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CLAUDIA TOWNE HIRTENFELDER

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# Finding Traces of Cows in the Archives and Telling Stories Differently

CLAUDIA TOWNE HIRTENFELDER

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**ABSTRACT** Archives are more-than-human spaces, and scholars are increasingly exploring how traditional archival material can be used to understand the historical lives of animals. There are traces of animals in any archives because humans do not exist in isolation and have historically been ecologically and socially entangled with other species. There is, however, a great deal of scope to develop innovative methods for telling animals' histories in ways that treat them as subjects, not objects. Using my PhD research into the historical problematization of cows in Kingston, Ontario, between 1838 and 1938, this article charts some of the methods I developed to better position historical animals as experiential subjects in analyses of the past. More specifically, I focus on how I found traces of cows in the Queen's University Archives by looking at a range of municipal records, including city assessments and health documents. I also explain how I conducted a multispecies discourse analysis of those traces by using contemporary knowledge about the psychology and physiology of cows, employing map-making techniques, and crafting speculative vignettes. I conclude that tracing animals in municipal records, being sensitive to contemporary knowledge about them, and making use of creative methodological tools to visibilize their spatial and social worlds is both academically interesting and politically significant. These methods challenge the anthropomorphism typical of historical and urban analyses, consequently creating openings for different ways of telling stories.

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**RÉSUMÉ** Les archives sont plus que des environnements humains et des études académiques explorent de plus en plus comment les archives dites traditionnelles peuvent être étudiées pour comprendre les vies historiques des animaux. Il existe des traces d'animaux dans toutes les archives puisque les humains n'existent pas en isolement et ont historiquement été écologiquement et sociologiquement mêlés avec d'autres espèces. Il y a cependant beaucoup de possibilités de développement de méthodes innovantes pour raconter des histoires où les animaux sont les sujets principaux plutôt que des objets secondaires. Utilisant mes recherches doctorales portant sur la problématisation historique des vaches à Kingston, en Ontario, entre 1838 et 1939, cet article présente certaines des méthodes que j'ai développées afin de mieux positionner les animaux historiques comme sujets expérimentaux dans l'analyse du passé. Plus précisément, je mets l'accent sur comment j'ai trouvé des traces de vaches dans les archives de l'Université Queen's, en consultant une gamme de documents municipaux, incluant des évaluations de la ville et des documents de santé. J'explique également comment j'ai effectué une analyse des discours multispécistes de ces traces, en utilisant des connaissances contemporaines sur la psychologie et la physiologie des vaches, employant des techniques de cartographie et en créant des vignettes spéculatives. Je conclus que les traces d'animaux dans les archives municipales, en étant sensibles aux connaissances contemporaines et en utilisant des outils méthodologiques de manière créative pour visualiser leurs environnements sociaux et leurs espaces, sont à la fois intéressantes pour la recherche académique et significative au niveau politique. Ces méthodes confrontent l'anthropomorphisme typique des analyses historiques et urbaines, créant par conséquent des ouvertures afin de raconter des histoires de manière différente.

Archives do not simply exist but are made.<sup>1</sup> One archives. This also means that archives are “contested sites of power,” which, according to Joan M. Schwartz and Terry Cook, should open them up to “on-going critical interpretation.”<sup>2</sup> This is important because archives have the power to shape collective memories and provide opportunities for marginalized groups to find stories that differ from hegemonic narratives.<sup>3</sup> Archives and their organizational structures play active roles in shaping perceptions about which stories are valuable and accessible, making them critical spaces to consider when examining the construction of history and the shaping of specific subjects.<sup>4</sup> Archives and archival artefacts are, then, important spaces of configuration, where knowledge is organized and ideas are framed in particular ways.<sup>5</sup> Ideas about subjects are configured in archives at a variety of different levels – including within a single document (which might affect how a subject is represented relative to others), within a collection (which might affect how the subject is found in relation to others), and in terms of how they are (re)configured in analysis and writing.

In 1995, Chris Philo said he could not shake the feeling that, while agricultural animals featured prominently in historical geographies, something was missing because the texts failed to account for animals as animals and instead treated them as objects, commodities, or tools.<sup>6</sup> Almost 20 years later, I found myself sharing his concerns. Interested in the urban histories of cows, I noticed that most scholars have treated cows as incidental objects in their analyses instead of treating them as thinking, feeling, and experiencing subjects.<sup>7</sup> That is, while

- 1 Ann L. Stoler, *Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense* (Princeton, NJ: Princeton University Press, 2008).
- 2 Joan M. Schwartz and Terry Cook, “Archives, Records, and Power: The Making of Modern Memory,” *Archival Science* 2, no. 1 (2002): 1–19, 7, 12.
- 3 Schwartz and Cook, “Archives, Records, and Power”; Lindsay S. Marshall, “Hearing History through Hoofbeats: Exploring Equine Volition and Voice in the Archive,” in *Traces of the Animal Past: Methodological Challenges in Animal History*, ed. Jennifer Bonnell and Sean Kheraj (Calgary, AB: University of Calgary Press, 2022), 73–90.
- 4 Catherine Oliver, *Veganism, Archives, and Animals: Geographies of a Multispecies World* (London: Routledge, 2021); Stoler, *Along the Archival Grain*.
- 5 Claudia Towne Hirtenfelder, “An Analytical Framework to Understand the Problematization of Urban (Historical) Animals,” *Environment and Planning E: Nature and Space* <https://doi.org/10.1177/25148486241281227>.
- 6 Chris Philo, “Animals, Geography, and the City: Notes on Inclusions and Exclusions,” *Environment and Planning D: Society and Space* 13, no. 6 (1995): 655–81.
- 7 Notable exceptions are Carla Hustak, “Got Milk? Dirty Cows, Unfit Mothers, and Infant Mortality, 1880–1940,” in *Animal Metropolis: Histories of Human–Animal Relations in Urban Canada*, ed. Joanna Dean, Darcy Ingram, and

environmental historians and geographers have shown that the multispecies makeup of cities has undergone dramatic changes, they have often failed to account for how those changes impacted and were experienced by the animals involved. In North American cities, colonial menageries gave way to zoos;<sup>8</sup> dogs shifted from being free-roaming and working animals to become urban pets;<sup>9</sup> and the slaughter of agricultural animals like pigs, chickens, and cows moved outside of city limits.<sup>10</sup> These changes would have been significant not only for the cities and their socio-spatial functioning but also for the animals involved and the ways in which their populations were governed.

One reason scholars have failed to write about historical animals as experiential subjects has to do with perceived challenges of accessing and analyzing the lives of such animals in archival material. Animals do not generate what we might think of as traditional artefacts; they do not have diaries, write letters to their loved ones, or leave receipts of their purchases. This has prompted some animal-studies scholars to question what constitutes an archive. Could the traces left by a bark beetle in a tree be thought of as an archive?<sup>11</sup> And what histories are embedded in the earwax of a whale?<sup>12</sup> This article and others question how far we can push human-authored texts in understanding the lives of animals<sup>13</sup>

Christabella Sethna (Calgary, AB: University of Calgary Press, 2017); and Frederick L. Brown, *The City Is More than Human: An Animal History of Seattle* (Seattle, WA: University of Washington Press, 2016).

- 8 Alex Mackintosh, "Foucault's Menagerie: Cock Fighting, Bear Baiting and the Genealogy of Human-Animal Power," in *Foucault and Animals*, ed. Matthew Chrulew and Dinesh Wadiwel (Boston, MA: Brill, 2017), 161-89.
- 9 Philip Howell, "Flush and the Banditti: Dog-Stealing in Victorian London," in *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations*, ed. Chris Philo and Chris Wilbert (London: Routledge, 2000), 37-58; Andrew A. Robichaud, *Animal City: The Domestication of America* (London: Harvard University Press, 2019).
- 10 William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: WW Norton & Company, 1991); Chris Philo and Ian MacLachlan, "The Strange Case of the Missing Slaughterhouse Geographies," in *Historical Animal Geographies*, ed. Sharon Wilcox and Stephanie Rutherford (Abingdon, UK: Routledge, 2018), 86-106.
- 11 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), 3-16.
- 12 Stephen J. Trumble, Eleanor M. Robinson, Michelle Berman-Kowalewski, Charles W. Potter, and Sascha Usenko, "Blue Whale Earplug Reveals Lifetime Contaminant Exposure and Hormone Profiles," in *Proceedings of the National Academy of Sciences* 110, no. 42 (2013): 16922-26.
- 13 Benson, "Animal Writes"; Erica Fudge, "'What Was It Like to Be a Cow? History and Animal Studies,'" in *The Oxford Handbook of Animal Studies*, ed. Linda Kalof (New York: Oxford University Press, 2017): 258-78; Hilda Kean, "Challenges for Historians Writing Animal-Human History: What Is Really Enough?" *Anthrozoös* 25, no. sup1 (2012): s57-s72.

and the possibilities they present for fostering kinder multispecies relations.<sup>14</sup> Human-authored texts constitute a large portion of the archival material that is available, and they “can still provide valuable insights into the past that are not reducible to the human perspective.”<sup>15</sup>

A focus on animals’ urban experiences is significant because, for animals, “the city has always been a site of danger, contestation and violence,”<sup>16</sup> and the analytical neglect of animals’ experiences is illustrative of epistemic invisibilities not only in urban theory but also in the acceptance of violence directed at animals.<sup>17</sup> Animals are imaginatively “placed” in human societies, not only in our literature and stories but also in our legislation and histories.<sup>18</sup> Accounting for the urban violences animals have historically faced and continue to face is not simply a matter of adding animals to existing theories and methodologies; as Nik Taylor and Heather Fraser note, it requires building “animal-centred methods that allow animals to be seen and heard in the first place.”<sup>19</sup> This, they continue, is important to disrupt “the epistemic and methodological foundations of hegemonic speciesism.”<sup>20</sup>

Inspired by calls to actively grapple with historical work in order to better account for animals’ agency, experiences, and subjectivity,<sup>21</sup> this article focuses on the ways I tracked the traces of cows in municipal records and the strategies I employed to carry out a discourse analysis of what I found. Using material from

14 Catherine Oliver, *Veganism, Archives, and Animals: Geographies of a Multispecies World* (London: Routledge, 2021).

15 Benson, “Animal Writes,” 5.

16 Oliver, *Veganism, Archives, and Animals*, 530.

17 Dinesh Wadiwel, *The War Against Animals: Domination, Law and Sovereignty* (Leiden, NL: Brill, 2015).

18 Philo and Wilbert, *Animal Spaces, Beastly Places*.

19 Nik Taylor and Heather Fraser, “Resisting Sexism and Speciesism in the Social Sciences: Using Feminist, Species-Inclusive Visual Methods to Value the Work of Women and (Other) Animals,” *Gender, Work & Organization* 26, no. 3 (2019): 343–57, 351.

