

Invitations to enquiry

Mary Waring

Science, Curriculum, and Liberal Education: Selected Essays. By J. J. Schwab. Edited by I. Westbury and N. J. Wilkof. Pp. 394. (University of Chicago Press: Chicago and London, 1978.) \$24; £16.80.

FOR some twenty-five of his fifty years at the University of Chicago, Joseph Schwab participated in an experimental undergraduate programme in general education, and it was this experience that gave impulse and direction to all his writing. This book contains a selection of twelve of the fifty or so essays that make up the bulk of his published work, an Introduction written by the Editors, and a bibliography.

The Introduction outlines the context in which Schwab's ideas developed. It stresses the continual interplay between, on the one hand, reflection upon the immediate practical concerns of his day-to-day teaching and, on the other, extensive explorations in psychology, psychiatry, literature, philosophy, science and the philosophy of science, an interplay that was to become the hallmark of his approach to education. His mastery and use of many perspectives and this interrelating of ideas and action gave Schwab both an intellectual framework and an integral and distinctive approach to problems. Both were greatly enriched by continuing dialogue with colleagues like Louis Thurstone, Irving Lorge, Ralph Tyler, Robert M. Hutchins and, above all, Richard McKeon, who introduced Schwab to hermeneutically inspired interpretative schemata and, as a former student and colleague of John Dewey, gave him direct access to a philosophy that was to be a major influence on his thought.

Although many of the essays are well known and highly regarded, the fact that most have been written for special occasions and purposes and have hitherto been published individually in a variety of journals, has meant that they have proved difficult for many readers who have come to them in isolation or at relatively long intervals of time. Collecting them into one volume and providing the orientation afforded by context creates a whole which is much more than just the sum of its parts; it reveals so vividly the comprehensiveness and coherence of Schwab's understanding and it encourages and facilitates greater fluidity

of thought on the part of the reader. Grouped under three headings ("On Liberal Education and Science", "On the Foundations of the Curriculum" and "On Curriculum Building"), the essays are concerned primarily with a carefully reasoned enquiry into the practical problems of giving new meaning and vitality to the conception of a liberal and liberalising education and, within it, to the teaching of science. Schwab leads the reader through the complex web of considerations which enmeshes each of the issues explored—enquiry and interpretation, personhood and experience, scientific enquiry and the nature of science and liberal education, educational testing, teacher education and curriculum development and research—providing a series of deep insights and provoking reflection upon the articulation of ideas and action in the search for means and ends. There is no attempt, however, to argue for

outdated, elitist conceptions of liberal education: the concern is with the search for essentially practical ways of helping the young to become 'actively intelligent' people who enjoy and thus continue to seek out knowledge and understanding, and who possess the critical and organising powers that make possible informed choice and action.

This is a challenging and important book, offering none of the slogans and easy solutions of those whom Schwab describes as "honing a problem down until it looks simple" or basing their ideas on "unexamined notions of reality". Emphasising, always, that matters of the curriculum are matters for doubt and critical enquiry, Schwab is concerned to "move men to action", rather than to prove or to prescribe.

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A forbidden transition

Fred Dainton

Higher Education Developments: The Technological Universities, 1956-1976. By P. Venables. Pp. 407. (Faber and Faber: London, 1978.) £25.

THIS book has a simple structure. In the introductory chapter the reader is taken at a brisk trot through the history of post-school technical education by way of the Percy Report; the establishment in 1956 of the Colleges of Advanced Technology (CATs), and of the National Council for Technological Awards; the Robbins Committee's recommendations of 1963, most of which were accepted almost immediately by the Government and which led to the CATs being transformed into technological universities with a consequential transition from ownership and government by Local Authorities (or Government in the case of Loughborough); to self-government and financial support from the University Grants Committee (UGC). The next eight chapters are a description of all that happened in and to these institutions in the decade 1966-1976. This section is abundantly provided with graphs and tables and is a gold-mine of factual information which is made very easy to quarry by the use of a very well constructed index. The tenth chapter is entitled "The Polytechnics" and is in fact a fascinating comparison of these institutions with the technological universities, in which the author seems to

invite—almost quizzically—the reader to look at the facts assembled in four tables and draw his own conclusions. In the last two chapters the author looks at higher education in a broader perspective, as it is and as it is likely to be, and he also lifts the veil ever so discreetly on his own credo and ideals. The book ends with four appendices; a glossary of acronyms, potted biographies of the eleven institutional actors; a few more statistics which I feel would have been better placed in the text; and the questionnaires which evoked the responses on which much of the information purveyed by the book is based. The wealth of data assembled in the book contrasts somewhat strangely with a curious omission. Nowhere did I find a really clear definition of technology and how it should be distinguished from natural science and engineering—if it is.

