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**Introduction to “Air-Water-Land-Human: Interdisciplinary Approaches to Health and Environment in East Asia”**

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When constancies are lost, *qi* and essence steam upward, causing heat in the body; if *qi* and essence are blocked, they cause cold; if they are bound, they give rise to tumors and excrescences; if they sink, abscesses; if they scatter, they cause panting and shortness of breath; and if they are exhausted, scorching and withering. These symptoms are visible on the face and manifest throughout the body.

When one extends this analogy to Heaven and Earth, it is also likewise. Unseasonable winter cold and summer heat are the ascent or blockage of *qi* and essence in Heaven and Earth. Boulders and thrust-up earth are the tumors and excrescences of Heaven and Earth. Collapsing mountains and caved-in ground are the abscesses of Heaven and Earth. Scattered winds and violent rain are the panting and shortness of breath of Heaven and Earth. Dried-up streams and parched marshes are the scorching and withering of Heaven and Earth.

- Biography of Sun Simiao from the *Jiu Tang shu* quoted in Wilms (2010, 7)

These phrases attributed to the sixth-century physician Sun Simiao vividly convey the way Chinese Daoism thought of human bodies as inextricably embedded in the world. Linked by the same coursing vitalities, the earth and all its things could take part in the same processes of lively flourishing but were also susceptible to the same problems of blockage, exhaustion, and collapse. Many scholars have seen within this and other East Asian traditions a unique way of envisioning the relationship between human health and the environment: the body as “fundamentally porous to the world that surrounds it,” embedded in an ecology that, when properly recognized, can nurture the capacity for balanced harmony (Miller 2017, xxii; see also Tucker and Berthrong 1998; Rots 2017).

If East Asia has been defined by particular ideas about the intertwining of humans and the environment, it also gives us a reality in which humans and the environment are frequently at odds. Philosophies may have preached the harmony of the macrocosm and human microcosm, but this did not stop people from exploiting and harming the environment for centuries with catastrophic impact on human health (Elvin 2008; Perdue 1987; Totman 1989). The advent of capitalist development and its accompanying neoliberal philosophies have accelerated these

processes to unimaginable effect. Indeed, it is impossible to think about East Asia today without touching on destructive links between humans and the environment, whether manifest in the nuclear catastrophe at Fukushima, cancer villages in Sichuan, or bird flu pandemics emerging from Vietnam (Walker 2010; Lora-Wainwright 2013a; Porter forthcoming 2019). Historian Brett Walker’s observation about Japan holds true for all of East Asia: scholars “can no longer be content to ruminate on Japan’s exquisite harmony with nature” but must instead “explain how it has contributed to regional ecological collapse and global climate change” (Walker 2013, xiii).

Indeed, the relationship between health and environment in East Asia has taken center stage in considerations of the Anthropocene and its definitive environmental crises. Whether those crises are deadly pandemics, worldwide effects of drought, or mass migrations linked to climate change, influential thinkers from Amitav Ghosh to Martin Rees look to Asia to find catastrophic manifestations of global dilemmas (Peckham 2016; Ghosh 2017; Rees 2018; Austin 2017; Sipress 2009; Sze 2015). Human health and environment has emerged as an important subfield within Asian studies, with numerous influential monographs, edited volumes, and special journal issues, particularly in the China field (Lora-Wainwright 2013b; Holdaway 2013; Aunan, Hansen, and Wang 2018; Kostka and Nahm 2017). This focus on East Asia’s environmental crises runs the risk of echoing the colonial discourses of the nineteenth century through the production of an image of a “Polluted Man of Asia” or an “Eco-Yellow Peril” (Litzinger and Yang forthcoming 2019), an image that obscures the responsibility of Western capitalism and sets East Asia apart as singularly degraded. The best scholarship on East Asia’s crises recognizes that they are part of a contemporaneous, linked global phenomenon from California’s agricultural pesticides to New York’s Love Canal to Flint, Michigan, and cannot simply be put on an inevitable timeline of historical “development” that the West has left behind (Nash 2006; Mitman, Murphy, and Sellers 2004; Newman 2016; Clark 2018; Li and Svarverud 2018).

The articles in this special issue of *Cross-Currents: East Asian History and Culture Review* present new directions for thinking through connections between health, well-being, and environment in East Asia. They each deal in different ways with the complex intertwining of elements of nature—air, water, land, and human—and link local and global issues. Some deal with ecologies at the water’s edge: Japan’s Inland Sea as a felicitous environment for the development of cholera (Johnston), or endocrine-disrupting chemicals lurking in the water and fish of the Yangtze River (Lamoreaux). The inescapable air harbors dangers, whether the tuberculosis bacillus in wartime China (Brazelton) or PM 2.5, the deadly fine particulate matter in the smog of contemporary Beijing (Rogaski). The land of sacred mountains in the Eastern Himalayas is polluted with trash, including plastic bottles and old clothes, not only leading to ethnic tension but also harming the well-being of the mountain deities (Wang).

