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Swarms, Herds, and Peoples: Examinations of Interspecies Dynamics in China

Introduction

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The two articles that are the *Focus* of this issue of *East Asian Science, Technology, and Medicine* were originally presented as part of a panel entitled "Anthrozoological Relations in Southeast, Inner, and East Asia: Interdependencies Between People and Animals," at the American Society for Environmental History annual conference of 2015 in Washington D.C.

The panelists' papers ranged from the eighteenth into the twenty-first centuries and focused on some of the historical consequences of mutually conditioning relationships between people and animals—whether conscious or inadvertent; friendly or hostile. The panel's unifying theme was an assertion that, in these situations, humans do not simply 'construct' animals anthropocentrically. Rather, that they themselves are also constructed, and reconstructed, by animals in an environmentally equitable exchange.

Consequently, the panelists worked to move beyond how animals have been portrayed and imagined in human culture to arrive at a more nuanced understanding of how animal behavior, significant aspects of which cannot be considered the result of human manipulation, influenced socio-economic and political behavior conventionally understood in terms of relatively exclusive inter-human dynamics. This is certainly not to argue that human influences on animals have been unimportant. Rather, we consider the historical significance of a human-animal interdependency within which animals are givers as well as receivers, causes as well as effects, agents as well as objects.

Such an approach has been an important element of the literature on disease, health, and medicine in its presentation of animals as vectors at least since Hans Zinsser's *Rats, Lice and History* made its debut in 1934 and introduced the humble typhus-bearing louse as an actor upon the European historical stage. J. R. McNeill's *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620-1914*, in which "mosquitoes and viruses made history in the Greater Caribbean" as they conditioned the human terms of regional settlement through the transmission of yellow fever and malaria, is one of the more recent and influential examples of such work.¹ Humans themselves have been considered the most important 'animal' disease vector in some of environmental history's most ground-breaking publications. This is perhaps best represented by William H. McNeill's *Plagues and Peoples*. Further, some of the very foundation of Alfred W. Crosby's revisions of the "Columbian Exchange" thesis is substantially based on the human-to-human transmission of the New World's greatest scourge of indigenous peoples, smallpox.² It is likely, however, that the primordial source of smallpox was zoonotic transmission as humans were exposed to viruses whose original habitat lay within the bodies of livestock living in close contact with people.³

Ironically, however, current trends in the medical sciences include a growing and unprecedented consideration of 'cultural' dimensions of

¹ Zinsser (1963); McNeill (2010).

² McNeill (1976); Crosby (1972), pp. 35-63.

³ Esparza *et al.* (2017).

infectious disease in the form of SEB (Social, Economic, Behavioral) research that forges interdisciplinary links to the life sciences.⁴ The conditioning of human institutions, as opposed to human bodies, by animal behavior has been less explicit in general historical work until relatively recently, with some notable exceptions like Chapter 8 of Alfred W. Crosby's *Ecological Imperialism*. In contrast, Virginia DeJohn Anderson's full-length monograph, *Creatures of Empire: How Domestic Animals Transformed Early America*, analyzing how the free-range tendencies of domestic livestock triggered cultural conflicts between, and among, North American colonists and Native Americans, constitutes a pioneering example.⁵ Some recent accounts of disease in history have taken up an alternative perspective on animals in which human agency is limited by emphasizing environmental complexity. Timothy Mitchell's 'Can the Mosquito Speak?', Chapter 1 of his book—*Rule of Experts: Egypt, Techno-Politics, Modernity*—goes so far as to show how malarial mosquitoes took reproductive advantage of river control projects and airplane transport to spread themselves ever more widely and lethally in wartime Egypt, as “dams, blood-borne parasites, synthetic chemicals, mechanized war, and man-made famine coincided and interacted.”⁶

Of course, current work on human-animal relations is expanding in many directions to encompass a wider range of approaches than ever before.⁷ Indeed, research on the topic has now evolved into what has been called a ‘representation debate’ over whether or not scholars should focus more on ‘real animals’ and less on human cultural constructions of them. One contributor has sought to resolve this debate by advocating “a fusion of historiographical approaches that take representation seriously, but which go further by also including the material life of the animal, namely the life of specific animals in historical contexts.”⁸

One important theoretical expression of the general formative concerns on historical dynamics moved by agents other than humans that lies behind this more recent work is Bruno Latour's *Reassembling the Social* in its extended articulation of Actor-Network Theory (ANT). ANT is not, strictly speaking, an argument to replace human actors and agency with non-human ones. Instead, “it simply says that no science of the social can even begin if the question of who and what participates in the action is not first of all thoroughly explored, even though it might mean letting in elements

⁴ Sommerfeld (2003): S32-S34.

⁵ Crosby (1987); Anderson (2002).

⁶ Mitchell (2002), p. 22.

⁷ Some sense of this range may be gained from works covered in Kean and Howell (eds.) (2018), Mullin (2013); DeMello (2012); Brantz (ed.) (2010).

