

science and culture separate and then to show ways in which the two were “integrated”, “linked”, “fused”, “blended”, “synthesized”, “amalgamated”. A consequence is that naturalistic explanations are treated less as gendered products than as tappable sources serving medieval constructions of gender. For some readers, the primary material Cadden presents will have considerably greater interest than the syntheses of secondary literature used to define medieval culture at large. Yet the author has likely judged rightly the needs of her burgeoning field: she provides a well-informed introduction to a little-known body of material, fully “contextualized” and integrated into existing scholarship.

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**Hugo Kupferschmidt**, *Die Epidemiologie der Pest. Der Konzeptwandel in der Erforschung der Infektionsketten seit der Entdeckung des Pesterregers im Jahre 1894, Gesnerus* Supplement No. 43, Aarau, Verlag Sauerländer, 1993, pp. xiv, 222, SwFr 36.00 (3-7941-3722-1).

Some of the most dramatic developments in the long history of the plague occurred at the turn of the century, as the outbreak of the third great plague pandemic witnessed the spread of the disease from the interior of China and Mongolia to Canton, Shanghai, and Hong Kong in 1894, and from there on to the other main ports of Asia, India, and the west coast of the United States. Intensive research by European and Chinese epidemiologists, provoked by the death of millions in south and east Asia over the next two decades, led in rapid succession to the discovery of the plague bacillus, the role of the rat in the transmission of the disease, and then the even more important role of fleas. These fundamental breakthroughs were elaborated and refined in the first thirty years of the century, and in the 1940s and 1950s progress was made in drug therapy and development of a vaccine.

The story has been told before, of course: most notably by L Fabian Hirst (1953) and

Robert Pollitzer (1954), and along more popular lines by Charles T Gregg (1978). Kupferschmidt, like his eminent predecessors of forty years ago, comes to his topic from a medical background; but whereas Hirst and Pollitzer wrote from a perspective of long-term professional involvement in the fight against plague, Kupferschmidt, based at the Medizinhistorisches Institut of the University of Zurich, has been perhaps better placed to offer a more objective view. Certainly the foundation of research upon which he could rely is much fuller; this includes such works as the autobiography of Wu Lien-Teh (1959), the varied contributions of Marcel Baltazard (1959–63), and the biography of Alexandre Yersin by Henri H Mollaret and Jacqueline Brossollet (1985), to name but a few.

Apart from offering a more current account, Kupferschmidt's book differs from its predecessors in several important ways. First, it presents the dramatic advance in knowledge of plague in terms more clearly revolving around the achievements of key individuals. The fundamental contributions of such researchers as Yersin and Paul Simond have not, of course, been neglected in previous studies, but Kupferschmidt specifically attributes to them an impact and significance greater than, for example, the various plague commissions, and assigns particular importance to key works. If this approach poses difficulties in some areas (e.g., is the final report of a plague commission a sufficient basis for assessment of the importance of that commission's historical role?), in others it is very useful. It is well worth asking, for example, whether certain works still merit the crucially influential status they have long been granted in historical research on the plague, especially in Anglo-American circles.

Second, and closely related to the above, Kupferschmidt challenges the doctrine that without rats and their fleas there can be no major outbreak of plague. This proposition was argued most vehemently by Hirst in the 1920s and achieved the status of epidemiological orthodoxy in his classic *The conquest of plague*. Many have followed Hirst in this view,

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but, as Kupferschmidt rightly argues here, it was already overturned by French investigations in the Near East in the decade after the publication of Hirst's study. It is now clear that there are three primary means for the spread of plague: (1) transmission by sylvatic rodent populations, which in man results in sporadic endemic plague; (2) major outbreaks in rat populations, which cause pandemic plague in man through transmission by infected rat fleas; and (3) direct infection of one human victim by another, either by droplet infection through the air (as in pneumonic plague) or by human insect parasites, in particular human fleas (bubonic plague). All three of these means are potentially of equal importance, and their relative role depends on prevailing local conditions. For historians this paradigm makes far better sense of the historical record: none of the medieval European or Islamic plague treatises written in the wake of the Black Death in the mid-fourteenth century mentions the vast mortality among rats that would be required by Hirst's doctrine, and in the gaps between the major pandemics there are sporadic reports of local outbreaks or individual cases that are difficult to orient within a rigid schema of rat-based infection.

Perhaps most striking of all is the difference in the overarching attitude toward the endeavour of epidemiology that is so clearly evident in this book, as opposed to its illustrious predecessors. At the hands of Hirst and Pollitzer, writing in the context of a medical science that was discovering miracle drugs and magic bullets, the story of the modern study of plague is largely told—if not emotionally so—in terms of military metaphor, as the account of the victor over the vanquished. For them, plague is a disease subdued and defeated, conquered by modern science. For Kupferschmidt, taking up the same topic in the era of AIDS and other developments calling into question the agenda and efficacy of modern science, plague remains a smouldering threat whose former terrors can once again burst forth against mankind at any time. There is much to ponder here on the influence that cultural context brings to bear on

the course and conclusions of scientific thought.

If there is any particular weakness to this book, this would be its discussions, albeit brief ones, of plague prior to the late nineteenth century. For these matters it relies on such long-outdated works as Georg Sticker's *Abhandlungen* (1908–10) and takes no meaningful account of recent historical research on the first two plague pandemics, those associated with the so-called Plague of Justinian in the sixth century and the Black Death in the fourteenth.

But this is a book about the plague and the effort to control and eradicate it since 1894, and in this area it is a very well researched and argued study. One can easily see why it gained the author the Sigerist Prize for 1993, and it is certainly a work that all medical historians and other researchers working on the plague should take seriously into account.

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Charles F Clark, *AIDS and the arrows of pestilence*, Golden, Colorado, Fulcrum Publishing, 1994, pp. xvii, 171, illus., \$23.95 (1-55591-146-3).

Charles F Clark, the author of this book, was a psychiatrist working in NATO Headquarters in Belgium when he first became interested in AIDS. It became apparent to him that each NATO country reacted to the syndrome in a way which was conditioned by its own history and culture.

Clark began to use an historical approach as part of teaching about HIV/AIDS. This book is the result. The early chapters are an historical synthesis, strongly influenced by William McNeill's *Plagues and peoples*, in which Clark examines the impact of epidemic disease on various societies through migration and other means. The recent history of AIDS in the United States is then used to point a number of political morals, among them, the need for radical reform of the U.S. health care system; the legalization of heroin; and the need for