

*Anne E. C. McCants and Anya Zilberstein*

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**Introduction** Interdisciplinary history, the movement from which this journal was born in the third quarter of the last century, has found expression most fully in the adoption of analytical methods drawn from history's sister disciplines across the humanities and social sciences and in their repurposing for the study of the human past. What has been less common for the *Journal of Interdisciplinary History*, unlike in environmental history or history of science and technology outlets, is the borrowing of concepts and methods from the natural sciences. The *Journal*, moreover, has only infrequently been a venue for the exploration of dynamics between human and non-human actors sharing the same historical stage. This special issue contributes to an expansion of interdisciplinary scholarship in both directions by showcasing a collection of essays inspired by the career contributions of historian Harriet Ritvo, Arthur J. Conner Professor Emeritus at the Massachusetts Institute of Technology.

Each of the following five essays is both indebted to and in dialogue with Ritvo's pioneering work in animal history, environmental history, and the history of science. At the most rudimentary level, what they share in common is their origins in the recent symposium in honor of Ritvo's retirement from teaching in the History Section and the History and Anthropology of Science, Technology, and Society Doctoral Program at MIT. Taken together, however, they constitute more than simply a tribute to Ritvo's exemplary scholarly career as a researcher, mentor, and inimitable stylist. The title of this issue intentionally riffs on one of Ritvo's characteristically efficient, understated formulations: "people and *other* animals." Just as her phrase implicitly rejects the commonplace but erroneous presumption of a hard, ahistorical boundary between species, especially between *Homo sapiens* and everything else, we maintain that genuinely interdisciplinary history is a broad church, learning from and contributing to debates in various disciplines, rather than working (intentionally or not) to fragment and insulate subjects, methods, or concepts within

exclusive fields of study. There is, of course, nothing wrong with disciplinary coherence; indeed, fruitful interdisciplinary ventures require that scholarship begin from a stable base. But as Ritvo observes, the mainstreaming (or, in Kuhnian terms, normalization) of previously marginalized topics, such as the increasing legitimacy of studying non-human animals in the humanities and social sciences, has sometimes paradoxically resulted in more, rather than less, specialization. Simply put, when there are sufficient numbers of researchers to exchange ideas, there may be less incentive to speak across fields.<sup>1</sup>

Although Ritvo has published on a wide range of subjects—from children’s literature to the precedents of contemporary legal battles over water rights—she is best known as an originator of animal-human history, as the essays by Whitney Barlow Robles, Luísa Reis-Castro and Jia Hui Lee, and Shira Shmuelly make clear. Her first two books, *The Animal Estate: The English and Other Creatures of the Victorian Age* (Cambridge, MA, 1987) and *The Platypus and the Mermaid: And Other Figments of the Classifying Imagination* (Cambridge, MA, 1997), which explored the cultural history of scientific and lay ideas about animals in Britain and the British Empire over the long nineteenth century, defined this new subfield of historical scholarship. These works and numerous articles and critical essays on related topics, especially in the history of natural history and biology, have remained highly influential, in significant part because Ritvo’s motivation was never merely to add yet another group (non-human creatures) to the expanding range of historical subjects deemed appropriate for academic treatment. Rather, Ritvo’s boldest intervention was to question—that is, to historicize—the origins and utility of the absolute difference most historians have assumed since the beginning of the profession, between the human past and the so-called natural history of everything else, especially but not limited to other species, extant or extinct.<sup>2</sup>

At a meta level, the essays here reveal how Ritvo’s approach to thinking historically about social relations among humans and

1 Harriet Ritvo, video interview by the authors, August 21, 2023; “The Harriet Ritvo Symposium,” Cambridge, MA (April 29–30, 2022).

2 Ritvo, “Learning from Animals: Natural History for Children in the Eighteenth and Nineteenth Centuries,” *Children’s Literature*, XIII (1985), 72–93; *idem*, *The Dawn of Green: Manchester, Thirlmere, and Modern Environmentalism* (Chicago, 2009).

other animals has had the salutary effect of revealing unquestioned categorical distinctions (“wild” versus “tame” or “domesticated” in Helen Curry’s and in Reis-Castro and Lee’s essays) or unnecessarily restrictive terms of art (“energy” in Barri Gold’s essay; “agency” in Robles’; “sentience” in Shmuel’s) that long remained implicit in humanistic and social science research more generally.

