useful complement to existing studies on madness in early modern China.

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Louis Rosenfeld, Four centuries of clinical chemistry, Amsterdam, Gordon and Breach Science Publishers, 1999, pp. xvii, 562, illus., £91.00 (hardback 90-5699-645-2).

The history of clinical chemistry, particularly in the last hundred years, has been sadly neglected by historians. Biochemistry, its academic parent, has had at least some attention, but the rethinking of disease in metabolic terms and, more important, the ways in which that rethinking was realized through technology have scarcely been considered. No doubt this is in part because of the technical knowledge demanded of any interpreter and, of course, of how little twentiethcentury disciplinary knowledge has been the object of history. In Louis Rosenfeld clinical chemistry has found a champion to whom historians, certainly this one, can be immensely grateful.

This is not to say this book will find more than a small readership among historians and even for readership insert "consulting audience". Four centuries, for a start, was very ambitious. The earlier material on, for instance, Sylvius, Boyle and Lavoisier is hardly unknown. The historical approach, as the book's title suggests, most readers will find outdated. None the less, Rosenfeld aspires when dealing with early material to be as thorough in his research and meticulous in his footnoting as he is with the later history that he knows so well. When he moves into the late nineteenth and early twentieth century, Rosenfeld comes into his own. His command of the technical knowledge of clinical chemistry is enviable. No work of this comprehensiveness exists. The book is not in fact organized on strictly chronological lines although the later chapters do have a predominantly modern flavour. Chemicals, machines, people, commercial companies and much else besides all serve as sub-headings.

In many ways the first fifty years of the twentieth century were the golden age of clinical chemistry. The late nineteenth century had seen the identification of many of the body's chemicals or at least the broad groups into which later discoveries would be placed. But the early twentieth century saw two related developments: the invention of relatively simple tests for these substances and the institutionalization of these tests in hospital laboratories so that examination of the blood's chemistry began to become routine. This, of course, stimulated the creation of a profession of clinical chemistry. In these developments America largely led and the rest of the world followed. The names of the men who built this field are still synonymous with chemical solutions and tests: Stanley Benedict at Cornell. Otto Folin at Harvard and Donald Van Slyke at the Rockefeller Hospital in New York. The post-Second World War years saw, in many ways, a building on these foundations rather than any radical departure from them. With the routinization and mechanization of testing and the massive employment of tests by physicians, clinical chemistry arrived. Arrived indeed to the extent that the use of tests is now cause for concern. Rosenfeld touches on all aspects of this story and, throughout, his footnotes are a source of gold. Although he attempts to grapple with all aspects of the discipline, this is by no means an integrated modern history, rather it is a work of the extremely knowledgeable enthusiast. I for one will continue to refer to it constantly as I grapple with the history of clinical chemistry in the 1920s. Other historians doing similar work in the modern period would be advised to do the same.

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