

Book Reviews

that time not given the credit that they now receive. Garrod was an individual who was far ahead of his time. He owed much to fellow scientists such as Sir Frederick Gowland Hopkins, whom he had known at Guy's Hospital before he went to Cambridge. There was also a close affinity between his own ideas and those of J. B. S. Haldane.

On a personal level it is not surprising that in later life he became somewhat withdrawn, but he always inspired the greatest respect and regard for his scientific work. The single gene, single enzyme hypothesis for which Beadle and Tatum are so rightly regarded owed much to Garrod's work, although Bearn believes that in his tribute to Garrod in his 1958 Nobel lecture, Beadle was "almost overgenerous".

Alexander Bearn's biography, prefaced by an adulatory account of Garrod by the Nobel Laureates Joseph L. Goldstein and M. S. Brown, themselves clinician scientists in the Garrod tradition, is an outstanding contribution to modern scientific biography.

Christopher Booth, Royal College of Physicians of London

STEWART WOLF, *Brain, mind, and medicine: Charles Richet and the origins of physiological psychology*, New Brunswick and London, Transaction Publishers, 1993, pp. xix, 214, illus., £38.95 (1-56000-063-5).

Unfortunately, this is not a good book. The author, a professor of medicine at Temple University School of Medicine, has worked on the family history, talked with descendants, tracked down sources, and assembled a Richet bibliography of nearly 750 items. But the result does not really go beyond a surface commentary. The book is rather wooden as biography—there is little of the depth of insight into a person's private world, professional and political circumstances, and wider culture that makes a subject memorable. Admittedly, Richet is not an easy historical subject to pin down: "His curiosity was boundless, as was his desire to excel in each of his endeavors, but he shifted from one to another at his whim as each seemed important to his goal of human improvement" (p. 3). The study is also unsatisfactory as a history of scientific medicine since, though Richet's career and activity is detailed, there is little critical examination of what his contemporaries perceived his contributions to be or of how Richet's work related to research as a communal activity. I did not come away from this book with a clear idea of Richet's place in the development of knowledge (especially immunology). Finally, the book has not been properly proof-read and elementary errors remain.

Charles Richet was a highly individualistic man with a vast range of interests, who lived his own life—often away from the laboratory. Appointed professor of medicine in 1887, a position he held until 1925, and elected to the Académie des Sciences in 1914, he nevertheless remained a mercurial and even marginal figure in relation to the medical establishment. His Nobel Prize in 1913 was for the discovery of anaphylaxis, the sensitization of animals to repeated weak injections, allowing for a period of incubation, of a toxin. This now appears one of many studies revealing aspects of the extremely complex immune system. Richet's contribution—though it seems his contemporaries never saw it—was to conceive of symptoms of illness as the body's protective response to disease rather than as the direct effect of invasive agents. For Richet, it exemplified his long standing interest in what he called "the defence of the organism", the body's adaptive efforts to protect itself. Stewart Wolf makes this the leitmotiv of Richet's work, using it suggestively to link Richet's experimental studies with his social values—his crass advocacy of eugenics and his pacifism (also a means to preserve human potential). Because Richet concluded that the nervous system is central to defence, Wolf hails him as a founder of physiological psychology. What I miss is a picture of how such a subject was constituted and where Richet fits in. Little of the existing literature is referred to and where there are comments on the intellectual background they are badly unreliable.

Richet was probably best known to the public of his day for his support of the reality of psychic phenomena, notably, the materialization of ectoplasm. There is a French literature, especially by Jacqueline Carroy which is not referred to, on the significance of this for psychology in France. Richet is interesting as a materialist supporter of "spiritualist" phenomena, someone who—as in his support for eugenics—saw no limits to the scientific world-view and had a deep ambition to show his colleagues that he had opened up new areas and contributed to the future of mankind.

Roger Smith, Lancaster University