J. R. Smith's monograph does not completely fill this gap; but in its modest and carefully researched way it presents us with the best account yet — albeit one essentially geographically circumscribed to the Eastern Counties — of the social response to surely the most serious and feared epidemic disease from Stuart to Edwardian times. Smith's local researches in Essex confirm that smallpox mortality was often extremely high. Plenty of Georgian reports speak of villages being deprived of a tenth, or even a sixth of their inhabitants. But the costs were much wider, for the closing of markets and the curbing of economic activity which outbreaks required often brought misery and poverty to communities (and as a result, heightened susceptibility to other diseases). Smith shows that magistrates under the Old Poor Law were often generous and active in coping with outbreaks, and numerous pesthouses were brought into operation.

But the real breakthrough came with the activities of the Sutton family, and other local general practitioners, in pioneering cheap, fast, efficient, and largely *safe* inoculation from mid-century. Here Smith confirms Zwanenberg's earlier account of the positive success of Suttonian inoculation. He also underlines how astute were the Suttons as businessmen (they even hired a clergymen to sing the praises of inoculation from the pulpit), and how speedily their services were adopted by magistrates and corporations.

One wishes Smith's analysis were equally full on the Victorian period, for scholars have yet to explain in detail why the advent of vaccination made relatively slow inroads into these lethal epidemics, and also why religious and libertarian opposition to vaccination steadily grew to a peak around the 1890s. Organized anti-vaccination opinion was never very powerful in Essex, unlike in some counties, though a group of religious fundamentalists around Southend, the Peculiar People, successfully defied the law in the 1890s. Smith hints that the shift from essentially "private enterprise" inoculation to vaccination within the legal framework of Victorian public health may have triggered resistance; but further research is required before we shall know for certain whether the anti-vaccination leagues were true barometers of public opinion or little more than noisy but narrow cliques.

Dr Smith combines local and national concerns with skill, and makes particularly effective use of newspaper sources. His book is strongly to be recommended to all interested in the fine texture of medical and social responses to epidemic diseases.

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NEGLEY HARTE, *The University of London 1836–1986. An illustrated history,* London, Athlone Press, 1986, 4to, pp. 303, illus., £11.95 (£4.95 paperback).

Negley Harte made his début as a historian of higher education as a co-author of *The world of University College London, 1828–1978* (1978). Given the undoubted importance for medicine of the Godless institution in Gower Street, it is curious that this book was not reviewed in this journal. Recently, Harte has turned his attention to the challenge occasioned by a second and related sesquicentenary, that of the University of London, established in 1836 as a mere examining board. As HRH the Princess Anne, the Chancellor, remarks in a pithy foreword, her University is unique among British universities in its scale, its federal structure, and its connexion with the Commonwealth. Its size is now daunting: it consists of thirty-seven different institutions, one of which itself consists of twelve institutes.

To cover fully the historical development of such a large and sprawling university would require several tomes analogous to the eight volumes of *The history of the University of Oxford,* of which three volumes have been published to date. Harte has wisely avoided such a mammoth task. Instead, he gives a penetrating overview of the University's history, recording its controversies and compromises as well as its triumphs. In addition, he offers no fewer than 366 very well-chosen illustrations. With its telling and sometimes comical epigraphs, Harte's book is an admirable model of popular but not patronising writing: every sentence is informed by easily-carried scholarship, including knowledge of pertinent archives. For readers of this journal, Harte gives a useful synoptic picture of how the University came to achieve primacy in

the field of medical education, beginning with its origins in the London hospitals and concluding with the ructions engendered by two reports on medical education, that of the Royal Commission chaired by Lord Todd (1968) and the internal one produced by Lord Flowers (1980). Harte is particularly illuminating on the changing relations between the medical schools and the University. Indeed, this is just one of the many benefits to be gained from this delightful, instructive, and amusing book, which will be widely enjoyed by specialists and common readers alike.

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WILLIAM COLEMAN, *Yellow fever in the north. The methods of early epidemiology*, Madison and London, University of Wisconsin Press, 1987, 8vo, pp.xvi, 202, illus., $45.00 ($19.95 paperback).

This is an analysis of the development of epidemiological thinking and methodology during the middle of the nineteenth century, prior to the recognition of the microbiological causes of communicable diseases; and also of three nineteenth-century European yellow fever epidemics. These are interspersed with discussion of the contemporary controversy between contagionists and non-contagionists and of its influence on the evolution of quarantine and other sanitary measures for the control of epidemics.

Epidemiology, in the sense of tracing the spread of epidemic disease and characterizing its behaviour, has its roots as far back as classical Greek medicine. However, it remained ill-defined, particularly in its methodology, until, during the first three or four decades of the nineteenth century, it assumed the role of seeking to identify the local conditions, generally atmospheric or climatic, believed to favour or hinder the spread of epidemics; within the general concept that they arose by transmutation of fevers current in the locality. From around 1840, the methodology comprised identification of, and enquiry into, the circumstances of each case (particularly the first case). Cases were determined by a clinical syndrome recognized as diagnostic of a particular disease, which itself was recognized as having a characteristic pattern of spread. By then, both the study and control of epidemics were influenced by improved communications — railways and telegraph. Statistical analysis emerged in the second and third decades and, although used by other epidemiologists by 1860, was not employed in the studies of the yellow fever epidemics of 1861 and 1865. With the advent of microbiological diagnosis, in the last two decades of the century, mild and subclinical cases of disease could increasingly be identified and previously indeterminate gaps in the spread of an epidemic more readily delineated. Epidemiology thus became increasingly built on aetiological reasoning, on the characters and behaviour of the causative micro-organisms, and on transmission mechanisms; and thence to focus on the search for chemical, environmental, and behavioural causes for diseases.

The first epidemic reviewed was of some 5,000 cases with over 1,000 deaths in Gibraltar in 1828. The main investigation was carried out by a French commission of which Chervin was the principal character — it arrived, however, only in the terminal stages of the epidemic, too late to investigate adequately the initial stages. Although reports of French observers of the Barcelona epidemic of 1821 had strongly suggested that the disease had been imported, Chervin held to his belief that yellow fever was a severe form of paludic fever and that the epidemic was accounted for by local environmental conditions; he continued, however, to assure the authorities that yellow fever was non-contagious. The St Nazaire epidemic of 1861 was thoroughly investigated by Melier, who clearly showed that the disease had been imported by ship from Havana, although he was unable to determine how. He was able to establish the range of the incubation period of the disease. He noted that the cargo was not infective after removal from the ship; and the epidemic was apparently terminated by disinfection of the ship and cargo. He found no evidence of transmission from case to case but considered that sick individuals "made a contribution" to its spread. Buchanan, following exemplary case-tracing of the Swansea epidemic of 1865,