

Book Reviews

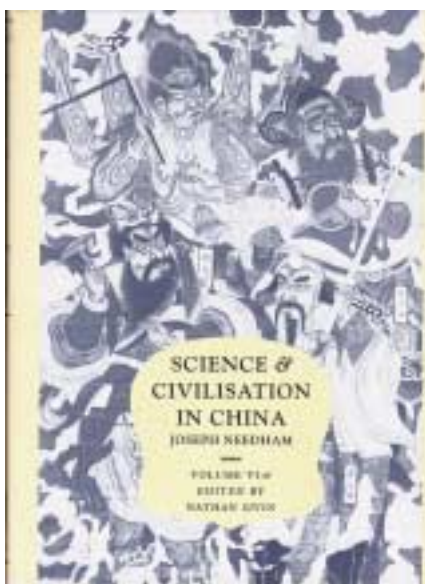
Science and Civilisation in China. Volume 6: Biology and Biological Technology, Part VI: Medicine

By Joseph Needham, with the collaboration of Lu Gwei-djen, edited by Nathan Sivin
Cambridge University Press, 2000.

£45.00 / \$75.00 hardback

(xviii + 261 pages)

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The most recent volume of *Science and Civilization in China* contains five previously published essays dating from 1962 to 1988 and largely co-authored by the late Joseph Needham and Lu Gwei-djen: 'Hygiene and Preventive Medicine in Ancient China' (1962), 'China and the Origin of Qualifying Examinations in Medicine' (1962), 'Medicine in Chinese Culture' (1966), 'China and the Origins of Immunology' (1980), and 'Forensic Medicine in Ancient China' (1988). Except for the 1966 general survey 'Medicine in Chinese Culture', originally published in *Clerks and Craftsmen*, the other four essays are out of print. Gathered together for the first time, these essays represent the scope, development and pioneering aspects of their scholarship on Chinese medical history. The topics range from longevity practices and preventive medicine to medical examinations and institutions, in the first two essays, and from the history of smallpox to a survey of forensic medicine, in the last two essays.

Nathan Sivin, professor of Chinese culture and the history of science at the University of Pennsylvania, revised these essays and their bibliographies to bring them up to date. In doing this, he has both compiled an unprecedented introduction to the collaborative work of Needham and Lu in Chinese medical history and written an excellent guide to current insights and issues for future research. In the introduction, Sivin discusses the recurrent themes in Needham's *Science and Civilization in China*, evaluates the theoretical foundations of Needham's collaborative work with Lu on Chinese medical history, and summarizes new trends related to the history of medicine and sinology in China. This introduction stands well on its own as an historiographical essay of Chinese medical history from the work of the earlier generation of the 1950s and 1960s, which Needham and Lu represent, to the most recent books, articles and dissertations on the subject after the 1980s.

Sivin makes several important distinctions between these two periods. No longer are historians of medicine primarily trained in the sciences and medical arts with one eye fixed on evaluating medical accomplishments vis-à-vis the present state of the art and the other eye focused on describing the rise in power of the medical profession and its institutions. Rather they are increasingly being trained primarily in history where the gaze has shifted away from great physicians, their discoveries and their institutions toward clinical practice, medical pluralism, the patient's experience and questions dealing with how gender, ethnicity and social status influence the clinical encounter.

A significant conceptual shift accompanied this change from scientific to historical training. Needham and Lu, like many of their contemporaries, thought that scientific knowledge from the past marched forward to a predestined endpoint in the present called modern science. They successfully challenged the European parochialism of their colleagues by showing that it was not only Europe and the United States that had traditions of science and scientific medicine, but also that the comparable ancient

traditions of the Chinese and Islamic worlds influenced the scientific phase of the European Renaissance. Their view that modern biomedicine is a synthesis of discoveries and concepts from many parts of the world outside of Europe, although initially groundbreaking and productive, proved ultimately to be limiting.

Sivin, on the other hand, argues that today's scientific knowledge is 'not an endpoint but a fleeting moment in a long sweep of creation'. As representative of contemporary historians of science and medicine, he sees change in history as a 'meandering journey' instead of a 'procession of destined triumphs'; he is more interested in how people went from A to B – and what they thought they were doing when they did – than how A or B anticipated the 'modern Z'.

An underlying positivism thus pervades Needham and Lu's historical scholarship on Chinese medicine. Sivin calls instead for continuing to evaluate Chinese medical knowledge and practices more in-depth during the time and place in which they occurred, rather than judge their predominance, or precedence, vis-à-vis the European experience, or determine their value against the modernist gauge of biomedicine. Instead of seeing the encounters between the scientific traditions of China and the western world since the early 17th century as basically collegial, for example, as did Needham and Lu, Sivin sees them as fundamentally conflictive. Political and social reasons were more important to the Chinese who chose to adopt western methods than strictly intellectual ones.

In addition to placing Needham and Lu's scholarship within the time and place during which they wrote, Sivin succinctly summarizes developments over the past half a century in medical history, sinology and research in Asia, namely in the People's Republic of China, Japan, and Taiwan. Most readers should find his section on research in Asia illuminating. Despite unprecedented quantitative growth in publications on Chinese medical history in the PRC, especially since the 1980s, there has not been a qualitative change in methodology or conclusions. This is due to various reasons,

such as the fact that most Chinese historians of medicine, like their European counterparts in the 1950s and 1960s, have been trained in clinical medicine rather than historical methods and, for obvious political reasons, have practiced self-censorship. The 1990s saw changes in all such inhibiting factors, but recruiting graduate students is difficult because academic salaries have not kept pace with China's economic growth.

