Cast Out Urbanites:
The Historical Problematization of Cows in Kingston

By

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Abstract

Animals are regularly defined and managed as problems in urban policies and practices. Despite being common, the problematization of animals is ill-understood and under-theorized in urban geography. In this dissertation, I argue that problematization is important because it has significant implications for animals: not only in how they are subjected to violent disciplinary practices but also in how they are made epistemically visible (or not) as urban subjects. That is, problematization objectifies animals and can contribute to their physical and epistemic in/visibility in cities. One effect of problematization is that it makes some animals visible to the historical record as problems. Consequently, scholars often write urban histories and analyses that reconstitute these animals as problematic objects, failing to recognise that problematization involves multispecies power relations that animals experience.

Focusing on the problematization of cows in Kingston, Ontario between 1838-1938, I explore how problematization can conceptually be used to understand the urban histories of animals in a way that takes them seriously as subjects. I argue that a spatial understanding of problematization allows for a nuanced multispecies analysis. In doing so, I analytically focus on spaces of configuration, material spaces of governance, and institutional/social spaces. Methodologically, I use material gathered from the Queen’s University Archives and conduct a discourse analysis that focuses on how cows were legally constituted and municipally governed as problems. I supplement this analysis with speculative vignettes and maps that make cows better visible as historical subjects. Drawing together these diverse modes of analysis, I argue that cows in Kingston were problematized because they were defined and managed as transgressive in property relations, risky in health relations, and waste in commodity relations. This
problematization not only resulted in cows’ bodies, environments, and social worlds being violently managed but also contributed to cows being cast out from Kingston’s urban imaginary.
Supplementary Works

This dissertation follows a traditional thesis format and represents an original piece of work. That said, over the course of researching and writing I have launched a podcast, co-authored two journal articles, produced two multispecies walking tours, co-founded the Bovine Scholarship Network, won a people’s choice award for my “messy map” exploring cows’ history, developed a guide for finding animals in the Queen’s University Archives, and designed and taught a fourth-year course on urban animal histories and geographies (GPHY 402). These works, while not always explicitly about cows, are reflective of my scholarship and community-based efforts to make animals visible in urban histories, geographies, and imaginings:


Hirtenfelder, C.T., 2023. Transgressive, risky, and waste: How cows were historically problematized in Kingston. A Heritage Hour Talk, Kingston City Hall [20 April 2023]. This can also be viewed here: [https://www.youtube.com/watch?v=W3FUuYJrYFQ](https://www.youtube.com/watch?v=W3FUuYJrYFQ)
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Writing this dissertation has arguably been one of the most difficult things I have ever done, not only because sticking with a single project for five years is hard but also because during those five years life happens. Therefore, finishing is not a reflection of my determination but rather the support I have had. The support of mentors who have guided and kept me excited; the support of friends and family who have offered up their couches and homes when I was stranded, and the genuinely good conversation and warmth of good people. At the start of this project, I was new to geography, historical research, and animal studies. I had (and continue to have) a great deal to learn and I am forever grateful to all of you have helped me complete this PhD.

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List of Abbreviations and Symbols

Abbreviations:
CAS Critical Animal Studies
Corr. Correspondence
LBH Local Board of Health
MHO/MOH Medical Health Officer
QUA Queens University Archive

Map Legend:
- Pastures
- Pounds
- Markets
- Nuisance Grounds/Dumping Grounds
- 1820-1839
- 1840-1859
- 1860-1879
- 1880-1899
- 1900-1919
- 1920-1939
Nomenclature and/or Glossary

**Animal** refers to non-human animals and is born of the Human/Animal divide. It is a contentious term that has historically been used to degrade both animals and humans. To disrupt the divide, scholars often use *More-than-Human* or *Non-Human Animal* instead. I use these concepts interchangeably.

**Animal-Industrial Complex**, first coined by Barbara Noske (1989), this concept refers to the systematic and institutionalized exploitation of animals at an industrial scale; as well as how this exploitation is enabled through overlapping state, legal, social, and market forces.

**Animal Studies**, a cross- and multi-disciplinary field that is focused on human-animal relations and is generally interested in questions related to animals and animality. It is sometimes also referred to as Human Animal Studies (HAS).

**Bull**, an uncastrated male bovine.

**Calf**, a young bovine.

**Cattle** has etymological and historical links to chattel and capital. Both capital and cattle are derived from the Latin for head (caput). Until the 15th century ‘cattle’ and ‘chattel’ were used interchangeably to refer any moveable property. This includes cows but also humans and other animals. Today (irrespective of age, gender, and geography) ‘cattle’ is often used as a collective noun to refer to animals who belong to the Bos genus.

**Cow** is a colloquial form of ‘cattle’ as well as a bovine who has given birth and is a mother. I use ‘cows’ instead of ‘cattle’ as a means of resisting the conflation of cows with property. In instances where the age or gender of the animals is important this is explicitly stated.

**Cow byre**, a cow shed.
Critical Animal Studies (CAS), is a more radical version of Animal Studies. This inter- and multi-disciplinary field not only centers questions related to animals but also seeks to dismantle the unequal and oppressive systems that continue to abuse animals.

Domesticated Animals, refers to animals who are actively, and selectively, bred over generations to display specific physical and psychological characteristics. Domesticated animals have long and entangled histories with humans.

Heifer, a cow who has not borne a calf.

Human refers to *homo sapiens*. It is a highly contentious term, born of the Human/Animal divide, that has historically been used to degrade both humans and animals.

Livestock, regularly used to refer to domesticated animals who are raised for their use or economic value. ‘Stock’ illustrates the economic fulcrum of this term.

More-Than-Human, a concept often used to refer to animals as well as to contexts in which multiple species interact.

Non-Human Animal, a concept used to refer to animals. Said differently, any animal that is not human.

Personal Property includes physical and intangible objects that are owned. Unlike real property, personal property is often moveable and not confined to a specific place.

Property could, at its base, be understood as someone owning something but it is more precisely understood as a complex socio-historical and geographic process which shapes the valuation of bodies and places (see Chapter 5 for a more detailed definition).

Real Property is fixed in place and includes land or fixtures added to land (such as houses).

Steer, also called a bullock, is a male bovine who has been castrated and is often raised in the meat industry.
Chapter 1. Introduction

There is an odour to this place, a farmlike quality,¹ made by the mixing of manure with rain, dirt, and food that are blended together through hoofbeats making their way downtown. The echoes of those beats reverberate and together they give the city its rhythm. Add to that the neighs and the moos that come from stables; the chirps from roof ledges; honks from the water’s edge; and the grunts, barks, and chatter that come from streets. Chickens and pigs can be seen ambling in alleyways, a dog is curled in the sunshine, a cat sits near an entrance, horses drink from a water-station, and a cow is tethered to a post. Men walk in and out of places, rats run between mounds, and birds hover near trash heaps. Aurally, olfactorily, and visually, it is a bustling city of the past.²

Incorporated as a town in 1838, Kingston is a medium-sized city in Southeastern Ontario, Canada. The city is built on the traditional homeland of the Anishinaabe, Haudenosaunee, and the Huron-Wendat people. Located at the junction of the Great Lakes and St. Lawrence River, Kingston lies 260 kilometers east of Toronto, 175 kilometers south of Ottawa, and 42 kilometers north of the United States border (Osborne, 2022). This location historically made Kingston a place of interest for European settlers and an important political location which is why, in 1841, Kingston became the first capital of the United Province of Canada. Its time as a capital city ended in 1844, but Kingston remained an important military destination and fortification until the defence population began to dwindle in the latter parts of the century. From the 1870s, the City Council and urban boosters invited private industries to Kingston but - with its many prisons, hospitals, and tertiary

¹ I am indebted to the work of Philip Gordon Mackintosh (2017) for the concept of “farmlike” when referring to the smell of 19th century cities.
² Kingston’s Market Square and some of its downtown streets were used as a set for Guillermo De Toro’s 2014 horror film Crimson Peak which used the square to evoke feelings of an early 20th century English town. While horses were present, cows were not included in this imaginary. Thank you, Laura Cameron, for alerting me to this. Read more about the behind the scenes by Danielle Lennon (2015).
institutions - the city would become more defined by its public sector (Osborne, 2022; Donald and Hall, 2016).

Figure 1: Locating Kingston in North America (Google Maps).

Figure 2: Kingston at the intersection of Lake Ontario and St Lawrence River (Google Maps).
Today Kingston has a population of 132,485 humans (Statistics Canada, 2022a), and if you were to take a stroll through its downtown, you might be forgiven for imagining it was ever a place in which cows and horses filled the streets, where pigs, dogs, and geese ate trash and tended to evade capture, and where numerous cats died in accidents. But if you look a bit more closely there are traces of these animal pasts all about the city: from the defunct water-fountain near the Market Square for horses and dogs, to the arched doorways built for carriages, and the parks and coffee shops that were once pastures and butchers. Some animals are, however, more firmly located within Kingston’s urban historical imaginary than others. Whereas horses are included in the most iconic images of Kingston’s past (see Figure 3) cows are underrepresented or only shown outside the city looking in (see Figure 4). This is reflective of different urban imaginaries and ideas about how animals have, and continue, to relate to the city. But the absence of cows is particularly curious, because even though there is scant visual documentation of cows in Kingston, my research has found that they were historically very much in the city and could be found everywhere from backyards to breweries, hospitals, and hotels.

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3 This figure is only for the City of Kingston and is excluding the broader metropolitan area. If South Frontenac, Loyalist, and Frontenac Islands are included, the population is 172,546 (Statistics Canada, 2022b).

4 In fact, animals are rarely listed or noted in online and travel descriptions of the city’s history (see for example: City of Kingston, 2023; Osborne, 2022; Visit Kingston, 2023).

5 Throughout this project I use the ‘cows’ instead of ‘cattle’ the latter is derived from derived from chattel, meaning property. Until at least the 15th century ‘capital’ and ‘cattle’ were used interchangeably and the Latin root word meaning ‘personal wealth’ also means ‘head of cattle’ (Bobrow-Strain, 2009: 778). While it illustrates the economic fulcrum of human-cow relations (Hart and Sperling, 1987), I do not want to reinscribe this kind of objectification of cows in my writing.
Figure 3: Horses in Kingston (Locator V23, QUA).
Figure 4: An 1841 drawing of cows looking into Kingston from Barriefield (Frederick H. Holloway, Library and Archives Canada).

Figure 5: A rare image showing cows on Ontario Street in Kingston, 1829 (Library and Archives Canada).
Today, cows are not only physically invisible in many North American cities, but they are also epistemically invisible in scholarship designed to understand urban histories and geographies. The absence of animals in discourses and thinking about cities is not necessarily benign but could also be thought of, as geographer Chris Philo (1995) suggests, an “antianimal agenda” in which many cities and theorizations of cities are frequently “hostile to the presence of live animals” and encourage “their sociospatial exclusion” (Philo 1995: 664). While questions about biodiversity, climate change, and environmental health are ubiquitous, urban theorists often neglect to account for how multiple animals are urban subjects and have varied experiences of urbanization (Arcari et al, 2021; Thrift, 2021; Wolch, 1996; Wolch, 2002). But cities are more-than-human, they have always been more-than-human, and to understand how they operate requires paying attention to multispecies processes of urbanization and how they impact multiple species (Brown, 2016). Consequently, in this thesis, I am interested in paying attention to a process that is common in cities and significant for urban animals: problematization.

One of the key ways animals are managed in cities is as ‘problems,’ yet little is known or understood about the mechanisms through which urban problematization operates. I understand the urban problematization of animals as a socio-spatial and historical process in which animals come to be discursively constituted as problems in urban regulation, and materially managed as such through disciplinary practices that frequently rely on material and spatial interventions. Based on my reading, and discussed more in the theoretical chapter, there are at least three important logics which tend to problematize urban animals: 1) they flout human urban imaginaries, 2) they are entangled with and possibly disrupt human economic objectives, and 3) they are affiliated with other problematized populations or situations. That is, animals who disturb ideas of the city being
a modern or human place (Jerolmack, 2008; Philo, 1995; Wolch, 1996), who disrupt economic operations (Benson, 2013; Collard and Dempsey, 2017), and/or who are associated with problematic situations like disease outbreaks (Kheraj, 2017; Lynteris, 2019) might be problematized. Examples include rats who live off city waste (Biehler, 2013, Talton, 2019), monkeys who encroach on urban developments (Yeo and Neo, 2010; Barua and Sinha, 2017), and feral cats who disrupt domestic/wild boundaries (Holmberg, 2017; Lynn et al, 2019; van Patter and Hovorka, 2018).

Based on my research, I have found that cows were problematized in at least three ways in Kingston. Firstly, cows were constituted as transgressive in Kingston’s property relations, and this took on particularly vitriolic tones in the 1870s as the city underwent property-related changes. Secondly, with the rise of bacteriology from the 1880s, cows’ bodies and environments were more readily associated with disease situations, and they came to be understood as risky to the safety of milk and Kingston’s public health. Third, because of cows’ entanglement in urban meat and milk industries they were also implicated within the city’s waste relations which many humans complained about for being a nuisance. These problematizations troubled how cows could be physically present in the city and imaginaries for how they related to it.

At its core, asking about the problematization of animals is a political question about who belongs in cities and who has a right to the city (Hubbard and Brooks, 2021; Shingne, 2021). Focusing on how some animal populations go from being ubiquitous and visible to absent in a city is a question about how cities work and the ways in which animals are valued. It is also a multispecies question because animals who disrupt urban imaginaries find themselves in varied states of urban exile,
with any existing acceptance precarious at best (Narayanan, 2017; Oliver, 2023). The extent to which problematized animals are removed from or made invisible in cities could be considered indicators of a ‘successful’ governance response to such problematizations. For example, pigeons and pigs have both historically been problematized in New York and have been subjected to eviction campaigns there (Jerolmack, 2008; McNeur, 2014); but these have had varied levels of regulatory ‘success’ because, unlike pigs, pigeons are comparatively more epistemically and physically visible in the city. Unpacking the reasons and logics that inform and make problematization possible exposes the fault lines of urban imaginaries as well as the ways in which animals are understood relative to cities, and cities relative to animals.

Despite its significance, investigations into the problematization of animals remain scant and it continues to be a relatively underexplored set of urban phenomena, processes, and power relations. The urban exclusion and invisibilization of animals have, however, been a somewhat popular subject among animal geographers (Narayanan, 2017; Hubbard and Brooks, 2021; Philo, 1995). This is perhaps not surprising when one considers the ubiquity with which extermination campaigns are levelled against wild and liminal animals (such as wolves, coyotes, rats, and raccoons)\(^6\) and the near universal removal of some agricultural animals (like cows, horses, and pigs) from North American cities. From Seattle to San Francisco, to New York, Toronto, and Montreal, domesticated animals have been pushed from urban boundaries using discourses, modes of accumulation, and policies related to modernity, sanitation, and civility (Brown, 2016; Cronon, 1991; Kheraj, 2015; McNeur, 2014; Robichaud, 2019). For example, in Antebellum New York it

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\(^6\) Liminal animals are wild animals that live among humans, such as urban wildlife. See also, Wischermann et al (2018): Animal History in the Modern City: Exploring Liminality.
was believed that bad smells caused cholera and both pigs and piggeries were discursively implicated in an outbreak, called dirty, and subsequently removed (McNeur, 2014).

Even though animals have been included in urban histories they are most often discussed as objects, instead of subjects. In 1995, Philo said he could not shake the nagging feeling that while agricultural animals like cows feature prominently in historical geographies something was missing because the texts failed to account for animals as animals, instead treating them as objects, commodities, or tools. Almost twenty years later, I found myself sharing his concerns. While some scholars show more attentiveness to the lives and histories of urban cows (most notably Brown, 2016 and Hustak, 2017) the vast majority treat them as incidental objects instead of as thinking, feeling and experiential subjects. This omission is significant because, for animals, “the city has always been a site of danger, contestation and violence” (Oliver, 2023: 530) 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 (Wadiwel, 2015).

Understanding the historical problematization of cows is a small piece in a much bigger puzzle where there is a need to fundamentally change existing human-animal relations and the violence these relations often involve. That is, understanding problematization and its mechanisms allows for an appreciation of the significance of urban policy not only to the lives of historical cows but animals generally. As cities continue to grow and we move toward what some call an urban planet (Thrift, 2021), it is imperative to think seriously about how urban regulation impacts animals. Through focusing on the problematization of cows, I hope to show that constituting animals as problems is not benign but that it has far reaching and material ramifications for the cities and
animals involved. I want to tell a cow history and geography because cows are in the world, they are impacted by it, and they have local and global stories that are deserving of time and attention. Furthermore, despite having been in relation with humans for over 10,000 years, cows face an immense amount of violence. So far this year, over 3.6 million cows have been killed in Canada and urbanites are the biggest consumers of commodities made from cows - which include beef, milk, and leather (Arcari, 2020; Arcari et al, 2021; Thrift, 2021). Even though there is an imagined disconnect between cows and cities, they are very much still in relation today.

This project is firmly rooted within ‘the animal turn’ in ‘human’ geography and is representative of third wave animal geography in which geographers grapple with the many complex ways in which animals experience and inform socio-spatial relations (Buller, 2015; Urbanik, 2012). It is also inherently trans- and inter-disciplinary, sitting at the nexus of animal, urban, historical, and legal geographies and making use of information from disciplines as wide ranging as law, anthropology, sociology, history, and agricultural sciences. In this thesis, I explore how one might effectively think about the history of urban animal problematization in a way that takes seriously animals’ experiences. This is an important intervention because animals are generally underrepresented in urban theory building and because there is still a great deal of scope for

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7 They make up a fraction of the over 1.7 billion animals killed in Canada each year who include 4 billion shellfish, 790 million chickens, 492 million fish, 21 million pigs, 19 million turkeys, 4.5 million ducks and geese, 400,000 sheep (Animal Kill Clock Canada, 2023).

8 There are now 1.5 billion cows on Earth who are largely killed by humans for their flesh, milk, and skin (FAO, 2017). Since 2000, more than 250 million cows were slaughtered globally per year (Faunalytics, 2018, 2022) and in 2022 the global beef market was valued at $497.3 billion (Research and Markets, 2022). That is a marked increase from $385.7 billion USD in 2018 and it is expected to rise to $712.5 billion by 2030 (Research and Markets, 2018). These relations have, however, distinct geographies and histories: China (49 million), Brazil (37.5 million) and the USA (31 million) are the countries with the largest cow populations (Faunalytics, 2018) and cows in these countries are regularly concentrated in feeding lot operations, hidden from the urban humans who most consume them. In China most animal husbandry has been concentrated in the Heilongjiang Province and the western part of Inner Mongolia and in the High Plains (such as Colorado) in the U.S. (Leipnik et al, 2014).
methodological intervention. Accounting for the urban violences animals have historically and continue to face is not simply a matter of adding animals to existing theories and methodologies but, as Taylor and Fraser (2019: 9) note, requires building “animal-centred methods that allow animals to be seen and heard in the first place.” This, they continue, is important because “such a focus is useful for destabilizing the epistemic and methodological foundations of hegemonic speciesism, by disrupting the status quo…” (Taylor and Fraser, 2019: 9). With this in mind, I now turn to my case study and research questions for this project.

Case Study Approach and Research Questions

Considering the exploratory and theoretical dimensions of this project, I will be using Kingston as a case study to explore problematization as an urban process. At their base, case studies provide a means for exploring phenomena as well as potentially also providing empirical support for why a given phenomenon should be taken seriously (Crowe et al, 2011; Forrester, 1996; Yin, 1984, Zainal, 2007). While some might argue that a focus on a single case study (in this case the problematization of cows in Kingston) limits generalizability (Zainal, 2007), Flyvbjerg (2006) refutes such claims saying they are premised on a misunderstood idea that generalizable knowledge is more valuable than context-specific knowledge. Flyvbjerg (2006) further notes that the in-depth natures of case study approaches are more likely to develop theoretical ideas that can be applied and used elsewhere. Generalization is not the same as totalization, however (Roy, 2015). That is, just because the problematization and invisibilization of animals in cities is common, it does not follow that such processes are predetermined, transparent, or fixed across all cities. My attempt to not only explore the empirical ways in which cows in Kingston were historically problematized but to develop (even if partially) a model for analyzing such
problematizations does mean it is possible to emulate the methods of this research elsewhere, possibly even exploring theoretical overlaps and frictions through comparative research. Using the historical problematization of cows in Kingston as a case study, this thesis addresses theoretical, empirical, and methodological questions, namely:

Theoretically:

1. How can problematization conceptually be used to understand the urban histories of animals?

Empirically:

2. How were cows and their place in Kington historically problematized?
3. What were some of the discursive, material, and institutional mechanisms used to spatially constitute and govern cows as problems? And what instruments, tactics, and techniques were used to do so?
4. How did the problematization of cows in/visibilize them in the urban imaginary of Kingston?

Methodologically:

5. How can this analysis be conducted in a way that is sensitive to cows as historical subjects?
6. How does positioning cows as the main subjects in the analysis reveal new insights into urban processes and practices?

Unpacking how specific populations become known as problems requires a mode of analysis for thinking through the conditions under which they emerge as such and an alertness to the taken-for-granted representations of what are noted as being problems or solutions in policy (Bacchi, 2012). Carol Bacchi (2012: 4) calls this “thinking problematically.” To think problematically about how cows were problematized in Kingston has required not only theoretical innovation but methodological creativity too. I have developed a theoretical framework that centres the concept
of problematization, its constitutive power, as well as the disciplinary and governance technologies used to enable it. Using this framework, I analyzed over a hundred years (1838-1938) of archival material gathered from the Queen’ University Archives. I looked at municipal documents from Kingston (including meeting minutes, correspondence, by-laws, policies, commissioner diaries, and reports) and supplementary materials related to the functioning of the city (extracts from local histories and newspapers). I paid particular attention to how cows were constituted as problems in these documents, focusing on how such problematizations made cows in/visible in specific ways. Analytically, I found cows became epistemically visible in Kingston as transgressive forms of property, vectors of disease, and as commodities that are connected to the production of waste.

