BOOK REVIEWS

Sleepers, Wake! Technology and the Future of Work New Edition *by Barry Jones* (Oxford University Press, Melbourne, 1983: first published 1982) pp. xii + 285, $9.99, ISBN: 0-195-54453-6.

This is an extremely interesting and provocative book. Although it has many illustrative examples based on Australian experience, the author is justified in claiming that its central message is relevant to all industrial societies and it deserves to be widely read in all of them.

It is one of the best of the many books which have recently attempted to follow up the implications of Machlup's *Producton and Distribution of Knowledge* (1962) and Porat's *Information Economy* (1977) together with Daniel Bell's concept of 'post-industrial' society. These attempts have become more frequent and more urgent as the dimensions of structural unemployment in the OECD countries have become more widely recognised and more worrying.

What makes this book a much better attempt than most is the breadth of the approach, the sense of history, and the sense of humour. It starts from the familiar ground of the long-term shift from a predominantly agricultural to an industrial society and then to a 'post-industrial' society, but it introduces the original twist of a 'post-service' society. By this Barry Jones means a society in which the majority of people are no longer employed in the primary, secondary or even tertiary sectors of the economy, but in what he defines as the 'quaternary' and 'quinary' sectors. The 'quaternary' sector is what most people call the 'information' activities of all kinds, including printing, computer data banks and so forth. The 'quinary' sector comprises the 'informal' economy, but also those parts of the formal economy which are delivering essentially similar types of service; e.g., domestic work, craft activities, catering, caring and welfare work.

The major original contribution which Barry Jones makes in his "new analysis of the labour force" is the clarity and perceptiveness of his distinction between the first four sectors on the one hand and the fifth sector on the other. His fourth chapter on 'Two types of employment and time use' is the best in the book. Going back to Adam Smith, Bertrand Russell and Northcott Parkinson he illuminates the contrast between 'labour saving' productivity oriented work, whether in services, manufacturing or agriculture and those 'labour-absorbing' activities in which productivity is difficult or impossible to measure and often irrelevant.

It is also refreshing to find an Australian Minister of Science and Technology who has not only read Adam Smith and Veblen but also Karl Marx. There must be very few Ministers in any OECD government who have ever read Volume 3 of *Capital* and the *Grundrisse,* and even fewer who have made any sense of it in relation to the nature of employment and the future of work. Barry Jones is one of those who is capable of recognising (and valuing) Marx's insights without either deifying him or denouncing him.

Those parts of the book which deal with capital investment, cyclical patterns in the economy, inflation and unemployment are not quite so good and suffer from some haste and superficiality in their presentation. It is difficult to go

along either with his classification or his dating of the "three industrial revolutions" which he describes: (1) the 'Steam Revolution' (1780-1840); (2) the 'Electric Revolution' (1860-1910) and (3) the 'Atomic Revolution' (1942 to the present). The description of the last four decades as the 'Atomic Revolution' bears no relation to anything in the book and is an extremely inadequate account of the main new developments in post-war technology. The dating of the 'Electric Revolution' as starting in 1860 is extraordinary, and there is little or no indication of what was happening from 1840 to 1860 or from 1910 to 1942.

Barry Jones does make a half-hearted attempt to relate his periodisation to the notion of Kondratiev cycles, but he fails to make the connection or to relate his own analysis to the possibility of a recovery phase in the present long cycle. He is surely right to emphasise the phenomenon of discontinuity and disequilibrium in relation to economic growth and employment, but he should have given more consideration at least to the possibility of a cyclical upturn in relation to the longer term trends with which he is preoccupied. This is related to his failure to recognise the significance of capital-saving technical change in all sectors of the economy, and of the importance of producer-services supplied to manufacturing industry by the tertiary and quaternary sectors. Many of the prophets of 'post-industrial' society have failed to recognise the importance of Gershuny's point, that a substantial part of the apparent shift from the secondary to the tertiary and quaternary sectors represents the transfer of activities that were once carried out 'in-house' in manufacturing firms to a 'contracted-out' basis.

The book is also relatively weak in its treatment of the information services *per se*. It has little to add to the story of computerisation or to the economics of information processing and distribution.

Neither of these criticisms, however, should be allowed to detract from the overall extremely positive assessment of the book. Moreover, it is strong on the **political** implications of the information revolution and has admirable things to say on the dangers of technological disfranchisement and technological determinism. The critique of the role of the automobile in urban societies has seldom been put better, even by Mishan, and the problems of public access to information in the next twenty years have seldom been so well posed. Altogether it is a book which should not be missed.

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Solar Energy Patents *by Australian Patent Office*
(Australian Government Publishing Service, Canberra, 1983) pp. vi + 306, $21.95, ISBN: 0-644-02453-4.

This new publication by the Australian Patent Office is described as a "technology evaluation report". It contains two effectively separate reports; one of these summarises patents for thermal uses of solar energy, while the second is concerned with the generation of electricity from the sun. Each report is a description of technology for which patent application has been made. The reports include explanations of the underlying principles applicable