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### **Cross-Currents: East Asian History and Culture Review**

#### **Title**

Plants, Germs, and Animals: They Want to Be in History, Too!

#### **Permalink**

<https://escholarship.org/uc/item/1jm4k2v2>

#### **Journal**

Cross-Currents: East Asian History and Culture Review, 1(10)

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#### **Publication Date**

2014-03-01

# CROSS-CURRENTS



## EAST ASIAN HISTORY AND CULTURE REVIEW

### REVIEW ESSAY

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#### **Plants, Germs, and Animals: They Want to Be in History, Too!**

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Maki Fukuoka. *The Premise of Fidelity: Science, Visuality, and Representing the Real in Nineteenth-Century Japan*. Stanford, CA: Stanford University Press, 2012. 304 pp. \$45 (cloth/e-book).

William C. Summers. *The Great Manchurian Plague of 1910–1911: The Geopolitics of an Epidemic Disease*. New Haven, CT: Yale University Press, 2012. 216 pp. \$40 (cloth).

Ian Jared Miller. *The Nature of the Beasts: Empire and Exhibition at the Tokyo Imperial Zoo*. Berkeley: University of California Press, 2013. 352 pp. \$65 (cloth/e-book).

Environmental history, history of science, and animal studies are emerging trends in the historiography of modern East Asia, for good reason. Environmental concerns are prominent in the region today, and environmental factors are important to understanding its history. Science (together with technology) has been held up as *the* benchmark of modernity in East Asia for more than a century and has been fundamental to visions of the modern nation (consider, for example, Mr. Science in China's May Fourth Movement). Animal studies is the newest of these trends. This field has gained notice only in recent years, yet there are signs that it is becoming a popular topic.

The presence of these three scholarly trends or topics of research varies significantly in the historiographies of China, Japan, and Korea (if we follow the traditional tripartite national narratives). Environmental history and animal studies are well developed in Japan studies (for example, Walker 2008, 2011; Pflugfelder and Walker 2005; Miller, Thomas, and Walker 2013;

Skabelund 2011).<sup>1</sup> History of science and medicine is better represented in China studies (for example, Elman 2005; Nappi 2009; Shen 2013; Hanson 2011).<sup>2</sup> To my knowledge, all three topics are relatively new in the historiography of modern Korea,<sup>3</sup> but with the expansion of Korea studies, there is little doubt that attention to them is also growing there. (It should be noted that science and technology studies, or STS, which is oriented toward theory and contemporary society, is thriving in the inter-East Asian academic circle that includes Korea, Taiwan, Japan, and Singapore.<sup>4</sup>)

The three historiographical trends are not—and should not be—separate. There are important historical intersections and historiographical connections among them. To illustrate this point, let's use an example broadly relevant to the books under review: the topic of nature and empire. The research on nature and empire often combines environmental history, history of science, animal studies, and history of imperialism and colonialism. Scholars have looked at, for example, big-game hunting in European colonies in Africa and South Asia and shown how, ironically, such colonial activities gave rise to conservation sentiments and movements (albeit in a colonial and paternalistic mode) (MacKenzie 1988).<sup>5</sup> Much of the recent literature on nature and the American West adopts a similar perspective. Another example is the relationship among medicine, disease (e.g., tropical diseases transmitted by mosquitoes or other animals), and public health, which has been examined in imperial and colonial settings (see, for example, McNeill 2010). Most of the existing scholarship is concerned with European and American colonies or imperial activities, but there is a burgeoning literature on East Asia. These bodies of literature often have to engage with all three areas of research: environmental studies, history of science, and animal studies.

