himself when he dismisses a particular conception of education on the grounds that it is "unintelligible," while on another occasion he objects to a suggested definition of education on the grounds that it is most idiosyncratic!

I suspect that Barrow's inconsistency here, as well as his failure to give serious consideration to possible objections to his analytical method are to be explained by an undue haste in writing the book. Certainly his omission from the bibliography of three names to which he has referred in the text — together with the explicit instruction that the reader consult the bibliography — suggests that Barrow wrote the book in a hurry. This impression is confirmed by the extent to which the author strays from practical schooling concerns in his chapter on morality and religion and makes excursions into such matters as the logical possibility of moral knowledge and the nature of moral discourse. However, Barrow does return, in the last chapter, to more urgent pedagogical concerns: assessment, streaming, banding and setting, the last three being topics which have rarely, if ever, been treated in an introduction to philosophy of education.

In summary, the book is to be strongly recommended to the student of education, with a caution: do not be persuaded of Barrow's preferred method of undertaking conceptual analysis, for it can lead to the formulation of unintelligible views. The book might also be profitably read by those more experienced in the art of philosophising but who need reminding that ". . . there is no truth so profund that it cannot be presented in a simple and clear way. . . ." (p. 17).

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John E. McPeck, *Critical Thinking and Education*. Oxford: Martin Robertson, 1981, 170 pp. $13.50.

There is a remarkable tradition of critical thinking in our civilization that goes all the way back to the first Europeans, the Presocratic philosophers. One of the salient characteristics of that tradition is the recognition that there are appropriate public tests for our truth claims and similar criteria of success for our performances. An early expression of this critical spirit is Heraclitus' plea "listen not to me but to my argument." In making this request Heraclitus presupposes that this argument can be assessed rationally, i.e., on the basis of relevant reasons and according to the principles that govern such assessments. The admonition also suggests that his contemporaries were capable of avoiding arbitrariness, unthinking conformity and subjectivity and, like the rest of us, often failed to do so.

Another prominent characteristic of this tradition of critical thinking is its anti-doctrinaire attitude with respect to the way we must hold our beliefs and knowledge claims. An impressive early demonstration of such an attitude can be found in another Presocratic philosopher named Xenophanes. Here are some of his striking fragments that have survived:

> . . . In the course of time, through seeking, men find that which is better . . . . But as for certain truth, no man has known it, nor will he know it . . . and even if by chance he were to utter the final truth, he would himself not know it; for all is but a woven web of guesses.

It is understandable why the teaching of such an important tradition should be considered a central task of our educational institutions: critical thinking is an extraordinary human achievement and as such does not unfold spontaneously, it requires our best efforts; that during its long history this tradition has been often betrayed, vitiated, perverted, or abandoned simply serves to underscore this point. In our days there have even been some persons, like Thomas Kuhn, who have attempted to question the very idea of critical thinking.

In his excellent book *Critical Thinking and Education*, John McPeck does not deal with this latest challenge to the idea of critical thinking — and perhaps for very good reasons. His main concerns are to clarify critical thinking (a concept "both over-worked and under-analysed") and to determine whether education requires it. The rest of the book is devoted to a rigorous criticism of current views on the nature of critical thinking and of programs designed to develop or test it.

McPeck argues that although most people are in favor of critical thinking it is not clear that they agree on its meaning or that they would continue to approve of it if they knew what it meant. The first step towards clarifying the meaning of critical thinking is to recognize that thinking and therefore critical thinking — is *about* something, i.e., some problem, activity or subject area. It follows then that there cannot be a subject called "critical thinking" which can be taught as such. The nature of critical thinking varies with different activities, and since there are "inumerable activities and types of activity that can be thought about critically, so there are innumerable ways in which critical thinking can be manifested."

