

constituted. He talks of science as if we all know exactly what that is, and offers no guidance for those of us not sure that we do. This imminent perspective gets Feyerabend into difficulty when he moves toward a discussion of the cultural/historical contextuality of science practice.

He argues that there is no common structure to what constitutes the sciences; that is, within the practices that we, apparently unproblematically, call sciences. The failure to take a transcendental perspective means that Feyerabend has no view of the underlying constituents of knowledge and/or belief more generally — of which science is but one type. These constituents include both the forces that constitute science and its constituent parts. A corrective to Feyerabend's position would be to engage an anthropology of knowledge rather than a history of science or even a sociology of science. Feyerabend remarks on the link between science and colonial domination, but does not quite break into the light because he presupposes both the implicit 'science' in science and the implicit, unspoken 'Western' in Western science.

It is, in part, this lacuna that leads me to comment on what, re-reading in the context of working in another quite removed area of research, strikes me most about the text. In short, it is very dated. Feyerabend writes from the well known tradition of European thought migrated to the USA *circa* World War II and thriving therein. He is not so much philosophically anarchist, as has been the conventional wisdom, as rabidly individualist. Feyerabend's 'Free Society' is one of political individualism and entrepreneurial enterprise, be that enterprise science or capitalistic production.

There is a resonance here with resonance here with recent debate on Japanese corporatism and the dynamics of capitalist development. Many US commentators have seen Japanese corporatism as a relic of Japan's history, which the impact of capitalism and greater prosperity will erode. The counter argument suggests that not only is corporatism an essential ingredient in Japan's economic success, but also that it is in step with the current level of development of capitalism. They suggest that the US is behind the times in its adherence to the ideal of individualistic, entrepreneurial capitalism.

It is possible that Feyerabend, too, suffers from the datedness of his individualism. So much has been said in the history of science community about the post-war transition of science from 'little science' to 'big science' that adherence to a model of entrepreneurial, individualistic little science seems somewhat perverse. The broad brush of historical change would suggest to me that we are ripe in the 1990s for a corporatist, collectivist model of big science.

**John W. Houghton**  
CIRCIT, Melbourne

**Science Policies in International Perspective — the experience of India and The Netherlands** by *P.J. Lavakare and J. George Waardenburg (editors) and W Hutter (associate editor)*

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This book represents the proceedings of an Indo-Dutch workshop on science policy which was held in New Delhi on 5-6 September 1988. The workshop was

held under the auspices of the Indo-Dutch Joint Committee on Science and Technology set up by the two governments to promote bilateral co-operation in various fields of science and technology. The papers from the workshop focused on areas of concern to the two countries, aiming to reflect the international character of science and technology. The objective of the book (and presumably the workshop) was stated to be mutual understanding: "If international co-operation in science and technology is one of the major objectives to be pursued by developing and the developed countries, we believe that mutual understanding of such complex issues is vital, and we hope that this book will to some extent help towards that goal." (p.7).

Contributed papers comprising the book are grouped under five sections: (I) science policy and national goals; (II) national policies towards R&D systems; (III) practical use of the results of R&D systems; (iv) international dimensions of R&D and international co-operation; and (V) country reports. The first four sections contain brief "discussion summaries" and these are in aid in drawing out the key themes of each section.

The editors have set themselves the difficult task of attempting to unify under one theme a number of papers each written from different cultural and (often implicit) theoretical perspectives. For example, in the Introduction the editors stress that science policy making is very different in nature from the making of an economic (development) policy. They claim that economic policy methodology translates aims into concrete targets whereas the science and technology (S&T) system cannot follow this methodology because of its attributes. While the S&T system has outputs that can be seen as public goods, as a system it is less known and stable than the economy and the observation of the system and its results requires a strong expertise from within the system itself (p.4). Whether one agrees with this view or not, I found it difficult to identify this as a consistent theme in the writings of other contributors.

I found parts of I and V of the book the most valuable, especially the chapter by Stuart Blume of the Science Dynamics Department of the University of Amsterdam in Part I. He observes that while there is no logical relationship of derivation between national goals and priorities for science, national goals still can have a significant input to priorities for R&D. The task becomes identifying the way national goals influence science priorities. He argues that there is value in studying the social processes by which priorities for the R&D system are set in practice. Within these social processes, both priority setting and implementation of policy become key areas for further investigation. Unfortunately, the interesting analytical questions raised by Blume are not developed further by the editors or other contributors. Part V dealt with country reports and I found this to be a useful summary of current policies in the two countries. Parts II, III, and IV largely reflect 'official' positions derived from the deliberations of senior bureaucrats in the respective countries. These sections cover some well-worn territory such as effective R&D policy and problems of north-south co-operation in science and technology.

Despite this, the collection of papers from officials from different cultural backgrounds is one of the book's redeeming features. However, it is up to the reader to 'read between the lines' and pick up the inconsistencies and obscurities in meaning and interpretation which provide a more comprehensive perspective from which to view science policy in the two countries. A number of these inconsistencies and obscurities provide an opportunity to interpret the social process of science policy formulation. For example, concepts such as science policy, S&T system, R&D, research and technology are used rather loosely and this suggests that much is being assumed by the authors of 'official' statements.

The editors at least seem to view technology as applied science. The emergence and appropriateness of priority areas that are based on the latest technologies (e.g. information technology and biotechnology) in the two countries is another issue which demands further investigation but this is not explored in the book. Likewise, various philosophies of science and the sociology of science appear to be used by different contributors to justify policy. For example, Waardenberg claims that it can be shown from recent research in the 'sociology of the sciences' that "attempts to steer the development of research areas by non-scientists are generally totally unsuccessful: scientific developments are nearly always determined by forces from within the scientific community" (p.119). Unfortunately, the various interpretations placed on science by the different contributors are not analysed in this book in a way which would help the reader get a better understanding of the social processes involved in science policy formulation.

In summary, I believe the book will be of interest to government officials and science policy researchers in various countries despite the fact that its contents are likely to date rather rapidly because of the dynamic nature of the field. However, what is lacking is an overall perspective that gives the reader a clue on how to read such official policy statements as against their content *per se*. Blume's contribution in Part I approaches this but the rest of the book is much less reflective and analytical. Contributions to the literature in this field must aim to do much more than simply assemble such official texts under the one cover if our understanding of science policy is to be improved. Having said this, I believe there is a need to start somewhere and this book can be seen as part of this initial step. Australia could do much worse than spending a fraction of its vote on international science and technology agreements on similar comparative studies and reports. To get best results, the exercise would need to focus on critical understanding, not purely 'mutual understanding'.

**Richard Joseph**  
University of Wollongong

**The Papers of Thomas A. Edison, Vol. 1, The Making of an Inventor, February 1847-June 1873** edited by *Reese V. Jenkins et al.*  
(John Hopkins University Press, Baltimore and London, 1989) pp.LXVIII + 708, \$US65, ISBN 0 8018 3100 8

This volume is the first of a projected series of 15 to 20 volumes being jointly sponsored by Rutgers University, the New Jersey Historical Commission, the US National Park Service and the Smithsonian Institution in which it is intended to document all aspects of Edison's life, writings and inventive activity. It has set a fine standard of production and editorial expertise. Attractively bound, and extensively illustrated with reproductions of Edison's own drawings from his notebook, diagrams from patent applications, portraits, and photographs of patent models and telegraphic instruments produced in workshops with which Edison was associated, this volume provides a scholarly yet intimate view of