

Book Reviews

SHIGERU NAKAYAMA, *Science, technology and society in postwar Japan*, Japanese Studies Series, London and New York, Kegan Paul International, 1991, pp. xv, 259, £45.00 (0-7103-0428-5).

Shigeru Nakayama's new book is a welcome addition to the literature available in English on Japanese science and technology. As the title suggests, the writer, a distinguished historian of science, has set himself a broad agenda. It is perhaps not surprising that it is necessarily broad and sweeping in its portrayal of the dynamics of the relationship between science, technology and its social and historical context.

The book examines the mechanisms of Japan's promotion of science and technology by viewing Japanese society in terms of four sectors, which can be described as academic, public, private and citizen. These have often engaged each other on policy issues. The book throws light on their respective points of conflict and mutual agreement.

It is in this setting that Nakayama examines fundamental issues such as the tension between democracy and technocracy in science; the structural changes Japanese universities underwent in the postwar period; and the promotion of academic science which has accompanied Japan's growth. One factor which has served to constrain university-based science is the close relationship between high economic growth and privatized science. Nakayama outlines this and the toll it has had on society. Citizen movements have been one of the manifestations of the pent-up frustration with the closed nature of private science, and its lack of response to the concerns of the welfare of the Japanese people.

In the later chapters of the book, Nakayama focuses on the micro-electronics revolution, and the impact Japan's strength in semiconductors has had on the US-Japan relationship. The threat of techno-nationalism is an all too real possibility, as is the scenario that the centre of science might shift in due course to Japan. The author reassures us, however, that America's willingness to absorb the young talent of other nations will mean that the more homogeneous Japan will be constrained by its lack of human resources.

Science, technology and society in postwar Japan draws on a large body of research and writings which Nakayama has produced over the last decade. This work has remained, unfortunately, in the Japanese language. Two prime examples are: *Kagaku to shakai no gendai shi* (*A modern history of science and society*, Tokyo, Iwanami Shoten, 1981) and *Shimin no tame no kagakuron* (*Science studies for the people*, Tokyo, Shakai Hyōron Sha, 1984).

Although various issues are clearly explained in a narrative fashion, the actors in the power-play remain curiously anonymous. This is undoubtedly one of the occupational hazards of contemporary history, particularly in Japan, where human relationships are such that writing on people still alive is extremely awkward. This omission tends, consciously or not, to reinforce the perception of a country of institutions, populated by faceless workers who conveniently fit into four sectors. This problem aside, the book is a highly accessible exposition of the author's informed opinion of Japan's postwar development, particularly strong in its sections on education and its pivotal importance to Japan's future.

Nakayama draws a great deal on his personal observation and assessment of science and technology, as well as his own experience of Japanese scientist movements. As is apparent from his other publications, Nakayama's concern for the Japanese people caught up in the push for science and technology comes to the fore in his writing. Intermingled with historical insight, it provides a pot-pourri of ways of interpreting Japan's development from a decidedly Marxist point of view.

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MARYINEZ LYONS, *The colonial disease: a social history of sleeping sickness in northern Zaire, 1900-1940*, Cambridge History of Medicine, Cambridge University Press, 1992, pp. xvi, 335, illus., £50.00, \$79.95 (0-521-40350-2).

This book joins a growing literature on the history of the encounter between Western medicine and Africans in the nineteenth and twentieth centuries. Not only does Lyons tell the story of the new field of tropical medicine and its researchers' headlong pursuit of the "secret" of sleeping sickness in the early years of this century, but she also addresses an inextricably linked and essential part of Zaireian history.

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Lyons persuades us that sleeping sickness was indeed the disease of colonialism. Although endemic in small, isolated foci in the early colonial period, it increased in incidence around the turn of the century, becoming epidemic in some regions over the next decades. As in other parts of Africa, the upheavals and social disruptions accompanying colonial conquest produced ecological crises which affected all aspects of life. Central to her interpretation is the contention that these events disturbed the delicate ecological relations among humans, vectors and disease-causing pathogens and thus constituted the determining factor of the epidemic.

Sleeping sickness was also a colonial disease in the sense that the colonial state's incessant demands for labour and tax and its drive to restructure African society through a series of restrictive administrative measures, undermined the health of Africans in a variety of related ways. Labour migration, for example, introduced Africans to new diseases, while time spent labouring on mines and plantations resulted in a decline in food production and thus in nutritional levels within African societies. This in turn exacerbated existing stresses and impaired resistance to disease. Political and social disruption in some regions also contributed to the disturbance of a complex cluster of beliefs and practices which had constituted a pre-colonial "public health" system.

As Lyons shows, many Africans' first encounters with Europeans and colonial medicine were in the form of military-style sleeping sickness campaigns. The "manhunts", the surveillance of African villages, enforced isolation, and the ineffective chemotherapy that characterized the early campaigns, evoked intense distrust from Africans. Not surprisingly these campaigns were often perceived as aggressive expressions of colonial power and as a kind of biological warfare. Even after public health reforms were instituted to ensure African co-operation after 1910, these measures were coupled with increasing controls over a wide range of African social and economic activities. For many Africans, thus, the campaigns were indistinguishable from other measures of social engineering.

Lyons situates sleeping sickness research and the "medicalization" of the region within the wider history and politics of international tropical medicine. She also traces the influences of nineteenth-century European epidemiological theory and public health practices and the way in which these were hybridized in a colonial context. African attitudes to disease and curative procedures and their responses to the campaigns were equally salient, she argues, in the shaping of the much vaunted public health system. She takes care, however, to indicate that responses to Western biomedicine and the public health measures varied from outright rejection to the selective internalization and absorption of elements which were deemed to be efficacious.

Inevitably, perhaps, a book that attempts to do justice to the political economy and ecology of the disease, the social and economic history of the region, the development of a colonial medical service, social relations within African societies—and much more—must suffer from some unevenness of treatment. Chapter 5, for example, dealing with tropical medicine and imperialism in the early twentieth century, is disappointingly cursory. And, although later chapters address the relationship between the medical profession in the metropole and the colony in the later periods, the wider international and comparative colonial context tends to disappear from view. But these are minor points. This is a rich, pioneering study which deserves a wide, attentive readership.

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HEIDEMARIE EMISCH, *Ludwig Edinger: Hirnanatomie und Psychologie*, Akademie der Wissenschaften und der Literatur, Mainz, *Forschungen zur Neueren Medizin- und Biologiegeschichte* 4, Stuttgart and New York, Gustav Fischer, 1991, pp. 254, illus., DM 78.00 (3-437-11378-X).

The life of Ludwig Edinger seems typical of a particular sort of academic career in Germany in the second half of the nineteenth century. Born in 1855 as the son of a Jewish salesman, he studied medicine in Heidelberg and Strasbourg, where he worked with the famous clinician Adolf Kussmaul. His brilliant contribution to various fields of anatomy allowed him to pass the Habilitation in 1881. Although Edinger tried to pursue a university career, he soon