20 Taylor and Fraser, 351.

21 Jason Hribal, “Animals, Agency, and Class: Writing the History of Animals from Below,” *Human Ecology Forum* 14, no. 1 (2007): 101–12; Hilda Kean, “Challenges for Historians Writing Animal–Human History”; Fudge, “What Was It Like to Be a Cow?”; Roderick P. Neumann, “Tracing the Historical Agency of Wild Animals in the Archives: Methodology and Multidisciplinarity in Posthumanist Political Ecology,” *Geoforum* 135 (2022): 71–81; Michael J. Glover and Les Mitchell, eds. *Animals as Experiencing Entities: Theories and Historical Narratives* (Switzerland: Springer Nature, 2024).

the Queen's University Archives (QUA), my PhD research explored the problematization of cows in Kingston, Ontario, between 1838 and 1938 – a period of immense urban change. I was interested in understanding problematization as a multispecies urban process and in doing so in a way that took cows seriously as historical urban subjects. I developed a theoretical framework for understanding problematization as a multifaceted, historical, and spatial process by which some urban animals not only came to be objectified as problems during the times in which they lived but are also continuously reinscribed as problems through analyses that fail to account for the experiential dimensions of such problematization. I argued that to appreciate the material and imaginative effects of problematization requires thinking about *where* problematization takes place. This includes the spaces in which animals are discursively configured as problems and the material, social, and institutional spaces used to govern them *as such*.

The remainder of this article focuses on how I tracked traces of historical cows in the Archives and conducted a discourse analysis of what I found. First, I show how traditional documents like tax assessments, board of health correspondence, and municipal by-laws can be used to tell the urban stories of other-than-human animals and of the generation of novel data sets. Then I illustrate how strategies like using contemporary knowledge about animals, map-making, and speculative vignettes allow for a discourse analysis that meaningfully privileges historical animals' experiences of urban change. Despite being imperfect, these methods (and attempts at methods like these) are politically and epistemologically significant. Being sensitive to animals in analyses and writing about them as subjects will make them visible in epistemic orders that consistently neglect them; and it might even foster new, less-violent urban imaginaries and practices.

## **Finding Traces of Kingston's Cows in the Queen's University Archives**

Cows have been in what is today known as Kingston since at least 1673, when Louis de Buade, Comte de Frontenac, brought them to the area as part of his work to build a French fortification there. Their presence in the region continued under British colonial rule, and in the 19th century, many of the city's animal-based enterprises made use of cows and their bodies. Dairy cows were kept in backyards, hotels, groceries, and hospitals so that milk was readily available.

Meat cows were fattened in breweries and slaughtered in the market, and their body parts were used in tallow and leather industries. Cows historically pastured in the city were impounded when they wandered onto private real estate, and were subjected to numerous inspections when there were disease outbreaks. These are some of the details about cows' lives in Kingston I identified while undertaking my PhD at Queen's University between 2018 and 2023.

When viewed through an animal-studies' lens, archives are filled with traces of animals. Materially, some documents are bound with their skin; there are insects squished in pages and webs that line covers. Visually, animals appear on letter-heads and in photographs, artwork, and maps. Textually, they are mentioned in policies, by-laws, correspondence, and wills. There are traces of animals in any archives. This is not surprising as humans do not exist in isolation from other species. We are ecologically and socially entangled; thus, traces of animals (even if unintended) have been archived. What is needed is a willingness to track these traces and to contemplate their significance. I did this through a sustained attention to cows in the archives and a kind of "counter-reading" methodology<sup>22</sup> that carefully considered the presence and absence of animal traces.

As argued in the introduction, there are traces of animals in the archives, and elsewhere, that cannot fully be reduced to the humans who noted them. When one encounters (as I did) leather-bound assessments in which animals are listed as property, it is difficult to deny that such texts are the results of more-than-human relations. The cows' skin and their numbering on pages are traces of different cows' lives and of their entanglement with Kingston; they bind those cows to the city, to the people who used and recorded them, and to their shared history and geography. Therefore, the ways animals are differently (in)visibilized<sup>23</sup> in artefacts indicates that archives are not neutral, objective spaces; rather, they reflect broader societal power relations that are informed by geographical imaginings of where animals belong.

22 Stoler, *Along the Archival Grain*.

23 "A key requirement and effect of problematization is how problems become 'visible.' That is, the process of how an object becomes 'seen,' or rather, regarded, as a problem. Part of becoming visible as a problem entails being essentialized as a problem, often reducing the complexity of a subject's materiality and experiences. Furthermore, how one problematized object is regarded might impact the extent to which another is made (in)visible to policy makers and governance mechanisms." Hirtenfelder, "An Analytical Framework to Understand the Problematization of Urban (Historical) Animals."

This section is concerned with how I found cows in the archives and how I tracked their traces through textual documents left by humans. The archival documents I used in my dissertation came almost entirely from the Queen's University Archives, which is home to "approximately 10 kilometres of textual records, 2 million photographs, tens of thousands of architectural plans and drawings, and thousands of sound recordings and moving images."<sup>24</sup> Included therein, the City of Kingston Fonds contains over 200 metres of records from 1838 to 1998 that are chiefly concerned with the municipal history of the city.<sup>25</sup> For my research, I consulted over 23 fonds, 43 boxes, 261 files, 100 city assessments, 46 by-law books, and 16 proceedings and minutes books, and I made digital copies of at least 39,538 pages of information. While I engaged with a wide range of materials, I want to draw attention to four sets of documents because of how I collected them and their significance in the analysis that followed: city assessments, public health files, other municipal documents, and supplementary material.

### City Assessments

Frederick Brown's work on Seattle illustrates the importance of city assessments to understanding the historical spatialization of animals in cities.<sup>26</sup> City assessments are official documents that capture the value of properties for tax purposes. While agricultural censuses for cities give aggregate numbers for some domesticated urban animals, Brown shows how property and tax rolls provide more nuance. Assessments illustrate the spatial distribution of animals within a city – for example, showing horses as being more concentrated in downtown Seattle and cows in outlying areas.<sup>27</sup>

Following Brown's lead, I sought out Kingston's city assessments and was pleased to find that the Archives has an almost complete set for every ward

<sup>24</sup> Queen's University, "About the Archives," Queen's University, accessed November 15, 2021, <https://archives.queensu.ca/about/about-archives>.

<sup>25</sup> Queen's University Archives, "City of Kingston Archives," accessed December 14, 2022, <https://db-archives.library.queensu.ca/index.php/city-of-kingston-archives>.

<sup>26</sup> Brown, *The City Is More than Human*.

<sup>27</sup> For maps comparing the concentration of horses and cows in the city, see Brown, *The City Is More than Human*, 86, 87.

between 1838 and 1938.<sup>28</sup> The amount of tax expected for animals was listed only until 1853, but animals continued to be recorded in the assessments into the 20th century.<sup>29</sup> Cows and horses were listed in the assessments from 1838 to 1905;<sup>30</sup> dogs were first listed in 1839 and stayed on the assessments until 1928;<sup>31</sup> sheep and pigs were only added between 1867 and 1905;<sup>32</sup> and other domesticated animals, like cats and chickens, were never listed.

I digitally copied the assessments between 1838 and 1938 and organized information from them into a spreadsheet. I tabulated the number of taxpayers in each ward, together with the totals for each animal population listed, and the number of owners for each type of animal. Where possible, I recorded how much tax was expected to be paid for these animals. From 1838 to 1850, this was standardized (£1.0 for cows, £3.0 for horses, and £0.5 for dogs), and from 1851 to 1852, it varied based on the perceived value of each animal. (I calculated averages here.) The assessments showed that, while cows were found in relatively high numbers in Kingston's downtown in the mid-19th century, by the end of the century, they were primarily concentrated in outlying wards (Rideau and Frontenac), likely because this was where more pasturage was available.

Nonetheless, Kingston was still home to many domesticated animals in the 1870s and 1880s. In 1878, 721 animals were recorded in the city assessments (201 cows, 314 horses, 197 dogs, and 9 pigs), and by 1888, this figure had jumped to 1,904 animals (343 cows, 609 horses, 772 dogs, 80 bitches, 12 sheep, and 88

28 Queen's University Archives, City of Kingston Fonds (hereafter cited as Kingston Fonds), locator 0100, City Assessments, 1838–1938.

29 The assessments were mostly complete, but in some years, wards were missing. For instance, Cataraqui and Rideau wards were missing in 1866, Ontario Ward was missing in 1879, and Sydenham Ward was missing in 1921.

30 Cows were listed in various categories, or not listed at all, during different periods: "Cows and Horned Cattle" (1838–1850); "No of Neat Cattle 3 years or upwards: Value of Neat Cattle" (1851–1853); not listed (1854–1866); "Number of Cattle" (1867–1905); not listed (1906–1938). Categories for horses also varied: "Horses and Geldings" (1838–1847); "Horses for Covering Mares" (1838–1846); "Horses, Mares and Geldings" (1847–1850); "Stallions for covering Mares (1847–1850); "Number of Horses" (1851–1853); not listed (1854–1866); "Number of Horses" (1867–1905); not listed (1906–1938).