The three books under review deal with three very different historical cases, and they vary in their goals, scope, approaches, and perspectives. They all, nevertheless, touch on certain important and related themes, and in their own ways, they make original and valuable contributions to East Asian studies. Fukuoka's book is a dense and focused analysis of the botanical works of a group of early nineteenth-century Japanese scholars. The book's main concern is the epistemological questions involved in the scholars' understanding and pursuit of fidelity in botanical illustration. Summers's book is written for nonspecialists, intended in part for classroom use. Ostensibly it focuses on a small slice of history, the Manchurian plague of 1910–1911, but it situates this historical event against the broad historical backdrop of

international geopolitics involving Russia, Japan, and the Qing Empire. Miller's book is the Mercedes-Benz of this select group, because it is both more substantial and better realized than the other two very fine books. *The Nature of the Beasts* is, on one level, a nuanced study of the hundred-year history of the Tokyo Zoo, from the late nineteenth to the late twentieth century, and, on another level, a rich political and cultural history of modern Japan. Nature, science, medicine, and animals (or plants) are central to all three books.

Fukuoka's ingenious book delineates a history of Japanese visuality by examining the works of the Shōhyaku-sha, a scholarly association of physicians in the Nagoya area in the first half of the nineteenth century.<sup>6</sup> These scholars were inclusive and yet discriminating in their scholarship, bringing together Japanese, Chinese, and Western learning but insisting on precision in identifying, naming, classifying, and representing the objects of their inquiry. Because Chinese herbals, which covered mostly medicinal plants found in China, often proved inadequate for identifying and classifying local plants, the scholars of the Shōhyaku-sha also made a great effort to master Western botany, including the Linnaean classification system and botanical illustration. They eventually produced remarkable botanical works. Unlike Chinese herbals of the same era, which were usually rendered in crude black-and-white woodblock print, the illustrations of these Japanese herbals were often well drawn and in color. Drawing on the methodologies of intellectual and art history, Fukuoka's book analyzes how the concept of *shashin*, or "depicting the real," presented itself in the works of the Shōhyaku-sha scholars.

*The Premise of Fidelity* is not a smooth read. It is lumpy and convoluted in places. However, its central argument is fairly straightforward and goes like this: The traditional narrative of the quest for fidelity in Japanese visuality is simplistic and teleological. It derives from the Western-centered modernization narrative and smacks of technological determinism, leading inexorably toward the presumed realism of photography (*shashin*). Fukuoka cautions against this linear developmental narrative of visual fidelity. She argues that the concepts and practices of representing the real—or pursuing visual fidelity—have a complex history in nineteenth-century Japan. The Shōhyaku-sha scholars and their works adopted the concept of *shashin*, but they understood it in their own way. Fukuoka aptly calls their methodology "triangulating the sources of knowledge," because it included "the real object, illustration, and texts" (34). In order to correctly identify, name, classify, and represent plants—in other words, to

capture “the real”—they pored over Chinese, Japanese, and Western texts, compared illustrations, examined the actual plants or specimens, and even put on public exhibitions. They also utilized and appropriated various technologies of representation in making their botanical works, including outlining, brush painting, ink rubbing, and engraving. Here the practice of representation may be compared to translation. The process wasn’t simply mimetic or aimed at representing an object of nature using visual techniques that would preserve a high degree of physical likeness. Rather, it was an active process of conceptualizing, interpreting, and (re)presenting a material object so that it would best capture “the real.” Visualization was therefore not a passive register, but an active translator.

Fukuoka does an excellent job analyzing the relationship between the concept and practice of visual fidelity of the Shōhyaku-sha scholars and their botanical works, and her central argument is convincing. There were different strands of “representing the real” in nineteenth-century Japanese visuality, and it would be an oversimplification to draw a straight line from the “traditional” mode to the “modern” mode, even in botanical science. As a reader, however, I wished the story had been better contextualized. In a couple of places, the book briefly compares the Shōhyaku-sha with another group of scholars of Western learning based in Edo. The comparison of the two schools and their different approaches to representing the real is important to Fukuoka’s main argument, but it is not carried out systematically throughout. Generally speaking, the book could have said more about the broad intellectual landscape of coexisting or competing traditions of medicine, art history, and natural history—particularly concerning the ways in which objects of nature were conceptualized, categorized, and depicted. Fukuoka’s study concentrates so much on delineating one particular tradition of representing nature that it leaves out the big picture.

