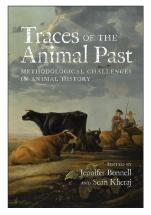
UNIVERSITY OF CALGARY Press



## TRACES OF THE ANIMAL PAST: METHODOLOGICAL CHALLENGES IN ANIMAL HISTORY

Edited by Jennifer Bonnell and Sean Kheraj

ISBN 978-1-77385-385-7

THIS BOOK IS AN OPEN ACCESS E-BOOK. It is an electronic version of a book that can be purchased in physical form through any bookseller or on-line retailer, or from our distributors. Please support this open access publication by requesting that your university purchase a print copy of this book, or by purchasing a copy yourself. If you have any questions, please contact us at ucpress@ucalgary.ca

**Cover Art:** The artwork on the cover of this book is not open access and falls under traditional copyright provisions; it cannot be reproduced in any way without written permission of the artists and their agents. The cover can be displayed as a complete cover image for the purposes of publicizing this work, but the artwork cannot be extracted from the context of the cover of this specific work without breaching the artist's copyright.

**COPYRIGHT NOTICE:** This open-access work is published under a Creative Commons licence. This means that you are free to copy, distribute, display or perform the work as long as you clearly attribute the work to its authors and publisher, that you do not use this work for any commercial gain in any form, and that you in no way alter, transform, or build on the work outside of its use in normal academic scholarship without our express permission. If you want to reuse or distribute the work, you must inform its new audience of the licence terms of this work. For more information, see details of the Creative Commons licence at: http://creativecommons.org/licenses/by-nc-nd/4.0/

UNDER THE CREATIVE COMMONS LICENCE YOU **MAY**:

- read and store this document free of charge;
- distribute it for personal use free of charge;
- print sections of the work for personal use;
- read or perform parts of the work in a context where no financial transactions take place.

UNDER THE CREATIVE COMMONS LICENCE YOU **MAY NOT**:

- gain financially from the work in any way;
- sell the work or seek monies in relation to the distribution of the work;
- use the work in any commercial activity of any kind;
- profit a third party indirectly via use or distribution of the work;
- distribute in or through a commercial body (with the exception of academic usage within educational institutions such as schools and universities);
- reproduce, distribute, or store the cover image outside of its function as a cover of this work;
- alter or build on the work outside of normal academic scholarship.

Press

press.ucalgary.ca

Acknowledgement: We acknowledge the wording around open access used by Australian publisher, **re.press**, and thank them for giving us permission to adapt their wording to our policy <u>http://www.re-press.org</u>

## Introduction: Traces of the Animal Past

Jennifer Bonnell and Sean Kheraj

In July 1624, Gabriel Sagard held his own farewell party in the Recollet convent in Quebec. He had recently learned that his order was recalling him to France after he had spent nearly a year living in Wendake, the territories of the Wendat, one of the largest confederacies of Indigenous people in North America. The news was unexpected. His Wendat hosts had brought him back to Quebec to obtain supplies and trade furs. Instead of returning to Wendake, Sagard was ordered to sail on the first ship back to France. He prepared a feast at the convent to say goodbye and he wanted to leave his Wendat hosts with a meaningful, precious gift. He gave them a cat.<sup>1</sup>

Domestic cats are not indigenous to North America. In 1624, they were a rarity. The cats that French colonists brought with them to New France in the early seventeenth century were novel species introductions. They travelled with European people aboard ships on months-long journeys across the Atlantic. Cats were useful on such voyages as they hunted the rats that stowed away aboard ships and feasted on the provisions people brought with them to survive the difficult passage to the so-called New World.

