- The Swedish article details proposed laws related to employment, work laws, advanced democracy, personal integrity, etc.

Part III is similar to Part II but specifically relates to the larger countries, *viz.* the Federal Republic of Germany, France, the German Democratic Republic, India, Japan, South Africa, the United Kingdom and the United States of America.

- The article about the Federal Republic of Germany provides a status report on the social impact of computing including a discussion of laws and the result of several public opinion polls.
- The French article discusses information practices regarding the challenge of using computers not just for mechanising bureaucracies but also for increasing creative, democratic and self-teaching processes and values.
- The article about the German Democratic Republic describes their historical progression of computer use including the social impacts thereof.
- The article on India details the progress and impact, both actual and potential, of computer use on society.
- The Japanese article emphasises the future information society and the development steps which Japan is taking, and planning to take, in order to achieve these goals.
- The South African article describes the historial achievements in computerisation of the country as well as a detailed collection of applications and steps needed to acquire a higher degree of 'computeracy' in the population.
- The United Kingdom paper discusses the programme established to maximise the opportunities and minimise the threats created by information technologies.
- The article on the United States describes the historical growth of information, mainly in the public sector. Emphasised is the indictment that there not only is no plan for equitable distribution of computer benefits, but in actuality the system exacerbates social inequality.

Part IV consists of the conference conclusions and comments by various working groups each of which stated its problem, made forecasts to the year 2000, and laid out specific recommendations.

Also included is a comprehensive summary by the editor of the proceedings.

Beth Krevitt Eres
Interdisciplinary Centre for Technological Analysis and Forecasting,
Tel Aviv University,
Israel.

Recurrent Education: A Revised Agenda *by Ed Davis, Jack M. Wood and Barry W. Smith*
(Croom Helm, Sydney, 1986), pp. vi + 292, $29.95, ISBN 0 949614 24 6

This first volume in the series entitled **Research and Policy Studies in Recurrent Education** is based on the project entitled "Recurrent Education for Australia"

which is being undertaken by the Centre for Continuing Education at the Australian National University in Canberra. In 1984 the Centre decided to initiate a program of research and linked policy studies. They believed that there was need for a substantial reconsideration of the place of education in Australia in an era of rapid social, economic and technological change, and that the concept of recurrent education provided a framework which was well-suited to the task. They accepted that if the program was to be of practical value if must not only re-examine general principles in the light of Australian needs and conditions, but also that it must generate recommendations about how recurrent education could be more effectively implemented.

In the Statement of Intent which the Centre issued widely in May 1984, four basic values were identified which were seen as associated with recurrent education. The first related to the avoidance of 'a sterile dichotomy' between personal development for lives and skills-training for jobs. They also raised the possibility of regarding some form of apparent non-activity, such as absence of paid employment or education, as more desirable than some form of employment, both for the individual and for society as a whole. They stressed the importance of considering in a more closely integrated way the planning and resource decisions relating to education, paid employment, leisure and retirement.

The Centre saw equity as a second basic value associated with recurrent education. Second chance education, ease of access, the ability to drop in and out of formal education and to build up credentials sequentially over time, were seen as major concerns. However, they recognised that the well-documented propensity for further, post-experience, education to be disproportionately the preserve of the already well-educated can pose a problem for the advocates of recurrent education. This issue was seen as one task that the Program needed to address in Australian circumstances.

The third value was empowerment and participation in society; and they emphasised the particular relevance of this value for disadvantaged groups, such as the elderly, Aborigines, ethnic groups and women. They also predicted that the most successful societies in future are likely to be those which make the best use of their human resources.

The fourth value concerned the way in which people learn. The Centre was especially concerned with adults, and took the view that the learning needs of individuals vary at different stages of their life. The Centre saw the recurrent education principles, of relevance and diversity, as responding to these learning needs and recognising the importance of motivation in learning.

In his introduction Chris Duke, the former Director of the Centre, who has now returned to Britain, outlines some of the background to the overall project, queries whether recurrent education has become a neglected perspective and concludes that its potential for indicating and ordering far-reaching and radical yet beneficial reform of education is in no way diminished by the changes in social and economic circumstances of the past ten years.

Duke comments briefly on the three papers in this volume and also draws attention to Johnston's article in *Education News* of 1984, which he suggests has been insufficiently recognised. In Duke's view that paper strongly promoted recurrent education without using the term. His metaphor of 'jettisoning the educational lifeboat' is seen as capturing the essence of reform from a recurrent education perspective and as dramatising the difficulty that such a shift of educational strategy might present for many in the education system. Duke

stresses Johnston's view that it is futile to fine-tune education to labour market planning, strongly supports the development of general capabilities, including the ability to learn further, and emphasises the importance of popular technological literacy — as distinct from specifically directed education for particular employment.

