

particularly in the biology of the nineteenth century, is a played-out force. It is Nietzsche who interests himself in the political task of avoiding that most disliked of scientific activities as Foucault sees it: the activity of investigation, of surveillance, and of containment. Foucault in that sense is an advocate of a number of tactical responses to the invasive strategies of the human sciences; an advocate of secrecy, as against statistical science; an advocate of immediate punishment as against the humanitarian impulse of a reforming judiciary and an optimistic psychiatry; an advocate of pleasure as against pointlessly accumulated knowledge. The exact nature of Foucault's politics are obscure and will no doubt remain so, but his translator has done him valuable service. Foucault's philosophy has been explicated without being appropriated. And his place as a figure whose theoretical task awaits completion will now be understood by many who may come to feel that they can now join with him, and in that sense aid the completion itself.

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LUCILE H. BROCKWAY, *Science and colonial expansion: the role of the British Royal Botanic Gardens*, New York and London, Academic Press, 1979, 8vo, pp. xvi, 215, illus., \$21.00.

What was it about greenhouses that appealed so much to Victorian imagery? Like a gigantic conservatory, the Crystal Palace was erected in Hyde Park as an architectural monument to Britain's domination of world trade. Not so far away, another glass dome served a similar purpose. The great Palm House at Kew trumpeted the achievements of British botany in the commercial arena, achievements that laid the foundation for a number of highly profitable and strategically important plant-based industries across the globe. Indeed, much of the wealth of the Empire originated from the Royal Botanic Gardens. Great fortunes were built on the transfer of rubber, tea, sugar, coffee, bananas, and other commodities from their native habitat to British dominions and colonies where a similar environment was combined with large pools of available labour. The gardens at Kew played a major role in advising on and supervising such transfers. By studying the horticulture, the plantation management, the harvesting, and replanting of crops, Kew's botanists made it possible to convert scientific knowledge into hard cash.

Lucile H. Brockway's book *The role of the British Royal Botanic Gardens* takes a long cool look at the social and economic effects of such government-sponsored botany. She describes three case histories – rubber, cinchona, and sisal – in an attempt to explain the build-up of colonial industries, the flow of information and advice from Kew, and the changing social relations of the people and nations involved. Her intention is to document the part played by Kew Gardens, and thence science, in the expansion of the British Empire. For the historian of medicine, her book is at its most interesting in its analysis of the dual role of quinine (cinchona bark) as an economic commodity and a life-saving drug. This, and the subsequent chapters on rubber and sisal, are clear and comprehensive. But the author's account of the early history of the gardens is not very original, and she displays little finesse in assessing

the role of institutions in science and society. On a practical level, she seems unaware of such interesting historical issues as the difficult birth of Kew Gardens and its struggle for pre-eminence with the Botany Department of the British Museum. Kew prospered because of its decision to concentrate on economic botany, an area in which the British Museum was unable to operate. The question of the autonomy of government science – as reflected in the Ayrton affair – gets scant treatment, as does the whole topic of professionalization: it is surely wrong to assert that Joseph Hooker inherited an established professional domain (p. 92), when in fact he spent nearly ten years searching for employment and did much to create that domain when, at last, he found it. At a deeper level, Brockway fails to make use of the rich and varied literature on the sociology and history of science, literature which would have transformed and illuminated her thesis. To analyse the political effects of scientific research, and to describe the metamorphosis of botanical knowledge into profit and power, it is not sufficient to skim over the “general intellectual background” and the “personal connexions of the Kew circle”. Scientific knowledge may indeed be the ultimate economic resource, but one has to do more than simply admire the Palm House. Brockway should throw a few stones.

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T. D. WHITTET, *Clerks, bedels and chemical operators of the Society of Apothecaries* (The Gideon Delaune Lecture for 1977), London, Society of Apothecaries, 1981, 8vo, pp. 88, illus., £2.30 (inclusive of postage). (Copies available from Apothecaries' Hall, Black Friars Lane, London E.C.1.)

It is not often that a new source-book becomes available to historians of pharmacy, medicine, and chemistry, so Dr. Whittet's comprehensive work will be much appreciated. Little is known and still less has been written about the officers of the Worshipful Society of Apothecaries, despite its fine collection of records.

It is a continuing tradition to denigrate the apothecary; either he made too much money by overcharging for his drugs (refuted by Adam Smith), or else he lived by doubtful means in squalor (according to William Shakespeare), or he was inadequately trained, and, of course, committed the vulgar crime of indulging in retail trade. Members of the Royal College of Physicians of London in the later Stuart period, as Charles Goodall relates, vented their spleen against their all-too-successful and insubordinate rivals: “We have to deal with a sort of men not of Academical, but Mechanick education; who being either actually engaged in the late Rebellion, or bred up in some mean and contemptible trades, were never taught the duty they owe to God or their Sovereign, to their Native Country or the Laws thereof.”

In fact, almost the reverse is true. The apothecaries were men of substance and standing in the community; the younger sons of county families did not feel it to be beneath them to join their ranks; they were keenly interested in the contemporary intellectual pursuits; and they particularly contributed towards advances in medicine, chemistry, and botany. Douglas Whittet relates the newly discovered story of the Society's close involvement with the development of the Newcomen steam engine, a linchpin of our early industrial advancement. He tells us of the distinguished career of