31 Dogs were first pencilled into the assessments between 1839 and 1841, in what looked like an afterthought. They were not listed in 1842 and then became an official category, printed into the assessments, from 1843. Dogs were listed as follows: "Dogs" or "Number of Dogs" (1838–1841, 1843–1848); "Bitches" or "Number of Bitches" (1907–1928); not listed (1929–1938).

32 They were listed as "Number of Sheep" and "Number of Hogs" (1867–1905).

pigs). These numbers do not include the many animals who were not counted,<sup>33</sup> including horses under the age of three, cows under the age of two, and most likely, cows who were kept for meat instead of for milk purposes. One of the key reasons cows were still found in high numbers in Kingston in the late 19th century was because they were not only viewed as *animals* but as *property*.<sup>34</sup>

However, what can be gleaned from the city assessments, as well as the correspondence of the city council and the property committee of Kingston, is that while cows were valued as a form of property, they were less financially valuable than other forms of urban property, including horses, land, and real estate. More taxes were expected for horses than for cows, and when cows were viewed as threats to the value of land or real estate (whether public or private), they were vilified – called everything from “objectionable” to “harassers,” “rovers,” and “vagrants.”<sup>35</sup> Interestingly, while less tax was expected for dogs, over the 100-year period, dogs went from being listed as property on whom tax needed to be paid to being listed alongside other domesticated animals and, eventually, being included in columns that were collecting census information. This points to sometimes conflicting ideas regarding where animals should fit within urban imaginaries and practices.

In addition to offering openings for thinking through how animals figure within urban property relations, the city assessments also raised interesting methodological puzzles about how one can understand the historical urban governance of cows – such as why some cows were absent from the assessments when I know they were in the city and why “meat cows” (or “horned cattle”) seemed to be less frequently recorded in the city assessments than “dairy cows.” In terms of the latter, I suspect this had to do with a gendered division of labour when it came to producing milk. It was dairy cows, not bulls or steers, who were in people’s backyards as well as in the sheds at hospitals, prisons, hotels, and groceries. City

33 While the English grammar rule reserves *who* for named animals – like pets – with personal relationships to humans, I’ve deliberately used the pronoun *who* throughout to illustrate that animals are not objects (as implied by the use of *it*) but that most animals are sentient, experiential subjects regardless of their relationships with humans.

34 In 1896, 303 cows were counted; in 1897, this dropped to 244. The size of the cow population in the city continued to drop over the next three years, to 214, 161, and 195, respectively.

35 “Alas! To Ignoble Uses Turned,” *Kingston Daily News*, July 27, 1888, 2; “City Council,” *Kingston Daily News*, April 10, 1879, 1; “City Property,” *British Whig*, April 10, 1879, 3; A Citizen, “Correspondence: Roving Cattle,” *Kingston Daily News*, August 18, 1879, 2.

FIGURE 1 Example page from the 1838 city assessment, Kingston Fonds (locator O100). Source: Queen's University Archives.

51. 1<sup>st</sup> Ward

No	Names	Remarks	Men not otherwise Asses		Valuation of Houses
			£	£	
133	Thos Molton	(vacant) paid			+20..
134	Mrs Scott	paid			+25..
135	Geo W Garberd	paid boundary 3/2 1/2 20 hours paid			+65..
136	James Childs	paid			+7.10..
137	Col <sup>l</sup> Brumbycastle	paid			+50..
138	William Colwell	paid			+10..
139	J. & Bowers	paid 23 No 1 January paid			+150..
140	John Spreading	M. J. Molton paid			6..
141	Willm Wright	paid 20 20 20 paid			+7.10..
142	John Potter	20 20 paid			+3..
143	Jas Wilson	20 20 paid			13..
144	William Derry	20 20 paid			13..
145	James Weir	20 20 paid			13..
146	Thos Amers	20 20 paid			4.10..
147	John Owens	20 20 paid			3.12..
148	Thos Cunningham	20 20 paid			3.12..
149	Hugh Creighton	paid			7.10..
150	John Moxon	paid			10..
151	Basil Morrison	M. J. paid			19..
152	Thos Young	paid			10..
153	Willm Whitehead	M. J. paid			2.10..
154	Nich <sup>l</sup> Port	paid M. J.			+4.10
155	John Leich	born M. J.			9..
156	John Mc Donough	paid			19..
157	Charles Malcolm	paid			+9..
158	Mrs Henderson	paid			+10..
159	Willm Bailey	paid			+10..
160	Capt <sup>l</sup> & Carl	paid			+35..
161	Adams Mayne	paid			+7.10..
162	Jas Nickalls	paid			+31..
163	Commiss <sup>r</sup> Jean	paid			+30..
164	Archdeacon Stewart	paid			+36..
165	Rev <sup>d</sup> D. Cartwright	paid			+50..



FIGURE 2 Extract from a spreadsheet tabulating the animals recorded in Kingston's city assessments between 1876 and 1882. Source: Claudia Towne Hirtenfelder.

Year	Ward Name	No. of Tax payers listed	Cows' Label in Assessment	No. of people with cows	No. of cows	Average number of cows people have
1876	All wards	4835	No. Of Cat	178	324	1.820225
1878	Sydenham Ward	597	No. of Cat	18	24	1.333333
1878	Ontario Ward	527	No. of Cat	6	19	3.166667
1878	Cataragui Ward	794	No. of Cat	17	19	1.117647
1878	St Lawrence Ward	429	No. of Cat	7	8	1.142857
1878	Frontenac Ward	845	No. of Cat	19	37	1.947368
1878	Rideau Ward	825	No. of Cat	35	50	1.428571
1878	Victoria Ward	600	No. of Cat	42	44	1.047619
1878	All wards	4617	No. of Cat	144	201	1.395833
1879	Sydenham Ward	580	No. of Cat	18	26	1.444444
1879	Ontario Ward	527	No. of Cat	6	19	3.166667
1879	Cataragui Ward	779	No. of Cat	18	24	1.333333
1879	St Lawrence Ward	462	No. of Cat	8	9	1.125
1879	Frontenac Ward	841	No. of Cat	20	34	1.7
1879	Rideau Ward	843	No. of Cat	34	54	1.588235
1879	Victoria Ward	587	No. of Cat	26	40	1.538462
1879	All wards	4619	No. of Cat	130	206	1.584615
1880	Sydenham Ward	551	No. of Cat	15	25	1.666667
1880	Ontario Ward	518	No. of Cat	10	24	2.4
1880	Cataragui Ward	746	No. of Cat	21	33	1.571429
1880	St Lawrence Ward	493	No. of Cat	8	19	2.375
1880	Frontenac Ward	839	No. of Cat	38	61	1.605263
1880	Rideau Ward	865	No. of Cat	37	60	1.621622
1880	Victoria Ward	605	No. of Cat	32	49	1.53125
1880	All wards	4617	No. of Cat	161	271	1.68323
1882	Sydenham Ward	562	No. of Cat	24	31	1.291667
1882	Ontario Ward	517	No. of Cat	12	23	1.916667
1882	Cataragui Ward	793	No. of Cat	22	32	1.454545
1882	St Lawrence Ward	486	No. of Cat	12	14	1.166667
1882	Frontenac Ward	871	No. of Cat	49	82	1.673469
1882	Rideau Ward	869	No. of Cat	56	87	1.553571
1882	Victoria Ward	616	No. of Cat	42	61	1.452381
1882	All wards	4714	No. of Cat	217	330	1.520737

assessments provide, then, a useful, but partial, place from which to track some of the traces of urban animals and to develop robust data sets – while at the same time raising interesting questions about urban multispecies relations.

### Health Minutes and Correspondence

The importance of safeguarding human health features prominently in existing urban histories of cows.<sup>36</sup> Carla Hustak, for example, “excavate[d] the traces of

<sup>36</sup> Brown, *The City Is More than Human*; Cronon, *Nature's Metropolis*; Catherine McNeur, *Taming Manhattan: Environmental Battles in the Antebellum City* (Cambridge, MA: Harvard University Press, 2014); Andrew A. Robichaud, *Animal City: The Domestication of America* (Cambridge, MA: Harvard University Press, 2019); Kendra Smith-Howard, *Pure and Modern Milk: An Environmental History Since 1900* (Oxford, UK: Oxford University Press, 2017).

£ tax on cows	Total £ value of cows	Horses' Label in Assessments	No. of ppl w horses	No. of horses	Average number of horses people have	£ tax on horses	Total £ value of horses	Dogs' Label in Assessments	No. of ppl with dogs	No. of dogs	Average number dogs people have	£ tax on dogs	Total £ value of dogs
		No. of Ho	194	333	1.716495			Dogs	307	317	1.032573		
		No. of Ho	25	37	1.48			Dogs	19	23	1.210526		
		No. of Ho	14	40	2.857143			Dogs	16	16	1		
		No. of Ho	19	34	1.789474			Dogs	29	29	1		
		No. of Ho	11	14	1.272727			Dogs	6	6	1		
		No. of Ho	30	48	1.6			Dogs	29	35	1.206897		
		No. of Ho	46	100	2.173913			Dogs	22	29	1.318182		
		No. of Ho	30	41	1.366667			Dogs	51	59	1.156863		
		No. of Ho	175	314	1.794286			Dogs	172	197	1.145349		
		No. of Ho	24	40	1.666667			Dogs	23	28	1.217391		
		No. of Ho	14	40	2.857143			Dogs	16	16	1		
		No. of Ho	17	54	3.176471			Dogs	24	25	1.041667		
		No. of Ho	22	37	1.681818			Dogs	14	18	1.285714		
		No. of Ho	24	33	1.375			Dogs	31	33	1.064516		
		No. of Ho	52	72	1.384615			Dogs	62	74	1.193548		
		No. of Ho	25	34	1.36			Dogs	35	42	1.2		
		No. of Ho	178	310	1.741573				205	236	1.15122		
		No. of Ho	14	20	1.428571			Dogs	31	32	1.032258		
		No. of Ho	11	15	1.363636			Dogs	16	17	1.0625		
		No. of Ho	19	47	2.473684			Dogs	45	48	1.066667		
		No. of Ho	10	18	1.8			Dogs	8	13	1.625		
		No. of Ho	29	44	1.517241			Dogs	67	79	1.179104		
		No. of Ho	47	100	2.12766			Dogs	66	73	1.106061		
		No. of Ho	24	38	1.583333			Dogs	68	85	1.25		
		No. of Ho	154	282	1.831169			Dogs	301	347	1.152824		
		No. of Ho	40	57	1.425			Dogs	65	76	1.169231		
		No. of Ho	18	43	2.388889			Dogs	39	42	1.076923		
		No. of Ho	33	69	2.090909			Dogs	75	85	1.133333		
		No. of Ho	29	55	1.896552			Dogs	28	29	1.035714		
		No. of Ho	49	70	1.428571			Dogs	118	126	1.067797		
		No. of Ho	59	115	1.949153			Dogs	109	117	1.073394		
		No. of Ho	33	46	1.393939			Dogs	103	129	1.252427		
		No. of Ho	261	455	1.743295			Does	537	604	1.124767		

cows in the archives of public health” in the Hamilton Archives in Ontario,<sup>37</sup> and Sean Kheraj looked at health by-laws in Montreal and Toronto to explain the urban regulation of animals in Canadian cities.<sup>38</sup> After reading these works, I knew health documents would open opportunities for thinking through how cows were constituted as problems and materially managed by urban institutions.