This project has been operationalized through sustained attention to cows in the archives and a kind of ‘counter reading’ methodology (Stoler, 2009) that carefully considers the presence and absence of animal traces. These efforts have been bolstered by drawing on insights from geographers who have explored various urban and animal relations, such as property (Blomley, 2003, 2004; Kheraj, 2015), health (Hinchliffe et al, 2017), waste (Gidwani and Reddy, 2011), and commodity (Collard and Dempsey 2013, 2017; Gillespie, 2021) relations. Additionally, I have developed historically informed, speculative vignettes about how cows might have experienced their historical problematization in Kingston. By following in the footsteps of scholars who recognize the importance of traces and absences in understanding power dynamics, this dissertation aims to make analytical, theoretical, and methodological contributions. To contextualize these contributions, the following section provides a brief literature review about the significance of the animal turn in geography and the importance of urban animal histories and imaginaries. It also includes contextual details related to cows in Kingston.
The Animal Turn: Third Wave Critical Animal Geographies

Third wave animal geography is different from the first two waves of animal geography in how it troubles the human/animal dualism (Gillespie and Collard, 2017; Wolch, 2002). For first and second wave geographers, the human/animal divide was stable, and animals were analyzed and naturalized as objects (Urbanik, 2012; Wolch, 2002). 9 First wave animal geographers, 10 like Alexander von Humboldt (1769-1859) and Wilhelm von Zimmerman (1743-1815), were primarily concerned with the spatial distribution of wild animals whereas second wave animal geographers, 11 like Yarwood and Evans (2000), were interested in how animals functioned as cultural symbols (Buller, 2017). While this work provided valuable insights into the movements of wild animals and the cultural significance of animals for humans, it did not consider the divide between humans and animals as significant, nor did it include animals as subjects (Gillespie and Collard, 2017). In contrast, third wave animal geography seeks to disrupt the ontological and epistemological foundations on which ‘human geography’ is constructed and calls for methodological and ethical dynamism to account for how geographies are more-than-human (Buller, 2015). Work by Philo and Wilbert (2000), Wolch and Emel (1998), and Yi-Fu Tuan (1984) are early examples of this form of animal geography. In Dominance and Affection: The Making of Pets, Yi-Fu Tuan (1984) brought into view human-animal power relations, whereas Wolch and Emel (1998: 507) called for “witnessing the animal moment” by drawing attention to the environmental and ethical dilemmas raised by human-animal relations.

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9 Both Urbanik (2012) and Wolch (2002) provide extensive overviews of the emergence and changes in animal geographies.
10 Also called zoögeographers.
11 Sometimes called cultural animal geographers.
Third wave animal geography is part of the animal turn in the humanities and social sciences which seeks to challenge the human/animal divide. The animal turn “brings along an alternative outlook on knowledge production that does not only include animals but places them centre stage as key actors in the innumerable modes of being in, and making sense of, the world” (Cederholm et al., 2014: 6, emphasis in original). That is, third wave animal geographers understand animals as experiential subjects whose lives are shaped by their socio-spatial relations. They recognise that there is “no clear-cut dividing line between reasoning, emotional, agential, and self-aware humans (subjects) on one side and passive, mechanistic ‘dumb’ animals (objects) on the other” (Gillespie and Collard, 2017: 8). These scholars actively challenge theories of development and progress that have historically neglected to account for animals and how the desire to control nature has been enabled through violence against animals.

The ethical and political consideration of violence in human-animal relations is also part of what is broadly called ‘Critical Animal Studies’ (CAS).12 Born of the animal turn and animal activism, CAS is an inter-disciplinary field that aims to disrupt anthropocentric, speciesist, and humanist understandings of animals and their relations. CAS advocates for theoretical, methodological, and political interventions that take animals seriously as subjects and dismantles their oppression. A key consideration for CAS scholars is how the discursive splitting of animals into distinct categories (pets, agricultural animals, wildlife) shapes how animals are treated and what provisions and consideration they are given, both legally and in everyday social practice (Donaldson & Kymlicka, 2011; Philo and Wilbert, 2000; Tuan, 2004). These scholars further show how the

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12 Brill books has a Critical Animal Studies Book Series edited by Vasile Stănescu and Helena Pedersen. The International Institute for Critical Animal Studies (ICAS) and the Australian Animal Studies Association (AASA) are good examples of organizations with a strong critical leaning.
metaphorical line between humans and animals is both a product of unequal power relations and a
dichotomy used to sustain gendered, racialised, classed, and speciated power relations (Deckha,
2008; Emel & Wolch, 1998; Hovorka, 2012; Taylor and Fraser, 2019; Pugliese, 2017; Wolfe,
2009). Most importantly, CAS scholars step away from the value neutral and anthropocentric
analyses of human-animal relations and take seriously what such relations mean for animals and
the ways in which they can meaningfully navigate the world. Examples in geography include
Karen Morin’s (2020) work on the structural, technological, and legal violences of carceral spaces
for both humans and animals;13 Kathryn Gillespie’s (2014) examination of the sexualized violence
of the U.S. dairy industry; and Rosemary Collard’s (2020) analysis of the global exotic pet trade. 14

Some CAS scholars and geographers are explicitly concerned with the violence of domestication.
This is because domestication is not a ‘once-off’ technical activity but rather a process that is
sustained through continued biopolitical interventions based on human preferences (Anderson,
1997). For Kay Anderson (1997: 496), domestication is “arguably as material as the much more
extensively critiqued social formations of capitalism, patriarchy and racism with which
domestication processes interacted.” Furthermore, domestication practices foster naturalized ideas
of human domination and exceptionalism which also results in human othering (Anderson, 1997;
Tuan, 1984; Nibert, 2013). Domestication discourses undercut the coupling of women and the
home (Tuan, 1984; Anderson, 1997; Adams), colonial narratives about Indigenous and Black

13 Morin (2020) considers, for example: spatial overlaps between death-row and slaughterhouses, how
pharmaceutical products are tested on incarcerated humans and captive animals, the ways in which prisoner and
animal labour is exploited, and the solitary confinement of humans in cells and animals in cages.
14 Gillespie and Collard’s (2017) edited volume titled Critical Animal Geographies: Politics, Intersections and
Hierarchies in a Multispecies World is exemplary here too. The anthology touches on topics as wide-ranging as
food activism, laws designed to prevent whistleblowing in the agricultural industry, and racialized wildlife
management.
peoples needing to be ‘improved’ (Anderson, 1997; Nibert, 2013), and the disavowal of animal bodies, relations, and cultures (Nibert, 2013). This last point prompted David Nibert (2013: 12) to replace domestication with “domescration” which he defines as the systemic practice of violence in which social animals are enslaved and biologically manipulated, resulting in their objectification, subordination, and oppression.” Scholars like Anderson (1997), Nibert (2013), and Tuan (1984) step away from the value neutral and anthropocentric stories of domestication and instead appreciate the material, fleshy, and multispecies consequences of it. Domestication practices also inform the binaries on which ideas of the anthropocentric city rests, binaries such as civil/wild and urban/nature (Hubbard and Brooks, 2021).

Critical animal geographers have made inroads into how urban analyses can be more attentive to the lives of animals. In 1996, geographer Jennifer Wolch urged scholars to develop trans-species urban theories that could critique contemporary urbanization from the standpoint of animals and re-enchant and re-animate conceptualizations of the city (what she calls zoöpolis). Alice Hovorka (2008) later illustrated how focusing on the lives of chickens in Gaborone offered a way of drawing out empirical insights about gender relations and how the city functions. Claire Palmer (2003) called attention to the power dynamics embedded within such urban relations whereas Maan Barua and Anindya Sinha (2017) as well as Lauren van Patter (2022) focused on how ethological insights can strengthen multispecies urban theory building. In a sea of urban research that neglects to account for animals or their material demise (Arcari et al, 2021), the abovementioned scholars show that adopting a multispecies lens has the power to acknowledge what urbanization means for animals in cities.
Some scholars have focused explicitly on what practices of urban dispossession mean for animals (Gordon, 2020; Hubbard and Brooks, 2021; Jerolmack, 2008; Palmer, Tissot, 2011). Hubbard and Brooks (2021), for instance, argue for a trans-species perspective of urban gentrification and highlight the varied ways animals are implicated in such struggles. This includes how some animals are displaced, how others are deliberately enrolled in urban-upscaling projects, and others still used as boundary markers in urban imaginaries. An example is how seagulls in Trotter were once considered an integral part of the seaside but are now excluded “from normative ideas of safe, gentrified consumption” which has led local authorities to remove seagulls’ eggs and nests, despite the birds being protected under conservation legislation (Hubbard and Brooks, 2021: 6). For Narayanan (2017: 476, 482), the conditions of informality are “an acute expression of the inequalities and violence embedded in colonial configurations of power and powerlessness” which often positions animals precariously “in the shadow space between being tolerated and violently removed.” The urban dispossession of animals exists on a spectrum from them being ignored, to being actively neglected, contained, or ‘whitened’ through a process of gradual recognition. To make her point, Narayanan (2017) notes how the Municipal Corporation of Bangalore subjects ‘stray’ dogs to mass poisonings because of their placeless status.

Multispecies ethnography and ethology have been important methods to help position animals as subjects in urban analyses (Hovorka, 2008; Barua and Sinha; 2017; Sabloff, 2001; Srinivasan, 2013; Narayanan, 2023; van Patter, 2022). Van Patter (2022), for example, used tracking devices and direct observations of coyotes to “(re)story” Toronto and show how coyotes spatially navigated the city in complex, socially informed ways. Yamini Narayanan (2023) conducted an extensive multispecies ethnography of bovine relations in India, which included the direct
observation of cows in urban dairying operations and their abandonment in streets and temples. Because one cannot directly observe historical animals, multispecies ethnography has not translated easily to understanding their lives. There has, however, been some impressive theoretical and methodological innovation in thinking through urban animal histories and imaginaries, which I briefly consider next.

(Urban) Animal Histories and Imaginaries

Cows’ physical invisibility in North American cities today is often connected to how they were historically removed from urban areas as a means of maintaining civilized sensibilities (Philo, 1995; Brown, 2016), expanding economies (Cronon, 1991; McNeur, 2014), and creating sanitized spaces (McNeur, 2014; DuPuis, Kheraj, 2015). William Cronon (1991), for example, notes how the once bustling Union Stockyards (founded in 1865) in Chicago (which ‘processed’ thousands of cows in the city) ended when diesel trucks allowed for more decentralized meat-packing operations. E. Melanie Du Puis (2002), on the other hand, highlights how cows were pushed from New York because of urban reformers’ fears around the sanitation of milk. Underlying narratives of cows disrupting urban civility and ecologies are urban imaginaries that positioned cows as problems.

This is not to say that there are no cows in any cities today. They are most notably included as food (milk and meat), clothing (leather), and other household items (such as soap) people use. But cows are also in cities as living animals. They are kept on floating farms in Rotterdam (Fry, 2018) and in urban operations in Nairobi (The Atlantic 2013). They are viewed as spectacles in Canadian
zoos (Malbeuf, 2019; High Park Zoo, 2019) and forced to participate in Pamplona’s bull run (Ockerman, 2016). In Indian cities, thousands of neglected cows roam urban streets, and some suffer from ingesting plastic (Gopalakrishnan, 2018; Narayanan, 2023; Withnall, 2019). Cows are also used in urban protests by dairy industries resisting milk price drops - like those in Brussels (The Telegraph, 2009), Stafford (The Guardian, 2015), and Ottawa (Fedio, 2016). Cows are used in urban protests such as these precisely because they are viewed as contemporaneously ‘out of place’ in these cities (Philo & Wilbert, 2000).¹⁵

Animals are imaginatively ‘placed’ in human societies, not only in our literature and stories but in our legislation and histories too (Philo and Wilbert, 2000). But, as Philo and Wilbert (2000: 5) note “if we concentrate solely on how animals are represented, the impression is that animals are merely passive surfaces on which humans inscribe imaginings and orderings of all kinds.” A great deal of history written about animals has tended to position them inertly and, as will be discussed in the theory and methodology chapters, this is somewhat born of the challenge of how to read and write about animals from archival material.

Nonetheless, the frequent failure to account for how animals are impacted by historical processes and events has sometimes led to curious conclusions. For instance, in the opening pages of Creatures of Empire, Virginia DeJohn Anderson (2004: 11) writes: “In a real sense these creatures [cows], even more than the colonists who brought them, won the race to claim America as their own.” This trope fails to acknowledge that even though cows’ numbers expanded, and the British

¹⁵ Cows were used in protests in Kingston to resist the closure of a prison farm at Collins’ Bay penitentiary in 2010. Unlike the milk protests where cows were included because they were deemed out of place (and therefore surprising), in these protests cows were included because it was believed they were being displaced from the prison system.
treated them as colonial tools, bovine experiences were diverse and their inclusion in these projects resulted in a great deal of suffering for cows.

Therefore, how animals are positioned in academic literature and environmental histories does imaginative and geographic work - positioning animals as tools reinscribes them as objects and disavows their agency and subjectivity. To that end, writing an urban historical geography about cows as subjects is important because how animals are constituted in urban practice and regulation as well as the re-telling of those constitutions in academia reinforces and/or disrupts particular ways of knowing urban animals as well as imagining cities. For Sharon Wilcox and Stephanie Rutherford (2018) historical animal geographies can benefit from bringing together the contemporary work in animal geographies with insights from environmental histories in a way that prioritizes the agency of animals and their ability to be affected. Their main argument is that animal geographies should be temporally sensitive, and that “space, place, landscape and scale” are “essential to re-construction of animal lives of the past” (Wilcox and Rutherford, 2018: 3). Indeed, geography is not necessarily an addition to the telling of animal histories, but arguably an essential dimension for how such histories can effectively be told.

Paying attention to the specificity of animal-place relations has the potential to say a great deal about animals’ experiences and cities. For example, Alan Mikhail’s (2014) The Animal in Ottoman Egypt provides a carefully crafted argument about how human-animal relations underwent dramatic changes between the 16th to 19th centuries in Egypt. He shows how modernity brought about a decline in the human use of dogs, donkeys, cows, and camels as labourers in Cairo and how they contributed to the establishment of larger agricultural regimes. Frederick Brown (2016)
discusses how the historical management of salmon in Seattle was bound up with the urban regulation of Chinese and Japanese immigrants in that city. Therefore, in thinking through how animals are placed in historical imaginaries it is also important to think about where such imaginaries are spatialized. Environmental historians and geographers have shown how cities in the United Kingdom and the United States of America were once home to a wide variety of domesticated animals and that human-animal relations have undergone significant changes. Colonial menageries gave way to zoos (Davies, 2000; Mackintosh, 2017), dogs shifted from free-roaming and working animals to urban pets (Howell, 2000; Robichaud, 2019), and the slaughter of agricultural animals like pigs, chickens, and cows moved outside of city limits (Cronon, 1991; Otter, 2013; Philo, 1995; Philo and MacLachlan, 2018).

While there is certainly a growing body of literature related to urban animal histories in Europe (Atkins, 2012; Holmberg, 2017; Oliver, 2021a; Otter, 2013; Ritvo, 2002; Saha, 2016b; Velten, 2013) and North America (Biehler, 2013; Brown, 2016; Gallo, 2022; Hribal, 2017; McNeur, 2014; Robichaud, 2019) their uptake in different countries and cities has been uneven. As the editors of *Animal Metropolis* note, “discussions of animal sentience, subjectivity, or agency are seldom addressed” in Canadian histories in general and Canadian urban histories in particular (Dean et al, 2017: 12). And when they are addressed, they tend to focus on ‘world’ or ‘global’ cities like Toronto (Kheraj, 2013; Mackintosh, 2017; Sabloff, 2001), Vancouver (Colby, 2017; Kheraj, 2015; Poloquin, 2017), or Montreal (Kheraj, 2015; Minnett and Poutanen, 2007; Olson, 2017). This geographical unevenness is reflective of a broader tendency whereby some cities (such as New York, London and Beijing) are privileged in urban theory-building as representative examples of what urbanism is (Jayne and Bell, 2020; Kendal et al, 2020; Robinson, 2006; Wagner and Growe,
2021). Nonetheless, the relative lack of attention to animals in urban histories in Canada is particularly surprising when one realises that many of the first by-laws in Canadian cities emerged in response to animals (Kheraj, 2017).

As a vegan and someone with a political commitment to not harming animals, as well as making efforts to make the world a better place for them, I think interventions that challenge how academic writing and analyses treat animals as “passive surfaces” are not only novel, but politically and epistemology significant. Being sensitive to animals in analyses and writing about them as subjects has the potential to make them more epistemically visible and possibly even foster new, less violent imaginaries. That is, visibilizing animals in urban histories as subjects who experience change is a challenge to an epistemic order that consistently neglects them. Furthermore, the subversive potential of such work is not limited to the written outputs of a project.

In fact, while this thesis is the culmination of over four years of work, some of the most subversive dimensions of it might be the opportunities the project provided to challenge folks’ existing world orders and imaginaries. Archivists at Queen’s University have commented how this project has led them to differently index artefacts, now taking note of animals who are in images, for example. I created an animal walking tour for Stones Kingston (2023), a website dedicated to inviting citizens to think about “all the cultural communities that are in some ways distinct, but that together build a resilient and beautiful city.” I also developed and taught a fourth-year seminar course

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16 The most studied cities are Beijing, New York, Melbourne, Berlin, London and Shanghai which all have populations of over 3 million people, this despite 41% of the world’s population living in cities that have populations of less than 300,000 people (Kendal et al, 2020).
17 You can see the walking tour here: https://www.stoneskingston.ca/animal-histories-of-kingston. This was part of a broader project with the Animals in Philosophy, Politics, Law and Ethics research group at Queen’s University in which we also developed a walking tour about animals at Queen’s University and developed a guide for how to
(GPHY 402: Urban Animal Histories and Geographies) where on more than one occasion students commented that the material had made them see the city and human-animal relations differently. And, finally, when one of my supervisors (Laura Cameron) mentioned my project to a local artist (Bree Rappaport), she included cows in her imaginings of what a ‘Paved Paradise’ might look like (see image below). The point of the artwork is to “uplift people to dream about the new prospective possibilities in our town” (Rappaport, 2022). While my research is not necessarily advocating for cows being re-introduced to cities, Rappaport’s work invites urbanites to imagine ways in which people in cities might differently relate to cows.

Challenging the ways in which animals like cows have been objectified as property, commodities, and problems in academic research and existing regulation is no small matter because, as will be discussed in the theory and methodology chapters, how animals are positioned in socio-spatial as well as legal discourses has material implications for animals and for cities. It is my hope that this thesis contributes to the gaps not only in Canadian urban history and theory building but also in thinking through how such work can be methodologically done in a way that prioritizes animals as subjects.

find animals in the archives, both of which you can access here: https://animalpolitics.queensu.ca/study/special-projects/.

18 See this feed on Twitter thread for some of content covered in my course: https://twitter.com/ClaudiaFTowne/status/1612848277623558146. I have also given guest lectures for numerous courses at Queen’s University including for Carolyn Prouse, Laura Cameron, Agnus Tam, David Macdonald, and Lauren van Patter. In April 2023, I gave a public lecture at City Hall in Kingston about this research which was also featured by the Canadian Broadcasting Corporation (CBC) on its Fresh Air radio program, https://www.cbc.ca/player/play/2194168899694, and covered by CBC News, https://www.cbc.ca/news/canada/ottawa/kingston-cow-history-remembered-1.6817197
Figure 6: Liminal Space, Paved Paradise Public Art (Bree Rappaport and Lee Stuart, 2022).

Figure 7: A student in GPHY 402's creative reflection about a city of the future (2023).
Some Contextual Traces of Cows in Kington

As mentioned above, cows were already in Kingston in 1838, when the place was first incorporated as a town. In fact, they were recorded in slightly higher numbers than horses. In 1838, 309 domesticated animals were documented in the city’s assessments. This included 157 cows, 151 horses, and 1 stallion. But how cows came to be in Kingston is part of a much longer history of domestication and colonization. Cows are the descendants of aurochs who were first domesticated in Southwest Asia at least 12,000 years ago. Since then, cows have spread with humans across the planet, from entering Africa 8,000 years ago to arriving on colonial ships in the Americas in 1493 (Bowling, 1942; Ficek, 2019; Rokosz, 1995).

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19 I discuss city assessments and how animals were counted in them in the method chapter.
Figure 8: Two wild aurochs with their young; etching likely made in Europe in the 17th century (Johann Elias Ridinger, Wellcome Collection, 39348i).

Figure 9: Historical changes in bovine body sizes (Ajmone-Marsan et al, 2010).
Figure 10: Historical Distribution of Cows (Enhanced copy of Map from Lambert, 2019: 382-383).
Cows were not native to North America but were introduced to the continent through several colonial and Euro-economic/domestication projects (Anderson, 2004; Fischer, 2015). Colonizers used cows as tools of expansion in the Americas (Anderson, 2004; Fischer, 2015; Ficek, 2019; Crosby, 1972; Bowling, 1942; Hart, 2016). In 1493, the Spanish brought cows to the Caribbean, valuing them as ‘beasts of burden.’ From there, the Spanish transported cows overland to the southern regions of North America and established hide markets (Bowling, 1942; Fischer, 2015). The French (1541), British (1611), and Dutch (1625) introduced cows to the northern parts of the continent (Bowling, 1942). While the French primarily used cows for food, the Dutch tried to create new economic markets centered on dairy, meat, and tallow (Bowling 1942). For imperial Britain, cows were symbols of civility and racialized superiority – supposedly showing white man’s control and dominion over nature (Anderson, 2004; Brown, 2016; Nibert, 2002).

Cows have an interesting history with map-making projects in North America. Cows were used by the British in North America as symbols of colonial expansion and became markers on maps to indicate where colonizers had taken over land and laid claim to it (Anderson, 2004; Bobrow-Strain, 2009). Their presence on colonial maps as well as physically on Indigenous land was used to appropriate that land, to make it (or rather practice or materialize it) as property (Anderson, 2004; Greer, 2012). “Cattle colonialism” refers to how cows’ wandering tendencies were used by colonizers, particularly the British, as mechanisms for laying claim to land (new pastures) and establishing real property (Anderson, 2004; Bowling, 1942; Crosby, 1972; Ficek, 2019; Fischer, 2015; Hart, 2016).21 In colonial North America, property law was an essential means of appropriating land (Bhandar, 2018). As Geographers Vinay Gidwani and Rajyashree Reddy

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21 Scholars have also highlighted how cows have been used as colonial tools in Southern Africa (Glover, 2019), China (DuBois, 2019), Burma (Saha, 2016a), and Antarctica (Leane and Nielsen, 2017).
(2011), discussing John Locke, argue, property was appropriated through ideologies of it being constituted and framed as ‘useful’ - cows became part of this ‘use.’ These imperial logics were infused with Christian ideas of human superiority, Western notions of private property, and racist and speciesist logics that framed Indigenous North Americans as less than human (Anderson, 2004; Brown, 2016). 22

It is likely that the French first brought cows to Canada and introduced them to Kingston as well. Cows have been in 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 (Preston and Lamontagne, 1958; Osborne and Swainson, 2011). 23 Fort Frontenac was built at the mouth of the Cataraqui River, where the St Lawrence River leaves Lake Ontario. The Fort not only served as a defense against the Haudenosaunee and British, but it was a base from which the French could explore the Great Lakes and establish a fur trading post (Osborne, 2022). The fur trade, driven by the demand for beaver pelts, played a crucial economic and political role in the early colonization of Canada. It served as a driving force behind exploration, settlement, and the development of trade networks across the country.

22 For Belcourt (2015) such anthropocentrism dehumanizes both Indigenous and Black people by refusing their humanness and locating them at the margins of settler societies; it also denies animality its own subjectivity and instead “re-makes it into a mode of being that can be re-made as blackness and indigeneity” (Belcourt, 2015: 5). For Belcourt (2015) this is why cows should be considered “colonial subjects” because of how they continue to be implicated in colonial structures that disavow animal and Indigenous subjectivities while also working to normalize settler modes of living.