In the third quarter of the last century, Ritvo’s scholarship was in conversation with, among others, literary critic Gillian Beer, archaeozoologist Juliet Clutton-Brock, and historian Keith Thomas; it emerged in parallel with work by a small number of social scientists, such as Donna Haraway and Bruno Latour, in the then-emerging field of science and technology studies. All were early advocates for recognizing the material and conceptual permeability between nature and culture. For historians, probably the most widely read argument for the indivisibility of “natural” from “human” worlds was William Cronon’s edited collection *Uncommon Ground: Rethinking the Human Place in Nature*, in particular his provocative essay “The Trouble with Wilderness; or, Getting Back to the Wrong Nature.” In the following decades, more researchers began to accept nature and culture as unstable categories. Case studies in environmental history, the history of the field sciences, and political ecology repeatedly demonstrated that all manner of habitats, including the wildest or most remote environments, are partially or largely artifacts of human societies, and, conversely, that the most populous, urbanized, industrialized, or contaminated landscapes are host to complex non-human ecologies. Yet until quite recently, few historians besides Ritvo focused on the entanglements of human and other animal communities or how interspecies relationships have changed over time.<sup>3</sup>

3 Gillian Beer, *Darwin’s Plots: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction* (New York, 1983); *idem*, *Open Fields: Science in Cultural Encounter* (New York, 1996); Juliet Clutton-Brock, *A Natural History of Domesticated Mammals* (New York, 1987); Keith Thomas, *Man and the Natural World: Changing Attitudes in England 1500–1800* (London, 1983); Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York, 1990); Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, 1987); William Cronon, “The Trouble with Wilderness; or, Getting Back to the Wrong Nature,” in *idem* (ed.), *Uncommon Ground: Rethinking the Human Place in Nature* (New York, 1995), 69–90.

Fewer still appreciated how the shift to recognizing non-human subjects and related primary sources not only offered new research opportunities that presented unique theoretical and methodological problems (particularly for historians committed to documentary evidence) but also challenged the fundamentally anthropocentric premise of the discipline. Historians have long been interested in chronicling the characteristic traits of hierarchical systems within and across the many communities that they study. The behaviors associated with the different types of individuals embedded in those systems have also provided us with much historical fodder. In an earlier age than our own, tiers of wealth and power were understood to be natural, often residing literally in the bloodline itself. Yet by the mid-twentieth century, social and political historians were busy defining new fields of study predicated precisely on the notion that such hierarchies were not inherent. More recently still, following what we might characterize as the “causal turn” in the analytical social sciences, scholars have turned their attention to explanatory narratives that purport to identify the social and political mechanisms that built those inequalities in the first place.

Yet, even the most perceptive observers of human social stratification almost always presume the stability of another sort of hierarchy: the relationship between all people and all other animals, especially the non-mammalian, invertebrate, or undomesticated species on our planet, such as cephalopods (octopuses, squid, nautilus)—the subject of Shmueli’s essay. Ritvo’s work was pioneering in interrogating that presumption, locating its deep roots in a series of ideas that valorized humanity, from the enduring notion of a “great chain of being” to the frequent misunderstandings of evolutionary theory. Her scholarship implicitly pointed to the solipsism of historical theories and methods that failed or refused to think ecologically about society. For scholars who followed in Ritvo’s path, this critical move has continued to prove generative for breaking through impasses in key debates in the discipline more broadly. As Robles’ essay shows, for example, the inevitably interdisciplinary pursuit of more-than-human history has helped erode some basic assumptions about the highly contested notion of agency so cherished by social and political historians, including the circumstances in

which agential power can properly be understood as an actors' versus analysts' category.<sup>4</sup>

Not surprisingly then, this special issue examines historically and culturally specific ways in which people have developed explicit or tacit categories of analysis for ordering knowledge about nature, usually, if not always intentionally, by placing themselves and their preoccupations at the center (“the anthropocentric swerve” in Gold’s elegant coinage). In turn, these classificatory schemas have often come to be taken for granted and naturalized as facts, rather than recognized as contingent epistemic forms or methodologies for making sense of some parts of and some communities in the world, at some particular moments in time. In this way, all five essays highlight another key aspect of Ritvo’s work: the competition or mutual influences between scientific taxonomy and other less avowedly systematic modes of generating or sorting humans’ layered relationships to the rest of nature.

Curry’s and Reis-Castro and Lee’s essays explore how enduring narratives about human-led animal and plant domestication, both in the deep and more recent past, have encouraged botanists, entomologists, agronomists, psychologists, public health officials, and animal trainers to reify sometimes inaccurate divisions between wild and tame conspecifics (maize, rats, mosquitoes). In the meantime, these organisms and their extended kin often confound experts’ attempts to master them. Shmueli’s essay teaches us not only how far scientists are from mastering the sensate world of sea creatures, but also how the very recent acknowledgement of our limited knowledge about the lived experiences of non-humans has in turn begun to reshape longstanding legal categories of protected species. The original exclusion of cephalopods from legal protection, premised on antiquated stories that cast them as monstrous adversaries, serves as a good reminder of the lack of mastery of knowledge about non-human intelligence more generally.