⁸ Roscher (2018), p. 53.

in which, for lack of a better term, we would call *non-humans*.⁹ At least some of this deceptively simple declarative statement can be traced back, in terms of environmental studies, to foundational work in ecology and related disciplines. Julian Steward, for example, offered an extensive critique of what he termed “the tautology of social ties made out of social ties” from the perspective of cultural ecology in 1955.¹⁰

Without undue oversimplification, it is possible to summarize critiques from both the broader avenues of social theory and the specialized alleys of environmental and human-animal studies as serious inroads against the anthropocentric assumptions that pave much of the basic conceptual ground of the social sciences and humanities. Such assumptions have been subjected to increasingly nuanced consideration in studies explicitly concerned with formulating more precise critiques or qualifications of anthropocentrism:

..... there is a need to create spaces where we can see – and record – what it is that humans and non-humans do when they interact – not presume the very phenomena we claim to be investigating in the first place. This involves adopting a post-humanist approach toward human-animal relations [that] takes as its starting point the idea that social action is relational and that acknowledging this has the value of allowing us to study the relations rather than the relators. In essence this shifts the focus away from knotty problems like who (or what) is conceived as an actor or as having agency. It also serves to bring back to a level playing field all those things that aren’t human. Instead of prioritizing human perspectives and thus writing out any other perspective (animal, environmental, etc.) it is an approach that sees all perspectives as (epistemologically) equal and also allows an analysis of the power imbalances inherent in traditional thought. A further cornerstone of this approach is that of process, of fluidity. Instead of seeing the world and its inhabitants in terms of static structures there is a stress on the need to see the processes, the immanence, of things. This is an attempt to break away from structure-agency arguments.¹¹

This quote stands as a directional indicator, a signpost of the crossroads in which the humanities stand regarding human-non-human relations. The articles that follow are moving to explore a Chinese environmental history

⁹ Latour (2007), p. 72; Asdal (2003).

¹⁰ Steward (1955), p. 36.

¹¹ Taylor (2011), p. 265.

beyond the anthropogenic confines of disaster and resource exploitation that still make up the vast bulk of the existing literature. This is not to dismiss this literature as either incorrect or irrelevant. Instead, the intent here is to widen the perspectives of Chinese Environmental Studies to encompass a more twenty-first century horizon. The recent onset of scholarly awareness within the humanities regarding the “shock of the Anthropocene” should finally and unequivocally provoke an examination of just how much humans and animals have in common through the traumatic transformation of the very air that both breathe, the foodstuffs that both eat, and the water that both drink.¹²

Consequently, the articles that follow, although they reveal much less dramatic views of human-animal histories during the Qing (1644-1912) and Republican (1912-1949) periods, are less concerned with actors than with acting. Action includes its human and animal consequences through an explicit engagement with the material life of animals.

In Mark E. Frank’s article, “Hacking the Yak: The Chinese Effort to Improve a Tibetan Ungulate in the Early Twentieth Century,” the consequences are not limited to improving the breed of high altitude livestock for human ends. They also include a detailed demonstration of how yaks can support distinctive forms of human society within the specific dry high altitude biomes in which they can be found.¹³ Beyond the fundamental nomadic pastoralist dependencies on yaks for food, shelter, and transportation lie overlapping regions of yak and grain habitats that have long conditioned interactions among human groups. Trade, war and ethnic mixing have all thus contributed to the social production of space. In the process, the innate characteristics of yaks have helped set conditions for human relations, including human highland residence, even as people have subjected said yaks to ongoing behavioral and genetic modifications. Frank’s “anthrozoological modern history of the Kham region” of Tibet has been crafted deliberately to both contrast and contest the prevailing regional political narrative. Indeed, he argues that Kham politics in the early twentieth century cannot be grasped in many of its particularities without serious consideration of human-yak relations.

David A. Bello’s article, “Consider the Qing Locust,” follows a similarly less anthropocentric path. It examines the dynamics of human-locust relations as mediated through large-scale agricultural projects and water control activities in eighteenth and nineteenth century imperial China. These dynamics arose from human efforts to impose a uniform equilibrium

¹² The term ‘Anthropocene’ in its corresponding shock are deconstructed, then reconstructed, in Bonneuil and Fressoz (2016); most concisely on pp. 288-291.

¹³ A biome may be defined as an ecosystem – such as tundra, tropical rainforest, etc. – characterized by dominant plant types and a prevailing climate gradient in which species interact as a community; Chapin *et al.* (2002), p. 42.

on a diverse array of complex ecosystems to ensure an annual agricultural surplus undisrupted by drought, flood, or insect infestations. However, vast grain fields could, and did, inadvertently attract and sustain locust populations. Likewise, there were unpredictable intersections between human water control activities and climate that could, and did, inadvertently promote locust reproduction.

The resulting agriculturally dangerous swarms were, in both instances, indifferent to the provincial and prefectural administrative boundaries that were key to the coordination of pest eradication efforts. Thus, the imperial state's attempt to secure its agricultural heartland could inadvertently foster an ample population of locusts that would infest that same heartland. These environmental relations exemplify some of the 'disharmony dynamics' that are characteristic of incompatibilities of scale, predictability and rates of change between human and natural systems. In this sense, imperial agriculture cannot be reduced to the inter-human relations of management or corruption. Instead, these herbivore locust predators were an inevitable, if accidental, product of the environmental relations between humans and cereals.

Both articles might be casually read as asserting the agency of animals, but they are actually more legible as contingent accounts of human-animal – that is environmental – relationships.

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