



Michitake Aso. *Rubber and the Making of Vietnam: An Ecological History, 1897-1975.* Flows, Migrations, and Exchanges Series. Chapel Hill: University of North Carolina Press, 2018. Illustrations, maps, tables. 426 pp. \$90.00, cloth, ISBN 978-1-4696-3714-3.

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Michitake Aso's book is neither a history of Vietnam nor an environmental history of rubber plantations. Aso is foremost a historian of technology and science in Vietnam. In large part, his previous publications focus on the history of medicine, rubber, and technology in Vietnam from the colonial era to the end of the Vietnam War. *Rubber and the Making of Vietnam* is the published version of his PhD dissertation, "Forests without Birds: Tropical Agriculture and Medicine in French Colonial Vietnam, 1890-1954," which he defended at the University of Wisconsin, Madison, in 2011. In *Rubber and the Making of Vietnam*, Aso explores the relationship between technology, science and the manufacturing of knowledge, capitalistic exploitation, and human bodies through the lens of rubber production in Vietnam from the colonial era to the reunification of Vietnam in 1975. He studies how rubber production was used by successive regimes—the French colonial administration, the State of Vietnam (SV, which Aso calls the "Associated States of Vietnam"), the first and second Republics of Vietnam (RVN), the Democratic Republic of Vietnam (DRV), and finally the Socialist Republic of Vietnam (SRV)—and their opponents, as a means to develop Vietnam's economy and an idea on which to build a "modern" nation.

His language skills allowed him to draw data and analysis from a large collection of archives and literature in French, Vietnamese, and English. To conduct his research, Aso explored archive material in France, Vietnam, Cambodia, the United States, Singapore, and Switzerland, and he read an amazing number of books and papers on French Indochina and twentieth-century Vietnamese history. Using French, American, and Vietnamese archives, as well as interviewing a few witnesses, enabled him to record different sides of the history of rubber in Vietnam: those of the state, plantation owners, workers, and scientists of different backgrounds.

The book is divided into seven chapters and three parts: "Red Earth, Grey Earth" on the ecology of rubber in Vietnam, "Forests without birds" on the rubber industry during the colonial era before the end of World War II, and "Rubber Wars" on rubber production during the First and Second Indochina Wars. After a promising introduction, the first chapter and first part appear a bit confused. In trying to explain how the introduction of the latex tree *hevea brasiliensis*, and the technologies needed to grow it, have redefined the relationship between human societies and the environment in Cambodia and the southern part of Vietnam, it would have been useful to read the work of such

researchers as Nguyễn Thị Hải, who questioned the perception of nature and malaria by the Vietnamese in the nineteenth century.[1] A few mistakes appear during the discussion of highlanders, who are not all Austroasiatic, and the treatment of Khmer concepts or practices, such as *sruk* or swidden cultivation. The impressive works edited by Malcolm Cairns on swidden in Southeast Asia, *Shifting Cultivation and Environmental Change: Indigenous People, Agriculture and Forest Conservation* (2015) and *Shifting Cultivation Policies: Balancing Environmental and Social Sustainability* (2017), would have been useful here. Nevertheless, Aso can claim a very good understanding of French colonial discourse on nature and disease.

The second part focuses on the development of *hevea* plantations during the colonial era. Although Aso does not provide his own account of the history of rubber production in Vietnam under French rule, he does rely on the PhD dissertations of Marianne Boucheret and Webby Silupya Kalikiti.[2] These dissertations remain unpublished and are not easy to come by. Aso's book will be useful for those interested in the history of rubber in Indochina and who do not have access to this doctoral research.

Aso presents an analysis of science and the development of rubber. He shows that, contrary to official discourse, French investment in research on agriculture and rubber remained underfunded and very limited. His critical analysis of the work of French tropical scientists, such as agronomist Yves Henri and geographer Pierre Gourou, allow readers to better understand some of the most commonly used sources on agriculture in Vietnam in the first decade of the twentieth century. Aso reminds us that Vietnamese scholars did not wait for the French to get involved in science, technology, or medicine. Many considered mastering science as a way to resist French domination. Linking research, production, malaria, and the condition of workers, he contradicts colonial officials and planters' discourse on the modernization of Viet-

nam. The colonial government, even during the leftist Popular Front, had been inefficient in protecting workers against the abuses of planters despite its claims to act on behalf of *mise en valeur* or *mission civilisatrice*.