23 René-Robert Cavelier de La Salle also kept a herd of at least 30 cows there when he rebuilt the Fort between 1675 and 1695 (Osborne and Swainson, 2011).
The French and British both wanted control of the fur trade, and this resulted in tensions between the colonizers and the Indigenous groups with whom they were affiliated. The Huron-Wendat and Haudenosaunee peoples settled in the area between 1000-500 CE, with the latter group taking control of the region in the mid-1600s (Osborne, 2022). From the 16th century, the Ojibwa (Mississauga) people also lived there. These First Nations maintained close relationships with Kingston, known by Indigenous peoples as “Cataraqui” or “Ka'tarohkwii” (Osborne, 2022). During the 18th century, the Haudenosaunee Confederacy and British overran the French, Huron and Anishinaabe settlements – this included Fort Frontenac (Britannica, 2023; City of Kingston, 2023).

In Mohawk language, the name Ka'tarohkwii means “place where there is clay or where limestone is” (City of Kingston, 2023). Other Indigenous translations include “muddy river,” “place of retreat,” or “where river meets lake” (Murray 2017). To see maps that disavow colonial territorial markers and instead show shifting Indigenous Territories, as well as the Treaties that changed them, have a look at Native Land Digital (http://native-land.ca).
By 1758, the British had captured and destroyed the Fort, and in 1763, the French ceded the territory (Osborne, 2022). Twenty years later, in 1783, the British Crown acquired lands from the Mississauga people through the Crawford Purchase. It was during this time that the first town plot for Kingston was laid, and British Loyalists actively began settling in the area.

Cows’ presence in the region continued under British colonial rule. By 1788 the settlement became known as “King’s Town” and was the administrative center for the Mecklenburg District (Osborne, 2022). Settlements in the District were managed by the Quarter Sessions, a council of four people elected by the Lieutenant-Governor. The Quarter Sessions had both judicial and executive authority in the area and even appointed local officials “who controlled, or rather tried to control, the large number of domestic animals living in a quasi-urban area, the licensing of taverns, and the maintenance of streets” (Osborne and Swainson, 2011: 44). In 1795, French traveler, Duke de la Rochefoucault-Liancourt commented on “the condition of livestock in the vicinity,” saying that the cows were “numerous, without being remarkably fine” (Macher, 1908: 88). He further explained that there was no market and that cows were bought to the settlement from New York or Lower Canada and then milked by colonists and/or used as labourers (Macher, 1908, 88).

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25 This hunger for land was related to the American Revolutionary War (1775-1783) after which loyalists to the crown no longer wanted to remain in America and an estimated 40,000 Loyalists, including Haudenosaunee who were allies of the British, needed new land. Captain William Redford Crawford used an imprecise description of the area to exchange lands for goods. The treaty was never formally signed and the only references to it are found in two letters showing that this was more an acquisition of land than a treaty (Boileau, 2020). Indigenous histories and narratives have been neglected in Kingston’s memory making activities (Nelson and Godlewska, 2022). This includes, how Indigenous Lands were divided and changed by colonial occupation.
The War of 1812 greatly altered the make-up of Kingston and increased its significance as a military, naval, and political hub (Cooper, 1856; Osborne and Swainson, 2011). The war was the result of tensions between the United States and Great Britain that had origins in the Napoleonic wars. When the War of 1812 started, Kingston “had been a village of some thousand people occupying a mere 150 houses” but the war prompted an influx of military men which increased the demand for labour, and supplies (Osborne and Swainson, 2011: 53). This would have likely included domesticated animals like horses, cows, pigs, chickens, and sheep who were used for food and as a source of physical power.

Figure 12: Oxen working in the shipping yards in Kingston, 1791-1861 (Mika and Helma, 1987: 42).

By 1830, Kingston had emerged as one of the two major ports in Upper Canada, alongside York, which is known today as Toronto (Low, 2015). The completion of the Rideau Canal in 1832, connecting Upper and Lower Canada, further solidified Kingston’s regional importance (Osborne, 2022). Concurrently, significant events unfolded during this period, including two cholera epidemics in 1832 and 1834, and the establishment of Canada’s first penitentiary in Kingston by 1835.
On the 6th of March 1838, Kingston was incorporated as a town. A few years later, in 1841, it would become the first capital of United Canada, but its role as the capital only lasted until 1844. Subsequently, in 1846, Kingston was incorporated as a city, resulting in an expansion of its municipal boundaries and further growth of its domesticated animal populations. Kingston went from having four wards in 1838 (Ward 1, Ward 2, Ward 3, and Ward 4) to five wards in 1846 (Sydenham Ward, Ontario Ward, Cataraqui Ward, St. Lawrence Ward, and Frontenac Ward) and then seven wards in 1850 (with the addition of Rideau Ward and Victoria Ward). You can see the changes in Kingston’s boundaries reflected in the images below. By 1850 the number of animals recorded in Kingston’s city assessments had nearly tripled with cows’ numbers jumping from 157 in 1838 to 330 in 1850. Because Kingston’s 1850 boundaries did not change dramatically until 1952, I have made these boundaries my area of focus in this dissertation. Temporally, however, my project starts in 1838 when Kingston was incorporated as a town and began recording large amounts of municipal documents like city assessments and by-laws, which offer useful traces of cows’ past in the city.

27 Kingston’s boundaries were expanded with the passing of the Municipal Corporations Act on the 1st of January 1850. This Act authorized each urban area to establish its own councils to deal with local matters (Willes, 2014: 99).

28 In 1850, 1082 animals were documented, including: 330 cows, 302 horses, and 450 dogs; in 1852, 1240 animals were recorded which included: 337 cows, 303 horses, and 600 dogs (City Assessments, 1850-1852, City of Kingston fonds, Locator 0100, QUA). See Appendix G for a detailed breakdown of the shifting animal demographics in Kingston.
Figure 13: The Expansion of Kingston’s boundaries (Willes, 2014: 242).
Figure 14: Kingston’s changing boundaries. Boundaries set in 1850 are the area of study for this thesis as they remained relatively stable until the study period ends (Google Maps, Author).
Despite Kingston being home to a dynamic economy and a range of industries during the latter parts of the 19th century, the city's animal-based enterprises, including liveries, dairy-based industries, and meat-based industries, are often overlooked in urban histories and imaginaries of Kingston's past. While the growth of industries such as shipping, textiles, and locomotives attracted migrants and contributed to population growth (Harris et al, 1981; Osborne and Swainson, 2011), the significance of the city's animal-related activities should not be underestimated. Cows, for example, were entangled in various markets, including breweries, candle makers, butchers, and dairies. Cows were kept as personal property in people’s backyards, but they were also kept in breweries, hotels, groceries, and hospitals so that milk was readily available. Some cows were fattened and slaughtered in the city, either in the market shambles or one of the city’s private slaughterhouses. Despite these entanglements, cows’ presence and contributions remain marginalized in the narratives of Kingston's economic development. By recognizing and highlighting the multifaceted interactions between cows and the city's industries, it is possible to gain a more comprehensive understanding of the historical dynamics and complexities of Kingston's past.

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29 37% of Kingston’s workers were employed in manufacturing jobs, the next biggest being commerce with 22% (Harris et al, 1981).

30 Between 1838-1904 Kingston was home to an average of 248 cows at any given point in time, chances are this figure was much higher as young cows, and those part of bigger herds (City Assessment, Locator 0100, QUA). Cows were also differently concentrated in Kingston’s wards with Ontario Ward and St. Lawrence Ward boasting the lowest number of cows (frequently fewer than twenty); and Frontenac and Rideau consistently having the highest numbers of cows (often between 60-100 cows) (City Assessments, Locator 0100, QUA).
Figure 15: Cow pulling a one-wheel sulky with a side spring attachment (Allen, 1878: 31).

Figure 16: Cows pasturing at Kingston General Hospital (Agnes, 1973 209)
While I am discussing the problematization and invisibilization of cows in Kingston between 1838-1938, I do not want to give the impression that living cows are no longer within the limits of the city today. Cows can be kept on agricultural properties and in properties that are larger than five acres (City of Kingston, 2004). This effectively precludes much of the land area that is within Kingston’s 1850s boundaries, my area of study in this dissertation. But, with the expansion of Kingston’s boundaries in 1952 (see Figure 12), there are many other areas of the city where cows might be kept. There are at least 7,500 cows in what is today known as ‘rural Kingston,’ an area of land that takes up 83% of the city’s land mass (City of Kingston, 2007). Cows are also displayed and auctioned at least once a year in Kingston’s Agricultural Fair (Kingston Fall Fair, 2023), and they have been reintroduced in the city’s controversial prison farm system (Evolve our Prison Farms, 2023). Living cows have not, then, disappeared completely from Kingston but they have been differently spatialized and in/visibilized in the city. I believe the urban problematization of cows offers one way in which to explore and understand such changes.
This dissertation will continue as follows: chapters 2-3 lay the foundations of the thesis, chapters 4-6 are analytical, and chapter 7 offers a final discussion and conclusion. In Chapter 2, I outline my theoretical and conceptual framework which is centred on problematization as a theory and methodology for understanding urban animal histories. I put forward an analytic whereby a consideration of spaces of configuration (literature, archives, policies) as well as an attentiveness to disciplinary practices (constitutive, internalised, and externalized) are important to analyzing urban animal geographies and histories. In Chapter 3, I explain that effectively representing animals as historical subjects requires methodological innovation. I outline my method and methodology for finding traces of cows in the archives, noting the extensive time (and scanning) in the Queen’s University Archives and how I conducted a discourse analysis of Kingston’s municipal documents and related newspaper articles between 1838-1938. Together these chapters provide a theoretical and methodological foundation for the dissertation, from which I can then analyze the historical problematization of cows in Kingston.

Each of the analytical chapters unpack, in detail, situations related to cows’ histories in Kingston that took place between 1838-1938. Together they show the theoretical and methodological value in centring another species in urban analysis and highlight how a diverse range of problematizations contributed to the removal of cows from Kingston. In Chapter 4, I focus on the hierarchization of property valuations in Kingston by highlighting how cows, as a form of moveable property, were constituted as transgressors relative to public and private real property. In Chapter 5, I note how dairy cows were entangled in tuberculosis and typhoid disease situations in Kingston and became constituted as risky due to changing ideas about pathogenic flows between
bodies and environments. And, in Chapter 6, I focus on the death of cows in Kingston by drawing a comparison between cows slaughtered in the market shambles and those who were discarded in the city’s nuisance grounds. I demonstrate how different populations of cows became entangled with increasing concerns related to waste in the city. Together these analytical chapters show how cows (and possibly different groups of cows) were constituted as transgressive, risky, and waste, which increasingly problematized their place in Kingston. I ground each of the chapters with specific stories related to cows, showing how such an attentiveness to specificity not only makes animals more visible as historical subjects but also introduces alternative urban spaces and practices for consideration.

In the final chapter, I bring together the insights about cows, Kingston, and problematization I have gleaned from the analytical chapters. I also point to some of the opportunities for future research. It is my hope that by focusing on cows I can bring to the fore some of the dimensions that contributed to the disappearance of cows in Kingston and offer a multispecies account of how Kingston became aurally, olfactorily, and visually a very different kind of place.

“Problematization as a method (thinking problematically) involves studying problematized ‘objects’ (‘problematizations’) and the (historical) process of their production. It involves ‘standing back’ from ‘objects’ and ‘subjects,’ presumed to be objective and unchanging, in order to consider their ‘conditions of emergence and hence their mutability’” (Bacchi, 2012: 4).

The taken-for-granted absence of cows in Kingston today is related to the socio-spatial problematization of them in the city: it is an effect of historical, multispecies power relations. Problematization is a complex, multi-faceted process in which ‘problems’ are discursively and materially constituted and regulated. Problematization is also a method for unpacking the historical process by which problems emerge. As Carol Bacchi’s (2012) above quote suggests, to understand how cows were problematized will involve analyzing the historical process of their production as problems. This entails considering the conditions of how they emerged, or became intelligible, as problems. For Bacchi (2012), it is not so much a question of identifying what are ‘problems’ but rather critically inquiring what problems are represented to be. To do this she provides guiding questions, such as: what presuppositions underpin the problematization? How has it come about and what effects does such problematization have? Bacchi (2012: 22) uses these questions to illustrate how policies and governance discussions that provide “solutions” are guided by “deep-seated conceptual logics” that are not merely responsive to problems but constitutive of them.

Whereas Bacchi (2012) focuses on what problems are represented to be, I offer that to appreciate the material andimaginative effects of problematization also requires thinking about where problematizations take place. This means not only taking seriously the constitutive power of problematization, but also analyzing how problematizations are spatially configured and governed.
In my view, problematization is a multifaceted, *spatial* process which also requires a spatial methodology. I develop a theoretical framework in this chapter that allows me to appreciate the power of constituting cows as problems, by also analyzing the spatial technologies used to govern them as such.¹ This spatial awareness lets me analyze where cows were discursively configured as problems in Kington’s past; and the material, social, and institutional spaces used to govern them *as* problems. For example, in Chapter 4, I look at how cows in Kingston were constituted as transgressive in policy documents related to urban property and then unpack how cows were socio-spatially governed as transgressive through Council provisions for city pounds and pastures.

As will be discussed below, understanding problematization spatially also opens the potential for appreciating historical animals as subjects and for thinking through how they might have experienced being objectified as problems. Representing the experiences of historical animals has been a matter of debate but I will show how problematization allows one to pay attention to the socio-spatial ordering of cows, offering a useful avenue for thinking through how they could have been urban subjects. I end by acknowledging that problematization and its related spatial technologies of power remain, however, insufficient to adequately capture how urban animals like cows might have experienced problematization. Appreciating the experiential and affective dimensions of such power relations for the animals involved requires methodological creativity which will be discussed further in the next chapter. Here I intend to unpack the constitutive power of problematization and address how it might apply to urban animals before discussing some of its spatial technologies of governance, an overview of which you can see below:

¹ Thank you to members of the Animals in Philosophy, Politics, Law and Ethics group who read an earlier version of this chapter and provided invaluable conversation and ideas.
Table 1: Overview of theoretical framework to analyse the constitution and governance of problematized urban animal populations.

<table>
<thead>
<tr>
<th>Constitutive power of problematizations</th>
<th>Analyzing the constitution and governance of problematized urban animal populations</th>
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</thead>
<tbody>
<tr>
<td><strong>Objects of Thought</strong></td>
<td><strong>Object of thought are defined within certain grids of intelligibility.</strong></td>
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<tr>
<td><strong>Animal populations defined as problems</strong></td>
<td><strong>‘Solutions’ are a governance response to emergent problematizations.</strong></td>
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<td></td>
<td><strong>Being defined as a problem can open and foreclose opportunities for subjects to act.</strong></td>
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<td><strong>Spaces of configuration</strong></td>
<td><strong>Not necessarily based on species.</strong></td>
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<td></td>
<td><strong>Flout human urban imaginaries.</strong></td>
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<tr>
<td></td>
<td><strong>Are entangled with human economic objectives.</strong></td>
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<td></td>
<td><strong>Are affiliated with other problematized populations and situations.</strong></td>
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<tr>
<td><strong>The governing technologies of problematization</strong></td>
<td><strong>These are the spaces where animals are discursively defined as problems.</strong></td>
</tr>
<tr>
<td>(And spaces from where problematizations can be analyzed)</td>
<td><strong>These include practical and prescriptive texts.</strong></td>
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<tr>
<td></td>
<td><strong>Literature, archival artefacts, newspaper articles, and legal documents are important in the (re)constitution of problematizations.</strong></td>
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<tr>
<td><strong>Material spaces of governance</strong></td>
<td><strong>These spaces implicate the bodies and environments of those who are problematized.</strong></td>
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<td></td>
<td><strong>They involve governing and disciplinary practices related to the management of physical space (including bodies).</strong></td>
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<td></td>
<td><strong>Palmer’s analytic for human-animal power relations provides a means for identifying such practices/spaces:</strong></td>
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<tr>
<td></td>
<td><strong>Constitutive practices</strong>: the physical and biological constitution of animals’ bodies.</td>
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<td></td>
<td><strong>Externalized practices</strong>: the material circumstances and opportunities available to animals by their changing bodies and environments.</td>
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<td></td>
<td><strong>Internalized practices</strong>: the ways in which animals internalize norms.</td>
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<tr>
<td><strong>In/visibility</strong></td>
<td><strong>These spaces implicate institutions, organizations, or groups that might have interests in how animals are defined and governed as problems.</strong></td>
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<tr>
<td></td>
<td><strong>These spaces include different urban governing bodies such as the City Council, the Property Committee, and the Local Board of Health.</strong></td>
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<td></td>
<td><strong>Jobs in these institutions shape the city’s social space (such as City Assessors, Milk Inspectors, and Market Clerks).</strong></td>
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<tr>
<td></td>
<td><strong>Institutional space also includes contemporary institutions which continue to manage spaces of configuration (academies, archives, cities) and/or understandings of animals as problems.</strong></td>
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<tr>
<td></td>
<td><strong>Animals are made differently in/visible throughout the problematization process often neglecting their subjective experiences.</strong></td>
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<tr>
<td></td>
<td><strong>Writing has the potential to differently visibilize animal pasts.</strong></td>
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Knowledge, Power, and Subjects: The Constitutive Power of Problematization

Because of Foucault’s complex ideas related to power, his work is helpful in understanding the historical problematization of urban cows in Kingston. The knowledge-power nexus of Foucault’s work is particularly useful because problematization produces particular ‘truths’ about animals that then entail social and material responses. In this section, drawing on Foucauldian insights, I am primarily concerned with how problems are epistemically defined. I will unpack how particular ‘objects of thought’ are constituted through problematization before noting some of the ways in which urban animal populations have been problematized. First, however, I want to briefly touch on Foucault’s spectrum of power relations as it underpins much of the discussion that follows.

Foucault identifies a diversity of power relations which stretch from relations of domination to pastoral relations of governmentality and power relations in general (Palmer, 2003). Relations of domination are stable, hierarchical, and tend to persist over time with little chance of resistance (Foucault, 1982; Palmer, 2017; Thierman, 2010). With complete domination there is no chance of resistance (and thus it is outside of power relations); but with relations of domination there is, albeit an extremely constrained and unbalanced, opportunity to respond. On the other end of the spectrum are power relations in general which are unstable, and resistance is always present (Foucault, 1982; Palmer, 2017). And somewhere between the poles of general power relations and relations of domination are pastoral relations of governmentality. To govern is “to structure the possible field of action of others” (Foucault, 1982: 790). These are fairly stable and involve repressive and creative practices to promote certain types of subjects, but here too resistance and change is possible (Foucault, 1982 Palmer, 2017). Unlike relations of domination, these latter
power relations constitute a variety of subjectivities because power is not something owned by particular groups but rather something that flows through varied relations shaping both subjects and action (Foucault, 1977; Thierman, 2010). That is, power relations are not only oppressive but productive too (Chrulew & Wadiwel, 2017; Palmer, 2017).

The abovementioned power relations can be understood by unpacking how micro-physics of power operate; that is, studying how power manifests in particular environments, instances, and relationships (Foucault, 1982; Hansen, 2017; Palmer, 2017). This involves paying attention to systems of differentiation, types of objectives, means of bringing power relations into being, forms of institutionalization, and degrees of rationalization (Foucault, 1982). By focusing on the ‘micro-practices’ of everyday life one is also able to side-step concerns about intent in relations of power (Chrulew, 2017). Intent is not important; rather, the results and effects of practices and discourses are illustrative and an effect of the power relationship in question. This is a particularly key point when trying conduct a history of animal relations, as the difficulty of discerning animals’ intent could undermine whether such histories are even possible - a point I refute below and in the next chapter (Chrulew, 2017; Neumann, 2022).

While Foucault was not directly concerned with human-animal relations his power spectrum offers an opportunity to consider the “the diverse range of human/animal power relationships and how diversely situated they can be” (Palmer, 2017:120). Even though Foucault has rightly been critiqued for not adequately focusing on animals (Palmer, 2003; Taylor, 2013; Chrulew and Wadiwel, 2017), many scholars have found his idea about power useful for understanding the lives of animals (Arcari et al, 2021; Chrulew & Wadiwel, 2017; Hansen, 2017; Palmer, 2017; Rinfret,
CAS scholars have used and further developed Foucauldian concepts such as sovereign power (Wadiwel, 2002, 2015), disciplinary power (Thierman, 2010), biopower (Srinivasan, 2013), and pastoral power (Shukin, 2011) in relation to animals. Some geographers have even mobilized these concepts to critically analyze urban animal relations (Arcari, 2021; Gordon, 2020; Narayanan, 2017; Srinivasan, 2011). For example, by unpacking the ambivalent practices of euthanasia and neutering in Indian and British cities, Krithika Srinivasan (2011), expands biopower to analyze the changing configurations of human-dog relations.

With this general understanding of power in mind, I now turn to consider problematization as a specific process involving numerous discursive and material power relations and technologies; ones that increasingly define and govern particular populations as problems. This is first, and foremost, achieved through the practice of constituting particular objects of thought.

**Practice of Problematization: Constituting and Visibilizing Objects of Thought**

When something (or somewhere or someone) becomes a problem, it also becomes an object of thought. The fields of knowledge and practices that develop around objects of thought operate as grids of intelligibility that make the governance of them possible. For instance, ‘the mad’ became known as an object of thought in France through a range of medical practices, whereas ‘the criminal’ became known as an object of thought through a series of punitive ones (Foucault, 1964, 1977). Foucault described these “practices” as “places” where “what is said and what is done, rules imposed and reasons given, the planned and the taken for granted meet and interconnect” (Foucault, 1991b: p. 75). Those who are positioned as objects of thought (like ‘the madman’ or
‘the criminal’) are also constituted as particular kinds of subjects in how they respond to, accept, or resist such framings. While ‘an object’ is the target of power relations that operate to define and control it, ‘a subject’ is pliable and born of historically and socially specific power relations (Foucault, 1982).

The subject/object interrelation is an important site of analysis that has the potential to illuminate interspecies power relations. I understand a subject as a being who is conscious and who socially experiences, perceives, and responds to their world; whereas an object is a thing that is acted upon. However, as Chrulew (2017: 227) posits: “animals are not only experiential subjects in a phenomenological or zoosemiotic sense, nor merely patients of suffering or moral concern; they are subjected to power and subjectified and governed through it.” That is, the objectification of animals, through processes like problematization which seek to govern them, shapes how they can be subjects. I argue that focusing on how some animals are objectified as problems has the potential to explain how they might have experienced historical changes as subjects. Similar to researching how ‘the mad’ become known as an object through medical practices, I seek to find out how ‘the problem animal’ became known as an object through urban governing practices. This is worthwhile because how animals are constituted as problems is subject to change: The grids in which animals become intelligible as problems (grids of intelligibility) are always relational and contextual, shaped in and through power relations.

