follow that critical thinking is generalizable

because critical thinking is always tied to a specific subject but is non-existent in isolation. McPeck argues that since this is the case, and furthermore since each discipline has its own criteria by which to judge whether "critical thinking" has been applied effectively or not, it makes no sense to talk about "critical thinking" as a generalizable activity.[7]

To clarify his stance McPeck discusses "Judicious Scepticism" which he assumes to be "the most notable characteristic of critical thought."[8] He says that the word or the term "scepticism" in regard to critical thinking does not mean incessant, compulsive questioning - rather, its purpose is to produce "a more satisfactory solution to, or insight into, the problem at hand." What this involves is the knowledge required to judge when to apply this scepticism, and when not to apply it. And this requires, "among other things, knowing something about the field in question"[9] because the "criteria for regarding scepticism as judicious, as opposed to incorrect or frivolous, must be determined by the norms and standards of the subject area in question."[10]

McPeck says that in order to understand what a good reason is, one needs to know "the full meaning of the specialized and often technical language in which such reasons are expressed. That is, an understanding of the semantic content of a field-dependent proposition is a

prerequisite for its assessment.[11]

> ... Indeed, it is this straightforward, semantic dimension of statements and arguments that I wish to stress as the most important, most difficult and most fruitful area to pursue for the development of critical thinking in any field."[12]

This is what McPeck calls the epistemological dimension. It places emphasis on the acquisition of meaning, rather than on "logical relations between propositions. For example in the proposition 'P → Q' it is more important and more complex to understand what P or Q means than to understand the syntactic relation between P and Q (expressed by the symbol →)."13

For McPeck the epistemological dimension entails more than simply looking up words in the dictionary. It involves the understanding of concepts "and peculiarities of the nature of evidence, as they are understood by practitioners in the field from which they emanate."[14] McPeck points out the word "mass" as an example in the above argument, and shows that the meaning of the word "mass" varies in physics and Marxist political theory when used in the sentence "the mass will expand". The connotations and denotations of the word "mass" differ in physics from that of Marxist political theory when used in the above mentioned sentence, an example used by McPeck to show that "understanding the various kinds of reason involves understanding complex meanings of field-dependent concepts and evidence".[15]

One could make an endless list of examples which

support McPeck's argument that the criteria used to judge what is a sound judgement in one discipline differ from that of another discipline - to the extent that what is considered sound judgement in one discipline could be considered faulty in another, even when the two disciplines are addressing the same issue. As an example, let us consider the difference in the criteria of legal and moral judgements vis-a-vis the well known Heinz's dilemma used by L.Kohlberg.[16]

The criteria for determining whether a person accused of stealing is guilty and hence punishable from a legal standpoint, differ from the criteria involved in the moral approach. The legal approach tries to establish the fact that the accused actually did break into the store and steal the drug. Once that is proved to be the case, the next stage entails pointing to or at the existing statute. The conclusion or verdict is given in accordance with the dictates of the existing national or regional law. In the above case, the person would be guilty and punishable.

However in the Moral approach the criteria for determining whether or not the person who broke into the shop and stole a drug acted in a morally permissable manner, differ or vary according to the philosophical approach used. For example, proponents of Natural law would use a more legalistic approach whereby their verdict would be dictated by what they regard as universal moral laws.

In contrast the criteria used by utilitarians will be in terms of the consequences of the particular act and not an appeal to fixed natural and universal laws, or fixed state laws. The verdict reached in these two moral approaches may or may not be the same. The point is that each uses different criteria or has different standards of what constitutes sound reasoning and both of these standards differ from those employed in the legal approach. Sound legal reasoning may lead to the conclusion that the one who stole the drug committed a criminal act, while sound moral reasoning could lead to the conclusion that the very same act was correct or even heroic.

This example illustrates McPeck's argument that each discipline has its own criteria or norms and standards for determining what is sound, and hence the need for discipline - specific epistemology.

McPeck argues that those who think that logic can improve practical reason, while ignoring "the epistemological problems associated with the special knowledge that bears upon those issues"[16] are wrong because they assume generalizability of thinking skills and also under-estimate the complexity inherent in everyday issues. Some of the most well known philosophical works which believe in generalization of thinking skills include Spinoza's "Geometrical method" and Descartes "Rules for the Direction of the Mind". They thought that "principles must

underlie every inference and that a general theory of reasoning was possible." However, McPeck maintains that "the history of philosophy has shown these methods to be deficient in two ways: first intuitions are required that are not themselves grounded in principle and differ from person to person: second, the methods have very restricted domains of valid application."[17]

He says that while it is true that there are some types of reasoning that are justified by general principles, and others by "contingent events and circumstances," most justified decisions and judgements "rest simply on experience and can be supplied in no other way.[18]

The mistake which proponents of generalizable thinking skills commit, says McPeck, is that they assume "that being generalizable is, for all intents and purposes, equivalent to being repeatable. However, the assumption over-looks a crucial distinction, that between principles repeatable within a domain and those applying to several domains. Just as the rules of a particular game do not necessarily apply to other games, so certain principles of reasoning apply within some spheres of human experience but not in others."[19]

Proponents of General Principles which are applicable in all or most areas of human knowledge point at "applied logic, both formal and informal"[20] and assume that it will transfer to other areas. To this McPeck says that;

> ... In its effort to maximize the number of areas its general principles apply to, this approach must sacrifice genuine effectiveness in all of them. While its prescriptions are generally true, they are also hollow, more truistic, than true, for example; "Make sure the conclusion follows," "Look out for tautologies," "Is a fallacy being committed?" "Don't contradict yourself." Such sage advice resembles a baseball manager exhorting his pitcher to "throw strikes!"... Giving people very general principles for solving problems, even with extensive training in them, is like giving people a language with a syntax but no semantic. It is functionally meaningless.[21]

McPeck argues that "in some instances, formal logic may be virtually irrelevant; in others, understanding certain kinds of fallacies may prove invaluable. But in all instances, the appropriate logic will be a meaningful part of the form of knowledge in question."[22] In this argument, McPeck appeals to the existence of various logics as a proof that the teaching of one or two logics cannot educate a critical thinker - because, unless we prove that the various logics are simply fancy names describing the same thing, we will have to face the fact that each of the logics differs from the other "on the notion of validity" and also on the rules of inference.[23]

Those logics are:

Boolean and non-Boolean algebras;

Multivalued Logics;

Modal Logics;

Deontic Logics;

Quantum Logics;

and, Decision-Theoretic models of reasoning.[24]

In each logic, says McPeck, "formation rules and rules of detachment are designed to do certain kinds of work by sanctioning some inferences and prohibiting others."[25] Therefore, what is needed is not one or two logics but discipline - specific epistemology where one learns the logic appropriate to that specific discipline,[26] because each discipline has its own norms and standards of validity, or as Robin Barrow says "while logic may be common to all critical thinking, the form that logic takes differs in different contexts."[27] McPeck says,

> No single logical system can capture the validation procedures of every discipline, nor all the problem areas within a single discipline. Reasoning in particular problem areas is often sui generis, and the range of human experience is too diverse to allow us to hope, much less think, that a single logic or two could capture all such reasoning.[28]

While McPeck suggests "that we discard all talk about 'generic skills' of critical thinking since it turns out to be a false hope"[29] he allows for some kind of transfer of learned skills. Therefore, as such the question for McPeck is not "Whether specific knowledge and information can transfer, since careful reflection shows that they do - but rather, what knowledge and information will have the most transfer?[30] The question has been crucial since the days of Plato.[31]

McPeck answers this question in two parts vis-a-vis the development of critical thinking. The first part concerns the type of knowledge that is likely "to be the richest or

most powerful from the point of view of transfer. The second, ... concerns the perspective or attitude taken with respect to that knowledge."[32]

So far we have seen that McPeck rejects the teaching of critical thinking through generic or general transferable thinking skills. His argument against such skills is that they overlook the vitality of the epistemology of a specific discipline, which "logic per se can not rectify."[33] Logic, says McPeck, can only tell us whether an argument is valid or not, and can not help us determine the truthfulness of the premises. The truthfulness of premises can only be determined by the knowledge of the specific discipline in question. Therefore, says McPeck, the best that logic, which ignores discipline - specific epistemology, can do is to give us a "superficial opinion masquerading as profound insight into complex public issues."[34]

The idea that logic is the most important element of an argument, because any standards used to evaluate or analyze an argument will be logical in nature, relies "more heavily on an apparent connotation of the word 'logic' than its denotation will effectively support."[35] He argues that there are different logics, which differ from each other in the way each appraises its material, and as seen earlier Toulmin's saying that since "each discipline has its own logic it makes no sense to teach logic", in general as a means to achieve a general critical thinker. This is because

"one would have to learn each logic separately - just as one has to learn the field-dependent concepts of each field differently."[36] This means that, since "critical thinking" can only manifest itself in relation to a specific discipline, the only way one could produce a critical thinker in general is by educating a modern-age renaissance man but this can not be achieved by teaching one logic per se. McPeck says:

> ...calling to witness such notorious cases as distinguished logicians with no idea for whom to vote, nor why, it is fair to postulate that no one can think critically about everything, as there are no Renaissance men in this age of specialized knowledge.[37]

Thus we can conclude that logic per se does not offer the most effective transfer. Furthermore McPeck says that if one were to acquire "the disposition to think critically in all areas, in the sense that he tries to do this" such a person would not be a critical thinker "unless he has an understanding of the area or field in which he is being critical."[38]

McPeck takes the view that a liberal education offers the richest knowledge transfer. He says that there is no "substitute for a liberal education."[39] He says also that the only sin the traditional pedagogy commits is presenting material as if "facts and methods" were non-problematic:

> It is as though the foundation of each discipline were chiselled out of epistemic bedrock and one need only learn the so-called "facts," and how to use the disciplines' method for finding more of them... The all too-frequent result of such

> teaching is that we produce technicians at X and specialist of Y with hardly an educated soul among them.[40]

According to McPeck what is needed is the interplay between specific discipline knowledge and philosophy so that the philosophical approach becomes part and parcel of teaching the specific discipline, so as to weave into the fabric of the "discipline - specific knowledge" the problematic nature of its putative facts and methods.[41]

McPeck's general outline for teaching critical thinking contains three major features:

> 1.) It does not presuppose any abstract or general reasoning skills. 2.) The employment of the power of the disciplines in order to understand complex concepts and information, and 3.) The dependence upon the philosophy of these disciplines to provide the required critical dimension to one's understanding.[42]

I will attempt to clarify McPeck's position further in the following chapter, where we shall examine his critique against Ennis who advocates the teaching of critical thinking by using generic or transferable thinking skills. We shall also present Norris's critique against McPeck's thesis presented here.