I was excited to find that QUA housed a large body of documents related to health. These included meeting minutes from the local board of health (1834–1939); board of health correspondence (1897–1933); health and welfare

<sup>37</sup> Hustak, “Got Milk?,” 191.

<sup>38</sup> Sean Kheraj, “Urban Environments and the Animal Nuisance: Domestic Livestock Regulation in Nineteenth-Century Canadian Cities,” *Urban History Review* 44, no. 1–2 (2015): 37–55.

documents in the County of Frontenac Fonds (1846–1965); sanitary inspector property inspection records (1914); and correspondence of the Kingston Health Committee (1915–1936).<sup>39</sup> Together, these provided over 100 years of information related to Kingston's public health (1834–1939), and because the local board of health (LBH) had a wide portfolio (including the management of waste, food, and water), I found traces of cows and other animals throughout this body's correspondence and minutes.

To better understand the traces of cows in Kingston and to locate them within the city's broader social and health landscape, I took notes about every available piece of health correspondence and set of minutes. This included the date, main matters discussed, important extracts related to my project, and relevant references. I organized these notes into a 126-page compendium, which I used as a reference and analytical tool. I arranged these notes according to the dates they were produced and made annual and decade overviews for the same. I then highlighted text according to the following broad themes: (1) explicit mentions of cows (pink); (2) milk and dairy (green); (3) disease situations (blue); (4) slaughter, death, and waste (red); and (5) general traces of animals (yellow).

The compendium made visible the ubiquity of references to animals relative to health concerns, including how some animals were more or differently noted. Cows, horses, and pigs were arguably much more visible in health documents than were chickens, cats, or fish, for instance. And when animals did appear, it was often in relation to particular substances and activities, such as cows with milk, pigs with organic waste, or horses with manure. Taking stock of these differences, in terms of both content and timing, allowed me to think through the subtle changes in how these animals were considered and how they moved from being normalized to problematized populations.

In terms of cows, their affiliation with milk contributed to their problematization in Kingston. The LBH documents made it clear that, with the emergence of germ theory, medical health professionals were increasingly concerned with how disease spread through milk. In Kingston, the tuberculosis epidemic of 1898 and typhoid outbreaks between 1913 and 1920 raised concerns about the safety of

<sup>39</sup> Kingston Fonds, locator 0100, vol. 235–240 and box 241, LBH Minutes, 1834–1939; Kingston Fonds, locator 0100, box 242–246, LBH Correspondence, 1897–1933; Queen's University Archives, County of Frontenac Fonds, locator 5079, box 22–23, Health and Welfare, 1846–1965; Kingston Fonds, locator 0100, Sanitary Inspector Books, 1914; Kingston Fonds, locator 0100, Kingston City Health Committee Correspondence, 1915–1936.

milk. Both disease situations<sup>40</sup> were responsible for thousands of human deaths in Ontario. In this context, cows became visible to the LBH as risky objects that needed to be managed. This management included everything from constitutive practices such as killing them to inspect the inside of their bodies to externalized practices like testing, segregating, and cleaning. That is, sanitary ideas opened spatial imaginaries that made the connections and flows between human and cow bodies and environments differently intelligible.

I found examples in the LBH correspondence and minutes that helped me better locate the stories of specific cows rather than of cows in general. I discussed, for example, how the slaughter of a cow owned by Benjamin Folger, and the display of the cow's lung in 1898 by Dr. Walter T. Connell (a pathologist at Queen's University), sparked a controversy about whether diseases like tuberculosis could spread from cows to humans via milk. This also prompted the slaughter and internal inspection of 28 cows, from a herd of 39 at Rockwood Asylum, who were feared to have the disease. Another example is from 1913, when the medical health officer for Kingston, Dr. A.R.B. Williamson, ordered that cows could no longer pasture on the Duff and Potter fields because they had been connected to an outbreak of typhoid. The compendium provided contextual information regarding what issues the city council and the LBH were facing when cows such as these emerged as problems. It also served as a temporal guide for finding information in other places, such as historical newspapers. As it turns out, the Duff and Potter fields had been soiled with sewage, and this example unravelled interesting connections between the urban history of pastures and the development of drainage.

Arguably, the health and sanitation inflections of my findings exist because I relied so heavily on health documents in my analysis. One could imagine that, if my compendium had used documentation from different institutions (such as the board of works or market committee), my work might have had different nuances. Nonetheless, considering the power of the LBH in Kingston as well as the general significance of health to the governance of cities, these documents were invaluable for finding and contextualizing traces of cows' urban pasts. They were, however, only one set of the myriad of municipal documents used in my study.

<sup>40</sup> Disease situations are relational meeting places and processes that invite a variety of heterogenous stakeholders to act (Hincliffe et al., 2017). These include, but are not limited to, the people and animals who are impacted by disease as well as the institutions and officials that respond to them. Steve Hincliffe, Nick Bingham, John Allen, and Simon Carter, *Pathological Lives: Disease, Space and Biopolitics* (Oxford: Wiley-Blackwell, 2017), 52–80.

- pits" (17); J.O Bolgen reported in the drain' Complaint against house on Earl street with "lack of proper drainage" and a new one should be built (LBH Minutes, Vol 238:17)
- **3 May 1898** - Letter from the M.H.O, Saul H Fee listing the infectious disease cases for the month (BofH Correspondence, Box242)
- **3 May 1898** - Report by the Sanitary Inspector, WS Gordon: Notes that there are about 800 privy vaults in the thickly settled parts of the city and that it is important to do away with these. (BofH Correspondence, Box242)
- **21 May 1898** - A declaration from James Younger at Rideau Stock Farm stating that the cow found with TB was not one of his cattle and that his cattle have been tested for disease and have been found disease free (BofH Correspondence, Box242).

## June

- **7 June 1898** – LBH meeting: Minutes of last meeting read and adopted. Inspector discusses the privy pits. Inspector and MHO gave a fine for a well on Division Street; Fred Ostler discusses privy pits. G.W. Bell regarding "tests by the (Tubercular test) dairy herds". 1 Grass, 2<sup>nd</sup> Gillespie. Wilden, Joseph Wilden, J Ferusm captain Joyner" (LBH Minutes, Vol 238:21); City Council, Files regarding Folger cow. Reports: S.H. Fee, M.H.O discusses Tuberculosis cow which was read and ordered, filed. MHO Health report. By Law: Withdraw a By Law regarding dry Earth closets, reading 3 Clause" (LBH Minutes, Vol 238:23).
- **7 June 1898** - Letter from the M.H.O, Saul Fee stating that he has investigated the matter of the slaughtered milch cow with TB and found that she was not from any of the vendors supplying Kingston with milk. Together with the Sanitary Inspector "inspected 124 places in the city, where cattle are kept, and found of that number, that milk was sold at 48 places in quantities from a quart per day up. I notified the proprietors that they would have to obtain a license to sell milk and conform to the regulations regarding the sale of milk" (BofH Correspondence, Box242)
- **8 June 1898** - Sister Walsh notes her report is late due to her being ill (BofH Correspondence, Box242)

## October

- **4 Oct 1898** – LBH met: Adjourned for want of quorum (LBH Minutes, Vol 238:25)
- **4 Oct 1898** - Request the MHO to put a house in sanitary condition (BofH Correspondence, Box242)
- **4 Oct 1898** - Letter regarding a judgment by Judge Wilkison regarding the sewer on Gore Street. (BofH Correspondence, Box242)
- **4 Oct 1898** - Letter from the Lake Ontario Fish Company requesting to bring in ice from Cape Vincent (BofH Correspondence, Box242)
- **4 Oct 1898** - Letter to the Board stating that there is only a small quantity of ice left (BofH Correspondence, Box242)
- **4 Oct 1898** - Letter from W Reid stating that the butchers have requested ice from him for cooling purposes and he is asking for permission to do so (BofH Correspondence, Box242).

FIGURE 3 *Extract from a compendium of health documents, April/May 1903. Source: Claudia Towne Hirtentfelder.*

### Other Municipal Documents

Because my work explored how cows were problematized in Kingston, it was necessary to engage with how they were constituted as problems through law and governing practices. Legal documents are important spaces for constituting and defining animals as problems – what I am calling spaces of configuration. They also provide legitimized prescriptions for intervening in animals' lives, bodies, and environments, or material spaces of governance. By looking at documents from the city council as well as several of its sub-committees and bodies (including the LBH), I was able to think through how cows were constituted as problems by a variety of institutions. I could see how the problematization of cows was not a seamless process but was shaped by numerous social cleavages and contexts. Some people who worked in governing institutions had jobs that required them to discipline animals: pound keepers, sanitary inspectors, and market clerks all employed externalized practices like confining and restraining cows, but these took place in different social spaces, such as property committees, dairy parlours, and nuisance grounds.