French Catholic missionaries used cats as gifts, gestures of friendship in their encounters with Indigenous peoples of the Americas. Sagard used this cat for this very purpose. It was a tool of diplomacy, an improbable "creature of empire," in a mission to bring Christianity to Wendake.<sup>2</sup> He made note of this small moment on the frontlines of the Columbian Exchange:

Before my departure we took [the Wendat] into our convent, feasted them, and showed them all the civility and friendliness that we could, and gave each of them some small present, and to the captain and chief of the canoe in particular a cat to take back to his country as a rarity unknown to them. This present gave him infinite pleasure and he made much of it; but when he saw that the cat came to us when we called it he concluded that it was possessed of reason and understood all we said to it. Therefore, after having humbly thanked me for so rare a gift, he begged us to tell this cat that when it should be in his land it must not behave badly nor be running into the other lodges nor in the woods, but remain always in his abode to eat the mice, and that he would love it like his own son and not let it be in want of anything. I leave you to think and reflect upon the candour and simplicity of this good man, who supposed that just the same understanding and the same power of reason belonged to the rest of the animals of the settlement, and to judge if it was unnecessary to detach him from this idea and set him in the path of reason himself, since he had already put the same question to me respecting the ebb and flow of the sea, which he believed on that account to be alive, to understand and to have volition.3

This translated passage from Sagard's 1632 book, *Le grand voyage du pays des Hurons*, is a complicated text to interpret. Sagard describes his Indigenous hosts as expressing a childlike wonder at a simple domestic cat, confusing the cat's behaviour for human reason. Still, for the Wendat, the cat was an utterly novel creature, unknown in Wendake but perhaps connected to other aspects of the non-human world. Historians could spend years pulling apart the layers of meaning from this text to explore the different ways in which French and Wendat people might have understood animals in the early decades of the seventeenth century. Did this cat bring joy to the Wendat men who received it? What does this encounter

reveal about the place of non-human animals in Wendat cosmologies? How did Sagard perceive the sentience of a cat or other animals or the ebb and flow of the sea?

But what can a text like this tell us about this cat? How did it feel about playing such a role in the emergence of the alliance between the French and the Wendat in the early years of the French empire in North America? What was its experience of the environments of New France? How did it adapt to the new setting? Where did it sleep?

Gabriel Sagard's gift of a cat to the Wendat illustrates the methodological challenge at the heart of animal history. Non-human creatures have been present at every major event in human history.<sup>4</sup> Animals have even shaped and influenced that history. And yet historical scholarship about animals is often limited to these glimpses or traces of animals in the past. Most evidence of animals in the past comes from people who wrote about animals, drew pictures of animals, photographed animals. They often documented animals as peripheral or background objects. Nonhuman animals themselves leave different kinds of traces, ones not necessarily meant for historical interpretation and difficult, if not impossible, to decipher. Seeing the past through the eyes of an animal is a treacherous exercise replete with opportunities for wrong turns, misinterpretation, and clumsy ventriloquism. Still, the same might also be said of efforts to tell the histories of marginalized people who leave few traces of their own. How then do historians tell stories about animals?

These are questions that we and other animal historians face as we approach the archives and other repositories of historical evidence to try to understand animals as historical actors. In late 2018, the Archives of Ontario opened its *ANIMALIA: Animals in the Archives* exhibit, which highlighted the role of animals in Ontario history by showcasing sources related to various species that stood out in its collections (see Young, Chapter 16). The exhibit raised issues for us as historians about how we use such sources in our work. What methods and theories do we employ when trying to understand animal history? We invited an international group of animal historians to participate in a two-day conference at the Archives of Ontario on precisely this question.<sup>5</sup> The response was immediate and enthusiastic. Scholars in the field of animal history were eager to share their methodological challenges from their ongoing research projects.

3

They were also eager to extend that conversation to a broader community of readers. The result is this book.

Ours is certainly not the first work to pose these questions about methods in animal history research. Indeed, some of these questions have been persistent in the field of animal history from its inception. Harriet Ritvo, a founding scholar in the field of animal history, noted the neglect of the study of animals in nineteenth-century English cultural history in her 1987 book, The Animal Estate: The English and Other Creatures in the Victorian Age. Ritvo explores changing discourse about the mammals with which English people interacted most frequently by examining the written texts of organizations concerned with breeding, veterinary medicine, agriculture, and natural history. Hers is a study of human ideas and perceptions of animals in the past, but as she notes, in these sources "Animals ... never talk back."6 Nigel Rothfels' early collection of essays on animal representations proposes that the human depiction of animals "is in some very important way deeply connected to our cultural environment, and that this cultural environment is rooted in history."7 Sandra Swart refuses the impossibility of animal history and the limits of text by looking at new "texts" and new materialities. She suggests methods by which historians can interpret the ways that animals indeed "talk back" by biting, bucking, and otherwise "kicking against the traces." For Swart, the materiality and biology of animals as living creatures in her sources provide a way of seeing history through the eyes of animals.8 Etienne Benson also challenges the so-called impossibility of animal history-that is to say, the limits to seeing animals mediated solely through human texts. These texts embody both humans and non-human creatures, Benson argues, because they are the result of an interdependence between people and other animals, "a collection of traces of the animal who writes through the human as well as of the human who writes about the animal." Historical documents, then, are co-constructed more-than-human texts that are both material and discursive simultaneously.9