Together, these articles demonstrate how the subject of environment and well-being perfectly brings together multiple academic disciplines: sociology, anthropology, history, geography, religious studies, science and technology studies, biology, and environmental sciences. Indeed, given the depth and severity of the

issues at stake, all disciplines have something to contribute: the past has direct bearing on the present, and consideration of both culture and science are needed to reveal catastrophes and illuminate solutions. All of the authors have found inspiration in actor-network theory and place particular attention on the role of nonhuman actants, whether they are viruses in the ocean, chemicals in fish, or clothing deposited on a mountain. Several contributions also embrace a “more-than-human” perspective (de la Cadena 2015), recognizing indigenous worldviews that impart sentient agency to entities that modernity has rendered nonsentient and allowing these perspectives to manifest within scholarly analysis as a strategy to “reconcile rational thought and experience-laid ideas of the environment” (Bo Wang, email message to author, March 11, 2019). All contributors take steps to recognize that the “landscape is no longer just a passive backdrop against which human history unfolds, but a potentized field of intelligence in which our actions participate” (Abram 1997, 269).

The articles in this issue contain many interdisciplinary themes. My introduction focuses on four: (1) the importance of attention to material/nonhuman actors; (2) tensions and choices between individual/body-based solutions to health issues and social/environmental interventions; (3) comparative and transnational framing; and (4) the complexities involved in the idea of finding solutions to environmental crises within Asian traditions.

Historian William Johnston, in an innovative and potentially controversial piece, argues that in order to understand the history of health and the environment, historians must value information from the laboratory as much as they value research from the archive. A rich historical literature has already established that cholera was Japan’s modern disease par excellence. But although human reactions to and experiences of cholera have been well-researched, much remains unknown about the identity, actions, and “motivations” of one the main actors in Japan’s cholera experience—namely, *Vibrio cholerae* itself. Johnston pinpoints the problematic “fuzzy borders” of cholera’s chronological and spatial parameters in Japan. The pattern of cholera’s ebb and flow suggests that the bacillus—long thought of as a foreign invader—took root within the local environment. To flesh out this argument, Johnston provides an in-depth “biography” of *Vibrio cholerae* drawn from scientific literature, demonstrating how complex interactions among bacteria, viruses, saltwater, seaweed, shellfish, and humans created pools of endemic disease in Japan’s Inland Sea, a phenomenon wonderfully demonstrated in space and time through a time-lapse geographic information system (GIS) map. Ever since the famous nineteenth-century sanitary science expert Max Joseph von Pettenkofer swallowed *Vibrio cholerae* slurry with no ill effects, we’ve known that the mere presence of a pathogen is not the sole determinant of ill health; both the environment and the body must be primed to allow the pathogen to take root. Johnston’s attention to the “habitus” of the bacillus thus enriches our historical understanding of disease.

The relationship between the human body and the environment is particularly important with tuberculosis, the great scourge of the nineteenth and early twentieth centuries and a continuing threat today. Exactly what makes *Mycobacterium tuberculosis* take root and turn deadly in the human body is still not

entirely understood (Turner et al. 2017), but environment has much to do with it. As reflected in the famous “McKeown thesis” and echoed in influential works on contemporary global inequality (McKeown 1976; Deaton 2015), the historical decrease in tuberculosis in the West was due to social and economic improvements in standards of living, not direct medical interventions on individual bodies. In her contribution, history of science scholar Mary Augusta Brazelton asks what happened for those who did not ride that initial demographic transition wave. Such was the case with China, where poverty ensured that tuberculosis remained the most significant killer well into the twentieth century. Brazelton shows that medical and scientific professionals under the Republic of China were keenly aware that tuberculosis was best addressed through social and economic interventions, but this was a goal that the fledgling republic could not accomplish. At the same time, the disease itself made economic improvement difficult, creating a catch-22 situation described by one Chinese observer as “More ignorance and poverty, more tuberculosis! More tuberculosis, more poverty!” (Brazelton, this issue, 48). Why not, then, take advantage of a body-based intervention? The Bacille Calmette-Guérin (BCG) vaccine seemed like a godsend, but Chinese observers—even those most plugged into global networks of science—were both wary of the vaccine’s safety and ambivalent about putting the dream of social improvement on the back burner. The nadir of wartime deprivations inspired Chinese medical professionals to adopt the BCG vaccine, a process that continued in the postwar years in both China and Europe. Brazelton not only fills in an important gap in the global history of tuberculosis (McMillen 2015) but also highlights the uneasy dialectic between environment-based and body-based interventions for health that continues in our current neoliberal era.