Such power relations can also become entrenched and contribute to legitimized forms of violence, control, and regulation (Blomley, 2003; Hinchlifé et al, 2017, Collard and Dempsey, 2013). Part of how these relations endure is through how particular objects of thought are institutionalized and
disciplinary practices emerge to manage them. Said differently, how a particular object becomes known within a particular grid of intelligibility (fields of knowledge and practices) can allow for certain practices to be impressed on a specific population. For example, how ‘the mad’ became understood within the medical sciences allowed for practices of constraint, punishing, and curing to be applied to a particular population. This sentiment is well captured by Foucault below:

“…how madmen were recognized, set aside, excluded from society, interned, and treated; what institutions were meant to take them in and keep them there, sometimes caring for them; what authorities decided on their madness, and in accordance with what criteria; what methods were set in place to constrain them, punish them, or cure them; in short, what was the network of institutions and practices in which the madman was simultaneously caught and defined” (Foucault, 1969 in Eribon, 1991).

Participating in this “network of institutions or practices” does not necessarily mean one agrees with their objectification, only that how they have become defined opens and forecloses particular opportunities to act and be a subject (to be mad). While not totalizing, being defined as a problem (particularly by governing institutions with legal power) also shapes the bodies, thoughts, and movements of those caught within their grids. Problematization is productive in how it establishes (or limits) options and subjectivities for those involved. Therefore, defining a particular population as problematic and in need of governance involves practices that have constitutive power. Constitutive power is the power to define objects which, in turn, shapes subjects. It is a discursive power often operationalized in prescriptive texts (like laws and policies) that legitimizes and mobilizes governing actions which, in turn, opens and forecloses opportunities for subjects to socially and materially experience their worlds.
Acknowledging that subjects participate in power relations is not to deny materially worrying situations. Rather, acknowledging such participation takes seriously the power of problematizations in shaping the lives of those in their grids. As Bacchi (2012), eloquently states:

“In this view the ‘public’, of which we are members, is governed, not through policies, but through problematisations—how ‘problems’ are constituted. To be clear, this claim does not ignore the host of troubling conditions in people’s (and peoples’) lives; nor does it suggest that we are simply talking about competing interpretations of those conditions. To the contrary the proposition is that lives are lived in specific ways due to the shaping impact of proposals that create particular understandings of ‘problems’” (Bacchi, 2012: 22, emphasis added).

Geographers have shown how some urban populations have been problematized and how regulations have emerged to manage them as such. These include ‘the poor’ (Gillespie and Lawson, 2017), ‘the homeless’ (Blomley, 2004; 2009), ‘sex workers’ (Sanchez, 2004), ‘drug addicts’ (Kammersgaard, 2020), ‘the obese’ (Guthman, 2013), ‘breastfeeding mothers’ (Mathews, 2019), and ‘immigrants’ (Hier and Greenberg, 2002), to name a few. Each of these constituted populations have become known, established, and governed within localized and contextually specific urban grids of intelligibility (such as race relations, health, development) and have been subjected to various governance and disciplinary practices (such as zoning, policing, and welfare policies). Animal populations who have been problematized include ‘vermin’ (Jerolmack, 2008), ‘pests’ (Biehler, 2013; McKiernan and Instone, 2016.), ‘strays’ (van Patter and Hovorka, 2018), and ‘dependent wildlife’ (Delon, 2020). These human and animal problematizations are born of plural and diffuse power relations that both restrain and produce problematic objects and possibilities for subjective experiences.
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. For example, I discuss in Chapter 5 how the problematization of milk in Kingston resulted in cows becoming visible to the Local Board of Health as vectors of disease which also obfuscated cows’ socio-spatial needs. Understanding when or how animals like cows became visible, regarded, or known as problems illuminates urban multispecies relations and processes. What is seen or regarded is always in tension with what is not seen and not regarded. “The human capacity to not-see, to not-register, and even actively to mute some aspects of the given world” is, as Annabelle Sabloff (2001: 12) argues, “important to maintaining a sense of order.” And taking notice of what is marginalized, or invisible, in this ordering is important to understanding human-animal relations and the speciesism that often informs them (Arcari et al, 2021; Sabloff, 2001; Taylor and Fraser, 2019; Pachirat, 2011; Wadiwel, 2015).

Scholars such as Paula Arcari (2020) contend that one cannot only consider how animals are literally made in/visible, one needs to also grapple with how they are epistemically, ontologically, morally, and discursively in/visible.² For Arcari (2020), the persistent entitled gaze at the heart of

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² Paula Arcari provided a brief synopsis of these on an episode of The Animal Turn Podcast titled “Invisibilized Animals”: Literal invisibility is the extent to which animals are materially included or excluded; epistemic invisibility is the extent to which knowledge systems see animals as anything other than something to use; ontological invisibility is the extent to which animals have self-directed ways to be outside of human ideas for them; moral invisibility is the extent to which animals’ needs and suffering is apparent; and discursive invisibility is how language, discourse, and images are used to make living and breathing animals in/visible. The episode was recorded on the 29th of March 2021 and can be accessed here: [https://www.theanimalturnpodcast.com/s3e3](https://www.theanimalturnpodcast.com/s3e3)
meat consumption is what makes perceiving animals as anything but food seemingly impossible. This prompts her to question how animals might be known and seen beyond what she calls “cartographies of meat” (Arcari, 2020). In many ways, I am asking a similar question but moving from how animals are constituted and seen as food, to instead thinking through how they are constituted and made visible as problems in urban governance and imaginaries. In essence, “visibility is already enrolled in technologies of ‘truth’. It already plays an integral role in shaping, affirming, and maintaining understandings of what is real, normal, proper, and right” (Arcari, 2020: 273). This means the ways in which animals are made visible within governing structures is a question of epistemic justice and social recognition (Donaldson, 2020).

Because this is a matter of epistemic justice and social recognition, I am concerned throughout this dissertation with the multi-scalar ways in which cows are in/visibilized. This entails not only analyzing how cows have been visibilized the city’ historical by-laws as problems, physically disappeared from the urban center as animals, and left out of urban imaginaries of Kingston but also taking seriously how I visibilize them in my work and writing (a point I return to at the end of this chapter). Coupling an analysis of how cows have been objectified and differently in/visibilized through problematization, together with methodologically regarding them as subjects is to take seriously the connections between epistemological, physical, social violence. Following this line of thought, the next section will discuss some of the dominant underlying logics that scholars have so far identified to explain how some animals have become visible and defined as urban problems.
Defining Problematized Animal Populations

Animals appear in many historical documents, including personal stories and photographs, where they are not problematized but rather prized (such as agricultural animals), marvelled at (such as circus or menagerie animals), or even loved (painted pets). There are, then, several ways in which animals have been objectified. Many have been objectified as ‘food’ (Adams, 2010; Arcari, 2020), ‘commodities’ (Collard and Dempsey, 2013; Gillespie, 2018), ‘infrastructure’ (Barua, 2021), and ‘ecosystem services’ (Apfelbeck et al, 2020; Collard and Dempsey, 2017). But in documents related to urban governance, one of the dominant ways in which animals are defined is as problems that need to be managed.

While species is often used as a shorthand for discussing and explaining animal populations generally, and problematic populations in particular, species is not necessarily the underlying logic that defines animals as problems. Sometimes only a sub-set of a species (such as ‘stray dogs’) or mixed populations (‘strays’ generally) are problematized. Therefore, species is just one marker for how a population could become known as a problematized object of thought. Socio-biological relations can delineate a variety of different populations, using species (cows, chickens, humans), gender (cows, bulls, heifers, steers), or breed (Holsteins, Shorthorns, Herefords) to do so. Furthermore, how an animal is defined by a particular institution (a Holstein cow versus a Shorthorn steer in agricultural circles) has significant material and social impacts for those involved (being entangled and violently used within dairy versus meat industries, for example). That is, how animal populations are defined has significant impacts on their life chances and experiences (‘a dairy cow’ will be repeatedly impregnated to sustain the supply of milk whereas a ‘meat steer’ will be subjected to fattening practices so his body is made ready for slaughter as
quickly as possible). With this in mind, and based on existing literature, I have identified three main underlying logics, or mechanisms, that are important in problematizing urban animals, including: flouting human urban imaginaries, being entangled with and possibly disrupting human economic objectives, and/or being affiliated with other problematized populations and situations.

First, scholars have illustrated how some urban animals are problematized due to flouting human urban imaginaries, particularly those of the city being a human, civilized and/or modern space (Brown, 2016; Jerolmack, 2008; Luther, 2013; Narayanan, 2017; Palmer, 2003; Srinivasan, 2013; Wolch, 1996). For example, near the end of his article on how pigeons were problematized in New York City, Colin Jerolmack (2008: 89) hypothesized it was due to “the underlying imaginative geography of the modernist constitution” and that “if this logic is correct, we would expect that the animals most likely to be deemed problem species are those that most flout our imaginative geographies.” This led Jerolmack (2008) to conclude that most public spaces are “out of bounds for animals unless they are controlled or civilized.” Similarly, Chris Philo (1995: 669) shows how the problematization of killing cows in London was shaped through a “grid of moral assumptions” which framed animals’ presence as leading to human degeneracy. Both pigeons and cows were problematized because they disrupted ideas of what a modern and/or civil, and ultimately ‘human,’ city should look like.

Undergirding this modern/civil imaginary in North American and British cities is a deeper politics of cities being framed as different from, and in opposition to, ‘nature’ (Braun, 2005; Cronon, 1991; Hinchcliffe, 1999; Jerolmack, 2008; Philo, 1995; Wolch, 1996). This is not to say that cities are devoid of ‘nature’ but that often only controlled, dominated, and domesticated nature is expected
and accepted as appropriate (Hubbard and Brooks, 2021; Tuan, 1984) – this includes manicured lawns, monkeys in zoos, cats in homes, and fish on plates. In the 19th century (and arguably still today), animals who disrupted the anthropocentric imaginings of the ordered city and its related bifurcations (such as technology/nature, human/animal, domesticated/wild, civilized/wild) were subject to problematization. While this imaginary of nature being external to cities is characteristic of European and American imaginaries it is often exported and adopted in other cities seeking to be ‘smart’ or ‘modern’ (Shingne, 2021).

Second, animals might be problematized in cities if they are entangled with human economic objectives. Economic systems are shaped in and through power relations and are key sites for where animals are constituted and regulated as objects of thought. Foucault’s broader understanding of power goes beyond considerations of ownership and control and includes the innumerable ways power flows through a social body – and this includes economic institutions and relations. One particularly enduring, and often not problematized, way in which animals are objectified is as commodities. Within urban economic relations, animals might be valued and constituted as ‘inputs,’ they might be undervalued as ‘excess,’ or they might even be regarded as threats (Collard and Dempsey, 2017). For example, urban squirrels who chew through power cables, and are responsible for the loss of electricity, may be constituted as threats to urban financial markets (Benson, 2013).

This is markedly different from animals who are actively included in economic relations as commodities but who might be problematized because the efficiency with which they are utilized is challenged. For example, in the 19th century, butchers (and the animals they killed) were
increasingly pushed to the fringes of San Francisco as the industry grew and the space needed to ‘process’ these animals intensified (Robichaud, 2019). From Chicago to Toronto and San Francisco, the problematization of domesticated animals like cows and pigs in the city was shaped by their entanglement with growing meat markets (Cronon, 1991; MacLachlan, 2001; Robichaud, 2019). There are, then, varied ways in which urban animals might be problematized because of how they threaten or are part of economic and capitalist activities.

A third way in which an animals may be problematized is through their affiliation with other problematized populations and situations. These affiliations may be with other animal or human groups or with particularly challenging situations, places, or substances. A classic example is rats being problematized due to their symbiotic relationship with fleas and these animals’ entanglement with the plague, a particularly severe disease situation (Lynteris, 2019). Another is the entanglement of flies and ‘livestock animals’ in Toronto where the presence of flies was used to trouble the belonging of animals like pigs and cows in the city based on fears of disease (Mackintosh, 2017). In cities, animals’ affiliations with some human groups is often crosscut with ideas of class, race, and gender, involving tactics of dehumanization and animalization (Brown, 2016; Hovorka, 2008, 2012; Hubbard and Brooks, 2021; Kheraj, 2015; McNeur, 2014; Narayanan, 2023). That is, through the human/animal dualism “certain groups of humans become

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3 Dehumanization and animalization are tactics frequently used to problematize these urban subjects (Narayanan, 2023, Shukin, 2011) where, for example, disenfranchised humans are frequently described as being like animals. Race and gender studies scholars have detailed how the boundaries of what constitutes ‘human’ are also racialized and gendered. That is, dehumanization, animalization, racialization, and gendering are articulated in and through one another to establish these problematized ‘human’ subjects. I do not mean to suggest here that the experiences of problematized human subjects or those of problematized animal subjects are one and the same; nor do I mean to suggest that all problematized animal and human subjects are constituted in the same way either. Rather, I simply aim to point out that the creation of problematized subjects – whether human or animal – often relies on and operates through a variety of structures and frequently employ tactics such as animalization and dehumanization.
symbolically associated and materially related to certain other (nonhuman) species (and vice versa)… [which] (re)produces the positionality and life chances of both humans and nonhumans within society” (Hovorka, 2012: 876, emphasis is mine). Hubbard and Brooks (2021) note, for example, that the visibility of specific species can be a proxy for class, also serving as a justification for and indicators of gentrification, such as stray dogs found within poorer areas and pet dogs in wealthier areas (Hubbard and Brooks, 2021). The regulation of particular animal populations in cities often impacts specific human populations (Brown, 2016; Kheraj, 2015; Hovorka, 2018; McNeur, 2014). For example, the urban regulation of salmon and chickens in Seattle was also used as a proxy for the management of Japanese and Chinese immigrants (Brown, 2016). Recognising the speciesed privileging and hierarchizing both within and between different groups affords an opportunity to analyze how broader power structures of control and domination are sustained (Emel & Wolch, 1998: 18).

The above typology of how urban animals have been problematized is not an exhaustive explanatory tool but rather offers a starting point for analyzing urban animal relations. Identifying that the problematization of animals is not contingent on species allows for an analysis that can see how one species might be subjected to varied practices of problematization which position them in several grids of intelligibility. A sensitivity to how cows might have flouted Kingston’s urban imaginaries, were entangled in or disrupted urban economic activities, and/or were affiliated with other problematized populations and situations offers a valuable means for grappling with underlying logics that contributed to their invisibilization in Kingston. As will be shown, cows tended to flout existing and future-oriented imaginaries of Kingston as an ordered, propertied, and sanitized place. Cows were objectified for their utility in making milk and meat, but they were also
affiliated with diseases and waste associated with their production. While not mutually exclusive, these framings contributed to cows being defined as transgressive, risky, and waste. Yet as I argued at the onset of this chapter, the analytical power of problematization is strengthened through a spatial awareness, a point I now turn to more explicitly.

Spatial Technologies of Power: The Governing of Problematized Objects

Where the previous section spoke about the constitutive power of problematizations in producing objects of thought (such as ‘problematic animals’) this section is concerned with how those defined as problems are governed. To appreciate the effects of problematization it is necessary to unfurl their related tactics, technologies, and strategies. I suggest that when one is concerned with the historical problematization of urban animals, one should focus on the spatialization of this governance and the disciplinary practices employed. Philo (1992, 2000, 2002, 2005), Crampton and Elden (2007), and Flynn (2007) have written about the spatial thinking embedded (but not explicit) in Foucauldian thought and its usefulness for geographers; I expand this work by adding that a spatial understanding of the historical problematization of animals also allows for a nuanced multispecies analysis of urban processes that can take seriously the subjectivity of historical animals.

Animals, particularly domesticated animals, are governed by urban structures and a spatial focus allows for an appreciation of the embodied and environmental implications of such governance for the animals involved. The actions and movements of urban animals are mediated through particular spaces (including discursive and material space) and having a framework that allows me
to pry these apart somewhat has been useful in unpacking and exploring the socio-spatial significance of Kingston’s regulation of cows. Such a spatial focus also allows for an appreciation of the relational agency of animals and their embodied communication.

The second part of my theoretical framework focuses primarily on the spatial analysis of governing technologies utilized in the practices of problematization. To develop this part of the framework, I adapt Chris Philo’s (2000) reading of Foucault’s spatializations and meld it with Claire Palmer’s (2003) insights into the constitutive, externalized, and internalized practices involved in human-animal power relations. Together they provide an opportunity for analyzing the spatial technologies of power employed when governing urban animals who have been problematized. These technologies of power include constituting animals as problems in municipal documents (such as by-laws), policing their behaviour through the spatial management of their bodies and environments, and developing institutional and social space for such management.

While Philo (2000) does not focus on problematizations per say, he provides a useful analytic for thinking about how and where objects of thought are constituted and governed. These are spaces of configuration, corporeal spaces, and social space (Philo, 2000). These spaces are technologies for the governance of problematized animals. The technologies also offer useful entry points for how such problematizations might be analyzed. When analyzed together, spaces of configuration, corporeal space, and social space help illuminate the underlying logics that make up, change, and disrupt problematizations. The analytic allows for a consideration of the multivariate ways in which animals are wrought both visible and opaque within governance structures, the archives,
and in writing. Each of these spatializations and how they will be analytically applied will now be discussed in turn.

**Spaces of Configuration: Literature, Archival Artefacts, and Municipal Documents**

Literature, archival artefacts, and legal documents are all *spaces of configuration* where animals are frequently understood and constituted as problems. Spaces of configuration are spaces where knowledge is organized and ideas are framed in particular ways (Philo, 2000). Spaces of configuration make problems intelligible by showing how they relate to other problems, environments, and possible solutions. Said differently, spaces of configuration can produce epistemic and discursive visions of cows as problems. While the problematization of animals might emerge in material and everyday practices, they become reified as problems in what could be called practical or “prescriptive texts” (Bacchi, 2012). Policies, scientific diagrams, instructions, and literature reviews are all examples of such prescriptive texts, some of which will be unpacked in more detail below.

*Academic literature* is a space of configuration because it is here that ideas are crafted and stitched together in a way that attempts to provide a coherent picture, narrative, or argument. In the social sciences we use the grooves and patterns of thought that emerge from such literature to justify our own work, to validate the questions we are asking, and to choose worthy subjects of consideration. We too have been disciplined by institutional apparatuses like peer review. Therefore, in any study, literature is a tool and space of configuration and has the potential to illuminate power relations. This is because discourse is not *only* language or narrative; it is also produced in and through
varied experiences, practices, and power relations which can become crystalized in readings, literature, and canons. Scholarship is produced within an academy that privileges particular ways of knowing and often cements and builds on established narratives. This offers a potential explanation for the inadvertent reimagining of cows as mere tools, material entities, resources, and symbolic elements in various historical and geographical narratives. As the academy becomes more receptive to and accepting of animals as experiential subjects it also opens opportunities to ask questions that try to move away from these sterilized and simple understandings of animals (Bonnell and Kheraj, 2022).

The taken-for-granted, often invisibilized, tendencies in literature can be subverted by probing how something could be different and identifying tactics for potentially making it so. Some scholars, for example, resist the dominant constitutions of cows as tools and objects of utility and instead tell more complex and nuanced stories (Gillespie, 2018; Jones, 2014; Narayanan, 2019b). Kathryn Gillespie (2018) uses ethnographic methods and creative writing to stitch together life histories for individual cows. This includes Sadie, a cow who was used on a large dairy farm in the San Francisco Bay area before being sold at auction to a university veterinary teaching hospital where students performed rectal exams and practiced venepuncture on her. At the end of 20 weeks, Sadie was going to be sent to slaughter, but after a student intervened, she was sent to a sanctuary instead (Gillespie, 2018). Another example is the tragic story of a Holstein cow with ear tag #1389. Despite being offered for a mere $35 at auction, no one would buy her due to her body being covered in abrasions, her protruding bones, and her raw udders affected by mastitis (Gillespie, 2018). She died in the auction yard. Gillespie’s (2018) strategy of focusing on and telling
individual stories brings visibility to cows and the structural and institutional violence they experience, countering the tendency in literature to treat them as a monolithic mass.

Archives and archival artefacts are another space of configuration. Archives are not neutral but are, rather, places which represent ‘the past’ and often privilege particular narratives and voices. Hilda Kean (2012: s63) notes that archives are places where whole, supposedly ordered worlds can be imagined and where historians “find material, often created in different times, with which to imagine a past and bring it alive in the present.” The presence of individuals in the archive and the artifacts they are linked to are shaped by prevailing notions of whose stories are considered significant and worthy of preservation (Oliver, 2021a). Archives have “enormous power over memory and identity, over the fundamental ways in which society seeks evidence of what its core values are and have been, where it has come from, and where it is going” (Schwartz and Cook, 2002: 1). As a result, archives and their organizational structures play an active role in shaping the perception of which stories are deemed valuable and accessible, making them critical spaces to consider when examining the construction of history and the shaping of specific subjects (Oliver, 2021a; Stoler, 2009). Furthermore, one must remember that archives are not exhaustive accounts of the lives one finds and sometimes they might only document and catalogue the violences and deaths of those whom you are trying to understand (Hartman, 2008).

Animals are found in numerous prescriptive texts in the archives, including everything from sketches, to agricultural censes and ledgers that account for their births and deaths. How animals are listed in these documents relative to one another says something about how they were (and continue to be) valued, and the opportunities and foreclosures enabled by such ordering. For
example, animals listed on agricultural lists versus those on conservation lists are defined as different objects for whom different practices (such as killing and protecting) are made possible. Prescriptive texts are powerful instruments in establishing new norms and “rules of engagement” because they can define the boundaries of what is considered appropriate and when sanctioned violence is deemed legitimate (Blomley, 1994: 24). While an agricultural list might present animals who ‘should’ be killed, a conservation list might have animals who ‘should’ be protected. More tangibly, wolves and foxes were historically subjected to extermination campaigns in Ontario as bounties for their heads were advertised to ‘protect’ sheep (Hirtenfelder, 2023), pointing to some of the interspecies hierarchizing often present in such documents (Hovorka, 2018). Prescriptive texts are important spatial technologies of power because they arrange problems relative to specific environments, populations, solutions, or punitive actions.

As the above example of the wolf bounty suggests, legal documents and municipal regulations are also important spaces for analyzing how animals are constituted as problems. Many scholars have shown the significance of looking at urban regulation for understanding the lives of historical animals (Brown, 2016; Gallo, 2022; Kheraj, 2017; Robichaud, 2019; McNeur, 2014; Srinivasan, 2013). Kheraj (2016), for example, demonstrates how the first urban by-laws in Canada targeted the movements of domesticated animals through trespass regulations. By-laws and other policing documents are essential to the supervision of urban animals and are often mediated through a legitimized use of violence. Euthanasia and neutering are common practices used to regulate the reproduction of dogs in cities across the world, for example (Srinivasan, 2013; Narayanan, 2017). As will be seen in the analytical chapters that follow, by-laws and policies were critical spaces in the constitution and essentialization of cows as nuisances and health risks in Kingston. Health
regulations, for example, allowed for the increased surveillance of cows’ bodies, relations, and spaces, a thread I pick up in Chapter 5.

Spaces of configuration (like literature, archives, artefacts, and municipal documents) are important spaces for unpacking the various grids that make animals intelligible as problems. However, to appreciate the effects of such constitutions for the lives of historical animals, it is also necessary to analyse how animals’ bodies and environments were spatially governed. While spaces of configuration shape and offer an analytical entry point for thinking about how animals are known and defined, a focus on the material spaces of governance helps to unpack the effects of such governance.