In 2013, the journal *History and Theory* published a special issue on animal history, edited by David Gary Shaw, in which eight historians in the field explored some of the theoretical and methodological challenges to the study of animal history. Shaw noted the changes in history as a discipline that began largely as a social concern to understand people and their actions over time to one broad enough in focus to include aspects of the non-human world, including animals.<sup>10</sup> Most recently, Susan Nance's *The Historical Animal* included essays that explore a variety of themes in animal history, including a section dedicated specifically to considering "Archives and the Animal Trace." The authors confronted the challenges of finding the animal in the archive, a historical figure that is often peripheral in sources and marginal to the processes of creating archival collections. Nevertheless, as Zeb Tortorici contends, "[e]ven if we consciously choose to limit ourselves to mainstream historical archives . . . we find that animals do exist in such archives across material, textual, geographic, and temporal boundaries." He goes further to suggest that historians might need to go beyond the search for physical and textual traces of animal history and "open up our very notion of what an archive is," a task taken up by some of the contributors to this volume.<sup>11</sup>

This collection of essays focuses on those traces and builds upon these previous studies to push forward debates and questions about methods in animal history. In doing so, we seek to provoke new questions that advance the field and open new research possibilities for the study of historical human-animal relations. The chapters that follow make meth-odological processes transparent and situate the historian within the narrative; they are not historical case studies *per se*, but metanarratives of the animal historian and their subjects. In each case, the authors reflect upon current research and how they confront some of the main methodological challenges of animal history. They offer new approaches and new directions for a maturing field of historical inquiry. The chapters in this book go beyond making the case that animals mattered in the past and explore how historians can uncover and interpret traces of evidence of historical animals.

As the ANIMALIA exhibit at the Archives of Ontario reveals, non-human animals can be found throughout archival collections, if you know how to look for them. One of the primary methodological challenges of animal history has been a search problem. How do we find historical sources that capture the role of animals in the past? Because archival records are mainly produced by people, and preserved and organized for anthropocentric purposes, non-human animals are often marginal within traditional archival collections; they are incidental in the archives. Nance Fig. 0.1 A dog and horse incidentally captured in a Toronto Engineering Department photograph, 1890. Source: City of Toronto Archives, F. W. Micklethwaite, Fonds 1661, Series 1037, Item 6.



argues that historians and archivists are typically trained "to edit animals out of our analysis," and as a result animals can be difficult to see in the records.<sup>12</sup> She uses photography as an example of the peripheral status of the non-human animal in the anthropocentric archive.

Nineteenth- and twentieth-century photographs in archival collections include numerous examples of historical animals, many of which are not the primary subject. For example, this 1890 photograph by F. W. Micklethwaite, commissioned by the Toronto Engineering Department, was part of a series of photos of bridges and street-level railway crossings (Fig. 0.1). Proudly standing on the sidewalk near the crossing on York Street was one such incidental animal in the archive, a small dog, and on the other side of the street one of the thousands of horses that pulled carts on the streets of nineteenth-century Toronto. The only label that appears at the bottom of the photo reads: "RR Crossing York St from N 45 yards distant." To "see" these animals requires a different perspective on the part of the historian, one that places non-human animals at the centre of one's view.

