In each of the subjects under discussion there were intense efforts to determine chemically the active constituent of the medicine. It was success in this field, with the isolation of the alkaloidal constituents of opium, cinchona bark and nux vomica in the first decades of the nineteenth century, that supported the view that scientific pharmacology had its origins at that time. In this interesting monograph the author argues that experimental pharmacology and therapeutic innovation were already prominent features in eighteenth-century practice.

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Richard Allen, *David Hartley on human nature*, SUNY series in the Philosophy of Psychology, State University of New York Press, 1999, pp. xxiv, 469, $24.95 (paperback 0-7914-4234-9).

Though arguably amongst the half-dozen leading intellectuals of eighteenth-century England and a man of immense influence in psychology and pedagogics, David Hartley has been oddly neglected: he rarely makes more than a passing appearance in histories of the Enlightenment and there is no recent biography. Amends have partly been made in Richard C Allen's study—a work which combines deep erudition with a very congenial manner and an engaging prose style (it is, all too predictably, the work of someone who is not currently an academic).

It should be made clear from the outset that, though investigating particular episodes of Hartley's life in some detail, for instance his suffering from the stone and quest for a lithontriptic—matters now dealt with more satisfactorily in Andreas-Holger Maehle's *Drugs on trial: experimental pharmacology and therapeutic innovation in the eighteenth century* (Amsterdam, Rodopi, 1999)—this is not a conventional biography. In particular, it is frustrating that Allen has so little to say about Hartley's crucial Cambridge years and contacts.

The focus of Allen's attention is Hartley's *Observations on man, his frame, his duty, and his expectations*, published in two volumes in 1749. That is a work whose significance has often been touted by those, from Joseph Priestley onwards, who have butchered or twisted it in various ways for their own ends. In his re-edition of the *Observations*, Priestley for his part, while at least valuing Hartley's materialism, completely expunged his theory of nervous vibrations; while later Utilitarians, though setting him up as one of their forefathers, pretended that Hartley had written a secular theory and thereby entirely ignored the second volume. Allen aims to restore the *Observations* to its original historical context and to recover Hartley's intentions.

In that endeavour he is largely successful. He is equally well-read in modern scholarship on, and expert in the byways of, early-Georgian philosophy of mind and neurological controversy (were the nerves hollow or not?), and so proves very effective in explicating the theory of nervous vibrations which was (literally) the pith and marrow of the physiological-psychology which made Hartley's theory of human nature so distinctive. In this regard, Allen rightly stresses the salience to Hartley of Newton's *Opticks* and its notions of the vibrations of light—that is why this book's lack of interest in Hartley's Cambridge career is so frustrating! Allen is also strong in re-establishing the religious framework of Hartley's materialism. That was, as so often in the English Enlightenment, in part the product of a temper radically unsympathetic to the verbal gibberish of a spiritual realm comprised of "fictive entities". But it also followed from a

quasi-mystical conviction, shared with such friends as John Byrom, that God infused all matter. Hartley, it might be said, denied the immaterial aspects of man so that he could sacralize the material. Allen suggestively hints at parallels with George Cheyne: one wishes that they had been followed up more systematically.

Allen analyses Hartley with skill and brio. Historically, I felt some trepidations at his eagerness to assimilate Hartley's thinking with aspects of modern dynamic psychology and physics—Jung for instance and Michio Kaku's *Hyperspace: a scientific Odyssey through the 10th dimension* (1995)—yet another mucking around with Hartley for contemporary purposes. And his sympathies for Hartley's holistic mysticism sometimes run to the point of endorsement. These, however, if slightly obtrusive, do not corrupt the interpretations offered in a highly enjoyable book which will help to restore Hartley to his deserved prominence.

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Heather Bell, *Frontiers of medicine in the Anglo-Egyptian Sudan 1899–1940*, Oxford Historical Monographs, Oxford, Clarendon Press, 1999, £40 (0-19-820749-2).

As the author states in her opening sentence, this book is about the concept of colonial medicine, as evidenced in the Anglo–Egyptian Sudan. Appropriately, Bell begins by defining both colonial and medicine. In her account a colony is the unit for analysis. She contrasts this with histories of imperial and tropical medicine, the result of a broader sweep. However, this historiography has clearly informed her arguments. Her definition encompasses a fluid framework to discuss ways in which the colonizers worked and the colonized responded. Medicine is an amalgam of scientific enquiry, laboratory and field research, mass treatment campaigns, education of local doctors, auxiliaries, midwives and attempts to educate segments of the population to conduct their lives in healthy ways. This is a less radical definition and is not quite as problematic as suggested. Contemporaries may have debated the relative efficacy of quininization versus anti-anopheline measures, but many acknowledged the breadth of medical intervention necessary and its effects on the promotion of health, even if this was in some instances predominantly socially mediated via attempts at public health education and ultimately unrealizable. Her subsequent discussion of the continuum of medicine and politics, illustrated by debates over the emotive subject of female circumcision, are thought-provoking.

Bell takes us through a series of well-researched examples, for instance the histories of specific diseases and measures to combat them (schistosomiasis, malaria, sleeping sickness and yellow fever) and the negotiated development of various programmes, such as the Midwifery Training School in Omdurman. The result is a thematic study with some overlap in the chronology, which discusses the provision, aims and shape of health-care in the Sudan. This is necessarily refined by her demonstration of the effects of race but also of gender and class. While the centre–periphery debate and inter-colony analyses have provided much for the historian to mull over, Bell illustrates the results of teasing out the history of a defined area. Indeed this gives her licence to explore the meanings of frontiers and boundaries. Against the certainty of delineated boundaries, relatively easily determined from accurately drawn maps and once taken as representative of a single ideology, Bell juxtaposes the uncertainty of the limits of colonial