Foot-Ends to Chapter 4

1. John E.McPeck Critical Thinking and Education, pp.32-33
2. Ibid., p.33
3. Ibid., pp.33-34
4. Ibid., p.4
5. Ibid., p.4
6. Ibid., p.7
7. Ibid., p.6
8. Ibid., p.6
9. Ibid., p.7
10. John E.McPeck Critical Thinking and Education, p.7
11. Ibid., pp.23-24
12. Ibid., p.24
13. Ibid., p.24
14. Ibid., p.24
15. Ibid., p.24
16. Lawrence Kohlberg The Philosophy of Moral Development Essays on Moral Development Moral Stages and the idea of Justice.p 12
17. John E.Mcpeck Critical Thinking and Education. p.26
18. Ibid., p.71
19. Ibid., p.71
20. Ibid., p.72
21. John E. Mcpeck "Stalking Beasts, but Swatting Flies..." Canadian Journal of Education vol.9, 1984. p.38
22. Ibid., p.39

23. Ibid., p.42

24. John E.Mcpeck Critical Thinking and Education, p.31

25. Ibid., p.31

26. Ibid., p.31

27. John E.Mcpeck "Stalking Beasts, But Swatting Flies..." Canadian Journal of Education, vol.9, 1984. p.42

28. Robin Barrow "Skill Talk" 1st,June 1987, p.17

29. John E.Mcpeck Critical Thinking and Education, p.31

30. John E.Mcpeck "Stalking Beasts, But Swatting Flies..." Canadian Journal of Education, vol.9, 1984. p.39

31. Ibid., p.40

32. Ibid., p.41

33. Ibid., p.41

34. John E.Mcpeck **Critical Thinking and Education**, p.72

35. Ibid., p.26

36. Ibid., p.32

37. Ibid., p.32

38. Ibid., p.7

39. Ibid., p.156

40. John E.Mcpeck "Stalking Beasts, But Swatting Flies..." Canadian Journal of Education, vol.9, 1984. p.41

41. Ibid., p.41

42. Ibid., p.42

43. Ibid., p.42

CHAPTER 5

McPECK'S CRITIQUE OF ENNIS

In this chapter we examine McPeck's critique of Ennis's list of thinking skills in order to clarify McPeck's general critique against any program that professes to improve thinking in general or to educate general critical thinkers.

While McPeck takes the view that the best way, if not the only way, to teach a critical thinker is by teaching that person discipline specific epistemology, not allegedly generic thinking skills, Ennis, like Lipman, takes the view that "transferable" and "generic" thinking skills can improve one's thinking in general. As such, Ennis uses the following skills to achieve his objective.

Ennis's list of twelve 'aspects' of critical thinking

1. grasping the meaning of a statement
2. judging whether there is ambiguity in a line of reasoning.
3. judging whether certain statements contradict each other.
4. judging whether a conclusion follows necessarily
5. judging whether a statement is specific enough.
6. judging whether a statement is actually the application of a certain principle.
7. judging whether an observation statement is reliable
8. judging whether an inductive conclusion is warranted.
9. judging whether the problem has been identified
10. judging whether something is an assumption
11. judging whether a definition is adequate
12. judging whether a statement made by an alleged authority is acceptable.[1]

McPeck's understanding of Ennis's list is that it itemizes "all the ways in which one could go wrong" in assessing a statement . McPeck argues that such a list of thinking skills, whose purpose is to guide one against making any mistakes, is doomed to failure because "there is a more or less infinite number of ways in which one could go wrong".[2] In addition, argues McPeck, this list does "not provide a characterization of the nature of the thing in question."[3] He gives the example of a chess game where he argues that it is more important to "learn what a checkmate means before accepting hints for accomplishing or avoiding it".[4] Likewise, says McPeck, since we are still in the process of discovering what "critical thinking is, we are hardly in a position to judge the efficacy of helpful hints."[5]

Norris picks up McPeck's argument and uses it against him, saying that McPeck has made the mistake of "pronouncing without scientific evidence, on the characteristic which critical thinking ability does <u>not</u> have. At present, agnosticism is probably the best scientific stance."[6] Norris says that in order to make such a pronouncement about "the generality of human abilities" there is a need for a more comprehensive understanding "of the microstructure of human abilities that we currently possess. In addition, he has failed to credit the fact that unless our educational interests alter substantially, with regard to the type of

thinking we find useful, human beings are likely to continue to value prescientific notions of good thinking such as the one outlined by Ennis."[7]

Norris's argument here is that "good thinking" could be, in a sense, subjective - in that it simply refers to the interests or "intentions" of the author. Using the example of "water", Norris points out that mere pointing does not pick out the "referent" of water because the water as seen in its natural setting contains a variety of other things. "All samples contain dissolved minerals, undissolved suspended particles, and other stray substances. Once these facts are discovered through scientific investigation, it becomes a matter of scientific <u>choice</u> whether 'water' is taken to refer to H_2O only, or to H_2O plus dissolved minerals, or to something else."[8]

Therefore, to determine the "referent" of "a natural kind" term one needs two indispensable elements, namely: the "empirical" and the "intentional."[9]

Norris argues that "when the essential element of water 'H_2O' is taken to be 'the essence of water' or as 'what water really is,' there should be no intimation that something <u>built into the world</u> is being described. What is described is something which is a product of both empirical investigation and our referential intentions."[10]

In addition, Norris tries to consolidate his argument above by arguing that, our perception of things such as

colour "is not a trustworthy indicator in many situations of what is occurring in nature."[11] He says that the perception of colour differs from person to person, depending on his ability to see it and/or his interests. For example the physicist could, using his instruments see colour in terms of "Rays", the difference between short or long rays or hot or cold rays, while an artist would use different criteria. Whatever the case, what we see in colour may not be that which is.

Therefore, argues Norris, based on "the surface features of reasoning," reasoning is diverse, but it is possible that "all instances of reasoning "operate on" a small number of components "such as those pointed out by Robert Sternberg namely: "encoding, inference, mapping, application, preparation - response, and justification."[12] These six processes would be common to any instance of reasoning, in the way the chemical properties of the hundred or so physical elements are explained by the interaction of three kinds of sub-atomic particles. Norris says:

> ... we are well aware that variety and complexity in the surface behaviour of physical systems are explained in terms of a comparatively simple underlying structure. For example, the variety of physical elements (there are over one hundred) and the properties which those elements display (there are thousands) are explained in terms of the interaction of three elements (protons, neutrons,and electrons) each of which has relatively few properties (less than five) associated with it. Given the success of explanations such as this in the physical sciences, I see no reason in principle why such explanations could not be fruitful in theories of

human reasoning.[13]

He argues that if it were to be found that Sternberg's six process underlie any complex surface properties of reasoning, this "would undercut McPeck's challenge "that no one set of reasoning skills can produce competence in all the diverse areas in which human beings reason."[14] However, Norris's analogy is not as convincing as he intended,since it contains errors.

First of all, it is in order to note that Norris mis-used the word "element" when referring to protons, neutrons and electrons. While in logic and English language the term can apply if the given meaning is an "element is an entity that is a single member of a set", in Physics and Chemistry, protons, neutrons and electrons are referred to as sub-atomic particles. Secondly, what he calls physical elements are actually called chemical elements.

When we forget about Norris's mis-use of the term "element" (if approached scientifically) and concentrate on the objective inherent in his argument, there is a problem there too. While it is true that we can explain the properties that elements display in terms of protons, electrons and neutrons, still it is true that when given $^{1}_{1}H$ as the atomic explanation of hydrogen and $^{16}_{8}O$ as that of oxygen, I hope Norris is aware that the internal structure of protons in hydrogen atom is different from that of Oxygen in several ways. Such as size, shape and its configuration.

It is neither abnormal nor unheard of even with mature students who are being introduced theoretically to the properties of sub-atomic particles for the first time to ask the question "are the properties of a proton in the hydrogen atom the same as those of oxygen?". If the answer is "no", and indeed it is, then what Norris means by "explain" could be different from our idea of explanation.

For example, when we collect eight protons from of course eight atoms of hydrogen, using simple addition that will be eight atomic protons. This will not mean that we now have something that looks like or has the properties of an oxygen proton. The atomic number of an atom of oxygen is discipline specific. That is, it is non-transferable. Knowing the characteristics of the sub-atomic particles of hydrogen does not necessarily help us to know those of oxygen let alone one of the heaviest known so far, such as, Iron whose atomic number is 26.

Indeed it is true that for the person already initiated into the epistemology of chemistry and in particular atomic properties of elements will be able to tell that $^{56}_{26}Fe$ refers to iron, while $^{1}_{1}H$ is hydrogen and $^{16}_{8}O$ is oxygen. This in itself proves, instead of disproving McPeck's case.

The properties which the elements display consists of their thermal and transport properties, as well as chemical properties (how they react chemically with other elements or substances thereof, under different conditions of

temperature and pressure). That is, simply knowing the sub-atomic properties of hydrogen and those of oxygen does not explain why we have oxygen and hydrogen floating side by side in the atmosphere without necessarily forming water (H_2O). Neither does it explain when or under what conditions hydrogen and oxygen turn into water. Norris's failure to note these differences is, or could be characteristic of a weakness exhibited by educators who advocate a few so-called generic thinking skills.

Indeed the complexity of thinking at a behavioral level could be analogous to the complexity of elements in science. Knowing that the atomic number of Iron is 26, does not tell us why Iron is different from say helium whose atomic number is 2 and how helium acts given certain mixtures, temperatures and pressure. For example we learn that given the temperature X and pressure Y, oxygen normally turns to a liquid. That does not tell us whether hydrogen can do the same under the same conditions.

Probably one of the reasons why so far we have failed to discover such simple properties of reasoning which defines reasoning at all levels is because they may not exist.That is,if our referent of reasoning is problem solving of complex issues in the traditional educational system.