As many chapters in this collection show, there are other methodologies for finding animals in historical records and archives. Artwork and other documents of visual culture similarly capture elements of

animal history that might not be immediately apparent without careful consideration, observation, and practice (Cronin, Chapter 15). In other sources, non-human animals are ostensibly invisible, nearly absent from the written record, even though they are known to have been present and crucial historical actors. In Chapter 8, Joanna Dean's re-examination of the guinea pigs of Connaught Laboratories seeks to make the silences in lab records about animal testing visible to historical analysis. Digital history methods provide new ways of finding animals in the archive, from the use of Geographic Information Systems (GIS) (Kheraj, Chapter 12 and Robichaud, Chapter 13) to the creation of digital archives from the ephemera of the Web (Nance, Chapter 4). And oral history holds some potential to explore the archive of animal history kept within the memories of people who lived, worked, and played with other creatures (Colby, Chapter 9). Each of these different methodologies for finding animals in historical sources operates as a lens that brings animal history into focus within those sources where they might otherwise have gone unnoticed. An animal-centric lens on the past can help historians find animals in the archives and acknowledge that animals mattered in the past.

Acknowledging that animals mattered in human histories involves moving beyond questions of the existence of animal agency. Unlike earlier studies in animal history, which pointed to the presence of animal agency-in the resistance demonstrated by the kicking mule, or the selective loyalty of the household pet—as a way of justifying the existence of the field, this collection proceeds from the assumption that historical animals had agency, however limited by the structures and circumstances they found themselves within.<sup>13</sup> Animal agency is not only self-evident from the numerous accounts of animal resistance and self-determination that historians have documented; it is also, as Linda Nash has shown, fundamentally insufficient as an analytical approach. Agency, Nash contends, is conceptually constrained by its anthropocentrism, taking as its point of departure "the self-contained individual confronting an external world." This works no less well for humans than it does for non-human animals. Human intentions, she argues, like non-human ones, do not emerge through "disembodied contemplation" but rather "through practical engagement with the world." Agency becomes in her analysis "too simple to describe" how human and non-human animals inhabited the world.

Instead, a more fruitful point of departure, particularly for environmental historians, lies in considering the "organism-in-its-environment."<sup>14</sup> Thus, changing ecosystems become an important context for writing animal history. Swart (Chapter 1) and Bonnell (Chapter 2) demonstrate the rich possibilities for this kind of analysis. Throughout, contributors position agency, with all of its complexity and limitations, as "the start of the analysis, rather than the conclusion of the argument."<sup>15</sup> They seek instead to comment on the process of writing histories that "take animals seriously" through the exercise of historical empathy.<sup>16</sup>

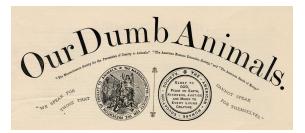
Several chapters in this collection strive to see history through the eyes of non-human animals. In some ways, this approach extends the methods of social history or histories "from the bottom up." The proposition of thinking about the past from the view of another species is one of the ways in which animal history has the potential to yield revisionist insights relevant to all fields of historical scholarship. As Swart suggests, these insights may not result in a fundamental rewriting of the past, but they change, "however slightly," how historians write history.

This approach comes with several risks. Animal historians who seek to write histories from the view of non-human animals run the risk of performing a form of ventriloquism, an awkward attempt to speak on behalf of animals.<sup>17</sup> This idea hearkens back to the original slogan of the Society for the Prevention of Cruelty to Animals: "We speak for those that cannot speak for themselves" (Figure 0.2). This is something that Susan Pearson has argued was the result of a long-standing perception of language as a distinguishing characteristic between people and other animals.<sup>18</sup> This way of thinking about language has been embedded in history as a discipline for much of the nineteenth and twentieth centuries as a way to exclude prehistory from history itself, "savagery" from "civilization." Embedded in the methodologies of animal history then are possibilities of new ways for all historians to think differently about the sources they use to understand the past.