Like tuberculosis, chemical pollutants pose a global health problem experienced throughout the world, but they do not always elicit a similar response in every locale. Anthropologist Janelle Lamoreaux examines the popular response to a 2010 China Greenpeace report on the presence of high levels of endocrine-disrupting chemicals (EDCs) in Yangtze River fish. A central node in the history of environmentalism, EDCs demonstrate the radical permeability of the body to an environment teeming with the by-products of industrial life. Endocrine disruptors include a host of chemicals with acronyms familiar to any American of a certain age as their discovery marked different eras of environmental awareness: beginning with dichlorodiphenyltrichloroethane (DDT) in the 1960s, then polychlorinated biphenyls (PCBs) and perfluorinated compounds (PFCs) in the 1970s and 1980s, and, most recently, bisphenol A (BPA). The discovery of EDCs in Yangtze fish signals China’s participation in an unfortunate global “adult swim,” joining the rest of the developed world in the leaky pool of industrial poisons (Murphy 2008; Nading 2017). Of all the health risks associated with these chemicals, disruptions and transformations in sex development grabbed the most attention in American media, but Chinese media saw the crisis through a different lens. In a world saturated with *youdu shipin* (poisonous food), Chinese reacted through a logic of “scandal” that propelled productive public outrage. By placing China’s EDCs in a global and comparative context, Lamoreaux highlights “the cultural specificity of what constitutes environmental practice” (Choy 2011, 134) and shows how the Chinese

case can serve as “an analytic resource through which to reimagine global EDC science and activism” (Lamoreaux, this issue, 94).

If contemporary East Asia’s pollution can provide a new analytic resource for global environmental activism, can traditional East Asian values do the same? Scholars have pointed to the ecological potential of East Asian religions, particularly Daoism, China’s “Green” religion (Miller 2017), and Prasenjit Duara has recently undertaken a path-breaking extended meditation on the potential of Asian modes of transcendence to address the world’s current crises (Duara 2014). Although classical texts and philosophical traditions undoubtedly contain inspirational perspectives that can open up possibilities for action, as a historian I have contributed to this issue an article suggesting that the long path from traditional value to contemporary solution might be quite complex. Beginning with a rumination on an ironic but thought-provoking image—a statue of a traditional *taijiquan* (tai chi chuan) practitioner adorned with a white mask during a recent smog crisis in Beijing—I offer observations on the historical relationship between the transcendent entity of *qi* and the chemically defined entity of air in late nineteenth- and early twentieth-century China. The initial translation of chemical gas through *qi* terminology at one time allowed doctors of Chinese medicine to imagine a host of commensurabilities between *qi* and the air we breathe. However, such medical commensurabilities seem unavailable to address today’s air pollution issues as traditional Chinese pharmaceutical companies market herbal “anti-smog tea” to individual consumers and physicians practicing traditional Chinese medicine (TCM) think of *qi* primarily in terms of PM 2.5. I have no doubt that a *qi*-based cosmology has a great deal to offer the world, but rather than provide transcendent solutions, *qi* (within Chinese medicine at least) can just as easily dovetail with neoliberal regimes of individual responsibility.

Anthropologist Bo Wang offers a different perspective on the viability of traditions, one well grounded in the daily lives of ethnic Tibetans. In his perceptive and complex contribution to our issue, Wang pinpoints trash both as an environmental hazard in Tibetan sacred landscapes and as a meaning-full object through which human identities are contested and transformed. Using Emily McKee’s concept of “trash talk” (2015), Wang highlights the tensions that develop between Han Chinese tourists and Tibetan locals in northwest Yunnan, an area quite literally marketed as “Shangri-la” but too often covered in trash that is both secular (plastic water bottles) and potentially sacred (used garments offered to mountain deities). Cultural conflicts over what constitutes trash take place within a very concrete political economy of waste management. Wang shows how Tibetans, through their daily experiences with issues of trash, have begun to rethink their relationship to the land, reframing their interactions with the mountains through a combination of environmental stewardship and renewed embrace of traditions in ways that can lead to personal renewal and well-being. Wang gains analytical insights from his Tibetan informants and challenges us to see both the mountains (mountain-persons) and the garment offerings as “people,” as agents that have energies, provoke action, and lead to reworked definitions of morality. Wang’s attention to the technical details of waste management in Shangri-La City anchors his considerations of culture firmly in the material world, highlighting what Duara

has called “a more viable cosmological foundation for sustainability” (2014, 2) within a lived experience of everyday life.

Finally, in a rich photo essay graciously composed for this issue, historian Gerald Figal presents the remarkable world created by tetrapods, the massive modular concrete erosion barriers that are ubiquitous along Okinawa’s coastlines. Designed as an artificial enhancement to protect against the “battering of nature,” the tetrapods have themselves become “colonized by nature.” Figal shows how they are producing a flourishing ecology that includes everything from crustaceans to fish to feral cats. Humans (though perhaps not the most important participants) also join in the tetrapod ecology, using them as a platform for recreational fishing and developing otaku cultures of fandom centered around the bulky but somehow cute objects. Through his work on these human-produced “sea monsters,” Figal theorizes an understanding of nature that “accommodates, rather excludes by definition, humans and their built environments” (this issue, 168).

Taken together, the contributions to this special issue clearly demonstrate how questions of health and environment open up interdisciplinary inquiry perhaps better than any other field in Asian studies. Within this expansive framework, one can simultaneously talk of the *dao* (道) and PCBs, lysogenic phage cycles and empire, or petrochemicals and ethnic identity. Through attention to global comparisons, these articles highlight areas where East Asian cases can make crucial contributions as specific as the historical epidemiology of a single disease or as sweeping as the theorizing of new forms of environmental activism.

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