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 wellresearched 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 intercolony 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

power. The strength of this book lies in the care with which the definition of colonial medicine is made to interact with the shifting ideologies underpinning the British presence in the Sudan. Colonial encounters are described in a language of accommodated power always modified by the responses and/or collusion of the colonized. In the case of the sleeping sickness camps, authority relied upon the co-operation of the population within and without the camp. Attempts to understand and deal with yellow fever extended the colonial presence, but showed how when it needed to be at its strongest it was, in fact, at its weakest.

Bell interprets the governance of the Sudan, via the Foreign Office not the Colonial Office, and the effects of the changing status of Egypt as significant. In the main, as is her intention, the ideologies discussed are those of the colonizers, but there is an appropriate interweaving and questioning of the views of the colonized such as indigenous administrators and Sudanese practitioners of western medicine at various levels in the medical hierarchy. Moreover, Bell provides insights into the opinions of different groups of non-Europeans as they function amidst the demands of colonial rule and the imposition of external values. In the case of the labourers working on the Gezira cotton fields, perceptions of "Westerners" (immigrants from West Africa) shaped by a medical discourse, are articulated among the local Sudanese. Similarly the appropriateness or otherwise of indigenous midwives is an object of discussion and action among the educated elite in urban centres. Those fearful of the ghost of the imperial apologist might be slightly perturbed by the greater focus on European perceptions. I would argue she has tried and succeeded in illustrating subtlety and diversity in the colonial experience.

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Waltraud Ernst and Bernard Harris (eds), Race, science and medicine, 1700–1960, Studies in the Social History of Medicine, London and New York, Routledge, 1999, pp. ix, 300, £55.00 (0-415-18152-6).

This is an important book. It tackles the complex question of the construction of race and its effects on the medical profession and scientific developments within a variety of contexts: the European colonies, imperial holdings and the metropolises themselves. The papers, arranged chronologically, encompass a breathtaking range of topics, and highlight exactly how controversial and contested the definitions of race remain in contemporary social science research. And this is, very probably, the greatest contribution of this volume: scholars conversant with the issues and topics it raises will assuredly be careful about using overly simplistic notions of the concept of race, which, as the editors and almost all the contributors point out, have limited many of the existing analyses of the complex interconnections between empire, science and medicine.

The contributions of Norris Saakwa-Mante and Hanna Franziska Augstein are significant as they provide the background against which the other studies can be better understood. Saakwa-Mante uses the works of John Atkins, the early eighteenthcentury naval surgeon, on sleeping sickness to show how his notions of "constitutional polygenism", which highlighted the importance of hereditary factors in encouraging the spread of disease. anticipated the racial science of the late eighteenth century. Augstein's focus, on the other hand, is different. Examining the developments in a wide range of national settings during the eighteenth century, she describes the various philosophical and scientific traditions that shaped debates regarding the origin of humankind, particularly the European element.

These papers are followed by two valuable studies examining colonial