Cornbleth points out that so far efforts to find such properties of reasoning have been abortive: she says that

"Siegler, 1983" observed that the identification of generic skills "in children's reasoning across tasks... have not been notably successful."[15] In addition Cornbleth argues that since "what constitutes good reasons and evidence for belief in history differs from that in economics, law and chemistry,"[16] the complexity and pluralism of the knowledge underlying thinking renders the idea of generic thinking skills of little use, if any at all. Cornbleth argues that this awareness made Greeno, in 1980, critique "his own earlier problem-solving processes typology (1978) as inadequately accommodating knowledge factors. He indicates that there are probably classes of problems for which similar kinds of problem-solving processes are appropriate, but no set of generic skills."[17]

Hirst, like McPeck, Passmore, Toulmin and Paul Nash to mention just a few, says that the idea of the transferability of learned thinking skills is untenable except "where there is marked logical similarity in the elements studied."[18]

McPeck demonstrates this in his argument against the relevance of Ennis's list of thinking skills to the teaching of a critical thinker. Here, McPeck's referent of "critical thinking" is reflective scepticism whose purpose is to clarify, modify and possibly find a solution to the issue at hand. This is the criterion by which McPeck judges the utility of a given thinking skill to the creation of a

critical thinker.

We shall consider example No.8 of Ennis' list which states that "... judging whether an inductive conclusion is warranted"

McPeck argues that in order to apply the appropriate logical tools to an argument, there is a need to make a proper distinction between an empirical and a conceptual issue. This helps the logician to know whether he needs "observation and inductive logic."[19] However the logical approach to critical thinking overlooks the fact that it is not always "easy to make such determinations."[20]

McPeck points out that in Entomology there existed a difficulty in determining "whether the proposition 'spiders have eight legs' was to be regarded as empirical observation or a conceptual truth. The issue was finally res ed by defining all eight-legged insects as 'spiders', just as the property of being an unmarried adult male is a defining characteristic of a 'Bachelor'."[21] McPeck also gives the example of the proposition "water boils at 100°c" and the issue was whether this is an empirical statement or a conceptual truth? McPeck says that, no matter what the answer is, no amount of logic will provide it. It is not always easy to make the distinction between conceptual and empirical determinations with certainty, not even by "the accomplished logicians."[22] What formal logic can do is to tell us about analytical truths such as, eg, "if X is both A

& B then X is A", but the question as to whether the statement 'spiders have eight legs' is an empirical or conceptual truth is not for pure logic to decide. The laws of the specific discipline involved determine the answers to these kinds of questions - for a variety of reasons that relate to the structure of the discipline itself. Therefore, it can be assumed that this is why McPeck would argue that the skill of "judging whether an inductive conclusion is warranted" is neither generic nor transferable.

McPeck argues that Ennis's introduction of dimensional simplification to the concept of critical thinking undermines Ennis's list of thinking skills, which the latter assumes will educate a general critical thinker.

Ennis points out three "basic analytically distinguishable dimensions of the proposed concept of critical thinking: a logical dimension, a criterial dimension, and a pragmatic dimension."[23] McPeck's understanding of Ennis's twelve aspects and the three dimensions mentioned above is that they describe for Ennis "the relevant contextual considerations within which critical skills must operate and without which our understanding of the concept of critical thinking is incomplete."[24]

In regard to the logical dimension, Ennis says:

> The logical dimension, roughly speaking, covers judging alleged relationships between meanings of words and statements. A person who is competent in this dimension knows what follows from a

> statement, or a group of statements, by virtue of their meaning. He particularly knows how to use the logical operations, 'all', 'some', 'not', 'if...then', 'or', 'unless', etc.. He knows what it is for something to be a member of a class of things. Furthermore he knows the meaning of the basic terms in the field in which the statement under consideration is made.[25]

McPeck argues that Ennis's logical dimension requires "an arduous initiation into the field" in question in order to understand both the meaning of the statement and its logical implications.[26]

Concerning the "criterial dimension", McPeck argues that since the criterial dimension of necessity refers to standards and norms and knowledge of a specific discipline, and that there are "innumerable fields of human knowledge, ranging from photography to astrophysics, and each has its own information, skills and standards of assessment" it is senseless to talk of "apriori" isolation or abstraction of any special set of particular skills to characterize it.[27] This is so, because the diversity of norms and standards of judgement inherent in human knowledge makes it difficult to predetermine or foretell with precision the ingredients that constitute the 'correct assessment of statements.'[28] To summarise, the criterial dimension dictates that in order for one to think critically about a given subject, one has to have "specialized (field-dependent) knowledge."[29]

McPeck says that "Ennis's pragmatic dimension has the most devastating effects on any attempt to define critical thinking in terms of finite 'aspects' or 'skills', including

Ennis's own list of these."[30] This is so because the pragmatic dimension demands that judgement can only be made "in context, when one had 'enough' evidence in the light of the statements' purpose and practical consequences."[31] McPeck argues that this "places critical thinking squarely in the arena of an infinity of possible consequences" due to the fact that "the purpose and contexts of assertions vary independently and unpredictably."[32] The realization of this fact, says McPeck, made Ennis concede that:

> Furthermore, inclusion of this dimension requires the recognition that complete criteria cannot be established for critical thinking. An element of intelligent judgement is usually required in addition to applying criteria and knowing the meaning.[33]

McPeck concludes that:

> All three of Ennis's dimensions reveal that critical thinking is integrally connected with specific knowledge and information, not to mention contingent contexts, and cannot for this reason be divorced from them. This is why I believe any effort to characterize, let alone define, critical thinking in terms of some finite number of teachable skills is destined to failure, and why all such list of so-called 'skills,' upon analysis, typically degenerate into collections of near-tautologies or the most obvious kind of vacuous advice (for example, 'select data that support your conclusion,' do not contradict yourself') None of this is particularly insightful or helpful."[34]

Thus McPeck's general stance is that, due to the fact that there are various types of reasoning which have very "little in common to be considered a single skill," the best that could be done is to "teach people how to reason in specific areas and in connection with specific types of problems... I

would therefore, be suspicious of any book that purported to teach reasoning simpliciter, just as I would be suspicious of one that claimed, without qualification to teach intelligence or thinking."[35]

It is with this understanding that we are going to examine the plausibility of Lipman's claim - that philosophy as a custodian of thinking equips people with general transferable thinking skills or at least generic thinking skills, which seems to contradict McPeck's understanding of thinking.

Foot-Ends to Chapter 5

1. John E. McPeck, Critical Thinking and Education, pp.45-46
2. Ibid., p.46
3. Ibid., p.46
4. Ibid., p.46
5. Ibid., p.46
6. Stephen P. Norris "The Choice of Standard Conditions Defining Critical Thinking Competence" in Educational Theory Winter 1985, vol.35, No.1, p.107
7. Ibid., p.107
8. Ibid., p.101
9. Ibid., p.101
10. Ibid., p.101
11. Ibid., p.105
12. Ibid., pp.101-102
13. Ibid., p.102
14. Ibid., p.102
15. Catherine Cornbleth "Assessing Skills and Thinking in Social Studies" p.18
16. Ibid., p.15
17. Ibid., p.17
18. P.H.Hirst Liberal "Education and the Nature of Knowledge" in Education and the Development of Reason, p.398
19. John E.Mcpeck Critical Thinking and Education, p.28

20. Ibid., p.29

21. Ibid., pp.29-30

22. Ibid., p.30

23. Ibid., p.47

24. Ibid., p.47

25. Ibid., p.47

26. Ibid., p.50

27. Ibid., p.50

28. Ibid., p.50

29. Ibid., p.50

30. Ibid., p.51

31. Ibid., p.49

32. Ibid., p.51

33. Ibid., p.51

34. Ibid., p.52

35. Ibid., p.85

CHAPTER 6

McPECK VERSUS LIPMAN

In this chapter it is our intention to apply McPeck's critique of programs that profess to teach critical thinking, or to improve people's thinking in general, by means of generic and general transferable skills.

The reasons for this exercise are rooted in the classical but perpetual educational desire to educate an effective thinker, both at school and in any other daily human activities; this desire is the very heart of Lipman's program, as we saw in the first three chapters of this thesis.

There are only two differences between Lipman and the traditional way of achieving an effective thinker in all disciplines. The first difference is that Lipman teaches specific thinking skills while the traditional approach used what are considered to be difficult subjects like maths and Latin. The second difference is in the methodology. With the exception of the ancient Greeks, as seen in Socrates, the traditional approach has been (at least for centuries) learning by rote or by lecture note-taking. Lipman adopted and modified the Socratic method of questioning and critical inquiry.

These two differences create a hope, or rekindle the desire to educate an all round effective thinker, which otherwise would have died in 1901 with Thorndike's discovery that transferability is an illusion, as we already saw in chapter one .

Lipman's "magic" lies in the fact that he borrows from child-centred theorists, constructivists, interactionists, psychologists and educationalists who are not only discontented with the traditional approach, but also have discovered what they think are the best ways to educate a person. They hate authoritarianism and favour freedom. They prefer dialogue to "copy theory". They all seek an independent, effective and creative thinker. This is what Lipman presents in his "Philosophy for Children" program, after acknowledging the presence of Thorndike's studies but at the same time agreeing with people like Kliebard - and going further, to favour the superiority of philosophy in teaching and thinking. Therefore the program has powerful attributes which could easily impress on us the sense that this is the infallibly true answer which we have been looking for.

After one has accepted Lipman's thought that cognitive sciences have a secondary approach to thinking because they only think about thinking, in addition, if one agrees with Lipman that philosophy is "thinking in" and not "about thinking" therefore it is the custodian of thinking, we need

a qualified philosopher to show us the loopholes in the so called custodian of thinking. Hence my reasons for the application of McPeck's critique to Lipman's program.

There are three reasons. The first one is to challenge the view that Mcpeck's critique is not applicable to or not directed against Lipman's position - or that Mcpeck position is actually in agreement with that of Lipman.

The second one is to challenge the mental equilibrium of teachers who are ambitious enough to teach critical thinking in general, or to improve people's thinking in general, by using Lipman's program which claims to achieve its objective through generic and transferable thinking skills.

Thirdly, but also a corollary of the above two, is the hope that if Dewey and others like him were correct in saying that people begin to think only when their equilibrium is challenged and hence when they are in a crisis, then it is possible that applying McPeck's critique to Lipman's program will make the teachers of the "Philosophy for Children" program abandon complacency with the literal content of the program and embrace the spirit of the program inherent in Lipman's assumption about <u>answers;</u> namely, as we saw earlier, that answers are simply a platform from which to reach to better answers. I am of the opinion that Lipman's program is simply an <u>answer</u> (but not necessarily the perfect answer) to the question how best can

we teach thinking. It is my hope that by the end of this chapter the "Philosophy for Children" program, like any other answer, will be viewed only as simply a spring board from which to leap on to better answers. In essence, this exercise should kindle the fire of perpetual inquiry into the question of generic and general transferable thinking skills, as a mode of educating an efficient thinker in all areas.