I also wished to see more action and dynamics in the story. The nineteenth century witnessed rapid and profound changes in many aspects of Japanese scholarship, intellectual outlook, relationships to nature, scientific knowledge, and means of representation. Things were in flux. Although Fukuoka’s book documents changes in scholarship and practice (the chapters are organized largely by chronological order), it does not delve into the intellectual, cultural, and political dynamics that brought about these changes. Obviously there were macro-political events during this time, and they might have mattered. But there were also micro-level politics between

scholars or schools of thought, and these could be even more relevant. For this reason, one regrets the lack of sustained discussions of power, ideology, group identity, interests, and contestation of ideas in the book. Brief mentions are made of regional intellectual identity (Nagoya and Edo) and class (samurai and commoners), but one yearns for more. Without such analysis, it is unclear why certain epistemological concerns, ideas, and practices arose or developed. Finally, one also wonders about the historical impact of these scholars and their works. It might be hard to estimate, but it would still be helpful to know to what extent and in what ways they might have influenced Japanese botany, *materia medica*, pictorial presentation, and notions of visual fidelity.

If Fukuoka's intellectual history monograph tightly focuses on certain epistemological issues, Summers's spunky book swings to the other end of the spectrum. It is a slender volume on a specific historical event, but it tells the story in huge brushstrokes on a gigantic historical canvas. The book is loosely structured and leaps abruptly from one topic to another. Yet what it lacks in discipline, it makes up for in enthusiasm. I had great fun reading the book and learned a lot from it.

The great Manchurian plague of 1910–1911 is receiving much scholarly attention these days. To some extent, this is a by-product of the recent growth of interest in the history of Manchuria, especially as a political borderland. As the history of Manchuria becomes more popular, different episodes of its history gain notice. Equally important is the increasing interest in the history of medicine, disease, and colonial modernity, a scholarly trend powered by Ruth Rogaski's acclaimed book, *Hygienic Modernity* (2004). Finally, scholars are intrigued by one of the main actors in the historical event, Dr. Wu Liande, who was appointed by the Qing government to fight the plague. Wu's background, career, and accomplishments are fascinating. He was an overseas Chinese from Penang, who was educated in Britain and earned an international reputation for his achievement in fighting the plague. Thus he joins a set of overseas Chinese from Southeast Asia—e.g., Gu Hongming, Wu Tingfang, Chen Jiageng, Robert Lim, and some of the characters described in Sherman Cochran's recent study (Cochran 2006)—who reached prominence in twentieth-century Chinese history. These historical figures opened a window to new perspectives on the history of Chinese diaspora, nationalism, transnationality, and social networks. The story of the Manchurian plague is thus full of topics

that scholars find exciting: disease and public health, migration, frontiers and borderlands, empire and nation, and international geopolitics.

Summers's book can be seen as a case study along these lines. The main context of his story is the international presence of Russia, Japan, and the Qing in Manchuria and how these different governments, mostly at the local level, tried to manage the outbreak of the plague. The study therefore focuses on three major cities—Harbin, Shenyang (Mukden), and Dalian—as they exemplify the ways in which the three powers confronted the plague. Dalian was under Japanese control, and Shenyang was the seat of the Qing power in Manchuria. The situation in Harbin was more complicated, because it was an international city with divided administrative control. According to Summers, the Russian part of the city acted promptly and implemented public measures to contain the disease. However, the result was mixed, partly because Harbin was where the plague first exploded and partly because the Russian authority stopped at the Chinese side, which was poorly regulated and became a hotbed of the epidemic. In Dalian, the Japanese approach was organized, drastic, and high handed; it was also effective. The Qing response, meanwhile, was quite listless until Wu arrived and adopted a vigorous approach, culminating in setting up a huge bonfire in Harbin in which thousands of corpses of plague victims were cremated. The upshot of Summers's comparative account is not to rank the governments and their responses but to show how international politics came into play in combating the plague. The style of the Japanese approach strongly reflected its colonial military character and ambition, for instance, whereas the Qing's response revealed that it was a power struggling to secure its sovereignty, govern its population, and modernize its public health system.

