

## BOOKS

Petrie, Hugh G., *The Dilemma of Enquiry and Learning*. Chicago: University of Chicago Press, 1981, 238 pp. \$20.00 (U.S.)

During the past decade the question of what constitutes true or reasonable belief has been raised sharply in relation to the selection of curriculum content. There has been strong support for the view that all beliefs, even the simplest claims about what we see or hear in the world around us, are determined by the conceptual scheme we happen to possess. No independent grounds are recognized on which the merits of conflicting conceptual perspectives can themselves be assessed. Such a state of affairs might be of no consequence for education in a completely isolated and homogeneous society. But it must be a crucial problem for any society that contains within itself ways of interpreting human life and the world that far from being complementary are radically incompatible. Is it possible to show that certain conceptual schemes or ways of thinking are rationally more justifiable than others, that science, for example, should be preferred to astrology? Much of Petrie's book deals, in effect, with such problems of justification in selecting and implementing a curriculum. This is the context in which I believe his argument is of particular interest. Although he endorses the view that all claims to knowledge are inescapably marked by some theoretical perspective or other, he sets out to show that there are criteria by which we can rationally choose one conceptual scheme over another.

Petrie himself seems more interested in developing his position as a response to that old argument from Plato's *Meno* to the effect that if we know something, inquiry is not necessary, while if we do not know it, inquiry is impossible. I doubt whether the emphasis he gives to the argument is either theoretically or tactically desirable. The superficial plausibility of the argument depends on assuming that our knowledge or ignorance of a thing is an all-or-nothing condition. In the book the argument provides a kind of unifying framework. However, both in criticizing others and in elaborating his own position, Petrie has to extend the issues well beyond the immediate scope of the *Meno* argument. At the same time, the argument as a framework tends to be restrictive. Thus, for example, Hirst's defence of public forms of knowledge and certain open educators' defence of individuals making their own knowledge are seen by Petrie as attempts to refute the *Meno* argument. Hirst is said to be rejecting, in effect, the first horn of the dilemma while the open educators runs much deeper than the particular issue of the *Meno* argument; it is a radical conflict over the criteria of reliable and educationally significant knowledge. I am sure that Hirst, no less than the open educators or Petrie, recognizes that the teacher must work from the existing beliefs and interests of the learner. Whether his theory is finally satisfactory or not, Hirst is mainly interested in the normative criteria that indicate where the process of educating should lead.

The tactical weakness of focussing so much on the *Meno* argument is that practitioners are likely to be mystified, if not irritated, by the immense effort to account for what is so obviously the case.

As I have suggested, the main interest of the book is not how Petrie responds to the *Meno* argument (has he read Augustine, for example?) but his claim that the explanation he offers of the way in which new learning occurs on the basis of a person's existing beliefs also accounts for the normative conditions of rational belief. Whatever its defects, the book has the merit of systematically defending this claim.

In the early chapters he clears the ground for his own interpretation of the conditions for rational belief. He gives a good summary in Chapter 2 of the strengths and weaknesses in the standard forms of rationalism and empiricism. In Chapter 3, Feyerabend's contrasting subjective epistemology is well criticized. Petrie then sets out in Chapter 4 what he takes to be the general conditions for a sound epistemology: it must concentrate on the process of knowing (not on static structures of knowledge) and it must account for the role that human purposes and the need to act effectively in the world play in the shaping and assessment of conceptual schemes.

These conditions are translated into a detailed theory of how conceptual schemes provide the norms of reasonableness in belief and action ("assimilation") and can themselves be substantially changed in a rational way ("accommodation"). The former is discussed mainly in terms of a model drawn from control system theory (very sketchily described). In general, according to this model we adapt the features of our environment until they fit with our conceptual (and other) regulatory systems. Apparently, the model is thought to explain all adaptations of inputs — whether in the movement of our muscles as we walk on uneven ground or in the reform of a social order. And because inputs rather than outputs are controlled, Petrie claims that the model gives a causal explanation of reason and rule following that avoids the usual objections.