Is McPeck's advocacy of teaching critical thinking in agreement with Lipman's Program

It is possible for some people to assume that McPeck does not intend his critique to apply to "Philosophy for Children" or even, as Johnson says, that McPeck is in basic agreement with Lipman's program. This could arise from the fact that in his book Critical Thinking and Education, McPeck devotes less than one page to Lipman's program where his only concern about the program is whether or not children "ought to engage" in philosophy at that early age.[1] For example Tony W. Johnson wrote:

> McPeck says little about the "Philosophy for Children" approach to critical thinking. His discussion of it follows his call for epistemological curricula and focuses on the question whether or not critical thinking should be introduced at the primary level. His failure to criticize the "Philosophy for Children" approach suggests that he recognizes the similarities between his advocacy of epistemology-oriented curricula and the "Philosophy for Children" approach to critical thinking.[2]

There are at least three reasons why this kind of thinking is faulty. The first is the failure to grasp McPeck's use of the term "simpliciter" and hence the failure to understand what he means by the phrase "thinking is discipline - specific". Secondly Lipman's and McPeck's thinking on the teaching of critical thinking differs from each other on the transferability and genericness of thinking skills. This brings us to the third point namely, that they also differ on the teaching approach to critical thinking.

The first problem arises out of the ambiguity inherent in the term "simpliciter" as used by McPeck in the phrase "teaching thinking simpliciter". Ruggiero points out two important meanings to this term. The first is that "teaching thinking simpliciter" could be interpreted as teaching thinking without using any subject matter.[3] If this were McPeck's intended meaning, the implications would be that Johnson would be correct and Lipman would be rendered innocent of "teaching thinking simpliciter", because the "Philosophy for Children" program is subject-dependent. For example:

Kio and Gus is on Natural Science. Pixie addresses Language. Harry concerns Philosophical Inquiry. Lisa is about Ethics. Suki discusses Aesthetics. Mark deals with Social Science.

In this sense, therefore, Lipman's program would be declared

to be in agreement with McPeck's assumption of the best way of teaching critical thinking. Unfortunately, this is not so.

The second meaning of the term "simpliciter", as used above, makes the phrase "thinking is discipline - specific" mean that thinking skills are tied up in each specific subject and are not transferable from one subject to another. Ruggiero says

> ... thinking is subject-specific can mean more. It can mean that the process of thinking is different for every subject and therefore that thinking skills are properly taught only in the context of particular courses and not in a separate course. According to this view, the courses in critical thinking or creative thinking now being offered in numerous colleges around the country should be discontinued because they cannot achieve their objectives. This is essentially the view John McPeck,... advanced in Critical Thinking and Education.[4]

It is relevant here to point out the similarities between Lipman and McPeck.

Firstly they both believe that learning takes place when issues to be learned are approached philosophically; that is, those issues are introduced as if they were problematic and not merely simple statements of truth to be memorized as in the traditional approach.

Secondly, they both take the view that learning or thinking skills can be acquired through the acquisition of the epistemology of a specific discipline. However it is on this point that Lipman and McPeck radically part company.

While Lipman takes the view that thinking skills

acquired in a specific discipline, called "Philosophy for Children", can be used in all disciplines because these skills are generic and hence transferable, McPeck takes the view that the learning of thinking skills can only be acquired through the acquisition of the knowledge of each discipline, and not simply one specific program (such as "Philosophy for Children"), because there are no such things as generalizable or general transferable thinking skills.

This means that, while Lipman considers that one could learn how to think critically first and then apply this ability to any given discipline, McPeck takes the view that one must learn to think critically within a field while learning the knowledge, methods and "logics" of that discipline.

As we saw in chapters four and five, McPeck's defence of his claim that thinking skills are intra-subject and not inter-subject comes from the assumption that each discipline has its own unique standards of validity, norms and semantics.[5] On this point, McPeck seems to appreciate Toulmin's argument that logicians should learn to accommodate the fact that when we talk "about the validity, necessity, rigor or impossibility of arguments or conclusions", we ought to understand that what makes any of the above true or valid in a given specific discipline could indeed be considered faulty in another discipline. Therefore when we transpose these standards to another discipline, we

could run the risk of blaming "an ape for not being a man or a pig for not being a porcupine", because the above concerns are only valid within the limits of a given discipline (says Toulmin).[6]

This understanding makes McPeck argue that since knowledge is criterion - dependent, where the rules and norms of judgement can only be acquired through the acquisition of discipline - specific epistemology and not through learning generic or general transferable thinking skills, then it follows that "to teach certain general principles"[7] in order to improve one's critical thinking in all, or most, disciplines "is functionally meaningless".[8]

Hence the critical and major difference between Lipman and McPeck is that while the latter rejects the generalization and general transferability of learned skills and insists that thinking skills are inseparably attached to specific disciplines, Lipman, like Siegel [9], takes the view that there are generic and hence transferable thinking skills which are not confined to specific disciplines. Rather, if children learn them properly, they use them "to approach every academic discipline in school."[10] Lipman's associate Johnson, on this claim, wrote:

> In avoiding the pitfalls to which other less comprehensive programs succumb, the "Philosophy for Children" approach to critical thinking has, according to Robert Steinberg, no equal in its ability "to teach durable and transferable thinking skill."[11]

This is the major issue of this thesis, and it is very

important to deal with the claim that there are generic and generally transferable thinking skills, because such a claim is not only central to the educational process but is also one of the major controversial issues in Education.

As we have seen again and again in the first three chapters of this thesis, Lipman overlooks Thorndike's findings on general transferability of thinking skills. He goes ahead to claim that there are general transferable skills, such as generic skills, like "to assume, suppose, compare, infer, contrast or judge, deduce or induce, to classify, describe, define or explain."[12] Lipman insists that when one lacks these skills, one's efficiency in any field will be impaired. Lipman says that;

> ...although the variety and complexity of human thinking is unlimited, the linguistic expression of these enormously diversified thoughts relies on the same set of basic syntactical structures...even when we engage in the most elaborate theoretical constructions, and the like- we demonstrate our familiarity with a relatively small number of mental acts, reasoning skills, and inquiry skills upon which the more elegant and sophisticated thought operations are predicted.[13]

Siegel seems to hold the same view as Lipman and Ennis, when he says that there are generalizable thinking skills - such as identifying assumptions, tracing relationships between premises and conclusions, identifying standard fallacies - which "apply to diverse situations" and which can be taught without reference to any specific discipline, similar to the way in which one could teach generalizable cycling skills without reference to a specific bicycle.[14]

Siegel's bicycle saga raises the question of whether teachers of generalizable skills do not confuse physical skills with intellectual skills.

Robin Barrow, like McPeck, charges that teachers who aim to teach allegedly generic and transferable thinking skills, in the hope of educating a critical thinker in general, do so because they confuse physical with intellectual skills.[15] The problem that this confusion causes, says Barrow, is that these teachers "teach the skills of critical thinking" as if those skills were physical to be "perfected by practice, relatively context free... and involve minimal understanding".[16]

While Barrow admits to transferability of physical and not intellectual skills,[17] Hirst goes further and even trivializes the concept of physical skills let alone intellectual ones. Hirst says that;

> ... We must not assume that skills at tiddly-winks will get us very far at cricket, or that if the skills have much in common, as in say squash and tennis, then the rules for one activity will do as the rules for the other.[18]

For Barrow, as well as McPeck, Hirst and Cornbeth (just to mention a few), intellectual skills can only be acquired through understanding the specific discipline and not by practising a skill.[19] McPeck argues, as we saw earlier, that this is so because each discipline provides its own norms and rules. McPeck says, that those teachers who believe in general transference of a thinking skill, rely on what the

name of the skill implies and not what it conveys.[20]

Cornbeth, who like McPeck, allows for transference only in like elements, rejects the teaching of critical thinking by teaching "generic skills." She says:

> The available evidence indicates both that generic skills and strategies for thinking are weak methods at best and that efforts to teach them are unlikely to foster thinking in any particular domain.[21]

If we were to assume the above arguments against generic and transferable thinking skills to be true, we would have to be cautious about the type of thinking so far presented about Siegel's bicycle saga. Siegel's bicycle saga could turn out to be detrimental to the mission of improving people's thinking, in that it could be fostering spurious complacency and triviality, particularly if one were to overlook Siegel's admission that general skills need to go hand-in-hand with the knowledge of a specific discipline.[22] For example, he says that, while to "...inflate tires properly before setting out" (which for him is general skill) "is sage enough, it won't enable the student to avoid blowouts... without specific knowledge of the tires in question."[23]

Before we draw a general judgement on Lipman's use of generic and hence transferable thinking skills as a means to improve children's thinking in general, or as a mode of educating a critical thinker, we should examine briefly five areas which he considers important in fulfilling his

objective. These are logic, deductive logic, assumption - hunting, seeking fallacies and the disposition to think critically.

Logic

In this section we are simply concerned with his claim that logic is a generic skill. In his article "The cultivation of Reasoning Through Philosophy," Lipman sets up logic as a generic skill when he says that "a number of educators," want children to think "in" and not "about" the subject they study. But when teachers are asked to sort out and teach those skills that make it possible for a child to think historically in history (for example), or to think algebraically in algebra, those teachers refuse to do so, citing lack of time as well as claiming that children should have acquired those skills before registering in the classes. Lipman then claims that philosophy through logic can cultivate thinking in a given subject by providing the criteria to discern good from bad thinking.[24] He says:

> That is the reason a series of philosophy courses is needed throughout the K-12 school sequence. The cultivation of reasoning cannot be carried out unless we use criteria drawn from logic to distinguish better thinking from worse, and only philosophy provides such criteria, just as it is only philosophy that is experienced in teaching the role of reasoning in reflection and discourse.[25]

Given the context of this statement, it is clear that Lipman assumes that philosophy will supply the thinking skills

which the teachers of specific disciplines assume are needed for one to think effectively in any given specific discipline.

