

Environmental historian now tackles industrial disease in Japan

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Controlling Japanese B encephalitis might seem easy to an outsider. Since the brain-injuring virus needs mosquitoes and pigs to spread, government officials should ban standing water in cemetery cisterns and urban drainage ditches. They should keep industrial "piggeries" away from cities and their populations.

But issues arising from industrial disease are much more complex than that, said Montana State University historian Brett Walker, author of a new book, titled *Toxic Archipelago: A History of Industrial Disease in Japan*. Increasingly renowned as an environmental historian, Walker urges government officials, scientists, humanists and others to take a broad, interdisciplinary approach when attempting to understand and remedy colossal environmental problems, including disease.

Looking at encephalitis from a religious perspective, for example, revealed that some Buddhists believed that mosquitoes moved the souls of the dead from one world to the next in the transmigration of the soul, Walker said. Buddhist monks tolerated bowls of standing water and cisterns in Japanese cemeteries, because it facilitated this transmigration process. Since mosquitoes breed in the standing water, the insects are available when needed to transport the souls of the dead.

Looking at encephalitis from a historical perspective showed that the disease wasn't a big problem in pre-industrial Japan, because the historical, cultural and ecological conditions weren't in place. They came with modernization and industrialization.



"Before the 19th century, there was little animal husbandry, for religious and economic reasons, so no pigs, and few large cities were located next to the rice paddies where mosquitoes bred," Walker said.

The 19th and 20th centuries brought big changes, however.

"Giant piggeries were built near cities because meat was modern and pigs ate waste," Walker said. "And in large cities, open drainage systems created habitat for bugs. More importantly, Buddhist monks in cities such as Tokyo on occasion resisted mosquito eradication campaigns."

Walker said he's not suggesting that the Japanese ignore or cater to religious beliefs. Rather, he said wide-ranging, interdisciplinary approaches are required for anyone who deals with major health problems resulting from industrial engineering or pollution. Such approaches will help them avoid cultural and religious minefields and the tendency to erroneously reduce causes to one explanation and to ignore history. Visitors to Asia are still cautioned about Japanese B encephalitis, Walker added.

He took a broad approach while researching his book, which took about six years to investigate and write, Walker said. Researching encephalitis led him to animal husbandry, mosquito entomology, religious sentiments toward animals, and urban ecology. Researching insecticide poisoning and cadmium poisoning from lead and zinc mines took him to epidemiology, ecological sciences, chemistry, history, gender analysis, economics and religious studies.

Walker's book focuses on deaths, genetic deformities and other health issues that resulted from major pollution episodes in Japan. Besides encephalitis and cadmium poisoning, some of those problems included lung disease from asbestos and sulfur dioxide and congenital deformities from methyl-mercury.



"These episodes aren't the fouling of a small stream," Walker said. "These are the release of certain types of toxins and heavy metals that led to tens of thousands of people dying."

Researching cadmium poisoning, known as "It Hurts, It Hurts Disease" in Japan, taught him that the disease affected a disproportionate number of women, Walker said. Investigating further revealed a number of contributing factors, including Japanese notions of beauty. Since women preferred white skin to darker skin, because of class connotations and the relationship between whiteness and religious purity, they shielded themselves from the sun. The result was that they didn't get the vitamin D they needed to help their bodies metabolize calcium. Hence, they suffered more readily from bone disease.

He believes his book is significant because it looks at human pain as well as environmental pollution, Walker said.

"Pain reminds us we are deeply embedded in the environment," Walker said. "When painful toxins flow through the environment, it reminds us in no uncertain terms of our inescapable connections to nature."

MSU historian Michael Reidy said Walker's book is already receiving glowing reviews, because his scholarship is a "tour de force." The book is also receiving attention, in part, because of Walker's reputation. Walker is "quickly rising to become one of the foremost environmental historians in the world. This is no exaggeration," Reidy said.

The book introduces a human component to historians and others who are used to viewing the environment as interconnected in other ways, Reidy said. It offers an alternative view to those who try to determine the causes of disease from a simple cause-effect relationship. He noted that Walker drew from a wide variety of resources when he researched the book, and Walker's conclusions will interest a wide range of scholars.



"With industrialization comes environmental destruction, disease, and ultimately pain and suffering," Reidy said. "It is not a fun story, but it is one that needs to not only be read, but also digested and acted upon."

Walker said his book is also valuable because it uses interdisciplinary approaches to environmental problems. It's the same mindset he encourages as chair of MSU's Department of History and Philosophy.

"We've got philosophers working on astrobiology and historians writing NSF grants," Walker said. "We collaborate with museums, scientists and engineers. We teach courses on ethics and science and objectivity in knowledge creation. The department thrives on thinking across disciplinary lines"

Reidy said, "In such a complex, globalized world, it is from humans -our passions and beliefs and economic systems and political organizations -- that the diseases of our bodies must both begin and end. Walker's text enables us to begin thinking about how advances in science and technology are inextricably mixed up with cultural and social beliefs. This is as true today as it was in Japan in the 19th and early 20th century."

Provided by Montana State University

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