In answering the question of how we rationally choose or change conceptual schemes ("accommodation"), Petrie appeals to the theory of the evolution of biological species for his explanatory model. It is difficult to know what aspects of that broad and disputed theory are being applied or what aspects of the problem it is intended to illuminate. Is he saying that the history of collective and individual efforts to acquire knowledge follows an

evolutionary pattern? Is he also saying that the truth or reasonableness of a conceptual scheme is to be measured by its effectiveness in contributing to human survival? Both elements seem to be included in his theory. What finally appears clearly is that the superior rationality of a new conceptual scheme is established if it can effectively deal with anomalies that arise when we attempt to act in the world on the basis of our existing scheme. It is more rational in that it achieves a higher degree of "reflective equilibrium".

Although Petrie insists that all our experiences are shaped by our conceptual schemes, he nevertheless acknowledges relatively stable features of the observable world ("robust nodes of stability") that most people represent in the same way, and relatively independent conditions of rationality that any conceptual scheme must meet. But, using the evolutionary idiom, Petrie also talks of rationality in terms of how effectively a theory serves our purposes: in general, our effort to survive and adapt in the world. He also allows that individuals may develop conceptual schemes that for them possess reflective equilibrium yet are at odds with collective understanding. (This case is not clearly distinguished from that in which an individual introduces a change in common beliefs that proves more defensible than the currently accepted view.) Although his position in Chapter 7 is more ambivalent, Petrie suggests in Chapter 6 that collective understanding should take precedence over an individual's reflective equilibrium.

It is hard to see how the control system model (at least as presented to the reader in this book) does more than provide a technically obscure vocabulary in which the phenomena to be understood are redescribed. (The author tries to head off such an objection near the end of the book.) Certainly, one does not need the model in order to conclude that more attention should be given to the processes of teaching and learning and less to the measuring of results. A tribe of curriculum theorists (not mentioned by Petrie) has been proclaiming anew this message for the past decade or so. Nor do we need the model in order to see that what people in fact do is a sound guide to the norms they really follow.

Although Petrie rejects the appeal to basic statements in testing the epistemic value of theories and conceptual schemes, he seems in fact to employ such statements himself. But he does not give enough attention to how they (or our norms of reason) are justified without begging the question on the justification of conflicting conceptual schemes. He might have considered, for example, the kind of modified empiricism that Quinton defends in *The Nature of Things*.

Petrie's version of evolutionary epistemology provokes a whole horde of doubts. In a short discussion, the following must satisfy as examples. (1) He seems to take too optimistic a view of the degree of continuity from one conceptual scheme to another. Apparently, he assumes that the pattern of conceptual change in the history of physical science is mirrored in all other areas of thought. Moreover, his explanation of how we rationally change our beliefs supposes a substantial consensus on the existing conceptual schemes. It ignores the fundamental conflicts that exist even within a single society among such schemes — including radically different views on the criteria of rational belief. He emphasizes the response to anomalies, but in some conceptual schemes it is virtually impossible for anything to count as such. (2) The value of beliefs in promoting survival seems to be a dubious epistemological criterion. Societies with vastly different bodies of belief have managed to survive (by any reasonable criterion of survival). It is not clear why, for example, the survival of the Australian Aborigines for thousands of years or their subjugation by European settlers within a few decades should have any decisive bearing on the truth or reasonableness of, say, their moral and cosmological beliefs; or why the whites in South Africa are justified in following the policy of apartheid provided it really does enable their way of life to survive.

The educational pay-off from Petrie's epistemological argument comes mainly in Chapters 7 and 8. What he emphasizes most is that for education to be effective we must work from the existing conceptual schemes and modes of behaviour of the learner. This is a sound principle but, apart from the technical jargon in which Petrie discusses it, hardly new. Even his special stress on the processes of learning and the activity of the learner is only echoing a theme that has been prominent in the present century (e.g. in the work of Montessori, Dewey, and Bruner). On this point, incidentally, the practice of education needs to keep in view structured bodies of knowledge as well as processes of knowing. In the final chapter, Petrie makes a number of useful, although brief, comments on homework, the role of metaphors in learning, and the use of discussion.