Aso explains how the French made it difficult for the Vietnamese to invest in rubber production and how racial discrimination played a role in the management of plantations. Highlander, Vietnamese, and Cambodian workers were not assigned the same tasks. Highlanders were considered skilled workers for clearing operations and more resilient, or even immune, to malaria, and therefore a possible source of contamination for Vietnamese workers who constituted most of the tappers. The Pasteur Institute supported the plantations in their attempts to lower the prevalence of malaria. However, as Aso explains, "practical steps were taken to reduce the effects of this disease only where modernization projects were in danger" (p. 141). French medicine was not as efficient as claimed by its proponents. For many French colonists, even medical doctors, malaria was perceived as coming from water, a quite common belief in Vietnamese culture as well.[3] The French "scientific" medicine could overlook the effectiveness of traditional Sino-Vietnamese medicine. In the interwar years, foreign expertise on malaria was channeled to Vietnam through the Far Eastern Association of Tropical Medicine and the Health Organisation of the League of Nations. The French lost their monopoly on scientific knowledge on malaria. In the decades preceding World War II, Vietnamese agriculture engineers and medical doctors developed their own understanding of the disease and its relation to plantations. Many of them got involved in the anti-colonial struggle and built a nationalist discourse on the failure of the colonial state to protect Vietnamese lives.

The third part is about *hevea* production and its relation to science in the context of the First and Second Indochina Wars. Despite the context of unrest, rubber production, which almost

stopped in 1945, returned to and exceeded prewar levels in 1954. Rubber plantations were pictured as colonial hells in DRV propaganda and were first targeted for destruction. The discourse changed after the DRV government received extensive support from China in 1949-50 and understood that independence was within reach. Plantations then appeared as possible tools for the construction of the future socialist Vietnam. Aso explains clearly how plantations benefited from their usefulness for both the French and the DRV. Even after the French handed over part of their government responsibilities to the SV in 1949, rubber plantations remained under their control. After independence, the “decolonisation of plantations” has proven almost impossible to achieve (p. 206). In the 1950s, the condition of workers improved a bit but were still not that different from the late 1930s. Plantations were then used by President Ngô Đình Diệm to resettle migrants from the North.

In the American Vietnam War, plantations became a fighting ground between the National Liberation Front (NLF) and pro-RVN forces. The infrastructures of plantations could be used by both sides. According to Aso, French-owned *hevea* plantations became a source of cash, manpower, food, medical equipment, and more for the NLF, while the RVN still needed the French to manage these important components of the economical and sociological landscape of southern Vietnam. Strikes and social conflicts in a context of political unrest led to an improvement of conditions for workers in terms of salaries, lodging, and medical care in the early 1960s. But when the war intensified after 1964 with the full involvement of US troops, the economic depression, bombing campaigns, and spraying of herbicides badly affected rubber plantations. They were no longer in a position to provide for their workers’ needs. The competition of synthetic rubber and production by neighboring countries made it even harder for Vietnamese plantations to survive. In 1975, rubber production collapsed. The only real improvement was with malaria infection rates, which rapidly declined

with the widespread use of DDT and synthetic drugs. Unfortunately, Aso does not assess the ecological consequences of the widespread use of DDT on plantations, an insecticide that was eventually banned in most countries in the 1970s after the publication of Rachel Carson’s book, *Silent Spring* (1962). To assess the situation of plantations, their workers, and science in the late 1960s and early 1970s, Aso uses fascinating surveys that he found in the US National Archives. However, DRV views on these issues would have been welcome as well.

Aso’s research shows that smallholdings of rubber trees were never really important in Vietnam. The large estates model developed by the French, which also granted them an almost monopoly on scientific knowledge relevant to rubber plantations and associated diseases, proved economically viable and was not challenged after independence. It remains the main model for rubber production in Vietnam in the present-day. Between the end of the nineteenth century and 1975, the main problem for plantation management was finding suitable manpower. Land could easily be taken from the forest or swidden farmers. Despite the terrible conditions for workers on most of the plantations during the colonial era, the French succeeded in keeping control over them and “rubber science” when their political domination over Vietnam ceased in 1954. The “shift from colonial to tropical ecology” did bring little improvement for Vietnamese workers, investors, and researchers (p. 151).

Aso’s book is a welcome addition to the prolific publications on twentieth-century Vietnam that have appeared over the last two decades. It is also one of the few works that deals with the environmental history of the French colonial empire in Asia.

Notes

[1]. Nguyễn Thị Hải, “La forêt de la marche frontière sino-vietnamienne: Le cas de Cao Bằng,” *Péninsule* 75 (2017): 11-36.

[2]. Marianne Boucheret, “Les Plantations d’hévéas en Indochine” (PhD diss., University Paris 1 Pantéhon-Sorbonne, 2008); and Webby Silupya Kalikiti, “Rubber Plantations and Labour in Colonial Indochina” (PhD diss., School of Oriental and African Studies, University of London, 2000).

[3]. See Nguyễn, “La forêt de la marche frontière sino-vietnamienne,” 13-15.

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