This should not be considered an isolated case at all because there are many occasions, in different articles, where Lipman makes similar claims concerning logic. Here I will mention just two more, for example his article "Presuppositions of the Teaching of Thinking", and in particular in section four entitled "Generic and discipline-specific". Lipman, while combating the claim that there are "only discipline - specific skills", claims that philosophy is the most suited subject to teach generic thinking skills. He says;

> ...The second danger is to assume that, even if philosophy were acknowledged to be one of the disciplines necessary for a complete education it would have no greater prepotency with regard to the teaching of thinking skills than any other discipline.But to think that the subject that contains logic - and in particular, deductive logic - has no greater prepotency in this regard than any other discipline is just as absurd as to think that philosophy is not a discipline.[26]

It is also true, as Johnson points out, that Lipman is aware that logic has its limits. For example that there are "no guarantees that complex problems can be solved by simply applying the rules."[27] However, given the aforementioned claims, I think that it is not a matter of rhetoric to ask Lipman the question 'how complex is the intricacy for which logic can supply no solutions?' This is a very serious question, and very important to those of us who wish to

train critical thinkers, because the answer to that question will help us determine whether or not that is the type of a thinker we wish to produce. Lipman does not tell us the degree of complexity at which logic breaks down but elsewhere he claims that the use of the rules of logic can "help foster critical thinking..."[28]

This kind of claim could leave him vulnerable to McPeck's critique - that those who claim that logic can do all of that - rely "more heavily on an apparent connotation of the word 'logic' than its denotation will effectively support."[29]

The problem that Lipman has to grapple with is the implications of the proliferation of various types of logic in the past one hundred and twenty five years or so that Mcpeck draws our attention to as we saw earlier.Thus Mcpeck's critique - against training an effective critical thinker by using one or two logics - applies to Lipman's claim that the rules of logic, learned in the "Philosophy for Children" program, can help produce a critical thinker.

Thomas N. Tomko, like McPeck, says that while those who claim that "logic teaches students to think more rigorously... logic also introduces the concept of an axiomatic system, which has application in science and mathematics...," it is not the case that the study of logic teaches people "to think rigorously" nor equip them with transferable skills.[30] Tomko says;

> But such reasons seem rather weak when challenged. They are more like articles of faith. The claim that formal logic helps students to think more rigorously has not, to my knowledge, been substantiated (even ignoring the problem of what it means to think 'rigorously'). Such claims are related to what is called "the transfer problem,"[5] viz., to what extent can what is learned in logic course be applied to situations and context which are not specifically discussed in the course? The psychological evidence on this matter seems to indicate that transfer is inhibited if the principles to be applied are too general... can knowledge of axiomatics in logic aid understanding of scientific and mathematical axiomatic systems?[31]

The above reflections by both McPeck and Tomko seem to indicate that logic is not a generic skill. This possibility raises the question whether or not Lipman's claim (already mentioned) that the "use of the rules of logic can foster a critical thinker" is valid. For McPeck the answer is negative.

One could be tempted to argue that probably the type of critical thinker that Lipman talks about is one who is fluent in ordering one's thoughts, that is one who is good in syllogistics as opposed to one who can make a judgement or one who can "apply judicious scepticism with intentions to improve upon what is given." (McPeck). This interpretation of Lipman's critical thinker would take care of one of Edward de Bono's two concerns, namely that logic can only order and not correct our perceptions. He says;

> ... In the heyday of scholastic logic (Aquinas based), there was a set of accepted premises arising from a uniform world view and a constructed theology. Arguing logically within these accepted premises was a valid exercise much

> used to attack heresies and so preserve the constructed theology. Today we accept that logic is only a servicing tool and can do no more than process the perceptions we have. If the perceptions are inadequate, they cannot be put right by an excellence of logic.[32]

When we restrict logic to ordering thoughts or ideas already produced, it becomes difficult to dispute the transferability of the traits that formal logic contributes to the development of organized thinking, such as the correct use of if ... then; some; each; any and all which for example demand consistency. (sentences that syllogistics can not apply to, not withstanding). Though those traits do not necessarily produce the type of a critical thinker that McPeck advocates, as described in chapter four of this thesis, these traits could supply the necessary disposition to doing critical thinking. Lipman says

> ... The contribution of formal logic to developing organized thinking lie less in application of its rules and far more in encouraging special traits such as a sensitivity to inconsistency, a concern for logical consequence, and an awareness of whether or not one's thoughts really hold together. And these traits do apply in situations far beyond the scope of formal logic.[33]

However it is not clear whether the "Philosophy for Children" program trains children to overcome De Bono's second concern that "Indeed there is a real danger that we accept an error-free argument as correct when the logic may be correct, but the perceptions on which it is based are grossly faulty."[34]

While it is very important that we learn how to

communicate our ideas efficiently, which task could be accomplished by syllogistic logic, it is just as important that our perceptions be fault-free. I believe that this is indeed McPeck's concern, which prompted him to advocate for the learning of the content of a specific discipline, along with that discipline's 'logics' as the necessary condition for producing a critical thinker. For logic per se is neither transferable nor able to tell us whether our perceptions are perfect or faulty. We shall now examine deductive logic and see whether it is a generic skill.

Deductive Logic

Lipman believes that the ability to deduce is a generic skill that is needed in all disciplines, (as seen in chapter three of this thesis). However, since Lipman does not explain how deductive logic works in all areas of learning, we could assume that his understanding of it is similar to that of Ennis. Both Lipman and Ennis believe in the transferability of deductive logic. A question we could ask is: are the laws of deductive logic in ethics the same as those in biology?

Ennis appears to be saying that it does not matter what field you are in, "the competent person is able to reason deductively despite his or her degree of belief in and commitment to the premises and conclusions despite the presence of irrelevant and unfamiliar material, and despite

the presence of abstractions and other complicating factors".[35]

However, Norris points out that research done for over twenty years on deductive logical abilities indicates that "linguistic factors, content and context factors, and certain non-logical biases"[36] affect people's ability to apply deductive logic.

In regard to linguistic factors, Norris says that "it is known that linguistic differences - such as the use of the

P only if Q form instead of the if P then Q form, the introduction of negations into reasoning tasks, and the use of lexically marked compared to lexically unmarked adjectives affect the quality and speed of people's logical reasoning... If one asks, "how tall is John?" It is taken by many to be a question about where John fits on the short-tall continuum. However if one asks, "How short is John?" it is taken to imply that John is short. This difference in interpretation affects people's deductive reasoning".[37]

In regard to content and context of reasoning, Norris says that "even though deductive reasoning is supposed to be based on form rather than content,..., it appears that people reason better when faced with tasks containing thematic content, or content pertaining to their personal experience, and when they do not have preconceived beliefs about the truth of the conclusion".[38]

This is similar to McPeck's argument as seen in chapter four of this thesis, where he argues that in the proposition P → Q what is needed most is the meaning of P and Q, rather than what the symbol → stands for. In other words the most important issue is semantics and not syntax.[39]

Norris points out that one of the possibilities for content and context - dependency is that, as Evans proposes, "human beings do not (at least in general) have the capacity to learn generalized thinking skills."[40] Norris says that if Evans's hypothesis were true, then Ennis's hypothesis that deductive and "critical thinking competence which can operate despite content and context interferences... is unattainable by the majority of human beings..."[41] which would make McPeck's hypothesis credible, particularly since McPeck is concerned about specific subject areas such as mathematics, "physics, history and so on."[42]

Furthermore, people's deductive ability has been seen to be affected by non-logical biases, says Norris. He says that there is a tendency to focus "attention on aspects of the tasks irrelevant to their logical structure. Thus for example, the sentence "The letter is not A" is often taken to be a statement about 'A' rather than about one of the letters 'B' to 'Z'. Thus, attention appears to be focused on a non-logical element of the sentence (the appearance of the letter 'A') rather than the logical structure implied by the negation. Consequently, logical performance suffers."[43]

In brief Norris argues in favour of McPeck against Ennis's assumption concerning deductive ability. Since Lipman considers "deductive" ability to be a generic skill, the same argument by Norris against Ennis applies.

Assumption-Hunting

In regard to assumption-hunting, Lipman argues that if an underlying assumption were to be discovered it would trigger two valuable reactions. First it would help one to know whether the issues at hand are solvable or not, as we saw in chapter three.[44]

Secondly, the finding of the underlying assumption would help one to re-examine one's thoughts previously held on the subject, to see whether one is in accord or discord with the originally intended meaning. Lipman says that;

> Exposing assumptions does not necessarily cause students to give up those assumptions. But it may very well cause them to rethink whatever they say that is based on such assumptions.45

Though Mcpeck does not address himself directly to Lipman's remarks on 'assumption hunting,' he does deal at length with Scriven's defense of this practice,which is very similar to Lipman's.

In his response to Scriven's defence of assumption - hunting, McPeck dismisses the value of assumption-hunting, relative to argument - analysis, on the following grounds:

- there is no method for determining what assumption the author might actually be making.[46]."

- "..by making suitable assumptions it is always possible in principle at least, to make a given argument as strong (or as weak) as one wants."[47]
- "It is difficult to safeguard assumption - hunting against bias"[48]
- the information is always selective.[49]
- Assumptions as new evidence "often spring on the reader in a surprising way, thus having the dramatic effect of apparently undermining a given argument."[50]

We should now examine these in more detail.

McPeck argues that the problem we face in trying to discover "unstated assumptions" is that "when a single argument is being examined, such as one finds in an editorial, there is no method for determining what assumptions the author might actually be making. And short of being psychic, there can be no such method,"[51] because "there is potentially an indeterminate number of possible assumptions underlying any given premise. Moreover, each of these possible assumptions may have an indeterminate number of assumptions underlying them."[52] Therefore it is possible for the analyst to infer the existence of an assumption which is "not necessarily implied by the argument. When this happens, one is no longer analyzing the actual argument given, but an altered or preferred interpretation of it", and this "is very dangerous indeed" because it does not only

"harness someone into an assumption that they were not in fact making, but also threatens to strip argument analysis of its objective integrity by encouraging subjective interpretations."[53] Due to the fact that "Rational judgement is distilled from a matrix of values and beliefs with infinite combinations," argues McPeck, what is "suitable in either case will be determined by contingent contexts, beliefs, values, and judgements which go way beyond any set of rules, formal or informal."[54] The consequence of this will be that when one pulls out any assumption, and shows that it is suitable, one could go ahead to make "a given argument as strong or as weak as one wants."[55]

The distortions of the author's argument is further emphasized by McPeck when he discusses Scriven's idea concerning assumptions - that in order to produce an "objective and teachable criterion for supplying missing premises... without doing violence to the initial argument or creating a 'straw man' ... the missing premise (which is what an assumption is) has to be new; relevant; significant and convincing evidence".[56] This excludes "a mere repetition of the supposed connection between the given premises and the required conclusion. ...an assumption should be referring to something else that hasn't been directly mentioned in the given premises, and connecting it with some important concept that occurs in the conclusion".[57] McPeck rejects Sriven's idea, on the ground that it could

obliterate or transmute the original argument - and yet it is the job of the analyst to analyze the argument that he is or was presented with, "or at least a very close approximation to it."[58]