Although Japan has had more well organized, comprehensive, and detailed traditions of historical research on Chinese medicine than in mainland China – so much so that their scholarship has become a foundation for historians of Chinese medicine – these traditions tend to be conservative, follow specific lineages, resist foreign perspectives, and rely on evidential methods. In Taiwan, Sivin argues that largely the lack of government support explains why only a handful of young scholars, all educated abroad, have produced research reflecting new insights and methods in medical history. He neglects, however, to cite the range of new work since the 1990s by scholars of the medical history research group at Academia Sinica who are making it one of the most active research centers of its kind in the world today.

In all cases, Sivin wrote insightful, terse, and minimalist editorial comments in the footnotes of each article so as to preserve the original arguments of the authors and to demonstrate that, in many ways, their essays still hold their own today. Sivin, however, made an exception with the article 'China and the Origins of Immunology' in which Needham and Lu wrote the first extended account on the history of smallpox and its treatment from inoculation to vaccination in China and the West. Sivin appended a critical reevaluation of their arguments that may make readers wish he had not restrained himself from doing the same with the remaining four essays. By relying on footnotes to update the other four essays, the general reader is forced to make the comparison of old and new that Sivin would have been better prepared to formulate explicitly. The critical introduction, however, makes up for this imbalance by providing an excellent review of both the strengths and weaknesses of Needham and Lu's indispensable legacy to the history of medicine in China.

Marta Hanson

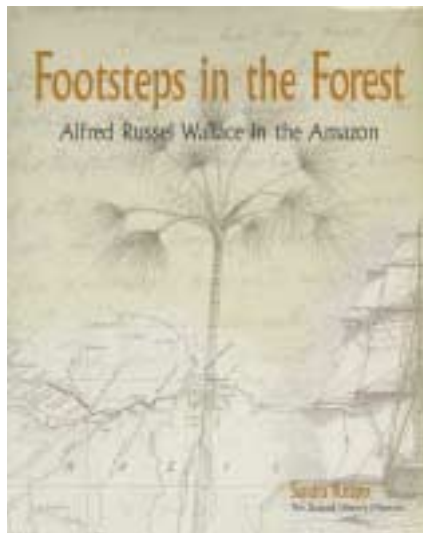
Footsteps in the Forest: Alfred Russel Wallace in the Amazon

by Sandra Knapp

Natural History Museum Publishing, 1999.

£16.95 hardback (128 pages)

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My own research focus is the study of tissue movements during early embryonic development but in my spare time I am passionate about antiquarian natural history prints and I guess that's why I was sent this slim hardback tome describing the early adventures of Alfred Wallace as he journeyed into Amazon territory in search of beautiful butterflies, fishes and vegetation. Sandra Knapp has put together a brief but very readable account of this trip illustrated with simple but elegant monotone drawings by the great man himself.

In April 1848 Bate and Wallace boarded the sailing vessel, *Mischief*, and without undue adventure arrived at the mouth of the Amazon 29 days later. They soon set themselves up in Para (present day Balem) and immediately began butterfly hunting. This was not a rich boys holiday, but a commercial expedition, and they were constantly searching for the rarest and most beautiful birds and insects that would fetch a tidy reward when shipped home. Wallace had an amazing agent-cum-manager, Samuel Stevens, who not only sold the two collectors 'spares' but also presented their latest scientific findings to the learned societies back in London and kept them posted of European news while they were half way across the world. After about a year Wallace and Bates parted company, probably because it made better commercial sense to hunt in separate pastures, but maybe because of a

best-buddies tiff, who knows? Wallace chose to explore the upper reaches of the Rio Negro, towards Venezuela extended his focus to include fish, my own favourite 'genera' of beastie! Wallace was amazed by the variety of fishes he was able to net, hook and poison with the help of his local aides. He sketched as many of these as he could and these sketches are the most beautiful presented in the book. I'd love to own the originals!

Knapp has done a fantastic job of skipping us through Wallace's four years in the Amazon, through the highs and lows, the capture of a couple of elusive, gorgeous, tree-top fluttering *Asterope sapphira* (butterfly specimen no. 605) after weeks of pursuit, his early thoughts on natural selection and the sad death of his brother, Herbert, from yellow fever. We move from Wallace's own accounts, written in charming Victorian understatement, to Knapp's historical tidbits and back to Wallace without changing gear or losing the pace of the tale. And finally, the heartbreak of the homeward journey on the brig, *Helen*, laden down with tons of india rubber as well as Wallace's precious cargo of live birds, and preserved insects, fish and plants from four years of collecting. The rubber caught fire and Wallace, suffering from a bout of malaria, had to escape into a lifeboat rescuing only one pathetic parrot and a small tin box of his sketches (reproduced in this book) from all that labour. It clearly broke his heart, and yet, scientist to the end, he still describes observing boobies with long wings and meteors in the night sky as he lay with his companions for nine days and nights before being rescued miraculously from almost certain death. Thankfully, his agent, Stevens, had financially insured against such catastrophe and, while most folk would have chucked in their lot after such a disaster, this was just the beginning for Wallace. He went on to make his famous trip to the Malay Archipelago and to pen a long letter 'on the tendency of varieties to depart indefinitely from the original type', which he sent to Darwin and probably shocked the latter into publishing his *Origin of the Species*. Wallace was a seriously cool fellow: he had amazing insight, superb observational skills and showed great courage in the face of adversity. He would have been a superstar in today's science climate!

I read this book on a flight to Tokyo. It's the best read I've had on a plane for a long time and a lot more fun than my student's thesis outline that I had to read for the rest of the flight.

Paul Martin