chosen to illustrate various themes in the emergence and evolution of chiropractic theory and therapy within the American medical environment. These reflections on the survival of a medical alternative are directed first to the nineteenth-century environment of manual (bonesetting) and harmonial (magnetism, spiritualism) healing traditions so as to expose the roots of the peculiar blend of "poetry with science" that young chiropractic embraced. Founder D D Palmer's mystical pathology, son B J's almost pathological mercantilism, the intramural fervour and fragmentation inspired by both those early leaders ("the chiropractic kaleidoscope"), the eventual housecleaning and bootstrapping leading to marginal respectability, and the "bones of contention" between this upstart group and the medical establishment provide the topics for subsequent chapters. Finally, the flourishing of chiropractic in the holistic era, as poetry with science became fashionable again, provides an insightful summation and the basis for a short speculative postscript on the profession's future. And throughout, Moore maintains a posture that is sympathetic without being worshipful, critical without condemning.

There is nevertheless a certain disjointedness in the structure of the book. Reversing the order of the first two chapters, for example, would provide easier access to chiropractic's formative years, particularly for readers not already versed in the subject. Similarly, it would be useful to know about the cult of "uncritical fidelity" that had grown around Palmer *père et fils* by the 1910s, *before* learning about the falling away of disciples in the 1920s due to the son's commercial exploitation of gadgetry; instead, that development is presented 40 pages later. There are weight imbalances too, some subjects being discussed at length, others, though of comparable import, being handled rather cursorily. There are admirably thorough expositions of the variety of theories and methods among the straights and mixers of early century; of the religious impulse in chiropractic development; of the profession's anti-trust suit against the American Medical Association in recent years. One would like to see as much attention given to matters such as the upgrading of chiropractic education to a status beyond oxymoron, or the struggle to transform the DC's public image. These are relative quibbles, though, for overall Moore's is a complete outline that presents a number of intriguing ideas relevant not only to the maturation of chiropractic, but also to broader issues of conventional and unconventional healing. Photographs (especially of instruments), appendices (lists of chiropractic licensing laws and articles on chiropractic in the popular press), and an extensive bibliographic essay add to the interest and value of the work. Now for a history of naturopathy.

James Whorton, University of Washington

David Arnold, *Colonizing the body: state medicine and epidemic disease in nineteenth-century India*, Berkeley and London, University of California Press, 1993, pp. xii, 354, $45.00 (hardback 0–520–08124–2), $18.00 (paperback 0–520–08295–8).

This study occupies its own particular niche somewhere near the intersection of medicine and history, but it is not the history of medicine in the usual sense. It has to do with the "political epidemiology of colonial India" (p. 202), not the history of disease or biological epidemiology. It is, rather, an innovative examination of the relationship between Western medicine and Indian society in the political setting of British India in the nineteenth century and into the early twentieth, consisting of six essays, each taking up some aspect of the interplay between the two, and together advancing the idea that "Western medicine in India was always involved in a dialectical relationship, caught between the thrust of metropolitan science on the one hand and the gravitational pull of India's perceived needs on the other" (p.18).

After an introduction on the role of colonial medicine in India, each of the following essays deals with a particular aspect of the subject. One takes up the role of British doctors in their assigned duty to protect the health of British soldiers on one hand and Indian prisoners on the other. Three deal with particular diseases—smallpox, cholera, and plague—chosen for the political controversy they aroused rather than their importance as a cause of death. A final essay on "health and hegemony" is a Gramscian analysis of the blend of coercion and consent that finally led to a general, if slow, acceptance of Western medicine in India. Each essay has many fascinating insights into the politics of medicine in nineteenth-century India and into the place of Western medicine in any cross-cultural setting at that time.

In spite of a wealth of detail and the author's deep understanding of Indian politics in the British period, the treatment as a whole is mildly unsatisfying. The crucial problem is its lack of a biological base. Western medicine and Indian medicine alike were trying to intervene in an ecological relationship between pathogens and human beings, but although Arnold cites and quotes liberally from nineteenth-century medical opinion, he does not set that opinion against present biomedical knowledge.

Arnold's acknowledged theoretical indebtedness is revealing. He mentions Michel Foucault, Antonio Gramsci, Susan Sontag, and Edward Said—none of them scientists or historians of science—and he assumes that his readership will be familiar with their work. He writes, for example, that: "Anyone who sets out to try to write a history of the body is inevitably indebted to Michel Foucault". From the perspective of the natural sciences, most biologists who write about the body have never heard of Foucault; and few of those who have would feel much indebted to him.

The title itself is a problem; the verb "to colonize" has a biological as well as a political meaning. *Vibrio cholerae* and *variola major* certainly colonized Indian bodies in the nineteenth century. It is harder to see the sense in which British medical officers might have done so. "Colonize" and "colonialism" are, indeed, used in several different senses. On p. 112, jails and Indian military establishments were "were progressively colonized by Western medical and sanitary practices". At another point "colonialism" too becomes an actor in history, as in: "Colonialism used—or attempted to use—the body as a site for the construction of its own authority, legitimacy, and control." (p. 8).

Interesting as the book is in its treatment of the politics of medicine, it would have been stronger still if the author had paid more attention to the biology and less to Foucault.

Philip D Curtin,
The Johns Hopkins University

Kenneth L Caneva, *Robert Mayer and the conservation of energy*, Princeton University Press, 1993, pp. xxiii, 439, £33.00, $49.50 (0–691–08758–X).

Robert Mayer, a German physician and amateur scientist, was one of the dozen-odd individuals simultaneously groping toward the principle of the conservation of energy during the 1840s. Mayer's priority rests upon his ingenious calculation of the mechanical equivalent of heat (1842), his new ontological conception of force (energy) as an entity capable of existing independently of any material substrate, and his extension of the conservation principle to embrace the energy-economy of the living organism (1845). In this important new book, Kenneth Caneva offers a detailed reconstruction of Mayer's route to the conservation of energy, as well as an exciting analysis of the intellectual context out of which Mayer's thought developed.

Caneva's findings about Mayer are original and provocative. He argues persuasively that Mayer, as a Christian theist, pursued his new ontology of force partly as a counterweight to the threat of philosophical materialism.. Ironically, that doctrine assimilated the new concept of force all too easily, leaving Mayer increasingly isolated by the 1860s in his anti-