Animal history can challenge this reductionist mode of thinking by broadening the ways that historians approach text and language. Sandra Swart (Chapter 1) and Lindsay Marshall (Chapter 3) both suggest ways of reading the bodies of animals as sources, forms of language and communication that only become readable to scholars through the adoption of various interdisciplinary lenses and (in Marshall's study) through Indigenous ontologies. This approach can even use the remains of animals as historical texts, one example of which is known as "osteobiography."<sup>19</sup> Finding the language of animals and the ways their bodies can be read as texts expands the range of sources available to historians and opens possibilities to tell the histories of other species besides our own. Neither scholar tries to speak on behalf of non-human animals; instead, they use interdisciplinary insights and historical empathy to situate the biology of non-human animals (in these cases, horses) in the past. At its best, the exercise of historical empathy for other species may also enhance our understanding of humans in other subfields of history. As Erica Fudge argues, "the history of animals is a necessary part of our reconceptualization of ourselves as human."<sup>20</sup>

In many ways, the methodological challenges that animal historians confront in this volume have much in common with the challenges that all historians face when trying to interpret and understand historical actors through the scant records and evidence left behind. There are, of course, differences, especially the chasm of language between humans and non-human animals. Nevertheless, the methods that animal historians use to interpret the past could be of value to all historical scholars seeking to understand the voices of those not readily apparent in the archives.

Many of the methodological challenges that the authors in this collection explore are, in fact, relevant to scholars in all fields of history. Emily O'Gorman and Andrea Gaynor argue that environmental history as a subfield has an opportunity for more explicit engagement with interdisciplinary more-than-human scholarship and multi-species studies. The same could be true for many other subfields. O'Gorman and Gaynor ask, "What does a more-than-human approach mean for the way historians actually go about their research?" The creative and imaginative methods used in animal history have application in other areas of historical scholarship. For instance, the GIS methods Kheraj and Robichaud explore in Chapters 12 and 13 of this volume are easily applicable to other areas of urban history. Jason Colby's (Chapter 9) engagement with the limitations of oral history present some difficulties that are unique to studying non-human animals, but the limitations are comparable to those of oral history methods in fields beyond animal history. The methods Susan Nance deploys to Fig. 0.2 Cover of *Our Dumb Animals*, vol. 25, no. 8 (January 1893), the periodical of the Massachusetts Society for the Prevention of Cruelty to Animals with slogan, "We speak for those that cannot speak for themselves."



construct a digital archive of the history of racing greyhounds may have transferable relevance to social historians seeking to better understand marginalized people who left few traces in traditional textual archival sources. As animal historians struggle to make meaning from the remnants of evidence about animals found in traditional sources, the more-than-human methodologies they employ have the potential to support research in other fields of historical scholarship that face similar challenges concerning power, historical evidence, and the construction of archives.<sup>21</sup>

Navigating the pitfalls of anthropomorphism is another challenge animal historians face in their interdisciplinary explorations of animal pasts. Contributors not only encounter anthropomorphism in historical human relationships with animals (Colpitts' anti-cruelty advocates in Chapter 6 and Colby's dolphin trainers in Chapter 9 are good examples), but also wrestle with ways to avoid it in navigating the gap between human and non-human experience. Recognizing anthropomorphism for what it is, as a somewhat crude expression of historical empathy, is a good place to begin. Contributors move beyond this, however, to recognize the presence of an animal intelligence that we cannot fully grasp or comprehend. A readiness among environmental humanities scholars to adopt a position of humility in approaching the non-human world, combined with recent scholarship on animal intelligence among the animal behavioural sciences, has prompted animal historians to come some distance in recognizing historical animals as sentient creatures with motivations and forms of intelligence of their own. A growing recognition of animals as intelligent social beings departs from twentieth-century scientific representations, which tended to view animals as incapable of language or thought,

to approximate what anthropologist Paul Nadasdy calls "human-animal sociality" in his ethnographic work with northern Indigenous hunters. For his Kluane interview subjects, non-human animals are not "like people"; rather, they "are people." As he points out, "there are many different kinds of people, and the social rules and conventions for dealing with human people are different from those governing social relations with rabbit people, which are different again from those governing relations between humans and moose people, and so on."<sup>22</sup> Animal historians are beginning to wrestle with the possibilities presented by these kinds of alternative relationships with non-human animals, as Marshall's work in Chapter 3 attests. Returning to Sagard's cat, we can appreciate it not only as an emissary between cultures, but also between different forms of human animal relationships.

