

his limitations. Yet, the malaria problem would prove to be a task worthy of Ross's relentless search for approval. Quite apart from being a stubborn obstacle to British colonialism in India and elsewhere, the *plasmodia* had become an international phenomenon. It offered Ross a stage for recognition. It also brought Ross and Manson together.

While on furlough in the spring of 1894, Ross solicited Manson's advice when researching his essay for the Parkes Prize competition on 'Malarial fevers: their cause and prevention'. Manson, who served on the selection committee, recruited Ross by stroking his ego with personal gestures of approval. These ranged from invitations to lunch, references to books, demonstrating how to detect the protozoa microscopically, to sharing his mosquito-malaria theory in advance of publication. Even before Ross returned to India, the search for "the beast in the mosquito" had become a consuming preoccupation.

As the new collection of letters between Ross and Manson richly shows, the complexity of the mosquito-malaria relationship required not only a resourceful autodidact but also a flawed personality to follow the theory to its conclusion. Organized chronologically, William Bynum and Caroline Overy have mercifully let Ross and Manson speak in their own words. While the editors do not intrude on the text, they do provide as much context as the reader demands. In addition to a sensible introduction, they furnish a serviceable glossary of technical terms, informative footnotes, a thorough biographical appendix of the men of science referred to in the letters, and an extensive bibliographical appendix. As a resource for the history of discovery, this compelling volume of correspondence will surely interest the professional scholar and lay reader alike.

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John Sutton, *Philosophy and memory traces: Descartes to connectionism*, Cambridge University Press, 1998, pp. xvii, 372, illus., £40.00, \$69.95 (0-521-59194-5).

It is common for writers on cognitive science and neuroscience to deploy historical statements, especially about Descartes, as part of a rhetorical strategy to expose confusion and error. Most such writers are actually indifferent or even antagonistic to history as disciplined knowledge. This book is different. It contributes to the modern philosophy and science of mind by arguing that distributed processing theories of memory are not vulnerable to the criticisms of philosophers opposed to connectionist accounts of mental representations as traces. But it also seeks a "historical cognitive science . . . to demonstrate that it is possible to attend to contexts and brains at once" (p. 1). To attain these ends, John Sutton makes a huge excursus through the early modern theory of the animal spirits, memory and the self. The result is a thickly detailed dialogue with intellectual history, and it will engage scholars, including medical historians, concerned with animal spirits.

Sutton argues that the animal spirits, maligned by modern scientists as a brake on scientific physiology, both permitted an appreciation of memory as a form of distributed processing and mediated social values in the mind. To make these views plausible, he goes in depth into the interpretation of Descartes, John Locke, David Hartley, Thomas Reid, and other (predominantly English-language) authors on mind from the seventeenth and eighteenth centuries. He is intensively involved with Descartes scholarship, now extremely complex on mind-body questions. This book therefore ambitiously engages modern philosophy and science, and intellectual history, and it references a vast secondary and philosophical literature, which anyone wishing to say anything authoritative about Descartes or Locke now

has to negotiate. Sutton is persuasive: knowledge of modern distributive processing, but more especially attention to mechanisms of memory, can make a difference to historical interpretation. He also argues that history can make a difference to modern theories; but here the outcome is not so clear.

The book is extremely scholarly and detailed, and perhaps readers will focus on particular parts, as the author makes possible. There is an overall problem of presentation, as the author is aware: much of the argument is essentially negative—theories of perception and especially memory as associated representations do not have the failings critics attribute to them. The book therefore cites and converses at length with what others have said, and the key arguments tend to get repeated rather than deepened. Pruning would have made the argument tighter for readers who do not share the author's enthusiasms.

Sutton is firmly in the camp of those who believe philosophy and science cannot be kept separate in modern approaches to mind, and who accept a materialism eliminating reference to a central self or controlling mental agency. At the same time, however, unusually, he is concerned that these stances, in their current forms, fail to incorporate a social and cultural dimension that is constitutive, equally with the brain, of human existence. He aspires to use history to bring the absent dimension into modern cognitivist science, in the way, he argues, animal spirit theories embedded a social dimension in belief about mind. This is an imaginative intellectual step; I felt, however, that the author does not in practice deliver. His extended analysis shows enthusiasm for cognitivism, not theories of the social.