Once I had identified themes for my analytical chapters, I used other municipal documents I had already digitized and (when necessary or possible) visited the Archives again. These other municipal documents included city council minutes (1838–1924); by-law books (1838–1938); city council documents (1842–1879); Frontenac County records (1844–1965); various committee files (1857–1936); a city commissioner diary (1881–1897); and licence collection books (1921–1936).<sup>41</sup> I also made extensive use of the city directories from 1855 to 1923, which are available online on Digital Kingston, and those from later years, available in hard copy in the Archives. When necessary, I used federal and provincial acts such as Ontario's *Public Health Act* of 1884 to understand happenings in Kingston.

As Sean Kheraj notes, many of the first by-laws in Canadian cities emerged in response to human interactions and concerns about animals,<sup>42</sup> so I knew it

<sup>41</sup> Kingston Fonds, locator 0100, City Council Proceedings Books, 1838–1924; Kingston Fonds, locator 0100, vol. 1–46, By-law Book, 1838–1938; Kingston Fonds, locator 0100, box 1088.4–1088.5; Kingston Fonds, locator 0100, Butcher's Petition; County of Frontenac Fonds, locator 5079, boxes 3, 4, 8, 21, 22, 23, 26, 43, 45, and 53, 1844–1965; Kingston Fonds, locator 0100, box 229, Industries Committee, 1912–1931; Kingston Fonds, locator 0100, Report Book D, 1875–1880; Kingston Fonds, locator 0100, Committee on Parks, 1899–1934, Minute Book; Kingston Fonds, locator 0100, vol. 974A, City Commissioner Daily Dairy, 1881–1897; Kingston Fonds, locator 0100, Collection Book for Licenses, 1921–1936.

<sup>42</sup> Sean Kheraj, "Epilogue: Why Animals Matter in Urban History, or Why Cities Matter in Animal History," in Dean, Ingram, and Sethna, *Animal Metropolis*, 310.

would be important to consider these documents when analyzing the history and geography of urban cows in Kingston. While consolidated and revised by-laws for the city exist (dated 1883, 1895, 1907, and 1938), they often represent syntheses of previous by-laws, omitting repealed laws and smoothing over subtle changes over time that could reveal dynamics of the problematization of cows. To gain insight into these changes, I visited the Archives again in the winter of 2022. During my visit, I read and made digital copies of Kingston's original by-law books. I copied the first four by-law books (1838–1891) in full and selectively copied relevant by-laws thereafter (1891–1938). Subsequently, I organized and studied the by-laws that were relevant to my analytical themes, such as property, health, food, and waste.

Even though digitization was not part of my original research project design, my efforts to get as much material as possible so that I could work at home while the Archives was closed during the pandemic meant it became a key feature. These digital documents have been useful for recall throughout the writing process, but I lost some of the physical aspects of the artefacts. Nonetheless, I was able to contribute to some of the preservation strategies of the Archives by adding to their digitized collections several large bodies of municipal documents (including the by-law books and city assessments).

Together, these municipal documents gave a sense of how cows were constituted as problematic objects in Kingston and provided insights into how they were permitted to be urban subjects: by-laws related to public and private property constituted cows as transgressive, which resulted in measures to curtail their mobility; policies aimed at keeping milk safe for human consumption constituted cows as risky and consequently tried to sanitize their environments and bodies; and regulations related to the market, meat, and waste constituted cows' dead bodies as commodities and/or waste, revealing that it was not only cows' lives but also their deaths that were problematized and managed in the city. These municipal documents brought together the spaces of configuration with the corporeal and social spaces required to make cows intelligible as problems.

### **Supplementary Material**

In addition to the material collected in the Queen's University Archives, I used a range of supplementary materials. Historical newspaper articles, maps, and local histories better spatialized and contextualized the information I was encountering in the Archives. I used key words to search historical newspaper

repositories Digital Kingston and Newspapers.com. I clipped and saved relevant articles in folders based on places (such as pastures, pounds, and markets) and themes (like health, slaughter, and waste). Throughout the analysis and writing processes, I used maps of Kingston to understand where important places were as well as how and/or whether the animalized spaces I was encountering were listed. Some of the maps I consulted were those by Thomas Fraser Gibbs (1850), John C. Innes (1865 and 1875), and Brosius (1875); the *Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington* (1878); and the Fire Insurance Plan (1908, revised 1911).<sup>43</sup> And, finally, I read locally written histories and journal articles, including those from *Historic Kingston* and works by Cooper (1856), Machar (1908), Horsey (1934), and McKendry (2018).<sup>44</sup>

While the city assessments, health documents, by-laws, and policies were important in identifying when and how the city was managing cows as well as the extent to which cows were viewed as problems to Kingston's governing structures, this supplementary material was essential in getting a sense of the tone and context of these problematizations. Different newspapers reported on the city council meetings, for instance, and recounted how councilmen sneered, laughed, or disagreed about issues raised – such as in a discussion about cows trespassing onto private property in 1882,<sup>45</sup> or a disagreement around the spread of tuberculosis in Kingston in 1898.<sup>46</sup> Works by local historians and historical geographers helped locate events within a broader history and filled in details about some people and places.<sup>47</sup> They helped unfurl details about Kingston's

<sup>43</sup> Queen's University Archives, Kingston Picture Collection (hereafter cited as Kingston Picture Collection), locator V023, V23 Maps-Kingston-18, Thomas Fraser Gibbs Map, 1850; Kingston Picture Collection, locator V023, V23 Ar-31.1, John C. Innes Map, 1865; Queen's University Map and Air Photo Library, G3464, K5, 1875, I6, John C. Innes Map, 1875; Kingston Picture Collection, locator V023, V23 Maps-Brosius, Brosius Map of Kingston, 1875–1973; Kingston Picture Collection, locator V023, V23 Maps-Brosius--7, Brosius Map of Kingston, 1875; C.R. Allen, *Illustrated Historical Atlas of the Counties of Frontenac, Lennox and Addington, Ontario* (Toronto: J.H. Meacham, 1878); W.D. Jordan Rare books and Special Collections, Lorne Pierce Collection, locator LP/FF G3464.F5 K5 1892–1963, boxes 5, 7, 10–11, 15–17.

<sup>44</sup> Charles William Cooper, *Frontenac, Lennox and Addington: An Essay* (Kingston, ON: James M. Creighton, Book and Job Printer, 1856); Agnes Maule Machar, *The Story of Old Kingston* (Toronto: Musson Book Co. Ltd., 1908); Edwin E. Horsey, *Cataraqui, Fort Frontenac, Kingstown, Kingston* (Kingston, ON: n.p., 1934); Jennifer McKendry, *Chronology of North King's Town, Kingston* (self-published, 2018).

<sup>45</sup> "Destruction by the Cows," *Kingston Daily News*, April 18, 1882, 1.

<sup>46</sup> "Tuberculosis Cattle," *Daily British Whig*, May 4, 1898, 4.

<sup>47</sup> Cooper on Frontenac, Lennox and Addington; Horsey on Cataraqui, Fort Frontenac, Kingstown, Kingston; J.W. Fittell, *The Limestone City: Kingston – The Industrial Centre of Eastern Ontario* ([Kingston, ON]: *Daily British*

social space, including the economic ambitions of the city council, the LBH's battles with different disease situations, and development plans of the council and business leaders. These aided in locating my analyses within broader social, geographical, and historical shifts.

I found numerous traces of cows in Kingston's archives and in the supplementary material, and this information provided a complex picture of the ways in which cows were part of urban life in Kingston. Cows, and their movements, bodies, and environments were heavily regulated in the city, and this opened and foreclosed opportunities for them to act – to be urban subjects. Dairy cows had better access to pastures than meat cows, and while they were regularly impounded, they were mostly tolerated in the city until there were shifts in urban property and health relations in the latter parts of the 19th century. Nonetheless, understanding the meaning of these shifts for the cows involved required additional methodological innovation in the analysis and writing stages of the project – a matter I turn to next.

## A Discourse Analysis of the Problematization of Cows in Kingston

Questions of how to know and represent animals' social realities open a range of considerations about intentionality, representation, agency, and power.<sup>48</sup> Simply doing a history of a disenfranchised or inadequately represented group does not necessarily mean the group's subjectivity is taken seriously. As Chris Philo and Chris Wilbert note, "If we concentrate solely on how animals are represented, the impression is that animals are merely passive surfaces on to which human groups inscribe imaginings and orderings of all kinds."<sup>49</sup> However, concepts like governmentality have not "translated easily when it comes to human relations

*Whig*, 1909); Machar, *The Story of Old Kingston*; McKendry, *Chronology of North King's Town, Kingston*; Brian S. Osborne and Donald Swainson, *Kingston: Building on the Past for the Future* (Kingston, ON: Quarry Heritage Books, 2011); Arthur B. Smith, *Kingston! Oh Kingston! An Anthology* (Kingston, ON: Brown & Martin, 1987).

<sup>48</sup> Benson, "Animal Writes"; Fudge, "What Was It Like to Be a Cow?"; Kean, "Challenges for Historians Writing Animal–Human History"; Glover, *Animals as Experiencing Entities*.

