

different policy recommendations for cable than those proposed in *Choice by Cable*.

Another disturbing feature of this work is that the authors too readily discard policy proposals for cable which conflict with their own. For instance, in discussing the concept of granting common carrier status to the owners of cable systems by separating the functions of cable ownership and programming (as a means to overcome the problems of local monopoly), Veljanovski and Bishop claim (p. 83) that "it is difficult to assess the efficiency of this approach". Two paragraphs later they find that the "common carrier status would not lead to an unambiguous reduction in consumer welfare", but dismiss the concept on the basis that "neither, however, would it promote maximum choice for the consumer" (p. 84). Similarly, they reject the arrangement for a central cable authority to award exclusive franchises for defined areas to cable operators chosen, according to specific criteria, from competing applicants, because "there is no reason to expect that franchising would enhance consumer welfare" (p. 85). However, no alternative procedure for determining the participants in the cable industry and their respective areas of operation is offered.

Choice by Cable occupies the ground at one extreme in the cable debate. It goes considerably further in its advocacy of deregulation than the Hunt Report, and it makes the recent cable report of the Australian Broadcasting Tribunal (*Cable and Subscription Television Services for Australia*, AGPS, Canberra, 1982), with its recommendations for a multitude of regulatory provisions to govern cable in this country, seem most socialistic. (Unlike the Hunt Report and *Choice by Cable*, however, the Australian report does not explicitly recommend against the involvement of existing media interests in cable television.) Veljanovski and Bishop's book will be fervently endorsed by those who share the authors' faith in the efficacy of unregulated market forces to maximise the social benefits of cable. Economic and technological sceptics will be less easily persuaded by its argument.

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Dictionary of the History of Science edited by W.F. Bynum, E.J. Browne and Roy Porter

(Macmillan Press, London, 1981) pp. xxxiv + 494, \$45.00 (hb), \$16.95 (pb).

Published in 1981, delayed in reviewing by this writer's preoccupations elsewhere, this valuable book is far from achieving market saturation: indeed, I have yet to read a review or to see a copy in a bookshop.

The editors have organised the work thematically around the core ideas of Western science "in a developmental context" and hence, they say, "we have judged it more useful to have articles on the Atom, the Unconscious, or Mendelism, than on Dalton, Freud or Mendel". Because this is primarily a dictionary of *concepts*, there is little on the development of technology or clinical medicine, and coverage of the social sciences is only

partial. There is a heavier emphasis on "the historiography of science, the philosophical and metaphysical principles underpinning science, and of philosophical accounts of the scientific process." The book is not exclusively confined to post-Renaissance Western science: there are general articles on science in Chinese, Hindu and Islamic cultures and in the classical period; for example, nearly seven columns in four essays on Aristotelian ideas (logic, physics, cosmology, theory of cause).

After an analytical table of contents and a useful bibliography comes the dictionary proper, 700 articles spread across 451 pages, set out in alphabetical order, followed by a fine grained biographical index (43 pages). The longest entries, for example, 'evolution', 'heat and thermodynamics', 'light', 'mechanics', 'naturalism', 'nature' and 'race', are between four and six columns long. Some entries — 'psychology' and 'zoology' — are essentially aggregations of cross-references and there are many short entries referring readers elsewhere, such as:

meaning See hermeneutics; open-texture; pragmatism; verification theory of meaning.

There are a comparatively small number of excellent diagrams; for example, on 'Kepler's laws', 'meiosis', 'Ptolemaic astronomy' and 'Tychonic systems'. In the biographical index, by far the longest lists of cross references are for Aristotle (85), Newton (77), Darwin (73) and Descartes (57), which confirms the heavy historical bias of the work, compared with the modest numbers for the leaders among twentieth century figures, Popper (28), Einstein (25) and Freud (17).

Not all areas are equally comprehensible in the *Dictionary*, although this may only illustrate the gaps in my intellectual armory. Nevertheless, many of the mathematical articles, such as 'calculus', 'function', 'vectors and quaternions', would be largely unintelligible to non specialists. (Peter Medawar once asked Solly Zuckerman: "How do you deal with lines of equations in the middle of a text?" Lord Zuckerman said, "I hum them".) Attempts to find comprehensible explanations of Fourier transforms (or Fourier functions) still elude me. My in-house adviser on X-ray crystallography thinks that two years of university science would be necessary to understand the entries in his area.

The *Dictionary* is at its best in the overlapping area between philosophy and historiography, e.g. the Hessian Thesis and the Zilsel thesis, both unknown to me by this name (with 'T' and 't' as set out above), and Thomas S. Kuhn's work in several areas. The Hessian and Zilsel theses deal respectively with a Marxist analysis of the relations between Newton's laws of motion and the socio-economic context of his life, and the emergence of modern science in the context of social change in Europe. Kuhn's work is best known for his argument about paradigm shifts in the way we understand what is going on — for example, seeing lightning as a meteorological phenomenon rather than evidence of divine anger, or shifting from a Ptolemaic to a Copernican universe, or grasping the essential change from an industrial society to a post-industrial one.

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