Does the book succeed in “the active use of history in bringing culture into science” (p. 2). Certainly, Sutton does not use history to ask about the ways in which modern cognitivism might itself be context

dependent. He contextualizes the animal spirits to the extent of pointing out that what sustained commitment to them was not so much evidence—the spirits were widely thought to be problematic on such grounds—but their capacity to represent the passions, the turbulence of Fallen Man. The spirits, far from being favoured because they mechanically held ordered memory traces, were so because they represented the disorder that requires a controlling agent to maintain order and responsibility. Yet he debates texts not contexts in the past. And when it comes to present science, it is what is “true” about the mind that sustains his interest. He does not point to present moral philosophy, political economy or religious belief, as presupposed in current ways of life, as a context for cognitivism. There appears to be asymmetry rather than symmetry in his comparison of theories of the animal spirits and modern theories. The direct examination of how the social contributes to the constitution of mind, on which, after all, sociology, linguistics, anthropology, and social psychology, as well as history, have had much to say, might lead him down routes where he does not want to go.

There are signs that claims about the social dimension are left vague in the hope of establishing an approach to cognitive science “with an eye to society and history” (p. 277). The treatment of metaphor is one example. Sutton notes the richness of metaphor in animal spirit theories, but seems to think metaphorical statements can finally be separated from scientific statements, thus isolating modern science from one way in which it might be possible to explore a social dimension in its truth claims. With an audience of philosophers or cognitivists in mind, he feels constrained to ask, “What use is all this history?” (p. 149), showing how far there is to go before modern scientists accept that history might be essential to knowledge of human beings. One question about culture which Sutton avoids, like

other writers driven by the agendas of cognitive neuroscience, is the meaning of reference to “psychology”, “neuropsychology”, or “neuroscience” in the early modern period. In spite of the enormous attention to historical scholarship, books like this one have no intention of being side-tracked by the question whether the categories in terms of which we assemble knowledge are themselves historical constructs. Ultimately, this book takes the modern scientist’s view that real knowledge is knowledge of brains, not culture. How historical meaning relates to the modern world of scientific meaning may be a more problematic question than even this deeply informed book allows.

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Faye Getz, *Medicine in the English middle ages*, Princeton University Press, 1998, pp. xiv, 174, £21.95, \$32.50 (0-691-08522-6).

This book demonstrates the tension that currently exists in medical historiography between a conventional, Whiggish approach to the “rise of the professional medical doctor” and a realization that other theoretical approaches have rather more to offer in terms of the understanding of medicine within the context of particular times and cultures. In her preface, Faye Getz refers to the anthropological work of Levi-Strauss who argued that the medical practitioner “did not become a great shaman because he cured his patients; he cured his patients because he had become a great shaman” (p. xi). This promises an interesting new approach to the study of the healer in medieval society, but she goes on in a more conventional fashion: “[m]edical learning in medieval England from about 750 to about 1450 is the focus of this book, and the central argument concerns how this

learning, understood as the medicine that was written down in texts, gained an audience among English people. The struggles of learned physicians to establish a reputation for themselves and for their medicine . . . and . . . to develop an audience for medical learning, especially among the elite of later medieval English culture” (pp. xi–xii) indicate the primary focus on academic medicine and elite patrons.

The main text opens with a vignette of the death of Hubert Walter, Archbishop of Canterbury (d. 1205), while attended by two physicians, one of whom, Gilbertus Anglicus, is the subject of a previous study by Faye Getz. She argues that Gilbertus’ role at the sick man’s bedside was not to save his life, but to use his skills, including his knowledge of astrology, to “recognize that death was unavoidable, and that the life of a great man must be shepherded to its end with ritual and dignity” (p. 4). Thus Gilbertus confines himself to advising the Archbishop on when to make his confession, his will, and to receive the last rites.

This intriguing, though problematic, image of the physician as the non-medical determiner of fate and smoother of the passage of the soul, has potential for resolving problems which have traditionally faced understanding of clerical involvement in medicine. However, at this point the analysis is not developed. The nod to anthropological theory having been made, the rest of the book is a far more conventional discussion of the range of practitioners working in England, the growth of academic medicine, the range of texts created by English authors, and the emergence (she argues) of the Galenic “regimen of health” as the preferred and non-medical form of health care by the elite and their physicians. This is frustrating as issues which she regards as problems, such as the paucity of graduates in medicine and the frequency with which non-medically trained graduates practised physic on the elite, or the willingness of families to