

Book Reviews

vented him from establishing the 'new science' as a viable tradition in Cambridge" (p. 72). This is, I think, an unjustifiable view of the history of botany. In choosing to discuss the development of whole-plant science, Walters has impoverished his subject – the *shaping* of Cambridge botany – so that the title of his book is a misnomer. Walters describes Henslow as a precursor of the "New Botany", a title properly reserved for the qualitatively different subject which paid attention to plant physiology and plant chemical physiology (in the work of Francis Darwin, Sidney Vines, and Joseph Reynolds Green). As J. D. Hooker wrote in 1884, "Botany is no longer a knowledge of plants but . . . what they do! You begin with yeasts, moulds, etc., and the higher you go *the less you know of the whole plant* and the more of their inwards" [my italics].¹ Henslow's teaching and papers are of a different stamp from those of his contemporary Arthur Henfrey (1819–1859), of whom Von Mohl wrote that he was "the first representative of physiological botany in England".²

Walters is, to be fair, aware of his neglect of the development of *cellular* approaches to plant-life. In pursuing one set of aims, it is unfair to be chided for not having considered some other. Perhaps, but at least that set of aims should provide one with a historically satisfying account. Taking Harry Marshall Ward, Professor of Botany after Babington, for example, Walters is forced by his approach to emphasize his whole-plant work, which in fact represented only a small fraction of his efforts, which were mainly in mycology and bacteriology. In the 1870s, Cambridge botanists uprooted the whole plant – it is debatable whether it ever recovered. One is left with the feeling that, in his deep concern for such studies, Walters has been forced to do some repotting in shallow historical soil.

¹ L. Huxley, *Life and letters of Sir J. D. Hooker*, 2 vols., London, Murray, 1918, vol. 1, pp. 403–404.

² On the difference in botany before and after 1860, see, for example, my paper 'The development of biochemistry in England through botany and the brewing industry', *Hist. Phil. Life Sciences*, 1980, 2: 141–166.

Neil Morgan
Wellcome Institute

GEORGE CORNER, *The seven ages of a medical scientist. An autobiography*, Philadelphia, University of Pennsylvania Press, 1981, 8vo, pp. x, 411, [no price stated].

George Corner died in September 1981 at the age of ninety-one. His autobiography, *The seven ages of a medical scientist*, tells the story of a brilliant career, and at the same time provides a picture of an academic world which contrasts sharply in its urbanity and grace with the vibrant and aggressive one that many are inclined to associate with the United States of today.

Corner, whose ancestors had emigrated from England to Maryland in the eighteenth century, was brought up in comfortable circumstances and qualified in medicine at Johns Hopkins in 1913. He then embarked on a career of teaching and research. The book describes his steady progress in a series of anatomical posts from Johns Hopkins, where the famous embryologist Franklin Mall was his mentor; to Berkeley, where he was an associate of Herbert M. Evans; and then to the new Medical School at Rochester, where for seventeen years he was head of the Anatomy Department. He then returned to Baltimore as Director of the Department of Embryology in the Carnegie Institution of Washington. Corner did pioneer research work in the field of reproductive physiology, and the studies which led to the association of his name, together with that of Willard Allen, with the discovery of the hormone of the corpus luteum, are faithfully described.

After retiring at the age of sixty from his Baltimore post, Corner spent five years at the Rockefeller Institute pursuing his other passion – medical history. He then moved to Philadelphia as Executive Officer of the American Philosophical Society, the most ancient and in many ways prestigious of America's learned institutions. Here he remained almost to the end of his life – one of whose richness he writes with charm in what has proved to be the last of many books of which he was the author.

Although the autobiography came out posthumously, George Corner waited to die long

Book Reviews

enough to correct the proofs and to inscribe presentation cards for the author's copies which he instructed his publisher to send to his friends, among whom I was always proud to be counted.

Solly Zuckerman

RONALD L. NUMBERS and JUDITH WALZER LEAVITT (editors), *Wisconsin medicine. Historical perspectives*, Madison and London, University of Wisconsin Press, 1981, 8vo, pp. xi, 212, illus., \$18.50.

This is a collection of eleven papers delivered at a bicentennial symposium in 1976. Wisconsin, a State only since 1848, deserved such a study because it was not only typical for the Mid-west, but a medical pioneer in many respects. Early medicine was, of course, rural and dominated by malaria. Around 1900, the horse-and-buggy doctor began to be replaced by the telephone-and-automobile doctor. Progress in surgery made practice shift towards hospitals, and group practice began in 1916. The health problems of the cities were overcome by 1920. All this and the subjects of medical sects, societies, and education are discussed in the eleven contributions. The book is very well produced: use of sources, style, editing, bibliographies, index, and illustrations. It is primarily a social history of Wisconsin medicine. This is not surprising, as among the eleven authors is only one M.D. (six are graduate students); and impersonal social history of medicine is fashionable. As I wrote one of the first monographs in the social history of medicine fifty years ago, may I be allowed to plead for the rediscovery of the medical history of medicine? It exists too.

Erwin H. Ackerknecht
Zürich

UFFE J. JENSEN and ROM HARRÉ (editors), *The philosophy of evolution*, Brighton, Harvester Press, 1981, 8vo, pp. vii, 299, £22.50.

Darwinism has been with us for over 120 years, and other forms of evolutionism outstrip that period. Ever since Darwin dispatched his *Origin* to John Murray, philosophers have speculated about the range of phenomena which might be understood via an evolutionary perspective. Is there some kind of analogue of Darwinian evolution by natural selection controlling social change, for example? And, if so, then what are the analogues of mutation and selection? At a more abstract level, it is tempting to suppose that changes over time in the corpus of scientific knowledge (or belief) – changes like those involved in going from Copernicus to Kepler and from Newton to Einstein – constitute a definite evolution towards higher levels not of fitness, but of truth. Staying closer to Darwin, the philosopher sees that the basic model itself is not unproblematical – that there are all sorts of difficulties surrounding the meaning of “natural selection” and the question of what are the very units of selection. In other words, evolution presents philosophical issues at a variety of levels, and it is the merit of this book, based upon the contributions to an Aarhus symposium, that it tackles all the levels.

The number of essays (fifteen) and their diversity present a problem for the reviewer, but it is worth mentioning the essay by David Hull on the units of evolution, which is timely given Gould's recent reintroduction of the notion of species selection into evolutionary theory. Also notable is Harré's essay on the evolutionary analogy in social explanation, wherein he argues that the social analogues of genes are social rules. He concludes that despite the pitfalls facing anyone overlooking disanalogies between the social and the biological case, the use of the mutation/selection model is of value insofar as it allows the construction of explanations in the social sphere which do not entail a positive causality between the environment and practices adapted to it.

For the “pure” philosopher, the final section is the most exciting, comprising an essay by J. Mittelstrasse, followed by a debate between Laurens Laudan and Bill Newton-Smith on the thorny issue of whether, and, if so, in what way, scientific change may be regarded as taking us from a lesser to a greater truth. Laudan offers a “refutation of convergent realism” intended to show that it is better to see science as progressing by maximizing its problem-solving capacity