Jack Wood's chapter 'Towards a New Analysis of the Economics of Recurrent Education' argues that rate of return analysis is a technique designed to evaluate investments in physical capital and that it is completely inappropriate to transfer the technique into the domain of human capital. He is strongly critical of some earlier studies such as those by Stoikov (1975) and Gannicott (1972), arguing that such analyses of recurrent education have gone largely unchallenged, and that if economists are to play a constructive role in the recurrent education debate then the development of a new approach is essential. While a number of his points are valid, I found his criticisms to be overdone. Also I was disappointed to note that Wood makes no reference to some recent studies, such as McKenzie's useful monograph (1983) on economic and equity aspects of recurrent education in Australia, although it is briefly referred to by Duke.

Ed Davis' chapter considers recurrent education in relation to the school curriculum. It particularly examines the ways in which the curriculum in Australian secondary schools might be adapted to fulfil individual and social needs better. Davis emphasises the importance of clarifying educational purposes and of more fully taking into account social-psychological factors associated with fundamental human needs, motivation and learning. He also suggests a range of further research.

Davis emphasises that many advocates of lifelong learning and recurrent education stress that of all the skills and dispositions that schools might encourage, learning to learn (and wanting to learn on a continuing basis throughout life) is the most essential. His paper includes a number of quotations, many of them quite extensive, and he refers to a wide range of other studies which may be helpful to readers not closely in touch with the literature. I found his comments on the studies from the UNESCO Institute for Education in Hamburg particularly interesting.

The final chapter by Barry Smith is concerned with retention in schools. It is a long chapter, 133 pages, or longer than the contributions of Davis, Wood and Duke combined. It also contains a great deal of interest. In the first section he considers various arguments as to why young people should stay at school and continue to tertiary education. He draws on a wide range of studies, and although focussing primarily on the Australian situation makes a number of references to overseas experience and research. I found Smith's references to the US work by Levin and Rumberger and to Sweet's analysis of the factual situation in Australia to be of particular interest. Smith quotes Sweet at length, including his conclusion, in 1984, that 'at both ends of the skills spectrum demand is rising for reasons that have little to do with technology, that in many middle level occupations technology appears to be both reducing demand and deskilling work, and that for youth in general the trend in demand for skills has been downward.' Smith concludes that simple assertions about the need for higher skills among youth are not supported by the realities of the labour market.

The second section is concerned with what Smith sees as the alternatives of front-end loading and recurrent education and suggests ways in which present post-compulsory provisions and structures might be changed to meet the needs

of young people better. He argues that any serious attempt to incorporate a recurrent education perspective into schooling would have major curriculum implications. In the third Section Smith considers the calls for greater diversification of the curriculum. He argues that a rethinking of the post-compulsory curriculum is required, but that reform is severely inhibited by the pressures of assessment and credentialism.

In the fourth section he considers the relations between schools, TAFE and training. Smith suggests that seeing TAFE as a vehicle for lifelong learning, and with recurrent education and open education as the underpinning values, what he terms as 'a return to the Kangan concept', would give the sector an identity and a rationale that it sorely needs. He also stresses the importance of closer working relations between education and labour market authorities, and between those authorities, employers and unions. In the fifth section Smith considers school in relation to work and unemployment, and in the sixth section he examines aspects of youth policy, although recent developments render some of this discussion dated. In his view policy development for the education and training of young people cannot proceed in isolation from aspects such as job creation, income support and taxation. In the concluding section Smith argues strongly that curriculum and youth policy questions are indivisible in relation to the needs of teenagers, and that a clear view of the aims of schooling is essential.

The book covers a wide territory, and brings to the attention of the non-specialist reader a broad range of views, opinions, studies and research. It tends to raise more issues than it solves, but it is open and honest about doing so. Also it does not wholly meet the challenging aims the Centre set for itself in 1984. I found the book worth reading, but suggest its length could have been reduced and remain unconvinced that, although it has a useful perspective to contribute, recurrent education is **the** answer to our educational problems.

C. Selby Smith
Graduate School of Management, Monash University

The Defence Science and Technology Organisation and National Objectives: *A Report to the Prime Minister by the Australian Science and Technology Council* [ASTEC]
(Australian Government Publishing Service, Canberra, 1986), pp. vii + 70, ISBN 0-644-05488-3.

In an era when the Minister for Science proclaims the need to make science part of the political culture and as politically important as sport, environmental and women's issues and the arts, there is, to my way of thinking a high level of radical confusions about in Canberra.[1] In the era when Australia's defence spending is large by world standards and yet the country's research and development (R&D) effort low by OECD (Organisation for Economic Co-Operation and Development) standards there is additional cause for concern (always assuming radical confusion was one in the first place).[2] And in an era when the Government is bent on buying state-of-art defence equipment from its major ally, the United States, when **that** country's defence industries and military procurement processes are in dire need of reform,[3] concern is