One could conclude wrongly that since the criteria for the application of the term vary from one activity to another, one cannot give an adequate definition of critical thinking. That, however, does not follow and McPeck defines critical thinking as "the appropriate use of reflective skepticism within the problem area under consideration." Knowing when and how to apply reflective skepticism requires mastery of the skills, knowledge and understanding demanded by the activity and the norms and standards of excellence inherent in the activity. A person is a critical thinker about X if he has the propensity and skill to engage in X with reflective skepticism. McPeck warns us not to think of skills narrowly as being unthinking or mechanical because "skills in general . . . are born of knowledge of, and experience in, specific areas."

Still, there might be a problem in calling critical thinking a propensity and a skill. McPeck likens getting people to think critically to getting them to act morally. He appeals to both Aristotle and Bruner in order to reinforce his claim. To the extent, however, that learning to be a critical thinker is like learning to act morally (and I think that it is very much like it), to that extent critical thinking is not a skill or propensity — in the ordinary sense of those terms — for the following reasons: I may acquire the skill and the propensity to swim and yet refrain from swimming at a particular time because I do not feel like it — and that is quite all right. But if I have learned to be an honest man or to think critically about x, I cannot refrain either from behaving like an honest man or from thinking critically merely because I do not feel like it. Failure to act morally or think critically can be perceived by the moral agent or the critical thinker respectively only as instances of falling short of the demands of reason; they are failures that could jeopardize or nullify one's status as a moral agent or as a critical thinker.

That critical thinking is not a mere skill or propensity is further supported by what McPeck himself says about its connection with education. Whatever else the concept of education may suggest, it certainly means the acquisition of knowledge and understanding. The only way a person can acquire knowledge, i.e., justified true belief, is by suspending "a given belief long enough to assess the internal coherence of the evidence for it and to integrate the belief within his existing belief system." Without this activity of integrating and internalizing the new belief, i.e., without critical thinking, one does not earn the right to make knowledge claims. So, critical thinking is not something loosely related to education, it is necessarily at the heart of the educational enterprise — because it is a necessary condition for any knowledge claim.

It is important that we characterize critical thinking appropriately because the way we think and talk about it may have consequences for the way we might attempt to teach it. Surely critical thinking about such diverse problems as war, pollution, euthanasia, inflation, and abortion requires many skills and dispositions and understandings that are peculiar to these problems. But we shall gain nothing — while we might create unnecessary confusion — by referring to all these required ingredients of critical thinking as a skill and/or disposition. These comments on the proper characterization of critical thinking are meant only as a needed clarification of the concept and should by no means be allowed to detract from the value of this important book.

Those readers who have been tempted to commit what McPeck calls "the philosopher's fallacy" — i.e., to regard the teaching of logic and the detection of fallacies as a sufficient condition for the development of critical thinking — should consider the author's clear and powerful arguments against such practices before subjecting their students to such dubious exercises. The knowledge, skills, dispositions, etc., that are required for thinking critically about a subject are parasitic upon and, therefore, inseparable from the nature of the subject; the logical dimension of critical thinking being only one among several. Lack of critical thinking among students is not the result of not teaching them critical thinking as a separae subject — because there is no such subject — but rather lack of a sound liberal education.

As I mentioned earlier the major part of McPeck's book is devoted to an examination of current views on critical thinking. Thus, under the heading "The prevailing view of the concept of critical thinking" he provides a systematic examination of Robert Ennis' and Edward D'Angelo's views on critical thinking and points out in a clear and persuasive way their inadequacies. In the same manner he criticizes the various attempts among philosophers to teach critical thinking through the teaching of informal logic.

Those who have been followers of Edward de Bono's ideas and suggestions and have been using his materials for the alleged development of critical thinking will be impressed by the careful way McPeck exposes his arbitrary claims and his numerous confusions. In the penultimate chapter McPeck examines the two most commonly used tests for measuring critical thinking (the Watson-Glazer Critical Thinking Appraisal and the Cornell Critical Thinking Tests) and argues that "neither test in fact measures critical thinking in any reasonable sense because, first, neither the tasks nor the results of these tests show any significant difference from those involved in 'general intelligence' (that is, IQ) testing and, second, the restrictive format of the tests precludes the use of critical thinking in any defensible sense of that term."