\* \* \*

The chapters in this volume represent specific geographic and interdisciplinary selections within the broader field of animal history; by no means do they neatly represent the field in its entirety. The authors draw from research on animal histories of North America with an emphasis on Canada. The volume also includes select cases from Europe, South America, and Asia. Together, they offer a range of methodological approaches to animal history. The scholars in this collection employ methodologies that are remarkably interdisciplinary. The chapters engage with research in natural sciences, historical geography, digital humanities, ethnography, Indigenous studies, labour studies, gender studies, environmental history, and more. These are merely samples of the vast interdisciplinarity of the field of animal history. There are other valuable methodologies that rely upon scholarship in literary studies, critical theory, discourse analysis, and environmental humanities that do not appear in this volume.

This examination of methodological challenges in animal history is organized into five sections. Each section is based on different methodological approaches and problems in the field of animal history. Section 1, "Embodied Histories," demonstrates different methods for centring animals in historical research with an emphasis on the materiality of animal bodies. In Chapter 1, Sandra Swart uses the body of the horse as an archive to explore alternative approaches to the history of human-horse relationships. Physical traces, corporeal memory, and Indigenous knowledge converge in this piece to offer possibilities for a more horse-centred history. The result is a provocative challenge to the rigid boundaries between animal and human, wild and tamed. Jennifer Bonnell turns our attention to a different working animal in Chapter 2, where she employs honeybee labour as an interpretive device to consider the effects of changing working environments upon honeybee health and resilience. As working animals who formed a nexus between industrializing environments and human producers and consumers, honeybees emerge in this study as important indicators of environmental change. In Chapter 3, Lindsay Marshall takes a different approach to centring horses in human histories. Drawing upon the traditional ecological knowledge of two Indigenous nations known for their horsemanship, she examines the epistemological divide between settler and Indigenous representations of human-horse interactions in the nineteenth-century US West. For Marshall, writing a horse-centred history of settler-Indigenous conflicts becomes a powerful tool for decolonizing historical research.

Section 2, "Traces," brings together three essays that explore the challenges of uncovering historical evidence of animal experiences, knowledge of animal health, and ideas of animal ethics. Susan Nance recounts her struggles to find histories of greyhound racing dogs in Chapter 4. Traditional archives of racing associations and other collections failed to keep records that capture this history. Instead, Nance turns to the vast Web archives of the Internet to compile her own digital archive of the history of greyhounds and the culture of greyhound racing. Jody Hodgins plumbs popular animal health manuals that circulated among settler farmers in rural nineteenth-century Ontario for evidence of changing settler knowledge about animal health. Animal health manuals, she finds, provided rural livestock owners with access to scientific information at a time when veterinary services were out of reach for many. Locating traces of animal history becomes an exercise of reading between the lines in George Colpitts' analysis of the polarizing discourses surrounding the fur trade and its anti-cruelty opponents in Chapter 6. Both the fur industry and its protesters in interwar Britain and America, Colpitts argues, presented wild animals with an eye to consumer purchasing decisions rather than the reality of animal experience.

The challenges of working with fragmentary, often conflicting evidence and unconventional sources is the subject of Section 3, "The Unknowable Animal." The authors in this section each confront the problem of constructing stories of animal pasts from sometimes disjointed and even unreliable sources. As Catherine McNeur shows in Chapter 7, the history of the Hessian fly, a tiny creature that found itself at the heart of an agricultural and economic crisis in 1830s America, is also implicated in a history of science and gender. In the writings of Margaretta Hare Morris, a revealing story of how human ideas about gender came to shape knowledge of the existence of this species of fly that was so consequential to the Panic of 1837. In Chapter 8, Joanna Dean examines the relative invisibility of guinea pigs in the history and subsequent memorialization of the development of diphtheria and tetanus antitoxins at the University of Toronto's Connaught Laboratories in the 1910s and 1920s. The emergence of a powerful antivivisection movement in the early twentieth century played an important role, Dean suggests, in elevating the antitoxin-producing laboratory horses to equine stardom while obscuring the unpleasant fate of the guinea pigs used to calibrate serum dosage. Animal historians can also create archives of evidence from oral history interviews, as Jason Colby does in his study of Tuffy, the famed US Navy-trained bottlenose dolphin. But his interviewees remind Colby that oral history relies upon the frailty of human memory. The stories he gathers must be read through the imprecision of recollection. While memory can be unreliable, so too can written texts, as Nigel Rothfels shows in his chapter on elephants in the archives. The habit of embellishment and exaggeration so common in the literature and records surrounding circus elephants presents a whole different set of challenges for historians looking to piece together the history of these animals.