<sup>49</sup> Chris Philo and Chris Wilbert, "Animal Spaces, Beastly Places: An Introduction," in Philo and Wilbert, *Animal Spaces, Beastly Places*, 5.

with the non-human world,”<sup>50</sup> and it is challenging to answer the question, “What was it like to be a cow?”<sup>51</sup> Nonetheless, inadequate knowledge about the experiences of historical others is a problem for those trying to understand any historical subject, not only historical animals, and, as Catherine Oliver notes, the persistent representation of animals as “voiceless” is “a failure to (attempt to) decentre the human” and a continuation of the supposedly insurmountable bifurcation of humans and animals.<sup>52</sup>

Animals are socio-cultural beings who often form communities and understand themselves and what they are doing in relation to where they are and with whom they are relating. To shy away from representing them as thinking, feeling, and experiencing subjects because it is a difficult task would be to neglect a very important part of telling their geographies and histories. In this section, I argue that a discourse analysis of animal traces that takes seriously the sentience and experiences of animals offers a critical, if partial, avenue through which other animals’ fractured realities (and the ways in which they are created, maintained, and resisted) can be understood.<sup>53</sup>

There is disagreement about the boundaries that constitute a discourse and its relationship with reality. For some, a discourse is just one avenue through which reality can be accessed,<sup>54</sup> whereas for others, discourses are matrices of

50 Krithika Srinivasan, “The Biopolitics of Animal Being and Welfare: Dog Control and Care in the UK and India,” *Transactions of the Institute of British Geographers* 38, no. 1 (2013): 106–19, 108.

51 Erica Fudge, “Rumination 2.0. The History of Animals in the Present Moment,” *Humanimalia* 13, no. 1 (2022): 253–64. While Fudge asserted in 2002 that it was only ever possible to write a history about how animals have been represented, not about what they have experienced, in this 2022 article, she said that her mind had been changed by the robust debate and methodological innovations in the field. Scholars like Benson (2011), Swart (2010, 2022), Glover (2019), and Kean (2012) have shown that it is not so much a question of whether such histories are possible but more of how they are made. See also Erica Fudge, “A Left-Handed Blow: Writing the History of Animals,” in *Representing Animals*, ed. Nigel Rothfels (Bloomington, IN: Indiana University Press, 2002): 3–18; Benson, “Animal Writes”; Sandra Swart, “‘The World the Horses Made’: A South African Case Study of Writing Animals into Social History,” *International Review of Social History* 55, no. 2 (2010): 241–63; Sandra Swart, “Kicking over the Traces?: Freeing the Animal from the Archive,” in Bonnell and Kheraj, *Traces of the Animal Past*, 19–48; Michael Glover, “A Cattle-Centred History of Southern Africa?” in *Nature Conservation in Southern Africa*, ed. Jan-Bart Gewald, Marja Spierenburg, and Harry Wels (Leiden, NL: Brill, 2019), 25–47; and Kean, “Challenges for Historians Writing Animal–Human History.”

52 Catherine Oliver, “Beyond-Human Research: Negotiating Silence, Anger & Failure in Multispecies Worlds,” *Emotion, Space and Society*, no. 35 (2020): 100686.

53 Glover, “A Cattle-Centred History of Southern Africa?”; Annabelle Sabloff, *Reordering the Natural World: Humans and Animals in the City* (Toronto, ON: University of Toronto Press, 2001).

54 Norman Fairclough, *Critical Discourse Analysis: The Critical Study of Language*, 2nd ed. (London: Routledge, 2010).

material and symbolic relations.<sup>55</sup> I understand discourse in the way it is used by Michel Foucault and extrapolated by Carol Bacchi.<sup>56</sup> Discourse involves, but exceeds, language because it is also comprised of material practices and relations of power. Therefore, analyzing discourses provides “a political theoretical focus on the ways in which issues are given particular meaning within a specific social setting.”<sup>57</sup> Discourse analysis, then, provides a mechanism through which to understand how cows were constituted as problems by particular stakeholders and how this was shaped in and through material-urban relations, which were altered and experienced by cows.

One could critique a discourse analysis that involves the experiences of other animals because most of the texts and artefacts encountered in the archives are human authored. But, as suggested above, the archives are filled with traces of animals like cows, and discourse analysis offers one way in which to understand them. Moreover, Oliver proposes that attending to the absences of animals in the archives and perceiving these as multispecies spaces can make such silences transformative, opening new avenues for analysis and fostering solidarities.<sup>58</sup> Therefore, rather than adhering to the standard tropes through which cows have historically been examined in archival material and literature, I was attentive to where and how cows appeared in archival documents. For instance, I dwelled on moments in which cows became visible as problems, such as in 1879, when the LBH discussed a complaint made by Mr. O’Michael regarding cows roaming near the Hay Market;<sup>59</sup> or in 1887, when residents wrote newspaper articles protesting the presence of rotting animals, including a calf, in an urban nuisance ground.<sup>60</sup> I viewed these traces, and their related absences, as important indicators of Kingston’s urban processes and cows’ lived experiences. And, finally,

55 Michel Foucault, *The History of Sexuality. Volume 1: An Introduction* (New York: Random House, 1978); Ernesto Laclau and Chantal Mouffe, *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*, 2nd ed. (London: Verso Books, 2001).

56 Foucault, *The History of Sexuality*; Carol Bacchi, “Why Study Problematizations? Making Politics Visible,” *Open Journal of Political Science* 2, no. 1 (2012): 1–8.

57 Carol Bacchi, “Discourse, Discourse Everywhere: Subject ‘Agency’ in Feminist Discourse Methodology,” *Nordic Journal of Women’s Studies* 13, no. 3 (2005): 198–209, 199.

58 Oliver, “Beyond-Human Research”; Oliver, *Veganism, Archives, and Animals*.

59 “City Council,” *Kingston Daily News*, April 10, 1879, 1.

60 “City Nuisance Ground,” *Daily British Whig*, March 11, 1887, 5.

to further illuminate cows as historical subjects, I incorporated contemporary knowledge about their physiology and psychology, utilized map-making techniques, and employed speculative vignettes in my analysis – strategies I discuss in turn.

### Using Contemporary Understandings of Cows

Using current knowledge about cows' bodies and senses helps us appreciate how they might have historically experienced the spaces, practices, and situations in which they found themselves.<sup>61</sup> But relying on contemporary research into the biology and psychology of cows comes with several challenges. The most notable challenge is that such knowledge has primarily been developed for and by the agricultural industry. Agricultural research is often designed to find ways of making the utility of cows more efficient. That is, "the scientific literature on cow psychology and behavior is dominated by applied themes relating their behavioral and cognitive abilities to characteristics mainly relevant to intensive farming (e.g., their ability to grow and reproduce)."<sup>62</sup> This is a particular way of knowing cows, which objectifies them and situates them within a logic of commodification.

While I used scientific findings about cows to justify some of my analysis, I tried to be sensitive to and critical of how such information was produced, and I relied on the thoughts of scholars like Lori Marino and Kristin Allen, who carried out an extensive review of the scientific literature currently available about cows to understand what it might say about the "psychological and social characteristics of cows as individuals and on their own terms."<sup>63</sup> Marino and Allen looked at findings related to cows' learning, memory, emotions, and sociality to show that cows are sophisticated, complex animals with distinctive personalities. By reading the existing literature differently, these scholars show how dominant understandings of cows have been shaped by economic and political forces that actively obfuscate the complexity of their sociality and experiences. Literature, like archives, is a space of configuration.

I used insights from Marino and Allen to better analyze, and locate within my analysis, cows' experiences, including how a steer slaughtered in the 1868

<sup>61</sup> Glover, "A Cattle-Centred History of Southern Africa?"

<sup>62</sup> Lori Marino and Kristen Allen, "The Psychology of Cows," *Animal Behavior and Cognition* 4, no. 4 (2017): 474–98, 475.

<sup>63</sup> Marino and Allen, 475.

Easter market might have responded to the sounds and smells of the place. Marino and Allen note that cows who are afraid will vocalize loudly, show the whites of their eyes, and defecate uncontrollably. Cows are also macrosmatic – that is, they have an advanced sense of smell. If the steer in this scenario had performed the flehmen response (curling back his upper lip to smell the urine of his conspecifics, the surrounding steers), he might have been acutely aware of their stress.<sup>64</sup> In addition to using information about their biology, I used information about cows' social organization in my analysis – for example, that cows prefer to arrange themselves in matriarchal orders, where older members often have more established leadership positions, and that cows engage in allelomimicry, sometimes called contagious behaviour.<sup>65</sup> Facts such as these helped me, for example, to account for the impacts of killing animals and breaking up their social groups in response to outbreaks of diseases like tuberculosis.

To avoid objectifying historical cows and disavowing their subjectivity, it is necessary to explicitly state that they were sentient beings who experienced the world.<sup>66</sup> Acknowledging that cows are mammals who have nervous systems that allow them to feel pleasure and pain allowed me to be more sensitive about the devices and practices used on them.<sup>67</sup> Furthermore, recognizing that cows' sensory systems are different from those of humans (including differences in smell, taste, and touch) helped me think through how cows might experience those same practices, to different degrees. Cows experience being enclosed, pushed, milked, stroked, and prodded. Creative methods like map-making and speculative writing provided useful strategies for making these affective realities more visible in my historical account of Kingston.

### **Map-Making: Visibilizing Urban Animal Spaces**

Map-making was another important tool in carrying out a discourse analysis about the problematization of cows in Kingston. Paying attention to the spatialization of cows was essential to my understanding of how they lived and were problematized. Where cows were – and when – said a lot about how the city was

<sup>64</sup> Marino and Allen, 476.

<sup>65</sup> Clive Phillips, *Cattle Behaviour and Welfare* (Oxford, UK: Blackwell Publishing, 2002).

<sup>66</sup> Glover, "A Cattle-Centred History of Southern Africa?"

<sup>67</sup> Swart, "The World the Horses Made."

changing and how it changed in and through multispecies relations of power. If practices and relations are discourses, and space offers an important way for understanding urban animals' practices and relations, I needed a way in which to see where cows were in order to create a new urban imaginary for their presences.