**Material Spaces of Governance: The Disciplining of Bodies and Environments**

In telling the history of urban animals it is not enough to attend to the spaces in which they were written down and essentialized as problems; one needs to account for *material spaces of governance* as well. There are, of course, flows between these spatializations, where emergent governance practices could inform spaces of configuration, and vice versa. How one is defined in spaces of configuration is shaped in and through material relations and can have implications for the bodies and environments of those defined. Whereas Philo (2000) used Foucault’s ‘second spatialization’ to show how different parts of the human body became known under the medical gaze, I extend this spatialization to instead consider the material (primarily the corporeal and environmental) spaces used to govern (and discipline) animals as urban problems.
Paying attention to how animal bodies and their environments have been shaped in and through power relations offers an important tool in understanding and telling the lives of historical animals (Chrulew and Wadiwel, 2017: 6). As Foucault (1977: 141) notes “discipline proceeds from the distribution of individuals in space” and is often achieved through techniques of enclosure, partitioning, the creation of functional sites, and ranking. Being attentive to these spaces and actions is particularly important for someone interested in telling an animal history in which traditional artefacts (such as first-hand diaries) are not available. The governing of animal spaces and their urban places are important because, like with other historical populations, “they mark places and indicate values; they guarantee the obedience of individuals, but also a better economy of time and gesture” (Foucault, 1977: 148). When it comes to understanding cities and engaging with legal and municipal documents, what is needed to carry out a transspecies analysis is a willingness to read these documents in a way that takes seriously how animals might have spatially and materially experienced the suggested disciplinary measures. Borrowing from Palmer (2017), I believe such an analytic can be achieved by focusing on how disciplinary practices might have impacted animals’ bodies, environments, and subjectivities through constitutive, externalized, and internalized practices.

Animals are not only constituted discursively as problems; efforts to manage problematic animals might also entail constitutive practices (Palmer, 2017). Constitutive practices involve the physical and biological configuration of animals’ bodies (Palmer, 2017). This can be achieved through activities like domestication, selective breeding, and genetic manipulation that aim to alter the bodies of animals so that they conform to certain desires (Hansen, 2017; Palmer, 2017). These desires might entail making animals less problematic by ontologically altering their bodies or
social dispositions. The genetic modification of mosquitoes as a strategy for combating diseases like malaria is a recent illustration of constitutive practices (Wang et al, 2013) whereas the breeding of cows to be docile is an established practice in agricultural circles (Ritvo, 1987).

Another strategy for responding to problematized animals might entail *externalized practices* that seek to alter the material circumstances and opportunities available to animals by externally changing their bodies and environments (Palmer, 2017). This includes physically confining, punishing, or altering animals’ spaces and bodies. The already mentioned castration and neutering of urban stray populations is a good example of such externalized practices (Narayanan, 2017; Srinivasan, 2013). Another example is the household confinement of pet cats as they are increasingly constituted as problems for urban birdlife (Lynn et al, 2019).

Practices that respond to or are constitutive of problematizations attempt to discipline animal bodies, environments, and behaviour. *Internalized practices* are shaped by constitutive and externalized practices, but they also involve other tactics (such as training, taming, and socializing) and spaces (such as dog school) that encourage animals to internalize how they should behave around particular established social norms (Chrulew, 2017; Palmer, 2017; Tuan, 1984). Dogs who walk loose on leashes, cats who stay indoors when windows are open, and animals who avoid human traps are all examples of what could be construed as internalized practices.

Constitutive, externalized, and internalized practices can all be mobilized within broader relations of power that seek to discipline the bodies, environments, and behaviours of animals who are defined as problematic. Power acts upon the body, it bends it and breaks it – it can dominate it and
constitute it (Foucault, 1977). Because animals’ bodies have been so instrumentalized and used by humans, having a sensitivity to their bodies and environments is essential to finding them in the archives and understanding their historical experiences. That is, analytically paying attention to the socio-spatial openings and foreclosures afforded by disciplinary practices offers an opportunity to think about how particular animals could have materially been subjects. While I might not know exactly what a historical cow in Kingston was thinking or feeling (much like it would be difficult to fully comprehend what a fellow human was thinking or feeling) – I am able to understand some of the structures and ways in which they were expected to act and how this delimited their potential to act by focusing on what ways of being a subject were socio-spatially available.

To fully comprehend the problematization of cows in Kingston it is not enough, however, to only pay attention to the discursive spaces where they were constituted as problems, and the ways in which their bodies and environments were governed: it is also necessary to understand the broader institutional and social spaces in which such problematizations take place. This is particularly crucial in unpacking the significance of animals’ problematization as it pertains to urban governance.

**Social and Institutional Space**

How urban animals are defined as problems in spaces of configuration and the ways in which their bodies, behaviours, and environments are disciplined through material spaces of governance are not neutral or standard but shaped by social and institutional space. Institutions are born of and shaped in and through changing histories and geographies; they can also propel, propagate, deepen,
and reify the ways in which animals have been problematized. Paying attention to the geography of which institutions and social spaces define and govern animals as problems can illuminate important details about broader urban processes and social situations. Thinking through why some animals emerged as particular problems for particular institutions at particular moments in time, might reveal details about the broader social practices and spaces these animals were part of. For example, pigs and cows both emerged as problems to the Local Board of Health in Kingston but at different points in history. This difference is somewhat reflective of distinctive disease situations in the city’s past where pigs were problematized in relation to cholera and cows in relation to milk-borne diseases like tuberculosis and typhoid (discussed more in Chapter 5).

Importantly, how institutions grapple with animals as problems contributes to how animals have become visible to the historical record. There is a reason pigs are frequently discussed in relation to waste, horses in relation to transport, and cows in relation to slaughter. Part of that reason is because these animals are made differently in/visible by institutions like urban waste management, public health boards, and transportation services. These institutions were, quite literally, responsible for not only governing some animals but also making them visible to the historical record as particular objects. This act of visibility has perhaps contributed to the obfuscation of other aspects of their lives. Therefore, details of animals’ histories and experiences can be gleaned from looking at when and how they come into (and out of) view as problems in institutional records.

Furthermore, in trying to account for cows’ absence in Kingston’s urban imaginary it is also necessary to think about how contemporary institutions in/visibilize them. As has already been
discussed, the academy, the archives, and the city all represent institutions that play a role in continuing to (re)produce urban memory, and often reductive understandings of animals that can obfuscate the complexity of urban animal experiences. The ways in which animals are (or are not) visible in various spaces of configuration but also institutional and social spaces is an effect (and continuation) of problematization practices as well as human-animal power relations. The failure to write animals into urban histories, or to only include them as simplified objects or problems, is a disservice to the animals involved and a misrepresentation of historical urban relations.

When conducting an urban analysis, there is a risk of further objectifying animals and reducing them to specific roles by essentializing them within the predetermined frameworks established by certain institutions. It is, therefore, important to acknowledge that animals' lives and experiences extend beyond these limitations. For this reason, it is perhaps analytically necessary to pay attention to several social spaces with which these problematized animals might have interacted. Social spaces that are frequently neglected in the urban histories of animals include where (and with whom) they ate, drank, and slept. As will be discussed below, part of the reason for this neglect is fear around how to reflect animals’ agency, subjectivity, and social worlds. To mitigate some of these concerns requires theoretical, analytical, and methodological creativity.

Re-constitution: Making Cows Visible as Historical Urban Subjects

So far in this chapter I have outlined how problematization is a process whereby some animals and their relations are constituted (and even cemented) as problems that require regulation and intervention. Problematization involves the production and circulation of knowledge (grids of intelligibility) which help to define ‘the problem’ and ‘its solution.’ These grids work to define
certain behaviours, populations, or groups as in need of control. In many cities, underlying logics that have been used to problematize animals include flouting urban imaginaries, entanglement in or disruption of human economic objectives, and/or being associated with other problematized populations and situations. I argue that problematization can be analyzed by focusing on the spatial technologies of power that are used to constitute, practice, and maintain them. This involves looking at: 1) spaces of configuration such as literature, archives, and legal documents where animals have historically (and continue to be) defined as problems; 2) material spaces of governance that that historically disciplined those animals’ bodies and environments; and 3) the institutional and social spaces that not only make such problematizations possible (such as Boards of Health and Property Committees) but also sustain them (the academy, archives, cities).

While this framework provides a comprehensive way in which the historical problematization of urban animals can be analyzed, it still runs the risk of re-figuring animals as problems and possibly overlooks how those animals might have experienced their problematization. As argued above, one of the effects of problematization is that urban animals are often only visible (and essentialized) in the historical record as problems. That is, because they were constituted as problems in important spaces like municipal documentation, they are regularly re-written and re-constituted as problems in contemporary literature about urban pasts. This kind of reductive retelling fails to appreciate the complexity of problematization as an urban process and the complexity of cows as animals. Therefore, to appreciate the effects of problematization without reconstituting and essentializing animals as problems requires tools that make them differently visible.
Historical cows need to be actively reconstituted as urban subjects, but how best to illuminate the agency of historical animals has been a topic of debate (Benson, 2011; Fudge, 2002; Kean, 2012). While some scholars highlight that historical animals have their own “wills and purposes” (Brown, 2016:11), urban animal histories are generally “written from above” (Hribal, 2007). That is, urban histories are frequently about how animals have shaped urban development without acknowledging the agency, experiences, and/or implications for the animals involved. Simply doing a history about a disenfranchised or inadequately represented group does not necessarily mean their subjectivity is taken seriously (Hirbal, 2007: 102; Benson, 2011; Wolfe, 2009).

While these histories from above remain important in showing how animals have been significant parts of history (Kean, 2012), there is a great deal of theoretical and methodological work to be done to better represent animals as historical subjects, what Jason Hribal (2007: 101) would call “a history from below.” In line with this, I want to not only acknowledge how cows became visible and materialized as problems in Kingston’s changing landscape but to attend to how they experienced practices of problematization as urban subjects. As such, when analyzing the historical problematization of cows, I have found it necessary to employ a methodological framework that entails methods such as reading against the dominant constitutions of cows in both existing literature and the archives, rigorous archival research, a sensitivity to contemporary knowledge on cow psychology, and a willingness to write their histories differently. As Kean (2012) argues, writing animal histories requires one to write in a way that is open to animal agency:

“Whether past lives become “historical” lives depends not on the subjects themselves—be these animals or humans—but on those writing about them who then choose to construct a history. This is an important distinction. As Daniel Smail has suggested, “to admit that other animals have no sense of history is a quite different thing from claiming that animals cannot be held within the embrace of history” (Smail 2008, p. 69).
The issue then is not about agency of the subjects of history as such (in this instance animals) but the choices, agency if you will, of those seeking to transform such actions into history. There is a distinction to be made between events happening in the past in which even the most conservative of historians would agree animals played a role, most obviously in the economy, transport, or warfare and the turning of this subject matter into particular histories that privilege animals” (Kean, 2012: s60).

Kean (2012) points to how those writing animal histories (and geographies) are an essential component in how the agency of animals is represented, or, perhaps more astutely, that it is not a matter of trying to ‘access’ animal agency but rather of learning how one can write these histories in a way that privileges animals as experiential subjects (Bonnell and Kheraj, 2022). Some have suggested that questions about representation and animal agency in history are policing actions that thwart theoretical and methodological innovation and that it is time for “simply letting a hundred historiographical flowers bloom” (Swart, 2022: 30). However, for many others, accounting for animals and the ways they experience, resist, and conform to constituting and discipling tactics remains tricky terrain.

‘Governmentality,’ as a concept, has not, as Srinivasan (2013: 108) notes “translated easily when it comes to human relations with the non-human world.” It is difficult to fully appreciate how animals understand and internalize norms and because I am analyzing the effects of relations of power (not necessarily animals’ intent) I run the risk of framing animals as though they want to take part in situations which compromise or even hurt them. There is some literature that does, for example, frame animals as though they are collaborators, participants, and partners in situations which both socially and physically undermine the animals involved (Haraway, 2007; Porcher and Schmitt, 2012). This kind of framing can lead to relatively skewed understandings that fail to adequately account for the unequal and violent structures that position animals differently in
society. Nonetheless, 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 writing in a way that represents animals as thinking, feeling, and experiential subjects because it is a difficult task would be, in my mind, to neglect a very important part of telling their geographies and histories.

Although Foucault consistently avoided taking normative positions, recognizing them as expressions of power within specific contexts, his work and ideas were inherently political. At the core of Foucauldian thought lies a recognition that comprehending how mechanisms of power operate can foster an appreciation for how what seems entrenched, normal, and taken-for-granted could be otherwise. This means that the very analysis and writing of cows’ problematizations is a tactic that has the potential to reinforce and/or disrupt existing knowledges related to them. Unlike Foucault, I align myself more with the many critical scholars who have come after him and viewed these disruptions as politically necessary to transform what are established relations of domination. The theoretical framework I have developed here allows me to analyze cows’ historical problematization and invisibilization in Kingston. However, if I am to take cows’ experiences seriously, how I write and methodologically undertake this analysis is an important part of the project. Some methods, I argue, that better visibilize cows as historical subjects include speculative vignettes and map-making, which I discuss in the next chapter.
Chapter 3. Methods: Finding Traces of Cows in the Archives and Telling Stories Differently

“Writing about animals is also an exercise in sympathetically imagining animals’ lives and experiences” (Glover, 2019: 28).

“The capacity for stories to move, inspire, and evoke embodied experience is at play in recent geographic writing, both as part of a politics of possibility, and as a style of geographic expression. While the political intent is clear and explicit in the former, it remains underdeveloped in the latter” (Cameron, 2012: 587).

Archives are filled with documents and artefacts made by people who did not necessarily produce them with history in mind. The creators of these materials did not intend their receipt, ticket stub or letter to a loved one to be put in a folder, in a box, as part of a fond, ready to be stitched into a narrative of the past. Archives are also made mainly by humans who created them with humans in mind. Nonetheless, historians and historical geographers view the lack of traditional archival material (photos, correspondence, etc.) left by animals as an opportunity to think about how we know the past and its actors (Benson, 2011; Fudge, 2017; Hribal, 2007; Kean, 2012; Lorimer, 2006; Neumann, 2022; Ritvo, 2002; Lorimer, 2006). For Etienne Benson (2011) the traces left by animals have as much capacity to tell us something about the past as traces left by humans.

When viewed through an animal studies’ lens the 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 the covers. Visually animals are on letterheads, photographs, artwork, and maps. Textually they are mentioned in policies, by-laws, correspondence, and wills. There are traces of

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1 Laura Cameron voices the final chapter of *Openings: A Meditation on History, Method and Sumas Lake* (1997) as a mosquito who addresses in part “The archive, that place containing, among other important documents, a naturalist’s journal that acts as a mausoleum for my squashed relations....”
animals in any archive. 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. While many archival artefacts were not made by animals and were not necessarily intended to record the histories of animals, “human-authored texts can still provide valuable insights into the past that are not reducible to the human perspective” (Benson, 2011: 5).

The aim of this dissertation is to examine the historical problematization of cows in Kingston and its implication for the city while avoiding the tendency to objectify or essentialize cows. Importantly, I am not looking for the distinct origins of cows’ problematization in Kingston but, rather, the multitude of messy beginnings that created the discursive and material space in which they were normalized as problems. Simultaneously, I put into practice a methodology that centres cows. I do not, however, attempt to give a detailed overview of how Kingston changed over the course of a century as that would be impossible within the confines of this PhD research and might flatten the complexity of the urban multispecies power relations I am attempting to understand. To achieve these goals, the bulk of my research is archival and involves three distinct steps: first, I use historical documents to find traces of cows’ history in Kingston; second, I conduct a discourse analysis of how cows were constituted as problematic objects; and third, I employ a writing strategy that attempts to makes the material and experiential impacts of these constitutions for cows, as urban subjects, visible. This chapter unpacks these methods in more detail.
Finding Traces of Cows in the Queen’s University Archives

To fully grasp the significance of archives as spaces of configuration, it is crucial to acknowledge both their materiality and the multi-scalar practices and properties they entail. Archives serve as essential spaces where knowledge is organized and problems are constituted in particular ways. That is, ideas about subjects are constituted and configured in archives at a variety of different levels – including within a single document (how a subject is represented relative to others) and in a collection (how the subject is found in relation to others). Furthermore, an archive is not only a noun, artefact, or collection but it is also an active process (Stoler, 2009). Archives do not simply exist but are made. One archives. This also means archives are “contested sites of power” which, according to Joan M. Schwartz and Terry Cook (2002: 7,12) should open them up to “on-going critical interpretation.” 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 (Marshall, 2022; Schwartz and Cook, 2002).

Animal studies scholars, including historical geographers, have done a great deal to reimagine the archives and to question what constitutes an archive. Could the traces left by a bark beetle in a tree be thought of as an archive (Benson, 2011)? And what histories are embedded in the earwax of a whale (Trumble et al, 2018)? Some historians and historical geographers question how animals’ bodies and Indigenous knowledges can provide alternative archival sources (Glover, 2019; Marshall, 2022; Schwartz and Cook, 2002). Others question how far we can take traditional archival artefacts (like human authored texts) to understand the lives of animals (Benson, 2011; Fudge, 2002; Kean, 2012) and the possibilities they present for fostering kinder multispecies relations (Oliver, 2021a). Undergirding these debates are questions about animal agency and
representation as well as what methodologies can help us to tell histories that do justice to the lives of animals.

While I am excited about methodologies that challenge what an archive is, in this dissertation I am interested in understanding how cows were governed as objects and subjects by urban institutions and structures. This requires that I engage with some of the more traditional archival artefacts, like minutes and correspondence. These human authored texts hold promise for understanding animals’ histories because they embody both human and non-human stories (Benson, 2011). There are also traces of animals in the archives, and elsewhere, that cannot fully be reduced to the humans who note them. Therefore, although “silences haunt every archive” (Carter, 2006: 217), even an apparently ‘silent archive’ can bring about new ideas and stories when it is looked at through a different lens – one that was perhaps not anticipated when the archive itself was collated (Thomas et al, 2017: xvi). When one encounters (as I did) leather-bound assessments in which animals are listed as property (Chapter 4) it is difficult to refute that such texts are the result of more-than-human relations (Benson, 2011). The cows’ skin and their numbering on pages are both traces of different cows’ lives\(^2\) and their entanglement with Kingston; they bind those cows to the city, to the people who used and recorded them, as well as to their shared history and geography. Therefore, how animals are differently in/visibilized in artefacts indicates that archives are not neutral, objective spaces but, rather, reflect broader societal power relations that are informed by geographical imaginings of where animals belong.

\(^2\) Even the letters themselves are a testament to the entanglement of cows and humans with the letter ‘a’: “The name of the letter in the Phoenician period resembled the Hebrew name aleph meaning “ox”; the form is thought to derive from an earlier symbol resembling the head of an ox” (Britannica, 2018).
Considering animals are not readily indexed in archives, an archive – such as the Queen’s University Archive – that employs a ‘Total Archives’ approach offers a useful opportunity for finding and understanding the lives of animals. A ‘Total Archives’ approach to record keeping is an “attempt to document all aspects of historical development, seeking the records not just of officialdom or of a governing elite but of all segments of a community....” by “combining official administrative records and related private files, architectural drawings, maps, microfilm, and other documentary forms all touching on the development of the organization or region” (The Consultative Group on Canadian Archives, 1980: 63-64). According to Rebecka Taves Sheffield (2021) this philosophy advocates for archivists to document a comprehensive history of Canadian society, not just the privileged. The approach emphasizes the collection of diverse archival material, irrespective of its medium and form, and underscores the archivists' role in managing the entire life cycle of records (Sheffield, 2021). Because Queen’s University Archives employs this philosophy, it 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” (Queen’s University Archives, 2022a). Included therein, the City of Kingston fonds (Locator: 0100) contains over 200 meters of records from 1838-1998 that are chiefly concerned with the municipal history of the city (Queen’s University Archives, 2022b).

The archival documents used in this dissertation come almost entirely from The Queen’s University Archives. Due to the COVID-19 pandemic, the archives had limited access, but I was granted occasional entry during the summer and fall of 2020. Because I did not have long hours to thoroughly examine and analyze artifacts, I had to make swift judgements about the relevance of...
documents and quickly scan them. I made these decisions based on what I was reading, as well as what I had found in previous visits to the archives. While the process felt rushed it also allowed for an extensive collection of documentation. For example, I digitized several large volumes of information, such as city assessments and by-laws, that were somewhat standardized between 1838-1938, so that I could examine them later. Because correspondence requires a different kind of attentiveness, I chose to read these documents while in the archives and only scanned pages that were possibly related to cows and their problematization. In the end, I consulted over 23 fonds, 43 boxes, 261 files, 100 city assessments, 46 by-law books, 16 proceedings and minutes books, and scanned at least 39,538 pages of information. A comprehensive list of the archival material I consulted, along with their locator numbers and the extent to which I scanned them, can be found in Appendix A. My near exclusive use of one archive is unusual and while I was unable to augment some details or find the ‘other sides’ of correspondence this proved to be as much of an opportunity as a restriction.

I went into the Queen’s University Archives thinking I would have a hard job of finding cows only to find that the longer I stayed the more I found. This was my first foray into historical research and in some ways spending time in one archive helped me to develop a mental map of cows both in Kingston’s past and in the archive. I started to understand the systems of the archive, became extremely proficient at using their scanner, and developed meaningful relationships with the archivists who worked there. Heather Home, Diedre Bryden, Jeremy Heil, and Lisa Gervais have

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3 The pandemic also meant that I had to change my research question which was originally based on a comparison between Kingston and Cape Town. The pandemic made travelling impossible and Cape Town’s archives are not extensively digitized, so I switched gears. This would have been a remarkably different project in which I would not have gone as deep into Kingston’s municipal documentation.

4 I also have some documentation that I stumbled across on either side of this time frame, but this was my general guideline.
all at some point emailed me with ‘cow finds’ they made in the archives and have remarked on how this research has helped them to see the archives (and the ways in which materials are indexed) anew. These social relations were key to the archival process and many of the finds ‘I’ made were because of conversations with others.

While I engaged with a wide range of materials in the archives, I want to draw attention to four sets of documentation because of how I collected them and their significance in the analysis that follows: the city assessments, documents related to public health, other municipal documents, and supplementary material.

**City Assessments**

Frederick Brown’s (2016) work on Seattle illustrates the importance of city assessments to understanding the historical spatialization of animals in cities. City assessments are official documents that capture the value of one’s property for tax purposes. While agricultural census for cities do give aggregate numbers for some domesticated urban animals, Brown (2016) shows how property and tax rolls provide nuance regarding the spatial distribution of animals in the city, such as horses being more concentrated downtown and cows in outlying areas. Following his lead I sought out Kingston’s city assessments and was pleased to find that the Archives has an almost

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5 To use Ann Laura Stoler’s (2009: 22) words I was getting a sense of “the pulse of the archives.” Because of their enthusiasm and what I was learning in the archives I worked together with the Queen’s University Archives as well as Sue Donaldson and Will Kymlicka to develop an archival guide for how to find animals in the archives (Hirtenfelder, 2021). While teaching GPHY 402: Urban Animal Histories and Geographies I was able to use this guide to help my students with an assignment related to finding animals in Kingston’s past.