Secondly, since Scriven allows for the fact that 'assumption - hunting' "is not a mechanical procedure" but rather requires "imagination and creativity on the part of the analyst," this means that "at the heart of argument - analysis there is no method and at the bottom one is left to one's own devices ... creativity and imagination are the antithesis of method."[59]

Furthermore, argues McPeck, the fact that argument-analysis and assumption-hunting demand that creativity be employed points to the fact that there is no way we can guard new evidence against the infiltration of bias or opinionated evidence, due to the fact that "a person simply introduces the evidence that he or she sees as most fitting, and what a person regards as fitting is not dictated by any method or rules of argument-analysis."[60]

In addition, McPeck argues that since the evidence is new it has the ability to catch the reader off-guard, and hence undermine a given argument.[61]

Lastly, McPeck says that Scriven commits the error of overlooking the necessity for discipline-specific epistemology in order to produce new, relevant and convincing evidence. McPeck argues that "in a world of

complex facts, events and ideas there simply is no short cut to analyzing arguments apart from understanding these complexities... No amount of skill nor lengthy practice at argument-analysis can provide information."[62] All we can say about "new evidence" is that "it affects our assessment of the argument as a whole either positively or negatively, whether or not it is being assumed," but, "we cannot claim that the new evidence is a "de-facto" assumption of the argument because we usually have no independent way of knowing this".[63] Furthermore, McPeck stresses that "these new assumptions are <u>created</u> for the argument, rather than <u>found</u> or <u>discovered</u> as the phrase "assumption-hunting" might suggest".[64] It is for this reason that McPeck renders assumption hunting neither defensible nor necessary and desirable for argument-analysis.

McPeck's argument provokes the question of what to do about the assumptions on which the argument rests, even if the author is not explicitly aware of them; or does not intend them. These unintended assumptions are often very important in refuting the argument or at least changing one's analysis of it.

McPeck's argument for not knowing the exact underlying assumption on which the author based his argument, as well as his argument concerning possible bias when assumption-hunting, is strong. At the same time, McPeck seems to overlook the fact that when any assumption that is relevant

to the author's argument is found, such an assumption, while not providing "information", could at least help the person examining the argument to think of better possibilities that are supported by the "new assumption", hence the refutation of the original author's pronouncement and the creation of a better view.

Furthermore the new assumption, though not intended by the original author, helps one to explore under what assumptions the given claim is, or is not warranted.

Seeking Fallacies

For Lipman, fallaciousness is indicative of "poor reasons".[65] Therefore, in his program, to find fallacies is to discover what poor reasons are, and the aim of this is to seek for better reasons.

McPeck picks up the example of public issues and argues that, concerning such issues, finding a fallacy in an argument would be of little consequence, if any, to decision-making because the general argument could still be preferable to alternatives, despite the fact that it contains a fallacy. He says that apart from stating that there is a fallacy in that argument we cannot, from the mere fact that there is a fallacy, state what is correct. We cannot for example, say that the "opposite view is correct" for to do so "would be a clear case of affirming the consequent".[66]

Lipman's response to McPeck,s argument, if it were there, could have been that while fallaciousness does not tell us what is true, correct or even preferable, it helps us to understand that the argument in question is not valid.

Furthermore it is clear that Lipman's stance is that the "preferableness" of an argument, in spite of its fallaciousness, is indicative of sloppy thinking. In the "Philosophy for Children" program, holding or following something as if it were true simply because it is preferable by the public - is symbolic of the "idol of the uninformed masses"[67] as Bacon would put it. "Philosophy for Children", as we saw in chapter one, trains children to become rigorous self-thinkers and not unreflective conformists, who fall prey to the dictates of the unexamined opinions of the masses.

Therefore, for Lipman, the value of finding fallacies in an argument is that one gets to know that while the conclusion may be true or preferable, it is not warranted by the premises - and therefore for those interested in rigorous thinking, there is a need to seek for better reasons to support the conclusion.

On this point, Lipman has a strong argument. However the issue at hand is whether or not the ability to find a fallacy is not dependent upon knowledge of the specific discipline involved. For example:

(1) Water boils at 100 degrees Celsius.
This is water.

Therefore it should boil at 100 degrees Celsius.

or Lipman's example :

Goliath was very big
Israel was not very big
Therefore, Goliath was bigger than Israel.[68]

In example (1) the conclusion is based on the assumption that pure water boils only at 100 °C. This will be considered a logically true statement if one were not aware of the fact that the boiling point of water differs from place to place due to atmospheric pressure. There is a need to know more about the contingent variables of the boiling point of water in order to expose the possible fallacies in the above argument. Like-wise, similar problems arise from knowing or not knowing what Israel and Goliath are. When we make the assumption that both Israel and Goliath are similar and unconditionally comparable persons or things, in which the terms "small" and "big" could imply the same empirical dimensions, for example that both Israel and Goliath are human, there will be no error in example number two. One is small, the other is big, therefore "the big one ought to be bigger than the small one" could be a perfectly well made and valid argument with no fallacy committed. For example the name Israel is commonly used as a first name among Jewish people. However, if we were later to discover that the term Israel refers to a nation and not a person, while the term Goliath refers to a person, then we would be compelled to shout out a "fallacy."

The point I am trying to make is that if we lack the

knowledge of the specific discipline, it could be difficult - if not impossible - to tell with certainty whether an argument is fallacious or not. Hence we must conclude that fallacy-seeking cannot be generic, in the sense that it is transferable to all or most disciplines. All we can say is that when we are equipped with the necessary knowledge, fallacy-seeking can be of some significance.

Disposition to think critically

While McPeck confesses that he lacks "the specific knowledge" required for him to be able to tell the best way of inculcating "the disposition or propensity to use one's critical skills,"[69] still he takes the view that the disposition to think critically is a necessary though not sufficient condition in creating a critical thinker. He says;

> ... I should be the first to point out that my analysis states explicitly that critical thinking consists in both a disposition and a skill...[70]

For McPeck, to be a critical thinker entails three things: (a) discipline-specific knowledge, (b) Thinking skills learned in a specific discipline, and (c) the disposition to use those skills.

McPeck charges that even if a person were to have the "disposition to think critically in all areas, in that he tries to do this", he still would not be a critical thinker, "unless he has an understanding of the area or field in which he is being critical. This is because critical thinking is tied more closely to specific knowledge and understanding than to any specific set of allegedly transferable skills".[71] Therefore for McPeck there is a need for the inter-play between disposition, skill and discipline-specific epistemology in order for one to think critically.

Lipman, in the "Philosophy for Children" program, professes to equip children with the disposition to think critically through the community of inquiry - and its teaching methodology, which is dialogue.

As we saw in the first three chapters of this thesis, "Philosophy for Children" thrives on the fact that children are inquisitive by nature. Lipman maintains that it is this inquisitiveness that, if sustained, nurtured, and encouraged could help children to find meaning in the various data that they are bombarded with everyday. Therefore, the formation of a community composed of inquirers is a necessary condition for doing the "Philosophy for Children" program.

At this point it is appropriate to consider the validity of Lipman's claim that the community of inquiry does foster inquisitiveness.I believe that there are many reasons which can be given in support of this claim.

For example one could appeal to such popular factors as "peer-pressure" - and argue that in the community of inquiry, wherever a child looks, the child sees fellow children engaging in inquiry. Therefore the child's perception of what constitutes a sense of belonging to the group is inquisitiveness. Hence the possibility that the child's inquisitiveness will be sustained by the fact that it is that inquisitiveness that qualifies him/her to belong to or to be a member of, or to be accepted as a member of, the community.

Being accepted into the community could be very important to the child, that is if Lipman is correct in saying that children "love to talk" as already seen in this thesis, because the major tool of learning in the community of inquiry, is talking, about issues of interest to the child. It therefore should follow that if it is true that children, by nature, or,at least, typically love to talk, and since it is the case that the community of inquiry's methodology is talking (about things of interest to children) then children should treasure membership, or acceptance into, such a community. In trying to "fit" into this society, children nurture their own inquisitiveness.

Furthermore, inquisitiveness is affirmed by the "significant other" - the teacher. In the community of inquiry, the teacher is a co-inquirer and not a possessor of all knowledge. This attitude influences the children to think that to be educated is not so much to have answers, as to ask questions. For example, the following is a dialogue between teacher and students in a grade six class in philosophy:

Teacher:	Why do you go to school?
1st Student:	To get an education.
Teacher:	What is an education?
2nd Student:	Having all the answers.
Teacher:	Do educated people have all the answers?
3rd Student:	Sure they do.

Teacher: Am I educated?

1st Student: Sure

Teacher: Do I have all the answers?

3rd Student: I don't know. You're always asking us questions.

Teacher: So I'm grown up and educated but I ask questions. And you're kids and you give answers, right?

2nd Student: You mean, the more educated we become, the more we ask questions instead of giving answers? Is that it?

Teacher: What do you think?[72]

In this dialogue one of the things that could be inferred is that children, through dialogue, come to learn that inquisitiveness is not only for children, but also for adults - and that to be "educated" is to engage in perpetual inquiry. In other words, the more educated we become the more questions we ask. To this end, the child's understanding of knowledge - and hence learning strategy - will be endless inquiry. If Jack Lochhead were correct, as we saw in chapter one of this thesis, then it should follow that the child whose understanding of knowledge and whose strategy of learning involves asking questions, it follows that such a child becomes an inquirer hence the sustenance of his/her inquisitiveness.

This inquisitiveness is nurtured among other things by

the fact, as can be seen in the above discussion, that children are not rebuffed for giving wrong answers; rather, they are helped through questioning or dialogue to discover better answers. For example the first answer by the second student to the question "What is education?" was "Having all the answers", which answer could be rendered wrong given the program's approach. However, the teacher does not rebuff the student - instead, he helps the child to come up with a better answer. In essence, the first "wrong" answer works as a platform from which to reach to better answers.

This attitude has two important and relevant consequences. The first is that the child's attempt to find answers is not discouraged - rather, it is encouraged by the fact that it is treated as a base or as a means to a better one. That means, as Sharp would say, that children' curiosity or inquisitiveness is not destroyed by intellectual fear which arises out of the belief in infallibly true answers. Therefore they keep on trying. Hence they "develop the courage to try anything", says Sharp.