Consequently, I used Google Maps to plot places that emerged as important to my understanding of the history of cows in Kingston.<sup>68</sup> I used a base map and added different layers. In map-making, a layer is a collection of items that are grouped together and can be independently overlaid onto the base map and each other. First, I created layers to represent Kingston's changing ward boundaries (1838, 1846, 1850). Then, I created layers to represent my analytical interests: (1) pastures and pounds; (2) dairies, byres, and labs; (3) nuisance and dumping grounds; and (4) butchers, slaughterhouses, and tanneries. I also had two less-directed layers for plotting mentions of cows and other animals that did not necessarily fit with the other layers. I used icons available on Google Maps to visibilize different elements in these layers; these included milk bottles (for dairies); trash cans (for dumping grounds); eyes (for inspectors); knives (for butchers); and aliens (for information I had but could not locate with certainty). I played with the colours of these icons to show temporal changes: anything started between 1820 and 1839 was mustard; 1840–1859 was orange; 1860–1879 was red; 1880–1899 was yellow; 1900–1919 was blue; and 1920–1939 was pink. So, for example, a red knife represented a butcher who started operations between 1860 and 1879, whereas a yellow bottle was a dairy started between 1880 and 1899.

My Google map helped identify trends for where cows (and cow-related activities) were located in Kingston and what they were doing. Looking at “Butcher’s Town” in San Francisco, Andrew Robichaud contends that some areas of the city could be thought of as “animal suburbs” because of how animals – and practices such as killing them – have been relegated to particular areas.<sup>69</sup> However, the sheer volume of information on my map (which was not exhaustive) showed that cows were not only isolated to animal suburbs as Robichaud suggested but, depending on what was expected of them, had varied and wide-ranging urban relations. While there was certainly neighbourhood spatialization of some

<sup>68</sup> Access the Google map here: [https://www.google.com/maps/d/u/0/edit?hl=en&mid=1gcNXsR\\_DjyFtx5yaSv4gml3wR-JJBDA&ll=44.23417919885991%2C-76.51010117218034&z=13](https://www.google.com/maps/d/u/0/edit?hl=en&mid=1gcNXsR_DjyFtx5yaSv4gml3wR-JJBDA&ll=44.23417919885991%2C-76.51010117218034&z=13).

<sup>69</sup> Robichaud, *Animal City*, 75.

activities, when looked at across varied practices, it was clear that cows (and cow-related activities) were geographically dispersed in Kingston.<sup>70</sup>

Throughout my research process, the map was an important analytical, if not necessarily representational, tool. I used my Google map as a sandbox – a place where I dumped information and figured out answers to many small puzzles. For example, if I came across information on someone who owned cows or an address at which a cow was listed, I could cross-reference this with information I had entered in this map to see if I already had records of that person or place. Or if I came across only the surname of someone who owned a cow, like Potter, but there were multiple Potters in the city directories, I could think about which person might have had the cows based on their proximity to pastures. I used the city directories to try to place markers in locations that were as historically accurate as possible because where a street address is today might not be where it was 100 years ago. But this is not an exact science, so many of these markers give only a general sense of where things were taking place. Furthermore, determining the size of the locations was often challenging. Places such as pastures, pounds, the commons, and private slaughterhouses were not mentioned in directories, and people referring to them often used common knowledge; thus, figuring out their sizes was not always easy. In some cases, the exact boundaries of spaces were not clear, and in others, I did not have the time to determine them. These dynamics presented challenges in making a readable and accurate map, but the process of map-making still told me something about cows and the city.

While my Google map was useful in my analysis, I also created cleaner maps that made cows' urban spaces in Kingston visible. In some ways, this was part of my effort to "turn the archive inside-out"<sup>71</sup> by making apparent that which is often rendered opaque. It was part of an attempt to create new urban imaginaries that acknowledge the city's animal histories. Working together with my husband (a photographer well versed in Photoshop), I altered the 1865 John C. Innes map to illustrate the cow spaces between 1838 and 1938. I chose this map because it is aesthetically pleasing, and it clearly shows the boundaries of Kingston and its wards for the period I was concerned with. Below, you can see the three adaptations that were presented at the start of each analytical chapter:

70 I won people's choice awards for these maps at the 2022 and 2023 GIS Day conferences. Thank you to Francine Berish for encouraging me to attend and present my work.

71 Thank you to Laura Jean Cameron for this phrasing.



FIGURE 4 *Three adapted versions of John C. Innes's maps, making cows' histories in Kingston visible. Source: Adapted by Claudia Towne Hirtenfelder from John C. Innes Map, 1865. Queen's University Archives.*

The first map gives a sense of how much urban land was dedicated to pastures and pounds, the second illustrates how dispersed dairying was in Kingston, and the third shows how cows' deaths were spatially distributed through different industry and waste flows.

Presenting documentation over a 100-year period is challenging, but these maps made Kingston and its history differently visible as a place where real and personal property were animated through multispecies relations of displacement, where the consumption of milk and practices like pasteurization contributed to the exacerbation and invisibilization of certain disease situations, and where the death of animals was shaped by geographies of consumption and waste.

### **Speculative Vignettes: Making Cows Visible as Subjects**

While maps made cows and their histories visible, the use of speculative vignettes amplified the significance of these socio-spatial relations. When I started writing, I became concerned I was falling into the same trap as much of the literature I was critiquing; I was failing to write about cows as historical subjects. As Kean

argues,<sup>72</sup> writing animal histories requires one to write in a way that is open to animal agency. How animal histories (and geographies) are written is an essential component in how the agency of animals is represented. This process can be described, perhaps more astutely, not as a matter of trying to access animal agency but rather of learning how to write in a way that privileges animals as experiential subjects.<sup>73</sup> Consequently, while working on my first analytical chapter, I wrote a vignette about Charles Corbett's cow, who in 1878 was no longer allowed to pasture on the courthouse grounds. Almost immediately, I found myself attending to previously neglected questions and ideas. I started thinking about what cows might have seen, heard, and smelled. This made it easier to contemplate the significance of their problematization for *them*. Wondering about a cow's sensory experiences allowed me to centre cows as subjects in my analysis.

I initially viewed these speculative vignettes as analytical tools, but the work of Saidiya Hartman<sup>74</sup> inspired me to take them seriously as indicators of the constitutive limits of the archive. Telling the stories of “the nameless and the forgotten”<sup>75</sup> in the transatlantic slave trade, Hartman writes about Black women whose lives are often represented only as short words and numbers in ledgers. Using speculations informed by the archive, Hartman expresses the moods, doubts, and wishes of subjects often absent in its collections. Through what she calls critical fabulations, Hartman makes the devastating impacts of slavery known at an inter-personal level that stretches beyond the victimizing, rote, and sometimes sterilized discussions in academia. She does not try to give voices to these women but rather tries “to imagine what cannot be verified, a realm of experience which is situated between two zones of death – social and corporeal death – and to reckon with the precarious lives which are visible only in the moment of their disappearance.”<sup>76</sup>

72 See Kean, “Challenges for Historians Writing Animal–Human History.”

73 Bonnell and Kheraj, *Traces of the Animal Past*.

74 Thank you to Carolyn Prouse for alerting me to the work of Saidiya Hartman and encouraging me to explore the role of speculation in my work. Saidiya Hartman, “Venus in Two Acts,” *Small Axe: A Caribbean Journal of Criticism* 12, no. 2 (2008): 1–14; Saidiya Hartman, “Intimate History, Radical Narrative,” *Journal of African American History* 106, no. 1 (2021): 127–35.

75 Hartman, “Venus in Two Acts,” 4.

76 Hartman, 12.

Because of the histories of animalizing and dehumanizing racialized populations, particularly those who were enslaved, one must always be cautious about how conversations related to animals are brought into the same frame.<sup>77</sup> Enslaved and animal populations have been subjected to socio-political pressures that have rendered them differently, but in some ways similarly, visible and invisible in archives. For example, both enslaved people and animals were described in colonizers' records of transnational voyages as property because they were viewed as having only extrinsic value.<sup>78</sup> My intention here is not to collapse the experiences and stories of enslaved people and animals; I only want to point out that Hartman demonstrates how one can push back against dominant (and deficient) representations of marginalized groups by pushing the boundaries of archives through creative writing.<sup>79</sup> Hartman's methodological boldness, which shows how such creative efforts are politically and ethically important, inspired me to incorporate my speculative vignettes directly into my writing. By taking seriously how cows inhabited and moved through the city, I was able to bring to the fore spaces and relations neglected in urban analyses – for instance, the under-examined entanglement of pastures and sewage management in cities.

Animal studies scholars have also found speculation to be a generative activity.<sup>80</sup> In terms of historical speculations, Dawn Day Biehler starts each chapter of her book *Pests in the City* with a story that is sensitive to the lives, psychology, and physiology of the animals she is attending to.<sup>81</sup> In the exhibition *The Museum of the History of Cattle*, Laura Gustafsson and Terike Haapoja challenge the anthropocentrism of historical stories by foregrounding the first-

77 Claire J. Kim, *Dangerous Crossings: Race, Species, and Nature in a Multicultural Age* (Cambridge, UK: Cambridge University Press, 2015).

78 Jacoby argues that the similar historical treatment of enslaved people and domesticated animals (including disciplinary practices like whipping, chaining, and castration) points to a deep connection between the two institutions – one he argues was fundamentally shaped by the emergence of domestication and agriculture. Karl Jacoby, "Slaves by Nature? Domestic Animals and Human Slaves," *Slavery and Abolition* 15, no. 1 (1994): 89–99.

79 Hartman, "Venus in Two Acts."

80 Pablo Castelló, "Zoolondopolis," *Animal Studies Journal* 11, no. 1 (2022): 121–45; Sue Donaldson, "Animal Agora: Animal Citizens and the Democratic Challenge," *Social Theory and Practice* 46, no. 4 (2020): 709–35; Donna Haraway, "Speculative Fabulations for Technoculture's Generations: Taking Care of Unexpected Country," *Australian Humanities Review* 50, no. 5 (2011): 1–18; Michelle Westerlaken, "It Matters What Designs Design Designs: Speculations on Multispecies Worlding," *Global Discourse* 11, no. 1–2 (2021): 137–55.