Characterizing these interspecies encounters as stories instead of objective empirical descriptions also allows us to appreciate how

4 See Ritvo, “The Point of Order,” in *The Platypus and the Mermaid*; *idem*, “Classification and Continuity in The Origin of Species,” in David Amigoni and Jeff Wallace (eds.), *Charles Darwin: The Origin of Species* (Manchester, 1995); *idem*, “Ordering Creation, or Maybe Not,” in Helen Small (ed.), *Literature, Science, Psychoanalysis, 1830–1970: Essays in Honour of Gillian Beer* (New York, 2003).

profound can be the reversals in our understanding of the natural world. As these essays show, our fascination with octopuses has changed from a narrative about unbridgeable difference to one of profound empathy; likewise, what was once a reassuring tale of human-led domestication as evidence of our domination over nature has become instead a tortuous, still incomplete process. Yet, neither of these reversals should be read as an attempt to undermine the explanatory force of the sciences. Instead, as Gold persuades us, even the most seemingly unimpeachable accounts of natural phenomena, such as the laws of thermodynamics to explain energy, are essentially stories in the mold of coeval narrative forms such as the modern novel. And, like all good stories, durable scientific accounts omit all kinds of important details. That is, they implicitly contain a selection bias as they necessarily foreground some aspects, de-emphasize others, and exclude others altogether in the service of precision and clarity.

Gold's essay poses particularly perceptive questions about such elisions or absences (including neglecting or ignoring the possibility of alternative narratives), nicely captured by the question she asks of the classic "potential energy" example: How did the ball get to the top of the hill in the first place? One of the things that social history of the kind often found in these pages has tried to do is precisely to "make work visible," especially the easily overlooked or undervalued lives and labors of marginalized groups.

To take but one noteworthy example, economic historians—following the lead of neoclassical economic theory—long undertheorized labor in their calculations of production, capital accumulation, and technological innovation. In particular, they excluded consideration of all supposedly unmeasurable types of labor, especially anything they relegated to the domestic sphere. It was as if people simply entered the story of economic action fully formed and ready to engage in productive employment. The effort and expertise required to make people ready for work—to raise labor from diapers, as it were—remained largely invisible until family and gender historians interrogated that aspect of economic change. Ritvo's examination of humans' interactions with other species in Britain drew special attention to these types of omission by revealing that some people were among the last categories of potentially vulnerable beings to whom British legislators extended welfare protections. Livestock, pets, and children preceded women by roughly a

century and in that order. Going further, more historians might also begin to appreciate that the something doing work need not even be a human or any other kind of creaturely actor. For this reason, the interdisciplinary method of Gold's essay—even if at first glance it could seem to be the odd bedfellow of this special issue, as she does not directly engage with natural history or speciation—offers an example of what you can learn if you think about the development of literary genres and of scientific theory, about fiction and non-fiction, at the same time and as part of the same historical movement.<sup>5</sup>

What might all this mean for further scholarly connections between history, the natural world, and the sciences? If Gold, following Ritvo, is correct that there was something special about the nineteenth-century dual efflorescence of the novel and the sciences, particularly their Victorian manifestation as anthropocentric, “closed” stories that have contributed ever since to the abiding ecological crisis, what does that mean for our own moment when the credibility of both kinds of sense-making is increasingly being discounted or undermined? Her essay suggests that the fate of the contemporary novel, already now a much-altered form from its eighteenth- and nineteenth-century progenitors, might be the proverbial canary in the coal mine for particular forms of scientific discourse as well. This implication raises the possibility that we should be concerned not only about what the natural sciences can teach practitioners of history, but also in what ways a historical moment shapes what it is possible to know or believe in natural science. In a true interdisciplinary spirit then, not only should historians take seriously the findings of science to inform their work, but scientists should likewise know their history. Ritvo worked on this project for most of her academic career, being one of the few historians to teach undergraduate subjects in conjunction with colleagues in science and engineering.

For those readers not previously familiar with the many contributions to an interdisciplinary history of the human/other animals/environment interface made by Ritvo in her long and generative career, the common themes and provocations that emerge from among these essays will draw new attention to her oeuvre. We also hope that, following her lead, historians will

5 Ritvo, video interview by the authors, August 21, 2023.

venture more often across the human–natural history divide in whatever time or place is their particular concern. The urgency of our climate crisis makes this interface all the more relevant for historians in any subfield. As the diversity of the essays in this special issue demonstrates, the range of application derived from Ritvo’s scholarship and mentorship has been wide. Hers is a legacy that has much to offer to the readers of this journal.

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