6 As Wideman (2022: 10) notes “research is never a solo effort - it emerges from, and is situated within, ecosystems of collaborative knowledge.” Consequently, acknowledging the contribution of others is important and I make efforts, throughout this thesis, to thank and give credit to these collaborations.

7 See pages 86 and 87 for Brown’s (2016) maps comparing the concentration of horses and cows in the city.
complete set of annual assessments for every ward between 1838-1938. The amount of tax expected for these animals was only listed until 1853 but they continued to record animals in the assessments into the twentieth century. The assessments give a granular sense of how cow populations in Kingston changed by showing their concentration in particular wards as well as their distribution among households. The documents also give an idea of how cow populations changed and were valued relative to other propertied animals in the city. Cows and horses were listed in the assessments from 1838-1905; dogs were first listed in 1839 and stayed on the assessments until 1928; sheep and pigs were only added between 1867-1905; and other domesticated animals like cats and chickens were never listed.

For my purposes I scanned the assessments between 1838-1938, organized information from them into a spreadsheet, and referred to them throughout the writing process. The assessments were mostly complete but there were some years where wards were missing. For instance, Cataraqui and Rideau wards were missing in 1866, Ontario ward in 1879, and Sydenham ward in 1921. I fully scanned the assessments between 1838-1914 and then only partially from 1915-1938. This was because, except for dogs, animals were no longer listed in the assessments from 1904. Furthermore, the growth of Kingston’s human population made continuing to scan these files too time demanding. After copying, I tabulated the number of taxpayers in each ward together with

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8 City Assessments, 1838-1938, Locator 0100, QUA.
9 Cows were listed as “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). Horses were listed as “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).
10 Dogs were first pencilled into the assessments between 1839-1841 in what looked like an afterthought, they were not listed in 1842, and then became an official category printed into the assessments from 1843. Listed as: “Dogs” or “Number of Dogs” (1838-1841, 1843-1848), “Bitches” or “Number of Bitches” (1907-1928), Not listed (1929-1938).
11 Listed as “Number of Sheep” and “Number of Hogs” (1867-1905).
the totals for each animal population listed as well as how many owners they had. You can see a screen shot of what that looked like below.\textsuperscript{12} Where available I recorded how much tax was expected to be paid for these animals. From 1838-1850 this was standardized (£1 for cows, £3 for horses, and £0.5 for dogs) and from 1851-1852, it varied based on the perceived value of each animal (I calculated averages here).

I tabulated these details between 1838-1854 and 1914-1938; and then every second year between 1854-1914. The earlier and later years were faster to tabulate because fewer animals were listed. And, as my time became more constrained, I made a judgement call to only tabulate every second year. Recording every second year still provided a strong overview of the general trends and spatial changes of some of Kingston’s animal populations. When I encountered a particular year and/or person that was of interest, I referred to these assessments to see if I could find additional details and sometimes even tabulated outlying years (such as 1879) which were important to particular chapters (i.e. Chapter 4).

The city assessments were also incredibly useful and raised several interesting questions related to the urban governance of cows and methodological challenges with knowing them, such as: why some cows are absent in the assessments when I know they were in the city (like Corbett’s cow in Chapter 4); how to trace who a cow’s owner when all I have is a last name (such as Folger’s cow in Chapter 5); and why ‘meat cows’ seem to be less recorded in the city assessments than ‘dairy cows’ (touched on in Chapter 6). I did not always find satisfying explanations to these puzzles but

\textsuperscript{12} A special thank you here to my husband, Oliver Hirtenfelder, who also spent many hours helping me to count these.
the very asking of them illustrated how much more there is to understand about the urban histories and geographies of cows.

Figure 11: A leather-bound city assessment from 1843 (Locator 0100, QUA).
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Value</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>J. Smith</td>
<td>House</td>
<td>£200</td>
<td>£200</td>
</tr>
<tr>
<td>124</td>
<td>A. Brown</td>
<td>Farm</td>
<td>£300</td>
<td>£300</td>
</tr>
<tr>
<td>125</td>
<td>S. Johnson</td>
<td>Store</td>
<td>£150</td>
<td>£150</td>
</tr>
<tr>
<td>126</td>
<td>M. Davis</td>
<td>Residence</td>
<td>£250</td>
<td>£250</td>
</tr>
<tr>
<td>127</td>
<td>L. Taylor</td>
<td>Factory</td>
<td>£400</td>
<td>£400</td>
</tr>
</tbody>
</table>

*Figure 12: An example page from the 1838 city assessment (Locator 0100, QUA).*
Figure 13: An example page from the 1851 city assessment (Locator 0100, QUA).
Figure 14: An example page from the 1879 city assessment (Locator 0100, QUA).
Figure 15: An extract from the spreadsheet tabulating the animals recorded in Kingston’s city assessments between 1845-1850 (Author).
Figure 16: An extract from the spreadsheet tabulating the animals recorded in Kingston's city assessments between 1876-1882 (Author).
Health Minutes and Correspondence

The importance of safeguarding human health features prominently in existing urban histories of cows (Brown, 2016; Cronon, 1991; Hustak, 2017; McNeur, 2014; Robichaud, 2019; Smith-Howard, 2017). Carla Hustak (2017: 191), for example, “excavate[d] the traces of cows in the archives of public health” in the Hamilton Archives in Ontario; and Sean Kheraj (2016) looked at health by-laws in Montreal and Toronto to explain the urban regulation of animals in Canadian cities. After reading these works, I knew health would be an important theme to consider when I entered the archives. The health documents would open opportunities for thinking through how cows were constituted as problems and materially managed by particular urban institutions, such as local Boards of Health.

The significance of urban health management for comprehending the governance of cows in Kington was confirmed during my proposal writing stage when a classmate, Danielle Gionnas, told me she had discovered correspondence about a disease situation in Kingston in 1918 centred on ice-cream. I requested this same correspondence from the Queen’s University Archives and found this correspondence was a fraction of a much larger body of documents. These included meeting minutes from the Local Board of Health (1834-1939), Board of Health correspondence (1897-1933), health and welfare documents in the County of Frontenac fonds (1846-1965), Sanitary Inspector Property Inspections (1914) and the Kingston Health Committee correspondence (1915-1936). Together, these provided over a hundred years (1834-1939) of

46 LBH Minutes, 1834-1939, Locator 0100, Vol 235-240 and Box 241, QUA.
47 LBH Correspondence, 1897-1933, Locator 0100, Box 242-246, QUA.
48 Health and Welfare, 1846-1965, Locator 5079, Box 22-23, QUA.
49 Sanitary Inspector Books, 1914, Locator 0100, QUA.
50 Kingston City Health Committee Correspondence, 1915-1936, Locator 0100, Box 225, QUA.
information related to Kingston’s public health. The correspondence was often handwritten, partial and not necessarily chronologically ordered. Nonetheless, 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 their correspondence and minutes. Furthermore, the wide scope of these documents provided a deeper sense of the institutional, social, and corporeal spatial technologies that were not necessarily as clear in by-laws.

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 piece of correspondence and minutes from the above listed health documents between 1834-1939. This included the date, main matters discussed, important extracts related to my project, and relevant references. These notes were organized into a 126-page compendium which I used as a reference and analytical tool. I arranged these notes according to the date they were produced and made annual and decade overviews for the same. I then re-read the document and based on my engagement with the material, 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); general traces of animals (yellow). The highlights allowed me to analyze how health and animals were related to one another over the 100 years in focus.

The compendium made visible the ubiquity with which animals were mentioned 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 chickens, cats, or fish for instance.

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51 Upon completing my PhD this document will be cleaned and made available to the Queen’s University Archives as a resource for others interested in the municipal history of Kingston.
And when animals did make an appearance, 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, both in terms of content and timing, allowed me to think through the subtle changes with which these animals were considered and how they moved from normalized to problematized populations. More specifically, I was able to identify how cows were problematized through milk and waste relations in the city (discussed in Chapters 5 and 6 respectively).

The compendium provided contextual information regarding what issues the City Council and the Local Board of Health were facing when cows emerged as problems. It also served as a temporal guide for finding cow stories and events in other places (such as historical newspapers). Arguably the health and sanitation inflections of my findings (most notably in Chapter 6 and 7) are because I relied so heavily on health documents in my analysis. One could imagine if I had done a compendium using documentation from different institutions (such as the Board of Works or Market Committee) I might have different nuances to my work. Nonetheless, considering the power of the Board of Health in Kingston, as well as the general significance of health to the governance of cities, these documents were invaluable for finding and contextualising traces of cows’ urban pasts. They were, however, only one set of the myriad of municipal documents used in my study.
• In 1887 there are minutes for March, April, May, November and December. In March a Special Meeting is held with a committee on City Property about the city providing "a suitable nuisance ground." Tenders are to be advertised for people willing to "provide a nuisance ground and take charge of all night soil, carcasses, garbage and other decomposing matter." The Board requests that council have the ground on Grove Street used for depositing rubbish. The Board continues this conversation about nuisance grounds in April. The MHO is asked to visit the ground to and abate the nuisance that is alleged to be there. The Board is to consider tenders for a new ground. On the 13th of April the Committee on Nuisance Grounds Matters said that they are struggling to abate the nuisance on the ground because of frost. Discussion about how much a new nuisance ground would cost, privy pits prejudicial to health are ordered filled, and the duties of city scavengers are defined. In May, the Sanitary Inspector is to enforce Section 4 of schedule A of the Health Act 1875 regarding the draining of privy pits. By December the Secretary is instructed to write to New York to find out about the health. Furthermore, the secretary is asked to request "council to provide a nuisance ground for the depositing thereon of night soil, dead animals and other filth," later in the month the board recommends council to accept the offer by John Kirkpatrick of a nuisance ground. The Medical Health Officer submits a communication from the province about the inspection of milk and notes that cream need to be inspected. This is the first mention of milk in the Board of Health documents and like water and drainage it becomes one of the most discussed and governed items for the Board.

• In 1889 the (and testing and management) becomes one of the main agenda items that the Board of Health. In January they discuss Bulletin 2 which is concerned with the testing of water and milk. In February the inspection of milk in relation to the Section 10 of the Public Health Act 1865 was considered which allowed the board to prohibit the sale of milk in the municipality from dairies who don't have a license. Where ice can be cut from is determined. In April the Board wants the Act amended so that it has a clause in it about ice vendors that is similar to the one about butchers and the sale of meat. (Chapter 34 of the Act of 1884). The Board reaches out to Queen's about testing food, water, and milk. The Secretary to write to the Province to ask for copies of the consolidated Act. In June the Board is considered the specific clauses related to milk vendors such as which tests need to be conducted and when milk can be sold. Milk licenses are granted and valid from the 1st of May 1889 and the board says that the Provincial Legislature shall pass a Comprehensive Licensing Act. And by June the Board is considering paying an analyst to test milk and water.

• In 1889 the LBH was fairly concerned with slaughtering. In March all butchers selling meat in the city whose slaughterhouses were outside of the city limits required an affidavit by Section 4 of the Public Health Act of 1877. Permits were also being issued for the cutting of ice. In March 1889 it was stated that the nuisance ground was now placed 2.5 miles outside of the city limits. Also in March the LBH discusses whether the university will analyse food, water and milk for the LBH. It was also discussed how to regulate and license the manufacture. Still concern over foul wells and in May those who have not fixed their wells are told to come before the board and explain why they should not be closed up, people such as Robert McCammon did so pleading that his well is health and at least 20 yards from his stable. Michael Donoghue also called stating that his well was 12-14 feet from the privy pit and that he does not use the water for drinking but that he sprinkles the yard with it and gives the water to his cows and now sells. Also concern around wells being too close to hogsheds. In June the Chairman of the County Board raised concern about the slaughterhouses in Vernon, which have been inspected and he condemns. In December the MHO presented his annual report.

1890s

• In the 1890 there is only really notes for March and they are concerned with slaughterhouses and cow byres. It was resolved that at the next meeting (which wasn't recorded) the MHO and Sanitary Inspector would report on the state of these and what measures should be taken. Wells and privy pits were discussed. A fair amount of attention was given to ice and the habit of driving horses upon ice who "duged and discharged urine" on the ice making it "very objectionable"

• For 1891-1896 there are no notes.

• In 1897 there is some Board of Health Correspondence much of which is concerned with bacteriological testing from the Pathological Lab. They seem to be primarily testing/discussing ice. There is also some correspondence about dirty yards and privy pits.

• In 1898 we have both minutes and correspondence. In January and February, the main concern is cutting (and permitting) the cutting of ice. In March 1898 for the first time, we find out about the state of dairy inspection and the number of cows. The MHO visited dairies outside the municipality and inspected and cows. The MHO also compares the living conditions of cows outside of the city stating that "I also visited all places, within city limits, of persons who keep three of more cattle for the purpose of supplying milk for sale, and from the unsuitableness of many of these places, for the purposes of which they are used, and from the danger to the public health from the use of milk derived from cows kept in unsanitary premises."

Figure 17: Extract from my compendium of health documents, annual overviews (Author).
May

1 May 1903 - Milk test results from the Kingston Dairy School (BoF Correspondence, Box242)

5 May 1903 – Special Meeting of the LBH. Dr Haney discusses a young girl who has been put into quarantine after he heard a report of smallpox with Patrick Kennedy. It is suggested his house quarantines and that the young girl remain in isolation at Hotel Dieu and that the city will pay for the cost of her transfer and maintenance. Health Officer ordered to investigate case (LBH Minutes, Vol 238:185)

8 May 1903 - Notes (can't read) (BoF Correspondence, Box242)

15 May 1903 - Inspector of Milk, W.S. Gordon, had samples of milk from E. Weller and John Porter milk vendors tested at the Dairy School (BoF Correspondence, Box242)

17 March 1903 - Letter of thanks (BoF Correspondence, Box242)

18 May 1903 - Letter about ice (BoF Correspondence, Box242)

18 May 1903 – Special Meeting of the LBH: Dr Sullivan will go down and check on the patient Patrick Kennedy and notes that he things a nurse is necessary. Thanks given to the Provincial Board of Health with assistance in bacteriological tests. Board requests that the Water Works department furnish a bacteriological report as to the condition of the city’s water (LBH Minutes, Vol 238:186). Chairman of the Board of Health is requested to write to the Attorney General of Ontario drawing resolving an alteration in the regulation of Scarlet Fever, Clause 2 and that smallpox should be included in said schedule (LBH Minutes, Vol 238:187)

19 May 1903 – Regular meeting of LBH: Dr Sullivan reported on Patrick Kennedy and on Mrs. Gambley and her children now confined in Hotel Dieu. Dr. Connell called by the mayor to give opinion on the cases of smallpox. Dr Hanley needs to see Patrick Kennedy every third day. Dr Sullivan, Dr Fee and mayor said Dr Hanley needs to take “sufficient precautions” not to hurt himself, his patients of the public. Mayor said the Kennedy house is not yet properly quarantined. (LBH Minutes, Vol 238:188)

19 May 1903 - Notes (BoF Correspondence, Box242)

19 May 1903 - Report on current cases of smallpox (BoF Correspondence, Box242)

19 May 1903 - Resolution (difficult to read) (BoF Correspondence, Box242)

20 May 2003 - Letter from the Secretary of the Provincial Board of Health, Bryce, stating that local board can set up tents to deal with Scarlet Fever (BoF Correspondence, Box242)

20 May 2003 - Letter from Mrs. G. Clark about daughter (BoF Correspondence, Box242)

21 May 2003 - Letter about a patient (Patrick Kennedy) from Dr Robt Hanley (BoF Correspondence, Box242)

26 May 2003 - Additional update about patient (Patrick Kennedy) - who appears to be recovering from variola (scabs on face) (BoF Correspondence, Box242)

27 May 1903 - Third visit to patient (Patrick Kennedy) who seems weak - “prescribed whiskey in his milk 4 times a day” (BoF Correspondence, Box242)

27 May 1903 – Special meeting of the LBH: Patrick Kennedy and patients are progressing well but the father of Kennedy has now fallen ill. A report from Dr Sullivan was read (LBH Minutes, Vol 238:189)

29 May 1903 - Telegram from Sullivan stating that he has mailed to full report (BoF Correspondence, Box242)
Other Municipal Documents

Because my work explores 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, or what I am calling spaces of configuration. They also provide the 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 mentioned above) I was able to think through how cows were constituted as problems by a variety of institutions. I could also see how the problematization of cows was not a seamless process but 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, which I discuss more in the analytical chapters.

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).

52 City Council Proceedings Books, 1838-1924, Locator 0100, QUA.
53 By-law Book, 1838-1938, Locator 0100, Volume 1-46, QUA.
54 City of Kingston, Locator 0100, Box 1088.4-1088.5, QUA; Butcher’s Petition, Locator 0100, QUA.
55 County of Frontenac, 1844-1965, Locator 5079, Boxes 3, 4, 8, 21, 22, 23, 26, 43, 45, and 53, QUA.
various committee files (1857-1936),\textsuperscript{56} a City Commissioner Diary (1881-1897),\textsuperscript{57} and license collection books (1921-1936).\textsuperscript{58} I also made extensive use of the city directories which are available online from 1855-1923 on Digital Kingston and in hard copy in the Archives thereafter. When necessary, I used federal and provincial Acts to understand happenings in Kingston, such as Ontario’s \textit{Public Health Act} of 1884 discussed in Chapter 5.

While consolidated and revised by-laws for the city exist (1883, 1895, 1907, 1938), they often represent a synthesis of previous by-laws, omitting repealed laws and smoothing over subtle changes over time that could reveal dynamics of cows’ problematization (Agnew, 1883, 1895). To gain insight into these changes, I visited the Queen’s University Archives again in the winter of 2022. During my visit, I read and scanned Kingston's original by-law books. I fully scanned the first four by-law books (1838-1891) and selectively scanned 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. For a comprehensive list of the relevant policies, please see Appendix C.

While 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 were closed during the pandemic meant it became a key feature. While these digital documents have been useful for recall throughout the writing process, I might have lost some of the physical aspects of the sources and

\textsuperscript{56} City Property Committee, 1838-1924, Locator 0100, Box 184-185 and Minutes Books, QUA.; Industries Committee, 1912-1931, Locator 0100, Box 229, QUA.; Report Book D, 1875-1880, Locator 0100, QUA.; Committee on Parks, 1899-1934, Locator 0100, Minute Book, QUA.

\textsuperscript{57} City Commissioner Daily Dairy, 1881-1897, Locator 0100, Vol 974A, QUA.

\textsuperscript{58} Collection Book for Licenses, 1921-1936, Locator 0100, QUA.
collections. Nonetheless, my digital documents have also contributed to some of the preservation strategies of the Queen’s University Archives by adding to their collections several large bodies of municipal documents (including the by-law books and city assessments). Some of these digital files are now available to individuals who may not have direct access to the archives, and they have been included in citizen science transcription projects (see for example From the Page, 2023).

Together these municipal documents gave me 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 real property (both public and private) constituted cows as transgressive forms of property which resulted in measures to curtail their mobility (Chapter 4); policies wanting to keep milk safe for human consumption constituted cows as risky and consequently sanitized their environments and bodies (Chapter 5); and regulations related to the market, meat, and waste constituted cows’ dead bodies as commodities and/or waste, revealing how it was not only cows’ lives but also their deaths which were problematized and managed in the city (Chapter 6). These municipal documents brought together the spaces of configuration with the corporeal and social spaces required to make cows intelligible as problems and eventually justify their exclusion from the city.

**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 helped me to better spatialize and contextualize the information I was encountering in the archives. I used key
words to search historical newspaper repositories on Digital Kingston and Newspapers.com. When I found relevant articles, I clipped and saved them in folders based on places such as pastures, pounds, markets and themes such as 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 are: Thomas Eraser Gibbs Map (1850), John C. Innes Map (1865 and 1875), Brosius Map (1875), Illustrated Historical Atlas of the counties of Frontenac, Lennox and Addington (1878), the J.G Foster and Co Map (1900), Campbell and Wright Map (1914), and the Fire Insurance Plan (1908, revised 1911). And, finally, I read locally written histories and journal articles, including those from *Historic Kingston* and works by Cooper (1856), Macher (1908), Horsey (1934), and McKendry (2018).

While the city assessments, health documents, by-laws, and policies were important to identifying when and how the city was managing cows as well as the extent to which they were visible as problems to Kingston’s governing structures, this supplementary material was essential to getting a sense of the tone and context of these problematizations. Different newspapers reported on the City Council meetings, for instance, and would tell of how councilmen sneered, laughed, or disagreed about issues raised, such as the disagreement around typhoid in Kingston in 1913 (Chapter 5) or cows trespassing onto private property in 1882 (Chapter 4). Many Kingstonians would also write to articles to express their dissatisfaction with a decision Council or another governing body had made, such as their ineffectual response to a problematic nuisance ground in 1887 (Chapter 6). The work of local historians and historical geographers also helped greatly to locate events within a broader history and to fill in details about some people and places (Cooper,
1856; Horsey, 1934; Fitsell, 1909; Macher, 1908; McKendry, 2018; Osborne and Swainson, 2011; Smith, 1987). These local histories unfurled details related to Kingston’s social space, including the economic ambitions of the City Council, how the Local Board of Health battled with issues related to health, and development plans of Kingston. These helped to locate my analyses within broader social, geographical, and historical shifts.

A Discourse Analysis of the Problematization of Cows in Kingston

It is one thing to find traces of cows in the archives. It is another to know what to do with them when you have. Questions of how to know and represent animals’ social realities opens a range of considerations about intentionality, representation, agency, and power (Benson, 2011; Fudge, 2017; Kean, 2012; Oliver, 2020). For Erica Fudge (2017: 1) asking “what is it like to be a cow?” highlights the difficulty of knowing what cows experience. Such knowing is a problem for understanding any historical subject, not only historical animals. However, as Catherine Oliver (2020: 35) 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. 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 (Glover, 2019, Hugh, 2011; Philo, 1995, Sabloff, 2001).

59 While previously scholars like Erica Fudge (2002) asserted that it was only ever possible to write a history about how animals have been represented, not what they experienced, she recently wrote an article (2022) in which 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 a question of how they are made.
There is disagreement about the boundaries of what constitutes a discourse and its relationship with reality. For some a discourse is just one avenue through which reality can be accessed (Fairclough, 2010) whereas for others discourses are matrixes of material and symbolic relations (Foucault, 1978; Laclau and Mouffe, 2001). As discussed in the theoretical chapter, I understand discourse in the way that it is used by Foucault (1977, 1978) and extrapolated by Bacchi (2012). 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” (Bacchi, 2005: 199). Discourse analysis provides a mechanism through which to understand how particular institutions and stakeholders configured cows as problems and the subtle ways in which those problematizations differed.