Summers's book contains many interesting observations. For example, it highlights the role of railroads in spreading the disease. The authorities were alarmed by the rapid outbreak of the plague and debated whether to shut down the railroads. In one memorable incident, a train carrying migrant laborers was stopped outside Shenyang, and passengers were quarantined on site. Some of them rebelled and managed to escape into the winter's night. Modern transportation technology, commercial traffic, and labor migration became part of the story of the plague. Summers's treatment of the 1911 International Plague Conference in Shenyang is also welcome. Here he tells an intriguing story of international cooperation and rivalry in science and medicine among conference delegations. Due to the nature of his sources, however, he recounts the event mainly from the American perspective. The conference may have

foreshadowed the promises and challenges of some of the later international organizations and actions to control epidemics. Unfortunately, Summers does not elaborate on this issue.

Finally, Summers makes an interesting observation concerning the ecology of the epidemic, especially the role of marmots. Although researchers—and indeed the historical actors themselves—have long identified the marmot as the original rodent host in the Manchurian plague, this aspect of the event has not received much notice from historians. Therefore, Summers's concise treatment of the ecology of the epidemic is particularly valuable. Marmots were a traditional food source for the Mongols, but the boom of the international market for marmot fur changed the ecology. Troops of hunters poured into the region to hunt marmots, intensifying contact between humans and marmots. The disease probably passed on to migrant hunters, who then spread it southward through towns and cities along the railway routes. In this way, global market economy, modern technology, and ecological changes all contributed to the outbreak of the epidemic.

Summers faced the unenviable task of trying to squeeze a great deal of international political history into a small book for nonspecialists. He might have tried too hard. Dozens of pages are devoted to recounting the many international incidents and treaties signed between the powers since the seventeenth century. This is particularly unfortunate because it is done at the expense of history of science and medicine. The book says little about medical knowledge and practice, or about the patients and medical practitioners. We don't learn about how, say, traditional Chinese doctors handled the disease and the epidemic (other than a comment that their hospital failed badly and had to be closed down). Nor do we learn much about what Wu and his staffers were doing, the challenges they faced and the medical, cultural, material, and bureaucratic problems they had to navigate.

Overall, the book gives the impression that science and medicine were quite straightforward and uncontroversial. Because the medical doctors engaged in fighting the plague had very different scientific and medical backgrounds, one suspects that there would have been diverse medical opinions as to what the disease was, where it had come from, how fast it would spread, how to treat it, and how to control it. Weren't there substantive medical or scientific disagreements—especially as many of the medical workers were unfamiliar with the pneumonic form of plague? Furthermore, it is not clear what was learned from this momentous event. If Wu's work was so extolled (he was nominated for the Nobel Prize in Medicine) and his books on



the plague were standard until the 1950s, then what Wu and his contemporaries had done and learned at the time must have made an impact on medical knowledge and public health. If so, what was this impact? Was it the ecological approach that Summers considers the principal lesson of the plague? More discussion on this point would be helpful. That being said, none of these quibbles should dissuade anyone from picking up this wonderful little book.

Marmots do not make an appearance in Miller's book, but plenty of other animals do. *The Nature of the Beasts* is much more than a history of the Tokyo Zoo, the first and foremost zoological garden in Japan. Actually, we don't learn a lot about the internal history of the zoo, such as its personnel, organization, physical layout, and everyday operation, nor do we learn much about the selecting, caring, feeding, raising, keeping, and training of the animals. Rather, the book is mainly a political and cultural history of modern Japan told through a series of episodes centered on the Tokyo Zoo. Yet the book also champions the methodology of environmental history and animal studies, though here it is not uniformly successful.

Miller's book visits a series of intriguing topics. It begins by laying out the new ideas regarding nature, civilization, animals, and evolution that informed the founding of the Tokyo Zoo in Meiji Japan. It goes on to discuss the zoo and Japanese imperial imagination in a chapter that includes the only detailed discussions of the design and physical construction of the zoo—a section on the window display (which is linked to capitalist consumerism and window displays of department stores) and one on the design of “Japanese” landscape rocks for monkey cages (a kind of “national style” for an animal of national significance, the Japanese macaque). Entering the war period, the book looks first at military animals, especially horses, and then at the culling of large numbers of zoo animals. The chapter on military horses is fascinating because specially bred horses were not wild animals, and yet they occupied a prominent place in the zoo as the country was gearing up for war. Miller deftly uses the episode of military horses to explore Japanese wartime culture and politics. This is also one of the few chapters in which Miller examines Japanese relationships with domesticated animals, a subject to which I wish the book had given more attention. To understand Japanese zoo culture, wouldn't it be helpful to know a little more about how Japanese urbanites related to their pets and livestock? I shall return to the chapter on the zoo massacre later.