Section 4, "Spatial Sources and Animal Movement," builds upon the previous section's discussion of methods for finding animals in historical sources and considers approaches to the study of animal history that draw from different techniques of spatial analysis. In Chapter 11, Colleen Campbell and Tina Loo use a different kind of spatial data to understand the life histories of specific bears in Canada's Banff National Park and the surrounding Kananaskis country: radio-telemetry tracking data. They examine the Eastern Slopes Grizzly Bear Project, a long-term study of grizzly bear movements in Alberta that ran from 1994 to 2004. The results of that study told life histories of specific bears, where they lived and how they moved through a changing park environment over time. Sean Kheraj (Chapter 12) shows how developments in GIS software provide sole researchers with the ability to reveal and interpret animal geographies without the need for expensive computer equipment and large teams of technicians. Web-based GIS software and crowd-sourced digitized documents and mapping layers are readily available to animal historians to remix and reuse to generate new insights and understandings of how animals and people lived together in nineteenth-century cities. Andrew Robichaud (Chapter 13) recounts his experience in leading a team of GIS researchers to transform disparate sources on San Francisco's history into spatial visualizations. He argues that GIS visualizations can be used as tools of analysis for understanding animal histories that might not be readily apparent from textual sources alone. Space and movement inform Emily Wakild's analysis of the history of camelids in South America in Chapter 14. She employs the concept of diaspora for the study of llamas, alpacas, guanacos, and vicuñas and shows how diasporic thinking can shift categories for understanding animals and their histories.

The final section of the book, "Looking at Animals," presents reflections on visual analysis and the exhibition of animal history with an emphasis on gallery display and public history. In Chapter 15, J. Keri Cronin examines the hidden histories of non-human animals in art and visual culture, applying analytical tools from art history to decipher the complex relationships between material animal bodies and visual imagery. In Chapter 16, Jay Young considers the challenges and opportunities of using animals as a thematic pathway into the collections of the provincial Archives of Ontario. Designed to engage a wide audience, from visiting school groups to university researchers, the resulting ANIMALIA: Animals in the Archives exhibit explores the ways animals appear in the archives and other memory institutions, as accidental subjects, family members, valued resources, physical specimens, and pests. In the final chapter, Dolly Jørgensen analyzes representations of extinction at three European natural history museums. She shows how human encounters with animal traces are mediated through museum display practices and the meanings they communicate to visitors.

Readers surveying the breadth of topics—and species—in this collection may wonder: has the burgeoning field of animal history become too large? How is it that studies of organisms as divergent as honeybees and elephants, dolphins and bears, appear in the same collection? The field of animal history brings all these species together under the broader framework of human-animal relations, collapsing under its tent a mammoth range of creatures with unique biologies, life cycles, modes of cognition, and intelligences that we as humans have only begun to comprehend. Certainly, as Harriet Ritvo proposes in the epilogue of this volume, the field's use of the word "animal" to characterize such a startling diversity of form and experience risks reinforcing a human-animal binary that blunts and diminishes that diversity. Perhaps, as the field continues to mature, scholars will propose subfields for histories of cetaceans, histories of primates, or insects, or birds. As the essays in this volume attest, however, there is as much to bind us as to pull us apart. Historians of bees, like those of horses or beavers or guinea pigs, encounter shared methodological challenges of agency and ventriloquism, anthropomorphism and absence. Likewise, they draw energy and insight from new approaches to these challenges. In these ways, the field may find its coherence in its various methodologies. How we come to understand people and their relationships to other species remains at the heart of animal history.