The non-British reader may be surprised that a whole book should be devoted to the detailed examination of such a small subject—namely, the emergence, infancy and early childhood of eleven institutions containing only about one-tenth of the total university population and therefore only about half that proportion of the total in higher education. The significance of the subject does, however, go far beyond what this mere numerical comparison might suggest, for the process by which the technological universities were created can never be repeated for as long as the policy of the "binary system" holds sway. That transformation would now be a "forbidden transition". The book is therefore important as a case study of special value to two groups of people. On the one hand it will be important to those who will determine future tertiary education policy in Britain and on the other hand to the historians

of the politics of education. It can be strongly recommended to both because it is soundly based on a careful scrutiny and scholarly evaluation of documents and an exhaustive enquiry; above all, it is written by an "insider" (the author's own term). This last point is of special importance for although there are many pieces, published and unpublished, which are written about higher education in Britain few of the authors have Sir Peter Venables' very wide experience. These writers fall into a very wide range. Thus at one extreme the authors are lonely scholars, either MA or PhD thesis writers or their own senior colleagues, more often than not embedded in a School of Education, itself on the fringe rather than in the mainstream of the activities of its parent institution. Such authors' sources are restricted to public documents and their experience is unlikely to embrace that of treading the corridors of a local education authority, the Department of Education and Science, the Scottish Education Department, the Welsh Office or even the UGC. The fruits of their labours are, however, likely to be published perhaps in book form or as articles in journals for all to see, dissect and evaluate. At the other extreme there are the civil servants whose duties are to prepare influential position (and policy) papers which rarely ever find their way into the open literature—at least legitimately. Their own direct experience of higher education is likely to have been limited to a few years at a university ten, twenty or even thirty years earlier. So the scholar suffers from ignorance of the "real", as distinct from the "openly acknowledged", political and intellectual reasons for decisions; and the civil servant who is well placed to influence those decisions has no living, working contact with the "coal-face" of higher education.

This gap is deplorable, as it is likely to militate against the formulation of the most beneficial policies. How is it to be bridged? The Royal Commission is one device. It is certainly open and thorough but also often cumbrous and slow; and it is not a permanent bridge. There are a few helpful signs in, for example, what seems to be a greater willingness and/or freedom of the public servant to discuss issues with scholars and researchers and the welcome tendency to issue "Discussion Documents" and "Green Papers" before decisions are taken. Then there is the occasional forum or symposium which is, however, rarely productive of meaningful interaction between the civil servant who, restrained by the rules and conventions of his employment, may elect to stay silent at a public gathering on just those topics which, being of greatest contemporary interest and importance, are therefore also the most sensitive issue.

The situation would be much improved if there were some exchange of people between posts in Academe and the Public Service. But mobility, though repeatedly

advocated as desirable, remains and is likely to remain far too infrequent. In our British system the best we can hope for is the lucky chance either that academics and ex-civil servants are able to collaborate (as in the case of Becher, Embling and Kogan's brief study of higher education) or that some able person who has been deeply involved as a teacher and administrator in higher education institutions for most of his life, helping to shape them during a period of rapid development, who has also served on many national bodies in ways which have brought him into close contact with civil servants, local authority officials and politicians, will make time to take stock of the past and present and point out the options for the future.

Such a man is Sir Peter Venables. His career in higher education, especially in technological universities and their precursors, will be known to many as

qualifying him well for this task, to which he has also brought the scientist's insatiable appetite for facts and a method of enquiry borrowed from the woman who is both his sociology instructor and wife. The result is predictable and well worth the effort. I have only two regrets. The style is almost too 'dead pan', too detached and at a number of places I would have liked Sir Peter to be a little more 'unbuttoned' and to have given us the benefit of his own opinions even when they could not be completely buttressed by evidence. His own long and devoted service to the cause of technological education have earned him that right. My second regret is that the price should be so exorbitant and therefore the book may not get the circulation it deserves. □

Sir Frederick Dainton was, until 30 September 1978, Chairman of the University Grants Committee, London, UK.

Energy melting pot

Peter Rost

Energy and the Environment: Democratic Decision-Making. Edited by C. Lenzer, C. Phipps, J. Valleix and J. Surrey. Pp. 141. (Macmillan: London, 1978.) £5.95.

It was not until the oil crisis of 1973–74 that politicians woke up to realise that they now had to face yet another challenge. Until then the provision of energy at an acceptable price was taken for granted. Energy policy was regarded as the preserve of technical experts and the balance between supply and demand was satisfied by the market. Now energy has become a dominant world political problem.

The energy debate has not lacked documentation. Students anxious to be alarmed or reassured about the prospects for mankind's future energy resources have been deluged with reading material. But each such contribution to the argument has been a personal interpretation, or a consensus by an expert group. What has been less readily presented to the informed but enquiring reader, is an actual cross-section of the debate itself.

This is why this book is an important contribution to the evolving energy debate. It records a two-day colloquy organised in November 1977 by the Council of Europe, which brought together 70 politicians from Europe and North America, with an equal number of independent experts. The Parliamentarians represented a formid-

able array of spokesmen many of whom have established their national and international political reputations for their specialist contributions to energy studies, whereas the technical and industrial experts included many reputable figures from international organisations concerned with energy problems, of high standing in scientific, academic and international circles.

Such a rich mixture into a two-day melting pot could easily have created an indigestible meal. But the themes were well defined and the debate was disciplined. Four principle aspects were tackled—energy supply and demand to the year 2000; the contribution of fossil fuels and renewable sources; the nuclear debate; and options for the future.

Perhaps surprisingly, some consensus emerged. No one energy source will solve the future, real costs will rise and conservation must move up the league table of priority options.

Revealing too, is the admission by decision takers, that they (the decision takers) will have to face up to unpopular measures! Long term policies to provide enough energy, yet protect the environment, maintain living standards and preserve democracy, may require electorally unpopular choices.

This book should help to reassure the informed public that, although the experts will never agree any more than politicians, at least the debate is being carried forward on solid intelligent foundations of scientific knowledge and political maturity. We must hope that Parliamentarians will follow up with the correct policy decisions. □

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