Identifying problematizing moments offers a way in which the in/visibilization of cows in Kingston can be understood. Cows became problems over time in Kingston but there were moments in which they became more visible in the archives as problems. I dwelled on instances in which cows were explicitly mentioned as problems, such as in 1879 when Mr O’Michael and 37 others complained about cows at the Hay Market (Chapter 4), in 1887 when a dead deacon calf was used as an example of animals rotting in Kingston’s nuisance ground (Chapter 6), or in 1898 when the tubercular lung of a cow became the centre of controversy over the safety of milk (Chapter 5). I used these instances as starting points to unpack the people and places with which cows were relating and what this could tell me about the city. I read both along and against the grain of the archive trying to understand the logics of the documents themselves and the absences.
and silences they housed (de Leeuw, 2012; Neumann, 2022; Stoler, 2009). I grappled with what the underlying logics were that made cows visible to regulators as problems to be managed. I also paid attention to how cows were in/visible in the documents (spaces of configuration) as well as the actions taken to govern them (corporeal, environmental, social, and institutional space). I tried to understand not only how cows were constituted as problems in the spaces of configuration (like by-laws, policies, and maps) but also 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 (2020, 2021a) proposes that by attending to the absences of animals in the archives and perceiving them as multispecies spaces, these silences can be transformative, opening new avenues for analysis and fostering solidarities (Oliver, 2020, 2021a). Therefore, rather than adhering to the standard tropes through which cows have been historically examined in archival material and literature, I was attentive to where and how cows were located in archival documents. I viewed these traces, and their related absences, as important indicators of Kingston’s urban processes and cows’ lived experiences. To further illuminate cows as historical subjects, I also incorporated contemporary knowledge on cows, utilized map-making techniques, and employed speculative vignettes in my analysis.
Using Contemporary Understandings of Cows

Several historians and historical geographers are exploring how they might use contemporary observations of animals to better think through historical animals’ social lives (Swart, 2022). Multispecies ethnography is an emerging method for understanding the lives of animals in ways that take seriously their individual personalities and social structures (Gillespie, 2019; Kirksey and Helmreich, 2010; Kopnina, 2017; Narayanan, 2023; Smart, 2014). The reason I did not directly observe cows during my PhD is because that would have gone beyond the scope of my project and the few opportunities I had to informally spend time with cows were offered in farm settings which I had ethical concerns about. I did not want to spend time with cows in settings that are designed to commodify them. Nonetheless, I do use insights from other people’s ethnographic work (such as that done by Kathryn Gillespie, 2018) and attempt to do so in a way that is sensitive to the spatial and social differences involved.

A strategy for carrying out a historical discourse analysis that is sensitive to the lives of cows is to make use of contemporary biological, scientific, and ethnographic understandings of them. That is, using what is currently known about cows’ bodies and senses helps with carrying out a discourse analysis that appreciates how cows might have experienced the spaces, practices, and situations in which they found themselves (Glover, 2019). Consequently, I also rely on contemporary research related to the biology and psychology of cows, but it comes with several challenges. The most notable challenge is that available knowledge related to cows’ biology 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 behaviour is dominated by applied themes relating their behavioural and cognitive abilities to
characteristics mainly relevant to intensive farming (e.g., their ability to grow and reproduce)” (Marino and Allen, 2017: 475). This is a particular way of knowing cows which objectifies them and situates them within a logic of commodification (Gillespie, 2018; Marino and Allen, 2017).

While I used scientific findings of cows to justify some of my analysis, I tried to be sensitive and critical of how such information was produced and/or I relied on the thoughts of those who have already done such work, like Lori Marino and Kristin Allen (2017). Marino and Allen (2017: 475) 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.” They 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 Marino and Allen (2017) show how dominant understandings of cows have been shaped by economic and political forces that often actively obscure the complexity of cows’ sociality and experiences.

To avoid objectifying historical cows and disavowing their subjectivity it is necessary to explicitly state that they were sentient beings who experienced the world (Glover, 2019). Acknowledging that cows are mammals who have nervous systems that allow them to feel pleasure and pain allows for more sensitivity concerning the devices and practices used on them (Swart, 2010). Furthermore, recognizing that cows have different sensory systems from that of humans (including differences in smell, taste, and touch) also assists in thinking through how those same practices might be experienced to different degrees. Cows experience the enclosure, the pushes, the
milkings, the strokes, and the prodding of their flesh. Map-making and speculative writing provide useful strategies to make these affective realities more visible in historical accounts of cities.

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. As I argued in the theory chapter, the spatialization of cows is essential to understanding the ways in which they lived and were problematized in Kingston. Where cows were – and when – says a lot about how Kingston was changing and the ways in which it changed in and through multispecies relations of power. As I began to work through the traces of cows in by-laws and minutes, it became clear that many animalized spaces of Kingston’s past have not been recorded in the city’s maps. This absence, I will argue, is one of the key reasons why cows are absent from the urban imaginary of Kingston. 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 to create a new urban imaginary for their presences.

Using Google Maps, I plotted places that were emerging through my analysis as important to understanding the history of cows in Kingston. I made use of a base map on Google Maps and

60 You can access the Google Map here: https://www.google.com/maps/d/u/0/edit?hl=en&mid=1gcNXsR_DjyFtx5yaSv4gml3wR-JIBDA&ll=44.23417919885991%2C-76.510117218034&z=13
You can view the Google Earth version here: https://earth.google.com/web/@44.2746412,-76.55799245,112.87038711a,73051.9846838d,30y,0h,0t,0r/data=MikKJwolCiExZ2NOWHSX0RqeUZ4dHg1eWFTdjRnbUkzd1lt5mpCREEgAjoDCgEw?authuser=0
The information in these maps corresponds with the maps included in this thesis, but this interactive digital version allows readers freedom to explore its various layers and offers additional information.
added different layers to it. 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 wards (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; 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 neatly with the other layers. I used icons available on Google Maps to visualize different elements in these layers, some of them include: milk bottles as dairies; trash cans as dumping grounds; eyes as inspectors; knives as butchers; and aliens as information I have but I am not sure where it goes. I played with the colour of these icons to show temporal starts and changes: anything started between 1820-1839 is mustard, 1840-1859 is orange, 1860-1879 is red, 1880-1899 is yellow, 1900-1919 is blue, and 1920-1939 is pink. So, for example, a red knife is a butcher who started operations between 1860-1879 whereas a yellow bottle is a dairy started between 1880-1899.

My Google map helped me identify trends for where cows (and cow related activities) were in Kingston and what they were doing. Looking at “Butcher’s Town” in San Francisco, Robichaud (2019) 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. However, the sheer volume of information on my map (which was not exhaustive) clearly highlighted that cows were not only isolated to animal suburbs as Robichaud (2019) suggested but, depending on what was expected of them, had varied and wide-ranging urban relations. While there is certainly neighbourhood spatialization of particular cow activities, my main point here is that when looked at across varied practices it is clear that cows (and cow-related activities) were
geographically dispersed in Kingston. Throughout my research process, the map was an important analytical, if not necessarily representational, tool.

I used my Google map as a kind of sandbox where I dumped information and figured out answers to many small puzzles. For example, if I came across someone who owned cows or an address at which a cow was listed, I could cross reference it with information I had put in this map to see if I

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I made a flash, seven-minute presentation about my “messy map” at the 2022 GIS Conference where it won one of the People Choice Awards. Thank you to Francine Berish for encouraging me to attend and present my work even though I personally was convinced it was too rudimentary and not fancy enough to be considered GIS. It was an invaluable experience.

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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 of those 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 and place markers in locations that are as historically accurate as possible because where a street address is today might not be where it was a hundred years ago. But this is not an exact science so many of these markers only give a general sense of where things were taking place. Furthermore, determining the size of the locations was oftentimes elusive. Places such as pastures, pounds, the commons, and private slaughterhouses were not mentioned in directories and when referring to them people often used common knowledge; thus, figuring out their size is not always easy. Therefore, the exact boundaries of some spaces are either not clear or I did not have the time to determine them. These dynamics all present challenges with making a readable and accurate map but the process of map-making still managed to tell me something about cows and the city. 62

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62 For example, when I laid out where I think the pastures might be, I also then laid out cows who were listed in the 1914 sanitary inspector reports (this is the only year I have his books available for) – and what would you know? Where these few cows are mentioned has the same shape of where the pastures are. This might seem obvious, but it was satisfying that the map showed these connections even though I had entered the respective bits of information six months apart.
While my somewhat messy Google Map was useful in my analysis, I have also worked to create cleaner maps that actively make cows’ urban spaces in Kingston visible. In some ways, this is part of my efforts to “turn the archive inside-out” by making apparent that which is often rendered opaque. It is part of an attempt to actively create new urban imaginaries that acknowledge the city’s animal histories. Consequently, the start of each chapter has a map that is attentive to the

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63 Thank you to Laura Jean Cameron for this phrasing.
theme of that chapter and tries to bring to the fore the spaces and places that would have been important to Kingston’s historical cows.

Working together with my husband (who is a photographer well versed in photoshop) I altered the 1865 John C. Innes Map to illustrate the cow spaces not recorded in maps between 1838-1938. I chose this map because it is aesthetically pleasing, and it clearly shows the boundaries of Kingston and its wards for the period I am concerned with. You can see the original map below, but each chapter will have a version of this map that has been adapted to illustrate content from that chapter. The map in Chapter 4 gives a sense of how much urban land was dedicated to pastures and pounds, the map in Chapter 5 illustrates how dispersed dairying was in Kingston, and Chapter 6 shows the spatial distribution of industries that were connected to cows’ deaths. I also changed the existing pictures on the map in the top left corner with images of places significant to cows. Where necessary, roads were added that were not included in the Innes’ map. Each map also has a legend which includes black cows to reflect some of the cows I have reference to. Presenting documentation over a hundred-year period was challenging but despite these challenges, these maps, together with my speculative vignettes, provide a solid foundation from which to imagine and understand cows as urban historical subjects.
Figure 21: Original John C. Innes Map (1865) which I used as a base for the maps in my analytical chapters (V023, QUA).
Figure 22: Adapted John C. Innes’ Maps (Author).
Speculative Vignettes: Making Cows Visible as Subjects

When I started writing my analytical chapters I became concerned that 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 but was instead writing about them as objects. Consequently, while working on Chapter 4, I started writing a vignette about Charles Corbett’s cow, so that I could imagine where the cow was and what she was doing. 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 cows’ sensory experiences when she was subjected to externalized practices such as confinement or constitutive practices such as killing allowed me to centre cows as subjects in my analysis.

While I started writing these speculative vignettes as an analytical tool for myself, the work of Saidiya Hartman (2008, 2021) inspired me to take seriously the constitutive limits of the archive. Telling the stories of “the nameless and the forgotten” in the Transatlantic slave trade, Hartman (2008: 4) writes about black women whose lives are often only represented as short words and numbers in ledgers. Using speculations informed by the archive, Hartman (2008) tries to express the moods, doubts, and wishes of the subjects that are often absent in its collections. Through what she calls ‘critical fabulations’, Hartman (2008) makes the devastating impacts of slavery known at an inter-personal level that stretch beyond the victimizing, rote, and sometimes sterilized ways in which slavery is discussed in academia. She does not try to give voices to these women but “to

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64 Thank you to my supervisor Carolyn Prouse for alerting me to the work of Saidiya Hartman and encouraging me to explore the role of speculation in my work.
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” (Hartman, 2008: 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 (Kim, 2015). Slave and animal populations have been subjected to different socio-political pressures that have rendered them differently, but in some ways similarly, in/visible in the archives. For example, both slaves and animals were historically recorded by colonizers as property during transnational voyages because they were only viewed as having extrinsic value. My intention here is not to collapse the experiences and stories of slaves and animals; I only want to point out that Hartman (2008) demonstrates how one can push back against dominant (and deficient) representations of marginalized groups by pushing the boundaries of the archives through creative writing. Hartman’s (2008, 2021) methodological boldness inspired me to incorporate my speculative writings into my dissertation because she shows how such creative efforts are politically and ethically important.

As I started to take my speculative vignettes more seriously, I soon realized that they were not only important in centering cows as subjects, but they offered an important tool for conducting an urban geographical analysis. By taking seriously how cows inhabited and moved through the city,

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65Jacoby (1994) argues that the similarities in how slaves and domesticated animals have historically been treated (including with 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. Claire Jean Kim (2015) talks about conversations across realms of race, species and gender “dangerous crossings” whereas Marjorie Spiegel (1996) calls this “the dreaded comparison.”
spaces and relations often neglected in urban analyses came to the fore. For instance, in Kingston there is a historical entanglement between pastures, pounds, and sewage systems (see Chapters 4 and 5); and between industries such as breweries, meat markets, and tanneries (see Chapter 6).

Other animal studies scholars have also found speculation a generative activity (Biehler, 2013; Castelló, 2022; Donaldson, 2020; Gustafsson and Haapoja, 2015; Haraway, 2011; McHugh, 2011; Westerlaken, 2021). In terms of historical speculations, Dawn Day Biehler (2013) 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. In *A History According to Cattle*, Laura Gustafsson and Terike Haapoja (2015) challenged the anthropocentrism of historical stories by voicing an exhibition from the first-person perspective of a cow. While not initially influenced by these scholars, my speculative vignettes have some similarities and differences with their work. Like Biehler (2013), I focus on writing short vignettes about historical animals, but rather than having generalized stories that are suspended at the front of each chapter, mine are integrated into my analysis as an active mechanism in locating specific historical animals. I join Gustafsson and Haapoja (2015) in making use of emotive language in my vignettes, but instead of writing from the vantage point of a generalized cow, each of my stories is located and inspired by specific cows. Like others using narrative to unpack broader social and political contexts, my stories are “a site for thinking through the workings of power, knowledge, and geographical formations at the most intimate scales” (Cameron, 2012: 574).

My speculative vignettes are informed both by material from the archives as well as some of the contemporary, biological details about cows discussed in the previous sections. I write about the
cows in the third person and try to paint a picture of what they might have experienced as well as the relations they might have had with other people, animals, and places. As far as possible these are geographically and temporally specific vignettes. While the sentences are simple, they do not shy away from the emotive dimensions of cows’ experiences such as attachments, pleasures, and pains. They create emotional openings that have the power to affect and to move. While they are not neutral, they are not sensational either. Nonetheless, I italicize and indent the stories to make it obvious to the reader that these are a different kind of writing and I make use of footnotes to justify why I wrote them in a particular way. These speculative vignettes help to centre cows as subjects in my thought and analysis, resisting the urge to get swept up in human stories where cows are primarily the backdrop.

I could, however, be critiqued for ventriloquism and anthropomorphism. Ventriloquism is the idea that stories are written to speak as animals without necessarily taking seriously the ways in which animals assert themselves. Anthropomorphism, on the other hand, is often criticized for only offering a “crude expression of historical empathy” (Bonnell and Kheraj, 2022: 10). But anthropomorphic methods are not inherently problematic, and it is important to also resist solipsism that positions humans as incapable of understanding another species’ experiences (Glover, 2019). Furthermore, I make extensive use of footnotes to justify what I am saying and by showing how the speculations are informed by details from the archives or contemporary research on cows’ biology (most often relying on the work of Marino and Allen discussed above). These footnotes also show the labour involved in crafting such stories and they “signal stories of other stories” (McKittrick, 2021: 19). Such indicators offer opportunities for not only thinking about archives but for showing how urban analyses can better incorporate animals as experiential
subjects. The speculative vignettes required a different kind of thinking and has made some of the more banal and everyday violences of cows’ problematization in Kingston apparent. These vignettes open an animal-centric way of viewing and thinking about Kingston, and they offer an imperfect way in which historical animals can be written about as subjects.

Moving Forward

Thus far in this thesis, I have provided my objectives as well as my theoretical and methodological footing. The problematization of animals is a common but ill-understood urban process. Consequently, I aim to analyse how cows were problematized in Kingston between 1838-1938 and to do so in a way that is sensitive to cows as historical as subjects.

To that end, I have developed a theoretical framework that allows me to access how cows were historically problematized by paying attention to how they were defined (and continue to be reproduced) as problems in spaces of configuration such as literature, artefacts, and policy documents. I take seriously what such constitutions meant for cows and their possibilities to be urban subjects by being attentive to material and institutional spaces of governance (including organisations, bodies and environments) and their related disciplinary practices (constitutive, externalized, internalized). This spatial understanding of problematization allows me to think through how cows were discursively and epistemically in/visible to and managed by governing bodies in Kingston. As will be seen in the analytical chapters that follow, the strategies of map-making and speculative vignettes strengthen this theoretical framework by better visibilizing cows as historical urban subjects who experienced such problematization.
Chapter 4. “Transgressive Cows”: The Urban Governance of Property, Pounds, and Pastures

Figure 23: Pastures and Pounds, 1838-1938 (John C. Innes Map, 1865, Author adaptation).
“...in 1880 Kingston was still only a modest town of some 14,000 inhabitants. As a market centre, it remained fundamentally dependent on its own rural hinterland, which commenced within a mile of City Hall. Indeed, there were still twenty-four farm units within the city limits, producing hay, potatoes, and wheat, and with several head of horses, cows, sheep, and pigs. It was a city, therefore, whose Council could be required to discuss the problems of cattle straying on the streets at the same meeting where they considered the need for tax relief for industries” (Osborne and Swainson, 2011:200).

Over the course of the 1870s and 1880s, Kingston experienced several socio-economic and technological changes which prompted Kingstonians to reimagine the type of city they hoped it to become. When the military left the garrison in 1870, the City Council and Board of Trade recognized the need for Kingston to find a new means to sustain itself (Osborne and Swainson, 2011). Unable to economically rely on supplying the military with daily provisions, the Council endeavored to establish Kingston as an industrial hub (Osborne and Swainson, 2011). They offered numerous tax-exemptions and benefits to potential factories, including the Kingston Cotton Mill and the Canadian Engine Machinery Company. At this time, there were also rapid technological changes (like the introduction of paired telephones and a horse powered street railway in 1877)\(^1\) and the opening of several institutions (such as the Royal Military College in 1873 and the Grand Theatre in 1879) (McKendry, 2022).\(^2\) Furthermore, like many other urbanites in North America, Kingston’s residents were influenced by the release of Henry George’s *Progress and Poverty* in 1879 and had public discussions about creating a single property tax system in the city (Osborne and Swainson, 2011).\(^3\) Even though the single-tax system did not come to pass, in the final decades

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1. The system was electrified in 1893 (Osborne and Swainson, 2011: 207)
2. See Jennifer McKendry’s website on which she extensively outlines historical developments and architectural developments in the city.
3. The 1880s and 1890s saw contestation over taxation in the city with some calling for a single tax system “consisting of concentric tax-circles centred on City Hall, the values decreasing out to the periphery” (Osborne and Swainson, 2011: 205). Single taxers favoured a system based on land-based taxation as opposed to personal tax based on income and personal wealth. This single tax system did not come to pass in Kingston but the discussions
of the 19th century, the question of how property should be valued and assessed was evidently very much on the minds of Kingstonians.

While many scholars have written about the importance of the late 19th century in Canadian history for understanding the property regimes that followed (Blomley, 2004; Harris, 1981; Heaman, 2017; Levine, 1987; Osborne and Swainson, 2011), very few have considered how animals were also entangled within these property debates and relations. Even Brian Osborne and Donald Swainson (2011), who reference ‘cattle’ in the quote that begins this chapter, failed to appreciate how cows and their wanderings were not outside of and opposite to property and tax relations in Kingston, but rather a critical part of their functioning. In this chapter, I am less concerned with how cows were used to generate money for the city of Kingston, than I am with how they were actively constituted as transgressive to other property relations in the city in the late 19th century. 4

A common trope in urban animal studies and histories is that animals like cows were pushed from cities because they stood in opposition to emerging ideas of the city as a modern and progressive place. Urban cows’ movements were associated with tarnished streets and socially or environmentally ‘offensive’ habits, like defecating in the open (Gallo, 2022; Philo, 1995; Robichaud, 2019). But while the urban regulation of cows was shaped by sanitation reforms (Dupuis, 2002; Mackintosh, 2017; McNeur, 2014; Robichaud, 2019; Smith-Howard, 2017) and growing awareness of environmental nuisances (Arcari et al, 2021; Cronon, 1991; MacLachlan,

about it in Kingston and other North American municipalities followed the work of the influential economist Henry George.

4 Thank you to Hannah Hunter, members of Animal in Philosophy, Politics, Law and Ethics, as well as members of the Body Societal Project for reading earlier versions of this chapter and providing invaluable conversation and thoughts about it.
2001; Philo, 1995; Robichaud, 2019), they were not immediately removed from cities (Brown, 2016; Kheraj, 2015). To be sure, Kingston was still home to many 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 pigs). These numbers do not account for the many animals who were not counted, including horses under the age of three and cows under the age of two. While the populations of dogs and horses were still growing in the city, cows’ numbers had somewhat stagnated. Nonetheless, one of the key reasons domesticated animals were still found in high numbers in Kingston in the 1880s was because they were not only animals, but also property entangled within the city’s socio-economic functioning.

Domesticated animals like cows were (and continue to be) a form of personal property, a category of property that includes any asset other than real estate. Unlike real property, personal property is moveable. Personal property includes both physical items (such as furniture) and intangible items (such as bonds) (Harris 1981; Bridge, 2015). Real property, on the other hand, is fixed in place and includes land or fixtures added to land (such as houses). Historically, residents who owned cows, horses, and dogs in Kingston were taxed for keeping such animals. Between 1838-1850 owners were taxed 0.5 pounds (£) for dogs, £1 for cows, and £3 for horses. From 1851-1852, taxes varied based on the perceived value of each animal, anywhere from 1-4 dollars ($) for cows and $3-$25 for horses. While the dog tax would continue well into the 20th century, Kingston’s city assessors stopped collecting taxes on cows and horses in 1853.

5 City Assessments, 1870-1888, Locator 0100, QUA.
6 £1 in 1850 is roughly £108.58 today (Bank of England Calculator, 2023).
In Kingston, cows’ status as personal, moveable property meant that they were subjected to a range of policing mechanisms that sought to curtail their mobility. Cows’ wanderings and their relations with other forms of urban property contributed to their problematization in Kingston. Disputes over the economic and aesthetic value of real property were key social spaces for materially managing cows as urban problems and crafting Kingston as a particular kind of propertied place. With the use of by-laws and other policing mechanisms, the municipal regulation of property in Kingston (including personal property like cows but also real property like land) was entangled with the legally-legitimated right to violently manage and sometimes exclude non-human animals from some urban areas.

Cows in Kingston had their own ideas about how urban space was to be navigated and used, and they sometimes disregarded human conceptualizations of property. Cows’ tendency to roam and wander only received mild municipal and civic attention in the early parts of the 19th century, however, in the context of massive urban changes, cows’ movements were intensely problematized from the 1870s. The force with which cows were regulated and managed in the 1880s was likely exacerbated by the growth of housing operations that were built around absentee landlords who sought to make money off their real estate, a marked departure from the previous owner-occupied structure of housing in Kingston (McKay, 2000).  