81 Dawn D. Biehler, *Pests in the City: Flies, Bedbugs, Cockroaches, and Rats* (Seattle, WA: University of Washington Press, 2013).

person perspective of a cow.<sup>82</sup> While not initially influenced by these scholars, my speculative vignettes share some similarities with their work. Like Biehler, I wrote short vignettes about historical animals, but rather than suspending generalized stories at the front of each chapter, I integrated mine into my analysis as a mechanism to locate specific historical animals. I joined Gustafsson and Haapoja in using emotive language in my vignettes, but instead of being written from the vantage point of a generic cow, each of my stories is inspired by a specific cow. Like others using narrative to unpack broader social and political contexts, I used my stories as “a site for thinking through the workings of power, knowledge, and geographical formations at the most intimate scales.”<sup>83</sup>

My speculative vignettes were informed both by material from the Archives and by some of the contemporary, biological details about cows discussed in the previous sections. I wrote about cows in the third person and tried to paint pictures of what they might have experienced as well as the relationships they might have had with other animals, people, and places. As far as possible, these vignettes were geographically and temporally specific. While the sentences were simple, they did not shy away from the emotive dimensions of cows’ experiences such as attachments, pleasures, and pains. While not neutral, the vignettes were also not sensational; rather, they sought to create emotional openings with the power to affect readers. As you can see in the image below, I italicized and indented these speculations to make it obvious to the reader that they were a different kind of writing. These speculative vignettes centred cows as subjects in my thinking and analysis, helping me resist the urge to get swept up in human stories where cows were primarily the backdrop.

I could, however, be critiqued for ventriloquism and anthropomorphism. Ventriloquism involves writing stories from the perspective of animals without necessarily taking seriously the ways in which animals assert themselves. Anthropomorphism, on the other hand, is often criticized for offering only a “crude expression of historical empathy.”<sup>84</sup> But anthropomorphic methods

<sup>82</sup> Laura Gustafsson and Terike Haapoja, *The Museum of the History of Cattle* (website), accessed January 17, 2023, <https://www.historyofcattle.org/about/>. See also Laura Gustafsson and Terike Haapoja, *History According to Cattle* (New York: Punctum Books, 2015).

<sup>83</sup> Emilie Cameron, “New Geographies of Story and Storytelling,” *Progress in Human Geography* 36, no. 5 (2012): 573–92, 574.

<sup>84</sup> Bonnell and Kheraj, *Traces of the Animal Past*, 10.

are not inherently problematic, and it is important to resist the solipsism that positions humans as incapable of understanding other species' experiences.<sup>85</sup> Furthermore, I made extensive use of footnotes to justify what I was saying and to show how the speculations were informed by details from the Archives or by contemporary research on cow biology. The footnotes also showed the labour involved in crafting such stories, and they "signal[ed] stories of other stories."<sup>86</sup> Such indicators offer opportunities for thinking about archives and for showing how animals (as experiential subjects) can be better incorporated into urban analyses.

The speculative vignettes required a different kind of thinking and made some of the banal, everyday violences of cows' problematization in Kingston apparent. The everyday and frequent interventions into cows' lives had material and emotional impacts for the cows involved: Charles Corbett's cow's daily routine was disrupted because of shifting property valuations, Benjamin Folger's cow was killed and cut up because of the ongoing tuberculosis situation in Kingston, and an unknown calf experienced being dumped in a nuisance ground because he had no value within the city's dairy economy. These cows experienced externalized practices and disciplinary incursions into their lives and bodies. They experienced being cleaned, tethered, tested, tied, segregated, and killed. Speculative vignettes offered an animal-centric way of viewing and thinking about urbanization and an imperfect way in which to write about historical animals as subjects.

## The Significance of Finding and Telling Urban Animal Stories

Understanding the historical problematization of cows in Kingston was a small piece in a much bigger challenge in which it is necessary to fundamentally change existing human-animal relations and the violence these relations often involve. Through focusing on the problematization of cows, I tried to show that constituting animals as problems is not benign but has far-reaching and material ramifications for the cities and animals involved. Cows are in the world, they are impacted by it, and they have local and global stories that are deserving

<sup>85</sup> Glover, "A Cattle-Centred History of Southern Africa?"

<sup>86</sup> Katherine McKittrick, *Dear Science and Other Stories* (Durham, NC: Duke University Press, 2021), 19.

One of the biggest scandals related to the health of cows in 1898 was, then, from cows outside of Kingston's municipal boundaries. Not even three weeks after Folger's cow was killed and her lung displayed, the superintendent at Rockwood Asylum (Dr. Clarke)<sup>65</sup> identified a sick cow at his facility. He said she had been "failing for over a year and had shown signs of quite serious illness for some time."<sup>66</sup>

*The cows had been standing in barn when she hacked and coughed.<sup>67</sup> She was an older cow, something of a leader among the herd of 39.<sup>68</sup> But she had been sick for weeks now, even months, and it made them all uneasy. She hadn't been eating and moved slowly. Many in the herd had been a little listless but she had been particularly bad. One day the man came and pinched her shoulder. She bellowed and shuffled.<sup>69</sup> They bellowed and shuffled.<sup>70</sup> He left and as time passed, she moved her feet more and her head sagged.<sup>71</sup> One of the five cows with whom she spent most of her time tried to lick her.<sup>72</sup> When the man came back, he touched her ears, then her nose, and left.<sup>73</sup> Finally, she lay down. Then he came back and took her with him.*

When Dr. Clarke suspected one of his cows had tuberculosis, he subjected her to a tuberculin test which involved injecting a purified protein extract (derived from *M. bovis*) into her shoulder and monitoring her temperature (often through touch) for 24-48 hours (Smith-Howard, 2014; Palmer

<sup>65</sup> Dr. Charles Kirk Clarke is sometimes referred to as the father of Canadian psychiatry. He first worked as a clinical assistant the Asylum for the Insane in Toronto and then then as an assistant medical superintendent before taking the same role at Rockwood Asylum. When Mr. William Metcalf, the Asylum's existing superintendent, was killed in 1885 Clarke took up the position. He stayed in the position until 1905 (Ryan, 2021).

<sup>66</sup> 29 April 1898, *The Daily British Whig*, 6.

<sup>67</sup> A cough is a clinical symptom that tuberculosis has reached the cow's lungs.

<sup>68</sup> Cows' social organization is matriarchal and "the preservation of personal space is at the heart of social organisation of cattle" (Phillips, 2002: 104). Older members of herds have more established positions, show less aggression, and are often leaders who initiate movement that others follow (Phillips, 2002: 104; Sowell, et al, 1999)

<sup>69</sup> Cows' vocalizations are wide ranging. They can express anticipation, fear, and frustration. Low-frequency nasal calls usually indicate low levels of stress whereas high frequency and loud calls illustrate distress (Green et al, 2019).

<sup>70</sup> Cows are highly social animals who often engage in allelomimicry, sometimes called contagious behaviour (Phillips, 2002).

<sup>71</sup> These are all indicators of a fever.

<sup>72</sup> Grooming each other maintains peer bonds (Phillips, 2002).

<sup>73</sup> With the absence of a thermometer these touches test if a cow has a fever (Doyle and Moran, 2015).

FIGURE 5 *An example of a vignette, the Rockwood Herd 1898.*  
Source: Claudia Towne Hirtenfelder.

and Waters, 2011).<sup>74</sup> Likely having observed changes in her temperature, Dr. Clarke killed her on the 29<sup>th</sup> of April 1898 and inspected her body to confirm his suspicions. Her lungs were “found studded with tubercular nodules far advanced in degeneration” and her liver, peritoneum, and udders all also had signs of the disease.<sup>75</sup>

*When the older cow didn't come back to the stable there was a hole in the herd and a general uneasiness. But just as things began to stabilize the man came and took another five cows. They were all agitated by this point, trying to figure out this new social order.*<sup>76</sup>

With his suspicions confirmed, on the 11<sup>th</sup> of May 1898, Dr. Clarke quarantined and killed the five cows with whom this first cow had most closely lived and shared water and food. By the 14<sup>th</sup> of May two newspaper articles declared that 28 of the herd of 39 had been killed because of tuberculosis, and “the balance of eleven” were “comparatively healthy” and would soon be “fattened” and “slaughtered” for meat.<sup>77</sup>

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<sup>74</sup> When tuberculin tests were first conducted, how animals' temperatures fluctuated varied: Some increased dramatically at about ten hours and others had gradual increases over a twenty-four-hour period. Because of this variance some veterinarians criticized the tests as an ineffective measure for diagnosing bovine tuberculosis (Palmer and Waters, 2011). It has since been standardized and remains the primary method used to identify bovine tuberculosis in cows.

<sup>75</sup> 13 May 1898, *The Daily British Whig*, 2.

<sup>76</sup> Cows form strong social bonds, friendships, and sub-herds. These can be significantly impacted by separation and re-grouping (McLennan, 2012; Sowell, et al, 1999)

<sup>77</sup> 14 May 1898, *The Daily British Whig*, 2.

of time and attention. Therefore, tracing animals in municipal records, being sensitive to contemporary knowledge about them, and making use of creative methodological tools to visibilize their socio-spatial worlds is not only academically interesting but also politically significant. Particular narratives and voices are privileged in archives, sometimes unwittingly, because they are shaped by prevailing notions of whose stories are considered important and worthy of preservation. Methods such as those discussed in this article challenge the status quo by providing a means through which animals can be made visible in epistemic orders and spaces that regularly neglect them, including spaces of configuration like by-laws, archives, and academic literature. Therefore, by resisting the urge to treat animals as passive objects and instead embracing means by which their stories can be foregrounded, one can not only generate novel data sets but also glean interesting insights into how animals impact and are impacted by urban change, possibly helping to foster less-violent urban imaginaries and practices.

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**BIOGRAPHY** Claudia Towne Hirtenfelder (née Forster-Towne) is an interdisciplinary scholar with a PhD in geography from Queen's University in Canada. She has research interests in urban political governance, animal studies, and qualitative methodologies. Claudia is also the founder and host of the award-winning podcast *The Animal Turn*. Claudia has worked closely with the Queen's University Archives, Stones Kingston, and the Animals in Philosophy, Politics, Law, and Ethics (APPLE) research group to produce walking tours and guides related to Kingston's urban animal histories and geographies.