In disagreeing with R. Ennis' definition of critical thinking as "the correct assessment of statements" McPeck repeatedly makes the claim that critical thinking is not restricted to propositional knowledge and that any activity requiring deliberation is capable of employing critical thinking. Since critical thinking requires knowledge of the field in question, McPeck argues, it is reasonable to assume that one should know something about the foundations of various types of belief, i.e., the epistemology of the field. Hence the title of his last chapter: "Forward to basics", i.e., to "the reasons that lie behind the putative facts and various voices of authority." Although I am sympathetic to this suggestion I find it rather vague. I wish he had spelled out more clearly how the teaching of the epistemic foundations of a field is supposed to develop or reinforce critical thinking. What would it mean, for example, to study the epistemic foundations of activities such as studying the behavior of mice in a laboratory, mountain climbing, or playing chess (all of which require some deliberation) and how would such study contribute to the development of critical thinking.

Critical Thinking and Education has many merits: it is well-written, clearly and rigorously argued, free of technical jargon and it illuminates a central educational issue in a masterful way. It is a truly liberating and enabling book and I recommend it to all educators and students of education, especially those who feel confused and intimidated by pretentious pseudo-scientific claims about education.

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David Nyberg and Kieran Egan. *The Erosion of Education: Socialization and the Schools*. New York: Teachers College Press, 1981. x + 145 pp. $US 15.95 (cloth). $US 10.95 (paper).

It is not that socialization is unimportant. Nor would Nyberg and Egan argue that schools should not socialize. Schools do socialize, and they should continue to provide opportunities for the necessary socialization of young people. The authors are concerned rather that socialization is becoming the sole task of schools, to the exclusion of education. They are worried also by the propensity of some so-called educational theorists either to use the terms "socialization" and "education" interchangeably, or else to regard young people's socialization needs as more important than their educational needs. With so much educational literature urging this, a book which boldly defends the cause of education is particularly timely.

Given the agenda which Nyberg and Egan have adopted, it is essential that they distinguish clearly between socialization and education. The former consists of "those activities directed toward enabling students to perform as competent agents within their society." (p. 2) Socialization is a necessity and, given the actual social arrangements and practices within a society, the specific ways in which particular individuals should be socialized can be stated fairly precisely. Education, on the other hand, is not a necessity and important educational attainments are difficult to specify. They do, however, enrich human life. Education contributes not to the possibility of life in society but to its quality, and questions about the proper content of education are much more controversial than those about socialization. Accordingly, after explaining the distinction and defending it as a crucial one for educators, Nyberg and Egan develop, in outline, a positive educational theory to guide the selection of educational content and procedures.

The development of this theory constitutes one of the central theoretical tasks of the book. What is sought is a theory which

> focuses on the educational aspects of development, learning, and motivation: one that directly yields principles for engaging children in learning, for unit and lesson planning, and for curriculum organization at each stage of a typical person's development. (p. 58).

The theory proffered identifies four stages of educational development: the Mythic, the Romantic, the Philosophic, and the Ironic. These stages are differentiated not in terms of psychological characteristics of developing persons, but in terms of the kinds of categories they use to make sense of the world and their experience of it. Because education is concerned with understanding, a theory thus rooted in people's categories of understanding will be an educational theory, not a theory of socialization.

Although the theory as presented seems plausible enough when tested intuitively against experience; we must ask whether the theory has any firmer validity than such *prima facie* plausibility. Being able, in retrospect, to see how one's experiences fit the categories of a theory may be necessary, but it is certainly not sufficient to establish the validity of that account. It is difficult to know how the theory could be tested further because Nyberg and Egan equivocate on whether they are advancing the theory as an empirical theory or as a prescriptive theory. There are a number of indications that they intend the theory to be empirically descriptive.