The rest of the book covers the postwar era. One chapter focuses on the zoo and the reshaping of history and memory, particularly among children, during the American occupation

and the postwar economic recovery. Miller uses gift animals from the United States and Asian countries to explore how Japan reimagined itself by negotiating postwar global geopolitics and its own past and future. As in the rest of the book, the chapter offers many vivid, telling anecdotes, including a fascinating one about two gift elephants from India and Thailand. These elephants were eagerly anticipated and wildly popular among children in Japan, due in part to campaigns orchestrated by the government and newspapers. The last chapter is on the craze over giant pandas in the 1970s and 1980s and the pandas in the Tokyo Zoo.

Miller weaves many themes and arguments into his magnificent book. He tries to tie them together under the overarching notion of Japan's "ecological modernity." This notion refers to the changing condition of the Japanese relationship with nature (especially animals, in this case) and modernity, but it does so without oversimplifying the categories of nature, modernity, and historical agency. Instead, it stakes out certain methodological positions. Nature is not something "out there," but rather is intertwined with human perception, action, and culture. Modernity is not something teleological, progressive, and universal, but is varied and shifts in configuration. And humans are not the only agents of history; nonhuman actors, such as animals (consider Summers's marmots), play a role too—well, in fact, aren't humans animals too?

I heartily agree with these views. The thing is, however, that there isn't a lot of ecological history or hardcore animal studies in Miller's book. After finishing the book, I am compelled to think that the proposed unifying theme, "ecological modernity," may be too strained and abstract for what the book actually does. Miller's is a fox of a book—a brilliant one at that. It is nimble, sophisticated, resourceful, and multifaceted. It does many things well, extremely well. But to call it a work on "ecological modernity" is to make a fox wear a spiny sea urchin shell and then call it a hedgehog.

What the book does best is to bring historical instances to life and use them to explore and illuminate broader issues. It does so by both peeling the onion and rolling the snowball, so to speak. Take, for example, the chapter on the great zoo massacre. During the Pacific War, when American air raids became a real threat, the Tokyo Zoo was ordered to kill its animals. Their pleas rejected, the zookeepers, often heartbroken and in tears, reluctantly killed the animals in their care, poisoning them, starving them, or even using bludgeons and bamboo spears. This was done quietly, but subsequently a solemn memorial service to these animals was held and was attended by high-ranking officials. Why? Miller poses the question with Robert Darnton's *The*

*Great Cat Massacre* (1984) in mind. Darnton finds the murder of cats at a printing shop in eighteenth-century Paris to be an excellent point of entry into the French mentality at the time, precisely because the original joke is lost on us. We don't find slaughtering cats funny, but the workers at the printing shop apparently did. So we don't "get it." And this jarring unfamiliarity is precisely what a cultural historian should investigate.

Although Miller opens his chapter with a Darntonian move, positing that we don't "get" the zoo massacre (really?), he doesn't follow Darnton's heavy reliance on symbolic anthropology. Miller is winningly eclectic in his approach. He unravels the reasons for which the zoo animals were killed (peeling the onion). He layers up the political and cultural contexts of the massacre and the memorial service (rolling the snowball). He then expounds on the implications of the episode for modern Japanese history. By and large, Miller writes like a traditional cultural historian who nonetheless is enviably up to date on a wide range of theories. His chapter on pandas follows a similar approach. It begins with several pages on concepts in animal studies and ecological studies (such as the Anthropocene, neoteny, and the agency of animals), but it then rolls on to an engrossing discussion of panda diplomacy, cultural images of the panda, environmental conservation, and the reproduction of captive pandas. All of these topics can be said to have something to do with the theoretical discussion, yet none is closely tied to it.