The second consequence, and a corollary to the first one, is that by treating children's answers as means by which to get on to better answers children are being equipped with the disposition to be "aporetic," or seekers of difficult things. Lipman refers to this as the nature of philosophy, while Tomko refers to it as a necessary

condition for doing philosophy. Tomko says that in order to solve a philosophical problem one needs "a large measure of patience and perseverance."[73]

Wilber Brookover's tests of the self-concept of ability and achievement found that the following hypotheses were valid:

> 1.The self-concept of high achievers among junior high-school students with similar levels of intelligence differs significantly from the self-concept of low achievers.
>
> 2. Students' self-concepts of ability in specific school subjects vary from one subject to the other and differ from their general self-concepts of ability.
>
> 3. The expectations of significant others as perceived by junior high school students are positively correlated with the students' self-concepts as learners.[74]

As we saw earlier in this thesis one of the "affective" that "Philosophy for Children" equips children with is a positive self-awareness. It is developed through the care of each individual and his/her products: instead of rebuff, it helps the individual to reflect on his/her product so as to be able to reconstruct it and hence make it better. This procedure makes the child develop the awareness that s/he can think for him/her self effectively and productively; also, that s/he can do better and better still - which, in case of failure, develops in the child the courage to continue to look for alternatives or possible solutions, rather than despair. To this end, the child develops a self-concept which recognizes no limits to inquiry and in a sense

to his/her mental ability.

This concept is affirmed by the "significant other" who models endless inquiry. Instead of having answers, the teacher asks more and more questions. In addition, the program trains children to believe that, as we saw earlier, underlying every statement is a question and beneath each question is a problem, which means that one can never reach the end or the bottom of inquiry because it is an abyss - a bottomless hole.

When given the fact as understood by "Philosophy for Children" - that answers, or any answer be they correct or incorrect - are simply steps towards better answers, children develop courage to use all the tools at their disposal to find better solutions. This practice makes them into difficulty-seekers - or aporetic, patient and persevering - which are necessary attributes to have in order to do philosophy, according to Tomko. Matthew Lipman believes that when children participate in his program, "in time the students will begin to develop a commendable awareness, a critical disposition which will be invaluable to them in their encounters with other academic disciplines."[75]

If the academic field could accept personal experiences outside recognized and well-organized experiments and research, we could find that there are many students both at lower and higher levels of learning who give up certain

disciplines - not necessarily because they lack the necessary latent intelligence to grasp such disciplines, but because among other things they lack endurance, patience, the courage to try again as well as the will to seek victory over difficult things. From common experience in places of learning it is very difficult to dispute the genericness of such dispositions. Irrespective of whether it is fine art, music, work in a laboratory finding out the crystalline make up of a given rock, or trying to discover a cure or at least a vaccine for AIDS - the attributes of patience, aporetic spirit, and the perseverance to try again and again, are essential.

It is probably this understanding which made Lipman write that "when the primary aim of education is conceived to be the promotion of children's thinking, knowledge-acquisition and problem-solving readily assume a subsidiary status; valuable functions to be engaged in by thinking individuals but not to be thought of as ultimate educational objectives. Reflective children will generally be able to inquire after and locate the knowledge they require, but the converse does not necessarily follow; children with knowledge can very well be unreflective, uncritical and lacking in a commitment of inquiry".[76]

So far, we have seen that the "Philosophy for Children" program characterizes the understanding of learning by child-centred theorists, and in particular constructionists.

It works on the premises that children learn better if they tackle issues of interest to them. That they learn better not by rote but through dialogue and discovery. Finally, as could be inferred from Sharp, the program takes the stance that good education ought to entail the interplay between the 'affective' and the 'cognitive.'

As has been mentioned previously, similarities can be seen between Lipman and McPeck's belief on how best to learn. They both believe that learning takes place when issues to be learned are approached philosophically. That is, those issues are introduced as if they were problematic, and not merely simple statements of truth to be memorized.

Secondly, they both think that learning or thinking skills can be acquired through a specific discipline. However, this is where both Lipman and McPeck radically part company.

While Lipman takes the view that thinking skills acquired in a specific discipline called "Philosophy for Children", can be used in all other disciplines - because these thinking skills are generic and hence transferable - McPeck takes the view that the learning of thinking skills can only be acquired through the acquisition of knowledge of a specific discipline. He argues that what is needed to think effectively in a given discipline is specific to that discipline, and not generic or general transferable thinking skills.

In other words, while for Lipman one could learn how to think critically first and then apply this to any given field, McPeck takes the view that one must learn to think critically within a field while learning the knowledge, methods and logics of that subject.

The researches that have been done on Lipman's claim do not seem to support him unconditionally. Rather, they seem to move the motion in favour of McPeck's claims.

These research studies show improvement in areas which children have been trained for, hence affirming the validity of McPeck's claim that improvement of thinking can only be done in a specific discipline, and not by equipping children with the so called generalizable or transferable thinking skills. For example, Lipman says that "in the Newark study there were clear gains in reading comprehension but not in logical thinking... this pattern of results suggest that the effects of the "Philosophy for Children" program may be highly teacher related. That is, teachers who stress reading may be able to produce significant improvements in reading, whereas teachers who stress reasoning may be able to produce significant improvements in reasoning."[77]

Lipman says that significant improvement occurs in those areas which the teacher has stressed, which moves the motion in favour of McPeck's claim that thinking skills are discipline-specific.

However, Norris warns us against making pronouncements

on the generality of thinking skills until a "more detailed psychological knowledge of the structures and processes of human reasoning" has been acquired: such a study, argues Norris, could determine whether reasoning skills are discipline-specific or generic.[78]

Norris's argument is that it could be the case that while there are "generic" and generalizable thinking skills which, if learned, could produce a critical thinker, the problem is as Evans points out - that human beings generally lack the capacity to learn such skills.79 Norris argues that it could turn out that it is not only the case that "a relatively small number of mental processes... combine in many ways to produce the great diversity of real-life reasoning we witness"[80] - but that it is simply the "human attitude"[81], and not the "human reasoning"[82], which is responsible for human failure to grasp 'generic' skills.

If this were to be the case, then what to us seems to be a very strong case by McPeck and Toulmin - that thinking can only be improved in a specific discipline through acquisition of the specific discipline's logic(s) and epistemologies, because each discipline has logic and norms and rules of inferences unique to itself, will collapse - because according to Norris's hypothesis, whatever makes these logics appear to be individually unique will disappear and in there places will appear the common set of thinking skills that apply to the different subject-specific logics

and epistemologies. Norris thinks that while it now appears to be the case that each discipline seems different from the others in the way it appraises its material, that is not a trustworthy indicator that the differences are there by necessity. Such perception could turn out to be analogous to our perception of colour, Norris says that our perception of colour "is not a trustworthy indicator in many situations of what is occurring in nature"[83]; therefore, we could add that we shouldn't assume that since (so far) our perception of critical thinking is that it is discipline-specific (as McPeck argues), it is therefore the case that it is not and cannot be taught through generic and generalizable thinking skills.

Footnotes to chapter 6

1. John E.Mcpeck Critical Thinking and Education, pp.151-160

2. T.W.Johnson "Philosophy for Children and its Critics - Going Beyond The Information Given" Educational Theory Winter 1987, vol. 37, no.1 p 66

3. Vincent Ryan Ruggiero, Teaching Thinking across the Curriculum. p.9

4. Ibid., p.9

5. John E.Mcpeck Critical Thinking and Education.pp.33-34

6. Ibid., pp. 32-33

7. John E. Mcpeck "Stalking Beasts, but Swatting Flies: The Teaching of Critical Thinking" in Canadian Journal of Education, vol.19,1984. p.38

8. Ibid., p.39

9. Harvey Siegal, Educating Reason; Rationality, Critical Thinking and Education. p. 20

10. Matthew Lipman "The Cultivation of Reasoning Through Philosophy" Educational Leadership, Sept. 1984. p.52

11. T.W. Johnson "Philosophy for Children and its Critics - Going Beyond the Information Given"in Educational Theory, Winter 1987, vol.37, No.1. p.68

12. Matthew Lipman "The Cultivation of Reasoning Through Philosophy" in Educational Leadership, Sept.1984 p.54

13. Ibid., p.54

14. Harvey Siegel, Educating Reason, Rationality, Critical Thinking and Education. p.20

15. Robin Barrow "Skill Talk" (1987) p.12

16. Ibid., p.13

17. Ibid., p.16

18. P.H.Hirst "Liberal Education and the Nature of

Knowledge" Education and the Development of Reason, p.398

19. Robin Barrow "Skill Talk" (1987) p.16

20. John E.Mcpeck Critical Thinking and Education, p.32

21. Catherine Cornbleth "Assessing Skills and Thinking in Social Studies." P.18

22. Harvey Siegal, Educating Reason, Rationality, Critical Thinking and Education, p.21

23. Ibid., p.24

24. Matthew Lipman "The Cultivation of Reasoning Through Philosophy" Educational Leadership Sept. 1981. pp. 55-56

25. Ibid., p.56

26. Matthew Lipman "Presuppositions of the Teaching of Thinking" in Analytic Teaching vol.6, No.1 p.4

27. T. W Johnson "Philosophy for Children and its Critics - Going Beyond the Information Given" in Educational Theory, winter 1987, vol.37, No.1 p.64

28. Lipman Matthew Philosophy in the Classroom, 2nd Ed. p.133

29. John E.Mcpeck Critical Thinking and Education, p.32

30. Thomas N. Tomko "Informal Logic: A Review"in Educational Theory, Fall 1979, vol.29, No.4 p.352

31. Ibid., p.352

32. Edward de Bono "The Cort Thinking Program" in Thinking and Learning Skills, vol.1 p.367

33. Matthew Lipman, Philosophy in the Classroom, 2nd Ed. p.138

34. Edward de Bono "The Cort Thinking Program" Thinking and Learning Skills, p.367

35. Stephen P. Norris "The Review Article: The choice of Standard Conditions Defining Critical Thinking Competence" in Educational Theory, winter 1985 Vol.35, No.1 p.99.