As might be expected from his epistemological position, the final chapters do not give much guidance on what collective standards of reasonableness the common schools should adopt in the face of radically divergent views in the society (e.g. on the role of authority and reason in the moral domain). He also runs into difficulty because of his distinction between communal and individual reflective equilibrium. His comments in Chapter 7 seem to lead to the conclusion that a teacher is not justified (at least on epistemological grounds) in trying to change a student's conceptual scheme if the student is satisfied that the scheme is adequate. Finally, his comments on brainwashing and conversion to a religious cult raise an important question about his epistemological theory. He claims that in these processes radical conceptual changes occur on the basis of reasons and that his theory is able

to explain the change. This may be so, but then what is the normative power of his theory in assessing the truth or reasonableness of the new beliefs? In key respects brainwashing and cult conversions may, as Petrie claims, be models of rational conceptual change (seeing anomalies in one's existing conceptual scheme and making adjustments that achieve what one sees as a more adequate reflective equilibrium). But doesn't this suggest that his theory has gone too far in its preoccupation with processes?

In various sections the book seems to be intended for teachers. Apart from the prominence given to the *Meno* argument, I think this audience is likely to be deterred by the complex explanatory models and the unfamiliar technical vocabulary derived from them. Even those who think they are familiar with "assimilation", "accommodation", and "equilibrium" from the study of Piaget will eventually realise that, although borrowed from Piaget, these terms are used by Petrie in a rather different way. The book will be of use mainly to graduate students and educational theorists with a philosophical interest. For this audience its value would have been increased if the author had developed more thoroughly his epistemological theory, centred as he claims on the process of learning.

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Porter, John, Porter, Marian, and Blishen, Bernard, *Stations and Callings: Making it Through the School System*. Toronto: Methuen Publishers, 1982. 332 pp. \$28.95

*Stations and Callings* reports a massive 1971 survey of the educational aspirations of Ontario high school students. The survey is notable because it was directed by the late John Porter, probably Canada's most eminent sociologist, and because it was an unusual opportunity to survey such a large number of high school students. Some of the findings of the survey were published earlier in *Does Money Matter?*, a book which summarized the data briefly and used it to address the issue of how financial aid should be provided to university students. In contrast, this book provides a very detailed analysis of the data, and emphasizes the theoretical bases of the survey rather than its practical implications. These bases are firmly in the structural-functionalism popular in the late 60's. The result is a book that would have been interesting in the early seventies, but that now seems 'old hat' and tells us little about the questions we are asking today.

In any survey like this, the complexity and detail of the questions asked is sacrificed for the breadth of coverage. This research is no open ended exploration of what high school students think about school and work. The researchers proceed by identifying critical "variables", which they "operationalize" and measure on standardized scales. Even the "interviewing" with parents apparently amounted to filling out a questionnaire, one very similar to the one the students completed. Only data that fits the researchers' model is collected. The adequacy of this model then is critical.

The rationale for the research design is set out in chapter three. It provides a structural functional model of "post industrial" society where integration is pivotal, where childhood socialization is the most important influence on adult behaviour and where education is the route to success. Educational aspirations are described as "the prerequisite for filling a complex structure of adult roles." Wealthier families and well integrated families are described as "successful" and likely to produce high aspirations. "Role tensions", when behavioural norms are not shared, will lead to "having low self-concepts and abandoning education." Individual differences, determined in childhood, explain adult work patterns; "Once the individual has been socialized, he is pretty much the victim of the particular circumstances of birth."

In a recent article, Marion Porter says that by the time of the McGinnis lectures in 1977, her husband had abandoned many of these assumptions, and "re-examined the technical functional theory" in light of work by Illich, Friedenburg, Bourdieu, Bowles and Gintis, Braverman, Collins and Berg. However, in chapter three of this book, there is no sign of these second thoughts, and no reference to works published later than 1972. We proceed from these general statements about society to a justification of status attainment research.

Porter, Porter and Blishen rely largely on the model that was being used at the University of Wisconsin in the late 1960's, a model which uses social class, ability, self concept and expectations of significant others to predict aspirations. Aspirations are measured on a unidimensional scale from high, representing post-graduate education, to low, representing dropping out before high school is completed. Peter Pineo, who worked with Porter on