[Review] Jennifer Bonnell and Sean Kheraj, editors. *Traces of the Animal Past: Methodological Challenges in Animal History.* University of Calgary Press, 2022. 419pp. ISBN 9781773853840.

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Traces of the Animal Past foregrounds animal historians' processes and their engagement with methodological challenges via their metanarratives. Editors Jennifer Bonnell and Sean Kheraj, both professors at York University researching environmental history, point out that the questions asked in this volume have permeated animal history since it began. Many essays reach beyond conventional historical methodologies, engaging imaginatively with the poetic, the visual, the scientific. This collection is a substantial handbook for scholars, students and non-historians with a selection of interdisciplinary methodologies, including those from the natural sciences, historical geography, digital humanities, Indigenous studies, ethnography, labour studies, gender studies, and environmental history.

Part I Embodied Histories, which includes both horses and honeybees, emphasises animal bodies and the imperative for empathy with the living or historical animal. Sandra Swart, in a lively essay based on a Mongolian trek, suggests that we read the body of the horse as an archive and that we aspire to an interpretation of a horse's oral history. For Jennifer Bonnell, writing on honeybees, focusing on agency renders animals a proletariat. In considering them as workers, on the other hand, we undermine an anthropocentric point of view and focus on ecological relationships. In her chapter 'Hearing History through Hoofbeats', Lindsay Stallones Marshall considers 'equine volition and voice' while deploying a mix of environmental history, animal behavioural science, Indigenous knowledge and horsemanship from different cultures, as she reads cavalry records through a horse-centring perspective.

Part II Traces risks opening up other animal histories through the ephemeral or the marginal. Susan Nance compensates for the 'archival conundrum' (93) of the absences of greyhound lives in racing records by establishing her own archive of dogs from digital primary sources. Jody Hodgins reaches towards past embodied animals in rural Ontario via a close critical study of popular health manuals, even though the efficacy of the treatments and their cruelty would not be acceptable today. George Colpitts considers 'metaphoric narrative' in relation to the fur trade and fashions of the early twentieth century, proposing a re-assessment of anthropomorphic narratives.

In Part III researchers engage with The Unknowable Animal yet are undaunted in their attempts to reach towards specific encounters with embodied animals. Catherine McNeur can never solve the gendered controversy in connection with a 'Lady Entomologist' whose findings about flies in wheatfields in early nineteenth century Ontario remain unproven – the specimens she lodged in the Academy of Natural Sciences no longer exist. Joanna Dean documents the invisibility of guinea pigs in antitoxin laboratories in early twentieth century Toronto, emphasising agnotology's particular motivation. Dean and Jason M Colby, who write about Tuffy, the dolphin trained by the US Navy in the Cold War, note their very particular research difficulties in terms of 'security' and the now-current sensitivity to the subject matter. To attempt to build a specific non-human animal's biography, as Colby does, is problematic as the animals' experiences are mediated through the unreliability of human memory. Nigel Rothfels may have a photograph of two circus elephants taken between 1915 and 1921, but the verbal narratives of the animals vary wildly. For Rothfels, the very unreliability of the sources makes 'writing history interesting and difficult' and an ongoing 'iterative process' (227). Part IV centres on Spatial Sources and Animal Movement. Sean Kheraj refers to a 'spatial turn' in animal history with the rise of the use of Geographical Information Systems as a research tool. He explains how to use GIS to reveal spatial relationships in specific instances. Colleen Campbell and Tina Loo also use GIS to analyse their data. Their inspiring research following grizzly bears in the eastern Canadian Rockies decentres humans, bringing in embodied nonhuman animals in ways that most archival research does not permit. Andrew Robichaud documents how animal presences, initially ubiquitous in nineteenth century north American cities, are rendered invisible in stockyards and abattoirs. Emily Wakild's brief is an easier one as she documents in detail the llama diaspora beyond South America.

Robichaud considers the emotional cost of researching animal suffering, which is an unusual and brave admission. Granted its purpose is to 'bear[] witness' (310) in connection with the cruelties of the past; he suggests a mindfulness of this cost of the animal historian's 'unflinching look at the brutality and violence' of human behaviour (311). In a happier instance of self-reflexivity, Colleen Campbell documents the development of her senses and instinct in becoming 'the animal that I am' (261) in the potentially risky tracking of grizzly bears.

In the final section, Looking at Animals, the animals themselves may be unable to return the human gaze in John Berger's sense, yet to some extent they are animated, in their taxidermied effigies or displays: the remonstrative, extinct bluebuck in Dolly Jørgensen's study of encounter; the animal exhibit in the Archives of Ontario, part of an outreach programme described by Jay Young; the visual analysis or animals in art and the interpretation of diagrams with oxen as disembodied machines in J. Keri Cronin's expansive essay.

3

Many of the essays in this collection risk moving into the vibrancy of imaginative or speculative territories of nonhuman animal embodied experience. How different is an account of a cavalry charge if we empathise with underfed, fearful horses and their inexperienced riders. How alive historical accounts become when we discover why a dolphin named Tuffy made the choice to co-operate with his Navy handlers or when grizzly bear F30 subjected an attuned researcher to her presence. In her epilogue Harriet Ritvo praises the 'vigour and significance' (399) of current scholarship in so-called animal history. *Traces of the Animal Past* exemplifies this.