## NOTES

- 1 Father Gabriel Sagard, *The Long Journey to the Country of the Hurons*, ed. George M. Wrong, trans. H. H. Langton (Toronto: Champlain Society, 1939), 269–70.
- 2 Virginia DeJohn Anderson has written about the role of livestock animals as "creatures of empire" that provoked property disputes between English settlers and Indigenous peoples in early New England history. See Virginia DeJohn Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America* (Oxford: Oxford University Press, 2004).
- 3 Sagard, The Long Journey to the Country of the Hurons, 270–71.
- 4 Consider, for instance, the many different micro-organisms that live within the human body. See Peter J. Turnbaugh et al., "The Human Microbiome Project," *Nature* 449 (2007): 804–10, https://doi.org/10.1038/nature06244.
- 5 This conference was generously supported by Professor Marcel Martel, Avie Bennett-Historica Chair in Canadian History at York University. Details about the conference can be found here: http://niche-canada.org/tracesoftheanimalpast/.

- 6 Harriet Ritvo, *The Animal Estate: The English and Other Creatures in the Victorian Age* (Cambridge, MA: Harvard University Press, 1987), 5.
- 7 Nigel Rothfels, "Introduction," in *Representing Animals*, ed. Nigel Rothfels (Bloomington, IN: Indiana University Press, 2002), xi.
- 8 Sandra Swart, ""The World the Horses Made": A South African Case Study of Writing Animals into Social History," *International Review of Social History* 55 (2010): 252.
- 9 Etienne Benson, "Animal Writes: Historiography, Disciplinarity, and the Animal Trace," in *Making Animal Meaning*, ed. Linda Kalof and Georgina M. Montgomery (East Lansing, MI: Michigan State University Press, 2011), 5.
- 10 David Gary Shaw, "A Way With Animals," History and Theory 52 (December 2013): 5.
- 11 Zeb Tortorici, "Animal Archive Stories: Species Anxieties in the Mexican National Archives," in *The Historical Animal*, ed. Susan Nance (Syracuse: Syracuse University Press, 2015), 96–97.
- 12 Nance, The Historical Animal, 4.
- 13 Erica Fudge, Jason Hribal, and Virginia Anderson, for example, draw upon illustrations of animal agency to make the case that animals warrant inclusion as historical actors in shaping human histories. See Erica Fudge, "Milking Other Men's Beasts," *History and Theory* 52, no. 4 (December 2013): 13–28; Jason Hribal, "Animals, Agency, and Class: Writing the History of Animals from Below," *Human Ecology Review* 14, no. 1 (2007): 101–12; Anderson, *Creatures of Empire*.
- 14 Linda Nash, "The Agency of Nature or the Nature of Agency?," *Environmental History* 10, no. 1 (2005): 67–69.
- 15 Joshua Specht, "Animal History after Its Triumph: Unexpected Animals, Evolutionary Approaches, and the Animal Lens," *History Compass* 14, no. 7 (2016): 332.
- 16 Swart, "'The World the Horses Made'," 250.
- 17 Donna Haraway warns against assuming an ability to speak for other species before listening. Benson has also called attention to this risk. See Donna J. Haraway, "The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others," in *The Haraway Reader* (New York: Routledge, 2003), 309; Benson, "Animal Writes," 4.
- 18 Susan Pearson, "Speaking Bodies, Speaking Minds: Animals, Language, History," *History and Theory* 52, no. 4 (December 2013): 104.
- E. Tourigny et al., "An Osteobiography of a 19th-Century Dog from Toronto, Canada" International Journal of Osteoarchaeology 26 (2016): 818–29.
- 20 Erica Fudge, "A Left-Handed Blow: Writing the History of Animals," in *Representing Animals*, ed. Nigel Rothfels (Bloomington, IN: Indiana University Press, 2002), 5.
- 21 Emily O'Gorman and Andrea Gaynor, "More-Than-Human Histories," *Environmental History* 25, no. 4 (October 2020): 726.
- 22 Paul Nadasdy, "The Gift in the Animal: The Ontology of Hunting and Human-Animal Sociality," *American Ethnologist* 34, no. 1 (February 2007): 31, https://doi.org/10.1525/ae.2007.34.1.25.