36. Ibid., p.103

37. Ibid., p.103

38. Ibid., p.103

39. John E.Mcpeck Critical Thinking and Education, p.24

40. Stephen P. Norris "The Review Article: The Choice of Standard Conditions Defining Critical Thinking" in Educational Theory, winter 1985, vol.35, No.1 p.103

41. Ibid., p. 103

42. Ibid., p.103

43. Ibid., p.103

44. Matthew Lipman Philosophy in the Classroom, 2nd Ed. p.119

45. Ibid., p.119

46. John Mcpeck "Stalking Beasts but Swatting Flies..." Canadian Journal of Education, vol.9 1984, p.33

47. Ibid., p.33

48. John E.Mcpeck Critical Thinking and Education, p.91

49. Ibid., p.92

50. Ibid., p.93

51. John Mcpeck "Stalking Beasts but Swatting Flies..." Canadian Journal of Education, vol.9. 1984, p.33

52. Ibid., p.33

53. Ibid., p.33

54. Ibid., p.33

55. Ibid., p.33

56. John E.Mcpeck Critical Thinking and Education,pp.89-90

57. Ibid., p.90

58. Ibid., p.90

59. Ibid., p.91

60. Ibid., p.92

61. Ibid., p.92

62. Ibid., p.93

63. Ibid., p.91

64. John E.Mcpeck "Stalking Beasts but Swatting Flies..." Canadian Journal of Education, vol.9 1984, p.33

65. Matthew Lipman Philosophy in the Classroom, 2nd Ed. p.120

66. John Mcpeck "Stalking Beasts but Swatting Flies..." in Canadian Journal of Education, vol.9 1984, p.32

67. Joseph Jastrow, Effective Thinking, p.113

68. Matthew Lipman Philosophy in the Classroom, 2nd Ed. p.71

69. John E Mcpeck Critical Thinking and Education, p.156

70. Ibid., pp. 161-162

71. Ibid., p.156

72. Matthew Lipman Philosophy in the Classroom, 2nd Ed. pp. 94-95

73. Thomas N. Tomko "Informal Logic: A Review" Educational Theory Fall 1979, vol.29, No.4 p.359

74. Cole S. Brembeck, Social foundations of Education; A Cross-cultured approach, p.82

75. Matthew Lipman "Philosophy for Children and Critical Thinking" National Forum p.21

76. Matthew Lipman "Thinking Skills Fostered by the Middle - School Philosophy for Children Program."P.24

77. Matthew Lipman "Thinking Skills Fostered by Philosophy for Children" Thinking and Learning Skills, vol.1 p.103

78. Stephen Norris "Review Article- The Choice of Standard Conditions in Defining Critical Thinking Competence" in Educational Theory winter 1985, vol.1 p.107

79. Ibid., P.103

80. Ibid., p.106

81. Ibid., p.106

82. Ibid., p.106

83. Ibid., p.105

CHAPTER 7

CONCLUSION

In this thesis we have seen Lipman claiming that "The Philosophy for Children Program" can improve a child's thinking in general as well as foster critical thinking.

Lipman claims that improving children's thinking in general is possible because there is such a thing as "generic" thinking skills, which are interdisciplinary and which can be fostered, nurtured and sharpened by the "Philosophy for Children's" program because philosophy "is the custodian of reasoning";[1] it is "a source of generic thinking skills";[2] it has the "methodology, the tradition, the discipline, the curriculum";[3] and it "contains logic and in particular deductive logic."[4] He claims that if these skills are desirable in critical thinking then they are traits that critical thinking borrows "from philosophy".[5] Lipman claims, therefore, that his program fosters critical thinking. However, we have seen in this thesis that McPeck takes the view that there are no "generic" thinking skills. McPeck argues that the faith in generic and general transferable thinking skills held by people like Lipman, as characterized above, is based on the "connotations" and not

on the "denotations" of these skills.

McPeck argues that when one looks at diverse disciplines one can see symptoms of generic skills. For example, logic in geography appearing in history without noting the deep differences that exists between each discipline's logic which makes it an over-simplification for one to call all of them logic in general.

We have already seen McPeck supporting this hypothesis by stating that each discipline determines what should be considered valid or invalid evidence.

One of the important questions of our daily life is choosing the person with the best abilities to represent our interests in government bodies at different levels in the local or world community, such as college, village, town, provincial, state or United Nations councils. McPeck's argument concerning the role of logic in this venture can be paraphrased in the question of how can we continue to insist that logic can educate or foster a critical thinker when at the same time there are "logicians of repute who do not know whom to vote for?"

Therefore if we were to modify Tomko's question that we considered earlier, and ask if the thinking skills acquired in the study of logic aid in the understanding of politics, the answer would have to be "no".

If the answer is "no", then we would say that the skills that Lipman claims to be "generic", and hence needed

in all disciplines, are mirages (like a sheet of water on a hot road or a desert). On the surface, Lipman's generic skills have symptoms that are similar in all disciplines, but when one takes a close look at each of them one discovers that there are significant differences which preclude calling them "generic". That is McPeck's argument. If so, then is Lipman "Stalking Beasts but Swatting Flies"?[9]

Norris's reflections on what we <u>see</u> and what <u>is</u> makes it difficult to answer the above question. Norris argues, for example, that when we take H_2O to be "what water really is" there should be no intimation that something <u>built</u> in the world is being described. What is described is something which is a product of both empirical investigation and our referential intentions".[10] For in the natural setting water is H_2O "plus dissolved minerals" as well as "undissolved suspended particles", says Norris. Could we extend Norris's argument to what we <u>see</u> about generic skills? In this sense we can hypothesize that the failure of generic skills to produce a critical thinker in general could be a product of other things unknown to us today, or it could be simply our referent of critical thinking.

When we use McPeck's referent of critical thinking, Lipman could be accused of "Stalking Beasts but Swatting Flies". However when we approach the question from Evan's point of view - that the problem is not with "generic" skills versus content and context, rather it "is that human

beings do not, in general, have the capacity to learn generalized thinking skills",[11] - then the answer to that question would be slightly different.

According to Mcpeck's view,discipline specific knowledge has to be acquired as a pre-requisite for what he regards as critical thinking.Thus, inspite of his equating critical thinking with "reflective scepticism",Mcpeck is essentially in agreement with the traditional,didactic mode of teaching. His reflective scepticism could only be engaged in by advanced students who have already acquired the knowledge of the discipline.

However, Lipman's program which is designed for even very young children is diametrically opposed to the traditional type of education. As such, it is different from what McPeck advocates. Lipman's program, for example, does not place emphasis on whether a student comes up with a correct or a wrong answer. What is important for Lipman is the process (not the product) of learning. That is, the program is more concerned with equipping children with tools by which to discover each his/her own truth.

When we view Lipman's program this way it is difficult to assume that the "generic thinking skills" have no value. For example, putting the particular in a general context (part-whole relationship) is a skill, in my opinion, needed in all disciplines. So are all the other skills Lipman considers. When recognized simply as tools by which to

acquire and organise new knowledge,it is difficult not to recognise that these skills are needed in all disciplines and hence that they are generic.

Of course Mcpeck is correct in insisting that thinking has to be about something.But all areas of knowledge require a set of common ways or modes of thinking, and Lipman's generic thinking skills are of this nature.

I wish to propose that we attribute the failure of the general transference of these skills to issues external to the skills themselves. For example, Norris's and Evans's hypotheses remind us of the fact that there are many impediments to thinking. This thesis points out the following impediments: fear, lack of trust, lack of care, belittling, copy theory, Lochhead's hypothesis of one's strategy of learning, self-fulfilling prophesy, self-defeating behaviour and the expectation of the educational system (which is characterised by Lochhead's student who once said that " I know what you are trying to do, but it won't help me pass through this university"). Given all of these, it would be very premature to say that McPeck's critique has the final word on generic thinking skills. Presently, there is very little written on generic thinking skills. (In fact, there is no single book that has been written on this subject both in Europe and North America and probably in the entire world).[12] Therefore, judgement on the utility of generic thinking skills must be suspended

until more research is conducted.

These reflections push us into the need to research into impediments to the transfer of generic thinking skills or skills that so far, on the surface, have appeared to be generic. If Evans is correct, then we should find out what it is that makes it difficult for the majority of the people to learn those skills.Like the iceberg and the ship saga,if we intend to steer clear of the problems that so far could be impeding either our understanding of or the use of or transferability of generic thinking skills we ought to undertake a comprehensive research. This research must take into account pedagogical, environmental, cultural, economical, social, psychological, and political impediments to the use of generic thinking skills.

At the moment, McPeck's criticisms do effectively undermine Lipman's claims concerning the teaching of a critical thinker. However we cannot pull Lipman's program from the school curriculum, because at least it has been able to foster certain pedagogical desirable traits, such as open-mindedness, aporetic spirit or flexibility which are inherent in the program's refusal to take answers as fixed truth, but rather as a beginning of further reflection and inquiry. In addition it encourages or claims to encourage co-operativeness as well as building on each other's ideas. In a world of constant change, such traits could be very important for our survival in the future.

In conclusion, both McPeck's reflections and Lipman's claims concerning generic thinking skills are very important to the educational system today. They at least refuel the controversy which started over a hundred years ago. It further shows that while Lipman was looking for an answer to the question, "how best can we teach thinking in general?", his answer is not a fixed infallible truth. There is a need for more research. In other words, McPeck's critique reminds us of Lipman's belief that answers are simply resting points, out of which to leap on to better answers. This is how we should view the "Philosophy for Children" program. To stagnate in it is to fail to assimilate the fundamental principle of Lipman's program, that an answer is a platform from which to leap on to better answers. Therefore, we should not treat McPeck's reflections as the last word on the genericness of the so called generic thinking skills; rather we should use his reflections in conjunction with Evans's and Noris's hypotheses as a platform out of which to jump on to better answers.

Foot-Ends to chapter 7

1. Matthew Lipman "Presuppositions of the Teaching of Thinking" in Analytic Teaching, vol.6, No.1 p.6
2. Ibid., p.4
3. Ibid., p.6
4. Ibid., p.4
5. Ibid., p.6
6. Matthew Lipman, Philosophy in the Classroom, 2nd Ed. p.131
7. Ibid.,
8. Thomas N. Tomko "Informal Logic: A Review" in Educational Theory Fall 1979, vol.29, No.4 p.352
9. The title for McPeck's article 1984.
10. Stephen P Norris "The Review Article: The Choice of Standard Conditions in Defining Critical Thinking Competence" in Educational Theory Winter 1985, Vol.35, No.1 p.101
11. Ibid., p.103

12. A Computer search was done in April of 1992 on the following files:

1: Eric,

11:Psycinfo.,

57:Philosopher's index,

121:British Education Index Theses Subfile and

410:Chronolog Newsletter. In these files no book was found which had the title or sub-title GENERIC THINKING SKILLS.

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