

## Book Reviews

impressive range of graphics, pictorial and otherwise, pertaining to Colorado medicine to illustrate this book. Even though much of the illustrative material may have come from the author's personal collection, it would have been useful to other historians if the sources of the graphic material had been provided.

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E. H. BURROWS, *Pioneers and early years. A history of British radiology*, Alderney, Colophon, 1986, 4to, pp. viii, 264, illus., £32.50.

E. H. Burrows sets out to describe the history of diagnostic radiology from its birth in the late-nineteenth century to 1930. He begins by documenting the discovery of X-rays and its British reception. Outlining the early history of British experimentation on X-rays, Burrows goes on to chronicle the establishment of hospital X-ray departments and the professional structure of radiology—journals, diplomas, and so on. He concludes with descriptions of the use of X-rays in war, and a history of radiation injury and protection. The text is pitted with short biographies of major radiologists and others associated with X-rays, which unhappily interrupt the narrative. (It would have been easier to read if they had been marshalled together as an appendix.) However, Burrows has uncovered a wealth of useful information on the early history of British radiology.

Unfortunately, Burrows' discussion is flawed by the lack of an explanatory framework. He is unfamiliar with the literature on the medical division of labour. His story flows onward, seemingly interrupted only by technical difficulties easily or quickly resolved. But even his own narrative later hints that the difficulties might have been more than technical. For instance, he quotes the Liverpool radiologist, Thurstan Holland, who stated that deplorably few teaching hospitals accepted radiologists as full members of staff. However, the preceding discussion on the formation of radiological departments in teaching hospitals provides no indication of this. Again, Burrows quotes Holland to show that radiologists wanted to exclude other doctors and radiographers from the interpretation of X-ray images. However, the earlier narrative gives no hint of any local discussion on the matter.

Burrows never makes his criteria clear for deciding what contributes to the birth and growth of clinical radiology. What forces moulded the discipline? Central to his discussion is the emergence of a self-styled specialist élite of medical radiologists, but Burrows largely accepts their own account. Sadly, a number of other voices are lost. Burrows generally echoes the radiologists' own claims that they provided the best interpretation of X-ray images. This was a common claim, but is largely unsubstantiated. There is ample evidence to show that other medical practitioners were happy enough to interpret their own plates, films, or screens, or even rely on the lay radiographer's interpretation. Were these practitioners wrong? How do we decide where the legitimate claims of radiologists ended and their professional aspirations began? How do we determine who should have been excluded from interpretation of radiographic images when what counted as expertise in this field was defined by radiologists as an incommunicable "art"? These are not questions of determining the sincerity of radiologists, but are ones of historical methodology. What significance should be attached to texts? Of course radiologists claimed to be better than their competitors, but how are we to assess this claim? Disappointingly, Burrows does not escape the mire of contemporary rhetoric, and the mud sticks.

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MICHAEL M. SOKAL (editor), *Psychological testing and American society 1890-1930*, New Brunswick and London, Rutgers University Press, 1987, 8vo, pp. ix, 205, \$28.00.

This is an excellent and unusually unified collection of essays, extending the literature linking professional social science to the transformation of American society into its modern urban, meritocratic, and technocratic form. It is a happy choice to dedicate the volume to John C.

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Burnham, who did much in the 1960s to explore the relation between the new psychologies and the ideals of social management gaining prominence in the “Progressive Era”. Essays included here discuss the development of “expert” measurement techniques for human attributes from Cattell’s anthropometric studies in the 1890s, through Goddard’s (1910) use of Binet’s work to classify the feeble-minded, through Yerkes’s and Terman’s adaptation of testing to conditions of mass mobilization in World War I, into the 1920s, when testing became bound up with recognizing environmental as well as hereditarian conceptions of deviance.

The essays give additional authority to criticisms (still unassimilated by psychologists or physicians) of inaccurate accounts: of Goddard’s hereditarianism, the boost given to testing by the army in 1917-18, and the centrality of intelligence testing to the passing of the Immigration Restriction Act (1924). More substantially, these essays provide a readable review of the occupational and social circumstances in which testing achieved its lasting position in psychological practice. It comes across very strongly (as the editor emphasizes) how practical occupational difficulties fostered *specific* quantitative techniques. This is exemplified by the need facing Goddard and other specialists of feeble-mindedness to establish classifications of their charges. The authors therefore demonstrate the value to historians of attending to the way practice generates forms of understanding.

It is also a striking theme in these essays, though one developed explicitly only in Leila Zenderland’s paper on Goddard, how much medicine provided occupational and cognitive models and a ready audience for the new psychological testing profession: “It was American physicians, not educators nor even academic psychologists, who first granted intelligence tests scientific legitimacy” (p.47). While it was the typically clinical problem of classification that fostered Goddard’s work at the New Jersey Training School for Feebleminded Boys and Girls, it is also interesting to note (for example) Yerkes’s development of diagnostic mental testing as a service to the Boston State Hospital before World War I. Medicine was more than just metaphor or model for the psychologists, but actually constituted a substantial part of the occupational practices through which testing came into existence. Ironically (as Hamilton Cravens’s essay on the Ohio Bureau of Juvenile Research in the early 1920s shows), both Goddard and the new testing soon brought psychologists into occupational conflict with traditional medicine.

The differences between individual and mass test purposes and practices are important here. A short, provocative piece by Franz Samelson describes the introduction of the multiple-choice test, “the indispensable vehicle for the dramatic growth of mass testing” (p.116), and speculates on both its social consequences and the lack of serious investigation into its worth. It would be interesting to have his ideas as to how historians could go about opening up such issues.

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NICHOLAAS A. RUPKE (editor), *Vivisection in historical perspective*, London, Croom Helm, 1987, 8vo, pp. x, 373, illus., £45.00.

The publication in 1975 of R. D. French’s *Antivivisection and medical science in Victorian Society* (Princeton University Press) was a major contribution to the understanding of the development of animal experimentation, and the increased organization of those opposed to it, in nineteenth-century Britain. In particular, French detailed much of the controversy and debate that resulted in the 1876 Cruelty to Animals Act, legislation that was intended to regulate animal experimentation: the first such attempt in the world. The present volume of essays owes much to that earlier book, but now extends and explores the debates both temporally and geographically, and highlights some particular aspects of the role of animal experimentation and vivisection in scientific practice and culture.

The chapters on the national debates during the mid- and late-nineteenth century in England (Rupke), Sweden (Bromander), America (Lederer), and Germany and Switzerland (Tröhler and Maehle) provide interesting contrasts and comparisons. As emphasized by Sir William Paton in his epilogue, the role of powerfully motivated individuals is a striking feature of both sides of