The book roams far beyond the Tokyo Zoo, but strangely it says little about other zoos in Japan. The reader does not obtain a clear idea of where the other zoos were, how and why they came into existence, what they were like, and so on. Granted, the Tokyo Zoo was the flagship of them all, but so little is said about other zoos that it appears to have been largely a solo act. Wouldn't it make sense to see the Tokyo Zoo as part of the network of Japanese zoos? Other than a few cases mentioned in the book, we don't learn to what extent personnel, animals, ideas, resources, and practices circulated among the zoos. In this regard, Miller's is very much a Tokyo-centered history.

Perhaps unsurprisingly, there seem to have been strong similarities between the Tokyo Zoo and its Western counterparts. Many of the themes Miller chooses to focus on—such as imperialism, capitalism, consumerism, and children—parallel what is discussed in studies of European and American zoos by John Berger, Gregg Mitman, Harriet Ritvo, Elizabeth Hanson, Nigel Rothfels, and others. Maybe this explains why the Tokyo Zoo appears to have resembled

the national zoos in Europe and the United States. Or perhaps the modern urban culture that gave rise to the zoo really was similar across countries and cities, and the international networks of zoos further added to their commonalities. What distinguished the Tokyo Zoo, then, may be attributable mainly to the particular political events that happened to Japan and, therefore, to the zoo.

Be that as it may, I still long to learn more about the particular intellectual, social, and cultural settings in which Japanese zoos and zoo culture took shape. Unlike the European empires, for example, Japan and its colonies did not have dramatically different faunas. Victorian Londoners strolled across the Regent's Park to see lions, tigers, elephants, giraffes, crocodiles, rhinoceroses, and kangaroos from the far-flung lands of the British Empire. Given that there were few obvious equivalents in the Japanese case—in fact, many of the most popular animals in the Tokyo Zoo were probably the same large, charismatic land mammals from beyond the Japanese Empire—what, then, was exotic nature in the colonial imagination of the Japanese? (Miller offers an excellent comparative analysis of the tiger, but I'm not sure that is quite enough.) It would also be helpful to learn more about the colonial zoos in Taiwan, Korea, and Manchuria—though admittedly it might be rather unreasonable to ask a book to do so much.

The chapter on pandas is the only one that looks long and deep into the actual lives of animals and the practice of zoo science. It concludes with a note on biotechnology and the shifting categories of nature and culture. Miller tells us that captive pandas, which are supposed to be wild animals, often have to rely on artificial insemination for reproduction, resulting in biotechnological intervention in what is presumed to be nature. This is true enough, though hardly shocking, considering that, in Japan, artificial insemination had been performed on livestock for many decades before it was first applied to pandas in the mid-1980s. It does call attention to the complexity and ambiguity of the lines drawn between nature and culture, the wild and the domestic, and other related categories. As Miller's masterly book demonstrates, the zoo is one of the sites on which this interplay presents itself on an especially intensive level. *The Nature of the Beasts* is the first book in our field that I would compare to the classic studies by Keith Thomas (1983) and Harriet Ritvo (1989).

Taken together, the three books reviewed here point to important directions that future research may take. Both Miller and Summers raise the issue of animals and ecology in history, though neither has consistently incorporated them into their historical accounts, especially when

it comes to the thorny problem of nonhuman actors and historical agency. There is not a ready-made formula for how to solve this problem, but it is a challenge worth taking on. More than the other two authors, Fukuoka looks closely at the matter of epistemology. If science, medicine, and nature were key elements in modern East Asian history, which they most definitely were, then we must take the history of epistemology seriously. “Nature” is not simply a material entity out there, science is not simply the discovery of “nature,” and medicine is not simply curing diseases, whatever that might mean. All of them have an epistemological history. Finally, it is welcome that all three books try to go beyond national history, Summers’s comparative history unequivocally so and the other two indirectly. Fukuoka emphasizes that Japanese Shōhyaku-sha scholars actively engaged with Chinese and Western knowledge and practice, and Miller’s learned book draws connections and comparisons well beyond the borders of Japan. I admire all three books, and I hope that they are harbingers of a new historiographical trend.

