ability to pay professional fees. The author has some interesting observations on the "culture lag" between popular beliefs about dental care and the state of opinion in the profession itself. The layman may not be aware of changes of theories and opinions amongst dentists and clings to "facts" which have become outdated. The theory of "focal infection" arising from Hunter's work in 1910 provided the reason for multiple extractions for a period of forty years and the layman was conditioned to accept the advantages of losing all his teeth. Few patients will now accept this type of treatment and the profession has learned to save many teeth which were previously condemned. However, attitudes vary with social class, and social and economic factors tend to override the concepts of ideal treatment advocated by the profession.

It is evident that the author believes that dentists are obsessed with the diagnosis and treatment of disease and that there is too much emphasis on high technology treatment procedures which contribute little to the health of the community as a whole. He advocates greater emphasis on the principles of maintenance care and prevention, radical initiatives in the deployment of auxiliary workers skilled in preventive work and able to increase the productivity of graduate dentists, incentives to ration expensive (or extractive) treatment, changes in the dental supply industry that foster adequate technology and expertise for self-care and that reduce the incentive to elaborate restorative care, and strategies for prevention directed at the aetiological stage. Many of these ideas are already being adopted or are being tried out, but the profession will still be required to provide ever more sophisticated treatment for those who escape the preventive net, but who do not wish to lose those teeth damaged by caries, excessive wear, or trauma.

The author has made a strong case for greater emphasis on the prevention of oral disease, and there is no doubt that much of our knowledge of prevention is not yet being properly applied, but fully effective prevention of caries and periodontal disease is still some way off and the pace of change may not be as fast as the author believes to be possible.

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DAVID THOMAS, *Naturalism and social science. A post-empiricist philosophy of social science*, Cambridge University Press, 1979, 8vo, pp. vii, 213, £12.50 (£4.95 paperback).

David Thomas's book is a lucid and jargon-free introduction to recent debates in the philosophy of social science. Acknowledging the force of attacks upon crude empiricist methodology over the last generation, Thomas poses the question whether all attempts to construct a social science similar in structure and explanatory ambition to natural science must therefore be abandoned (Winch's position and variants on it). Thomas thinks not. He argues that attempts to produce law-like generalizations in studies of society are not vitiated *in principle* (merely that the very complexity of society makes it more difficult to produce theories which are non-tautological, non-vacuous, and not subject to endless qualifying conditions, than it is in natural science);

and shows that there are no insuperable philosophical problems in postulating a naturalistic, causal mode of social analysis which transcends the limited explanatory power of mere common sense, and the anti-causal view that all that can be offered are rule-obeying descriptions of actors' meanings of their performances.

One significant distinction between the social and natural sciences, Thomas admits, is that the concepts of the social sciences are evaluative (e.g. notions of human nature), to a degree far more striking than with the natural sciences; yet a naturalistic approach can cope with this fact by welcoming the continued existence of a plurality of competing theories in the area. This, however, does not mean that the social sciences are "pre-paradigm" in the Kuhnian sense (hence, pre-scientific). But neither should one expect to find a succession of "paradigms" in the development of the social sciences, in hope of proving that they are scientific through possessing their own "revolutions" and "normal science".

Incorporated in the text are some interesting side analyses (e.g. of modern Soviet sociology, or the individualism of Mannheim, or the degree to which Marxism can be taken as properly social-scientific). Overall, however, the general reader is left wondering about the ultimate thrust of the book. It reads like a succession of workmanlike digests of main areas of debate, and certainly doesn't seem to be aiming to affect practice in the social sciences. It is an able contribution to a philosophical genre which is both parasitic and parthenogenetic.

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MAURICE DAUMAS (editor) *A history of technology and invention. Progress through the ages*, English translation of original French ed. (1962–68) by Eileen B. Hennessy, London, John Murray, 1980, 3 vols., 4to. Vol. I: *The origins of technological civilization to 1450*, pp. [x], 596, illus.; Vol. II: *The first stages of mechanization, 1450–1725*, pp. [x], 694, illus.; Vol. III: *The expansion of mechanization: 1725–1860*, pp. ix, 752, illus.; £12.50 per volume.

There is no comprehensive history of medical technology, despite its enormous proliferation since the high middle ages when optics brought in a vast new segment to add to the ancient techniques of obstetrics, surgery, prosthesis, orthopaedics, and so forth. The microscope is the sole instrument of relevance to practical medicine whose history is widely known, though excellent monographic treatment has been given to a few others, such as Ludwig's kymograph (1846; by the Hoffs). Indeed, whereas the literature and expertise on the history of scientific instruments has been pretty considerable for a century, and steadily growing, the instruments of medicine and surgery (apart from the microscope) have provoked little scholarship and collecting enthusiasm.

Historians of technology have almost wholly ignored medical techniques. That great scholar of classical techniques, A. G. Drachmann, has written of the first gearbox, the "chest of Nymphodorus" described by Oribasius in connexion with the bed of Hippocrates for the extension of fractures, but none of this appears in the present work. In fact, though techniques of metrology and expression are dealt with, there is in it no direct discussion of instrument technology at all, in contrast to the