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### Notes

- 1 Environmental history has also made significant headway in the field of Chinese history, though most of the literature is about late imperial China. See Marks (2011) for an impressive *longue-durée* survey. There is a growing body of literature on the environmental history of late nineteenth- and twentieth-century China. Animal studies is still in its early development in China studies.
- 2 Thanks to Joseph Needham’s monumental work, the history of Chinese science has been a small but well-established area of research for decades. But its main focus was on “traditional” science, until recently, when the topic of science in twentieth-century China began to attract much attention. See, for example, the special Focus section on “Science and Modern China” in *Isis* 98 (2007): 517–596.
- 3 I have benefited greatly from reading the works of Sonja Kim, Soyoung Suh, Joe Dimoia, and, in Korea, Lim Jong Tae, Tae-ho Kim, Sungook Hong, and others.
- 4 See, for example, the journal *East Asian Science, Technology, and Society: An International Journal*, published by Duke University Press.
- 5 In the context of China, see Fan (2004), especially chapter 5.
- 6 In China studies, Fukuoka’s book may best be compared to Heinrich (2008).

### References

Cochran, Sherman. 2006. *Chinese Medicine Men: Consumer Culture in China and Southeast Asia*. Cambridge, MA: Harvard University Press.

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- Darnton, Robert. 1984. *The Great Cat Massacre: And Other Episodes in French Cultural History*. New York: Basic Books.
- Elman, Benjamin. 2005. *On Their Own Terms: Science in China, 1550–1900*. Cambridge, MA: Harvard University Press.
- Fan, Fa-ti. 2004. *British Naturalists in Qing China: Science, Empire, and Cultural Encounter*. Cambridge, MA: Harvard University Press.
- Hanson, Marta. 2011. *Speaking of Epidemics in Chinese Medicine: Disease and the Geographic Imagination in Late Imperial China*. London: Routledge.
- Heinrich, Larissa. 2008. *The Afterlife of Images: Translating the Pathological Body between China and the West*. Durham, NC: Duke University Press.
- MacKenzie, John M. 1988. *The Empire of Nature: Hunting, Conservation, and British Imperialism*. Manchester: Manchester University Press.
- Marks, Robert. 2011. *China: Its Environment and History*. Lanham, MD: Rowman and Littlefield.
- McNeill, J. R. 2010. *Mosquito Empires: Ecology and War in the Great Caribbean, 1620–1914*. New York: Cambridge University Press.
- Miller, Ian, Julia Thomas, and Brett Walker, eds. 2013. *Japan at Nature's Edge: The Environmental Context of a Global Power*. Honolulu: University of Hawaii Press.
- Nappi, Carla. 2009. *The Monkey and the Inkpot: Natural History and Its Transformations in Early Modern China*. Cambridge, MA: Harvard University Press.
- Pflugfelder, Gregory, and Brett Walker, eds. 2005. *Japanimals: History and Culture in Japan's Animal Life*. Ann Arbor: University of Michigan Press.
- Ritvo, Harriet. 1989. *The English and Other Creatures in Victorian England*. Cambridge, MA: Harvard University Press.
- Rogaski, Ruth. 2004. *Hygienic Modernity: Meanings of Health and Disease in Treaty-Port China*. Berkeley: University of California Press.
- Shen, Grace Yen. 2013. *Unearthing the Nation: Modern Geology and Nationalism in Republican China*. Chicago, IL: University of Chicago Press.
- Skabelund, Aaron Herald. 2011. *Empire of Dogs: Canines, Japan, and the Making of the Modern Imperial World*. Ithaca, NY: Cornell University Press.
- Thomas, Keith. 1983. *Man and the Natural World: Changing Attitudes in England, 1500–1800*. London: Allen Lane.
- Walker, Brett. 2008. *The Lost Wolves of Japan*. Seattle: University of Washington Press.
- . 2011. *Toxic Archipelago: Industrial Disease in Japan*. Seattle: University of Washington Press.