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7 “Large absentee landlords became more prominent as some of the local industrial entrepreneurs moved their investments from stagnant local industries into residential real estate” (Harris et al, 1981: 288). Taxes on real and personal property were important sources of revenue for municipal governments in Canada (Levine, 1987). Taxes were first levied and collected in local assessments in Upper Canada in 1793 and in 1850 Ontario adopted the general property tax which held that real and personal property needed to be appraised based on its cash value (McLean, 2011).
In this chapter I give a nuanced account of how cows were problematized in Kingston by focusing on how they were constituted in the city’s by-laws as transgressive to other property relations in the city. Cows in Kingston were a less valued form of property than real property in legal spaces of configuration. They were consequently subjected to a range of spatialized disciplinary practices which included physical enclosure and displacement. Because animals require space to live and because colonial conceptions of urban space are mediated through property valuations, Kingston’s Property Committee and City Council correspondence and meeting minutes offer a space where

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8 In the figure you will notice a spike in both sheep and cow populations in 1868. In that year the city assessor recorded John Herchmer having 1000 sheep and John Breden 514 cows. At first, I thought this was an anomaly but as I discuss in Chapter 6, it appears that larger herds of animals were not necessarily recorded in the city assessments indicating that Kingston’s animal populations were likely much larger than what they are represented in this graph. Nonetheless, this graph gives a good indicator of the general animal demographics in Kingston.
some of these relations are made visible. This chapter will therefore highlight the network of institutions and practices in which ‘the transgressive cow’ was simultaneously caught and defined.

To do this, I will first give some details related to legal geographies and urban multispecies property relations. I then outline how, between 1838 and 1895, cows were constituted as transgressive animals in pound and nuisance by-laws for the city. To bring forward the personal and material ramifications of such constitutions, I provide a historically informed and speculative story about a cow who was banished from the city’s courthouse grounds in 1879. In this analysis, I rely on meeting minutes and correspondence from the City Council and City Property Committee as well as supplementary newspaper articles. The City Property Committee was in operation in Kingston from at least 1857 and historically managed tenders, conducted property valuations, and controlled who was allowed to rent or buy lots of land.\(^9\) These activities entailed not only managing city buildings but also leasing the use of the weigh house, market stalls, and land to pasture animals. This chapter contributes to debates about property relations within urban geography by focusing on how property contestations are shaped by multispecies relations of power.

**Legal Geographies and Urban (Animal) Property Relations**

Geographers have long worked to disrupt the taken-for-granted, static understandings of urban property and have called instead for an attentiveness to the relations of power that constitute it.

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\(^9\) The earliest City Property Committee meeting minute book in the Queen’s University Archives is dated 1857. It is likely, however, that the establishment of the Committee predates this, but I was unable to find a definitive date of their establishment.
(Dorries, 2022; Ranganathan and Bonds, 2022; Blomley, 2003, 2004; Bhandar, 2018). While at its base property may be understood as someone owning something (Blomley, 2003), it is more precisely understood as a complex socio-historical and geographic process which involves “an unfolding and continuously enacted set of relations that necessitates and in turn shapes the hierarchical valuation of bodies and places” (Ranganathan and Bonds, 2022: 203).

These “unfolding relations” and “valuations” in North American cities have been historically informed by racial, colonial, and gendered understandings of both property and space (Dorries, 2022; Ranganathan and Bonds, 2022). Historically, those in power constituted some humans (including women, people of colour, and children) as property and only very few humans (including colonizers and some white men) were permitted to own property (McKay, 2000). Consequently, there is an expanding body of literature concerned with the racial, colonizing, and gendered logics that underpin such violent property relations, as well as a growing appreciation that “these logics hinge, implicitly or explicitly, on the refusal to grant humanity and personhood to certain subjects” (Ranganathan and Bonds, 2022: 200). These propertied relations open and foreclose socio-political practices (such as being able to vote or being displaced); and governments often use legitimized forms of violence to police such relations by delimiting what practices are appropriate for different subjects in different spaces (Blomley, 2003). Or, as Bhandar (2018:4) would say: “not only was property law the primary means of appropriating land and resources, but property ownership was central to the formation of the proper legal subject in the political sphere.”

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10 In 1884, Ontario became the first province in Canada to enact the Married Women’s Property Act which allowed married women the same rights as men, including the right to own property (Government of Canada, 2017c). This meant that married women could own their own estates (outside of their husband’s estates) and if they were widowed, they were entitled to inherit property too.
With my focus on cows in Kingston, I want to add that the propertied ordering of cities is not only colonial, racial, and gendered, but speciesed too. The consideration of how animals have served as subjects has been underexplored by scholars interested in urban property relations, even if the idea of “the human” has been greatly debated. The historical practice of urban property relations curtailed and disciplined the mobility of animals and these interventions necessarily relied on animals’ status as property, one of the most pervasive and enduring ways in which they are objectified (Collard and Dempsey, 2013; Torres, 2007). The constitution of animals as property under the law allows for them to be treated as things to be used (Francione, 1995; Kymlicka, 2017). Domesticated animals’ property status delineates a finite number of ways in which they can navigate and/or experience the world/city because it shapes the contours of how they can be subjects.

Nicholas K. Blomley (2003) argues that if one is interested in legal geographies, particularly the legal geographies of private property, one needs to attend to the structural and personal violences that properties permit and operate through. How animals feature within these complex urban

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11 Ranganathan and Bonds (2022) argue that “to disrupt racial regimes of property requires a disruption of racial ontologies of the human” (Ranganathan and Bonds, 2022: 203) whereas Dorries (2022) unpacks how property relations in Canada have been shaped by the dehumanization of Indigenous and Black peoples in historical processes such as colonization, slavery, and the disavowal of Indigenous ontologies. Each of these populations have overlapping and complicated relationships within colonial and liberal frameworks that have at some point in history defined them as property and/or as not allowed to own property. It is beyond the scope of this dissertation to get into the intricacies and violences of these human-human ownership practices, but I highlight them here as a means of showing how discussions about animals are embedded in property relations. That is, while these scholars rightfully point to the power of dehumanization in property relations and the significance of what it means to be property in such relations, there is still space to consider the experiences of animals like cows who remain a permissible form of property even though they are sentient and experiential subjects.

12 Because of animals’ constitution and position as property under Canadian law, their interests are not taken into account in any dispute. Rather the most important aspects in these contestations are matters related to legal ownership. Take for example a legal case about who should care for a dog: the dog’s interests are not what is at stake but rather who has a stronger property claim to the dog. Will Kymlicka (2017: 138) quotes at length the judge’s comments on the Henderson vs. Henderson case: “But after all is said and done, a dog is a dog. At law it is property, a domesticated animal that is owned. At law it enjoys no familial rights.”
property relations remains underexplored and undertheorized. Consequently, I extend the geographical theorizing on property by considering how another form of property (domesticated animals) have been entangled in propertied relations in cities. Animal studies scholars often focus on how animals’ propertied status subjects them to a range of constitutive and externalized disciplinary practices; but this status also subjects them to more subtle forms of violence including the inability to decide when or where to move, eat, urinate, procreate, or live. Said differently, animals have been legally constituted as property objects, which has enabled a host of material governing practices including the management of animals’ bodies and spaces through practices such as breeding and enclosure. Therefore, like with other forms of urban property, animals as property is a socio-historical process which involves “a web of conditions” (Anderson, 2004: 163) to be sustained. One of the main spaces where cows were constituted as transgressive was in Kingston’s nuisance and pound laws, which will be discussed next.

Property and the Constitution of Cows as Transgressive Objects in Kingston

Since its incorporation as a town in 1838, Kingston has had policies to manage the mobility of urban animals. This was achieved through two main mechanisms: The first was to criminalize the movement of domesticated animals in the city by making it impermissible for them to ‘run at large’; and the second involved creating urban governance structures to manage them when they did. Tactics to achieve these ends included creating of pounds, appointing pound keepers, and

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13 By-Law Book, 6 March 1838, Locator 0100, Vol 1, pages 1-25, QUA. It is important to note, however, that regulation of these animals far predates the incorporation of Kingston. Osborne and Swainson (2011: 115) describe, for example, how the Kingston Police Act of 1816 involved a comprehensive outline of “People Rules and Regulations” which included prohibiting the running of horses in streets, hogs running loose, and slaughtering in the town.
delimiting the spaces and times when animals were allowed to be in different urban areas, like pastures or parks. The City Council created by-laws and punishments to discipline both owners and animals, such as fines and imprisonment for the owners as well as imprisonment and death for the animals. While there is a tendency when looking at “the socially differentiated violences of property and law” to “blame the outlaws for their own location,” Blomley (2003: 132) says such simple deductions lack the critical insights into how propertied divisions force those who are disenfranchised into such spaces and relations. By-laws (and their associated documents) operated in Kingston as a core technology that made cows visible to Kingston’s governance structures as objects that required urban regulation. In this section I therefore focus on how pound and nuisance by-laws functioned as instruments of power which not only constituted cows as transgressive objects of knowledge but that also delimited how they could be urban subjects.

In Kingston, it was impermissible for animals to run at large, and pound keepers were tasked with managing them when they did. On the 25th of June 1838, in the 3rd Chapter of the Kingston Corporation, An Act for the suppression of nuisances in, and good governance of the town of Kingston, was passed. 14 Section 3 of the act limited driving horses or “other beasts” through the city “at an immoderate rate” and mentioned that anyone who permitted their horses “to run at large” would be fined. 15 Section 12 stated “that no cows, oxen, or other cattle, horses or swine shall be permitted to run at large in any of the squares, streets or thoroughfares of the Town, under a penalty of five shillings for each animal.” 16 Pound keepers had to capture and hold these animals,

14 Nuisances included: working or selling goods (excepting milk) on Sundays; the dumping of “manure, slops of filth of any description”; tarnishing buildings or blocking sidewalks and streets. By-Law Book, 25 June 1838, Locator 0100, Vol 1, pages 40-43, QUA.
15 Ibid.
16 Ibid. Five shillings in 1838 is roughly $230 today. To calculate this, I used the historical calculator on concertina.com and converted the pounds to Canadian dollars on xe.com.
and received the charges and fees for impounding them. By-laws set limits on the amount pound keepers could charge for keeping such animals. In 1840, one could expect to pay between two to five shillings (roughly $57-233 today). Someone unable to pay a fine could be jailed “for a period not to exceed thirty days.” If it was “impracticable” to keep an animal the pound keeper could kill them or sell them at auction. Because cows were property of economic value to their owners (and until 1853 were tax revenue for the city) how they lived was managed as much as how they died (See Chapter 6). Cows’ property status meant people who thought they were “nuisances” could not as readily kill them as they might liminal or wild animals who transgressed such orderings. There was a cultural logic to this ordering that was shaped by property relations.

Nuisance and pound by-laws also delineated when and where cows could move, and the conditions under which they could be impounded and retrieved. These laws were important spaces for constituting cows as problems and they prescribed various disciplinary practices that could be used to materially manage cows as such. From 1840 the by-laws included a provision that people would not be fined when their animals were “going to or returning from pasture.” Four years later the by-laws expressly stated “that no cow shall be impounded before six o’clock in the morning or


18 Ibid. From 1865, owners had three months to claim said money (after expenses for keeping the animals had been deducted) at which point the money would go to the city (An Act to amend and repeal parts of certain Acts relating to the impounding of Cattle &c, in the City of Kingston, By-Law Book, 7 August 1865, Locator 0100, Vol 2, pages 400-401, QUA).

19 Although arguably someone might want to kill someone else’s property, animals’ property status also protected them from being killed by someone who was not their owner or a municipal authority. This is not to suggest that these animals are beyond being killed because, of course, death is the fate for most of them who are designated as food animals.

after six o’clock in the evening”\textsuperscript{21} and that “the person bringing any cow to pound shall (if required so to do by the owner) give satisfactory proof as to the hour of the day when, and the place where any such cow was taken.”\textsuperscript{22} This language shows the spatiality and temporality of disciplinary practices. There were also provisions that were particular to cows’ need to pasture. This was made most plain in an 1874 by-law which stated:

“That from or after the first day of November next, no Horses, Cattle, Goats, Pigs or Geese shall be allowed to run at large within the Limits of the City of Kingston except upon any unfenced Common: Provided that cows be excepted between the hours of five and eight in the forenoon, and four and seven in the afternoon while going to and returning from pasture.”\textsuperscript{23}

There were, then, very specific rules in place regarding when and how cows could move in the city and these regulations shaped when and how they did, forming part of cows’ internalized practices, urban rhythms, and expectations. To avoid punishment, owners who were renting pasturage or going to the commons had very specific times of day for when they, and in turn their cows, could move and (as you will see later in the chapter) the spaces they were permitted to do so also became more regulated.

Other domesticated animals were subjected to similar logics of enclosure and discipline. Pigs, horses, dogs, geese, turkeys, and sheep could be impounded if they were found in spaces that Kingston’s governing bodies had deemed inappropriate for them to be. These expectations were

\textsuperscript{21} An Act to amend and repeal parts of certain Acts relating to the impounding of cows, By-Law Book, 20 May 1844, Locator 0100, Vol 1, pages 139-140, QUA.

\textsuperscript{22} By 1860, pound keepers were tasked “to receive and impound all such animals as may be found liable to be impounded within the City Limits proper excepting the Commons where it is customary to graze cattle” (By-Law Book, 23 July 1860, Locator 0100, Vol 2, page 296, QUA).

\textsuperscript{23} An Act to amend and repeal parts of certain acts relating to the impounding of Cattle in the City of Kingston, By-Law Book, 12 October 1874, Locator 0100, Vol 2, page 519, QUA.
not uniform and (like with cows) there were sometimes very species-specific rules. From 1838, Kingston had numerous regulations related to horses and carters as well as specific by-laws for the management of dogs. For instance, if dogs were “in the habit of running after, barking at, or attacking persons or horses in the streets” they could be ordered killed, securely chained, or removed.24 Or, if cartmen secured their horses anywhere other than next to the shambles at the market and this “obstructed the passage of other vehicles” they would be fined.25 Horses, pigs, and cows were the only animals listed in the municipal nuisance by-laws of 1838, but most of the concern and attention was directed at how to manage horses running through the city and what to do with pigs who have been impounded.26

As the century progressed, other animals were added to the impound by-laws: goats and geese were added in 1865,27 sheep and “other poultry” in 1882,28 and by 1895 mules and asses joined the list (Agnew, 1895). There is evidence that these animals were in the city before being included in the by-laws, which suggests that the period in which these animals were added is possibly indicative of when they became figured as problems to authorities, and that they had likely been somewhat normalized and/or relatively accepted as urban residents before then.29

24 An Act to impose a Tax upon Dogs and to regulate the manner in which the same shall be kept by the owners thereof, By-Law Book, 5 March 1840, Locator 0100, Vol 1, pages 61-62, QUA.
26 Dogs were mentioned in a separate by-law that was concerned with imposing tax collection for dogs (By-Law Book, 5 March 1840, Locator 0100, Vol 1, pages 61-62QUA). But cows, pigs, and horses were mentioned in the nuisance by-laws (By-Law Book, 25 June 1838, Locator 0100, Vol 1, pages 40-43, QUA) and acts to regulate the market, such as the one passed on the 31st of July 1839 (By-Law Book, Locator 0100, Vol 1, page 65, QUA).
27 An Act to amend and repeal parts of certain Acts relating to the impounding of Cattle &c, in the City of Kingston, By-Law Book, 7 August 1865, Locator 0100, Vol 2, page 400, QUA.
28 A By Law to amend the By Laws respecting cattle running at large and impounding the same, By-Law Book, 15 May 1882, Locator 0100, Vol 3, page 221, QUA.
29 See the Stones City Walking Tour of Kingston I created (on behalf of Animals in Philosophy, Politics, Law, and Ethics research group) for glimpses into the urban histories of other animals in Kingston.
Transgressions can arise from specific actions that are observed, regardless of whether one intends to be transgressive or not (Cresswell, 1996). As Thierman (2010: 94) notes, “the idea that there are better or worse ways to interrelate with other creatures implies that there are some normative fulcrums around which a critique can be developed.” In Kingston’s nuisance and pound by-laws, cows were not only constituted as transgressive animals but as transgressive property, thus requiring different sets of power relations and considerations. Because they were valued as resources and property they were allowed to live in the city and, even when they transgressed human boundaries, they were tolerated and expected to be cared for and returned. \(^{30}\) Together with land, these animals were entangled within economic and aesthetic propertied valuations of Kingston.

However, in the latter parts of the 19\(^{th}\) century, it became clear that the interests of cow owners were positioned beneath the interests of those with real property (both public and private). Disturbing real property marked the limits to which cows’ ‘transgressions’ would be tolerated. The hierarchization of land and animals was made explicit in 1881, when the pound by-law stated, for the first time, that “nothing herein contained shall prevent the impounding of such cattle and animals for trespassing on private property, or parks.” \(^{31}\) In the same year, additional urban pound limits were put in place which stated that cows were only exempted from being impounded if they

\(^{30}\) While one could argue that people might care for these animals in ways that exceed property relations, I am of the position that these relations of care are always mediated through property relations because animals’ legal status as property so greatly shapes where and how they are permitted to live and die. Even if someone wants to forge new and caring relationships that foster an ethic of care (take for example sanctuaries) they find themselves still restricted in how they can navigate those care relations when state regulations impose restrictions of property, such as calling for culls of ‘property’ if there is an outbreak of bird flu.

\(^{31}\) A By Law relating to the impounding of cattle and other animals, By-Law Book, 16 May 1881, Locator 0100, Vol 3, page 159, QUA.
were found north of York, Picard, and east George Streets. This explains why the northern and western parts of the city became important places for the urban pasturage of animals (see Figure 23). These new laws further codified private property and public parks as valued urban spaces and embedded cows into a moral and economic grid of propertied urban relations.

Therefore, while cows had been regulated in Kingston’s by-laws since it was incorporated in 1838, the latter parts of the 19th century witnessed a transformation in how cows’ wanderings were perceived in relation to other favored properties in the city. Cows’ urban mobility went from being a relatively expected and accepted urban annoyance to one that was increasingly vilified as aesthetic and economic ideals related to real property like public parks and private real estate changed. That is, the hierarchization of real property and personal property intensified the management of cows and contributed to the refiguring of urban space which further disciplined the ways in which cows could be urban subjects in Kingston.

In the next section, I will focus on elucidating some of the multispecies violence embedded in Kingston’s property relations, illustrating how cows were codified and disciplined within them. I will explore how the problematization of cows gained heightened levels of governance attention in the 1870s and 1880s. More specifically, I focus on 1879 as a year in which the problematization of cows in Kingston not only took on a harsher tone but was debated within governing circles, namely the City Council and the Property Committee. In line with my methodological framework, I weave together archival material with a speculative (but informed) story about a cow banished

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32 Ibid: “North of the South limits of York, Picard and East George Streets; and north of a line projected in line with the south limit of York Street and in the same direction westerly to concession road and north of a line projected in line with the South limit of East George Street easterly to the waters of Cataraqui Bay.” Picard and East George streets are now Raglan. See Figure 23 to see the pound limits
from a pasture. Together these highlight how the interests of different property stakeholders (including the city but also owners of private property and animals) had potentially clashing priorities. I also try to show, however, when it comes to sentient beings (like cows) this is also a story of what it means to experience such property status and clashes - what it means to be enclosed, tied, and banished.

The Story of the Courthouse Cow

_It was late May 1879, and the weather was mild. As the afternoon wore on it began to cool, so she ambled across to where she saw a sliver of sun. It felt nice to stand in its warmth. She knew this field well; she had been here many times. It was quiet. Peaceful. Sometimes horses came down the street dropping off men at the building; other times small groups of pigs[^33] darted along the field’s fence. Most of the time she was here alone, sometimes with him checking in. Even though it was fenced, she could decide where to eat in the field, and for now, this sliver of sunlight looked perfect. A week later, however, she would be constrained further. Tied up and unable to move she would have to watch as the light disappeared._

This is a story about a cow who pastured on the land behind the courthouse grounds due to the pasture’s proximity to where her thirty-two-year-old owner, Mr. Charles H. Corbett, worked: the jail.[^34] It is the story of a cow who likely became accustomed to this place, who enjoyed and disliked

[^33]: Pig-keeping in the city was arguably one of the earliest and most intensely problematized practices in the city. As early as 1834, a Pig Catcher was employed in the region. In 1917/1918 there was some interest in feeding Kingston’s urban waste to pigs, but this was thwarted with the outbreak of hog cholera which further troubled their place in the city. By 1920 there were still 100 pigs in the city, but in the same year the Board of Health launched a campaign to actively disincentivize keeping pigs in the city (Kingston City Health Committee Correspondence, 1915-1936, Locator 0100, Box 225, File 1-7, QUA).

[^34]: Charles H. Corbett (1846-1917) was appointed as a jailer on the 21st of December 1865 and on the 19th of December 1908 he became the longest serving governor of a county jail in Canada’s history (19 December 1908, *The Daily British Whig*, 2). He worked as a jailer at the County Jail for over fifty years (18 December 1915, *The Daily British Whig*, 23). He was listed as living on West Street, Sydenham Ward, in 1879. By 1881 he was listed in the City Directories as living at the courthouse. His total and real property were frequently listed as amounting to $400 (City Assessments, Locator 0100, QUA). He died suddenly in August 1917 (6 August 1917, *The Weekly British Whig*, 8).
certain aspects of it, and who had internalized the daily practices, rhythms, and expectations of being let in and out of it. It is about a cow who tried to navigate Kingston but who was legally constituted as transgressive, whose lively presence was often understood as disruptive, and who was subsequently exposed to a range of disciplinary pressures.

Figure 25: Kingston’s courthouse with fences (Henderson, 1871).

If you recall, internalized practices are shaped by constitutive and externalized practices, but they also involve other tactics (such as training and taming) and spaces (in this case fenced yards) that encourage animals to internalize how they should behave around particular established social norms (Chrulew, 2017; Palmer, 2017; Tuan, 1984).
I know that Corbett’s cow pastured in the field adjacent to the courthouse grounds because on the 11th of June 1879, he wrote a letter to the Council pleading to use the grounds as a pasture (see Figure 26). He was likely a young heifer, not yet two years old, because she was not listed under Corbett’s name in the city assessments. Corbett felt that being asked to discontinue using the pasture was “a very harsh measure.” He asked to use the “piece of ground at the back of the Court House to the west of the Board Walk” and promised to keep his “cow tied in such a way as to prevent any damage being done.” Council discussed the matter and Mr. Flynn, a councilman, moved that Mr. Corbett’s petition be granted. This suggestion was thwarted when a supplementary report from the Committee on County Property recommended “that no cattle, hogs or sheep be allowed to pasture on the Court House grounds.” Another councilman, Mr. Vanluven, subsequently moved that the report be adopted. It was, and this appeared to be end of the matter. Cows like Mr. Corbett’s were no longer allowed to pasture in the enclosed courthouse grounds, even if they were tethered.

36 Letter from C.H. Corbett to the Warden and Members of the County Council, County Property Correspondence, 11 June 1879, Locator 5079, Box 22, File 2, QUA.
37 City assessments for Sydenham Ward, 1879 (Locator 0100, QUA). Charles Corbett is listed at #575 with a total of real, personal, and taxable property amounting to $400. This amount stayed the same for ten years. Section 49 of the 1838 Act to incorporate the Town of Kingston states that only “milch cows and other horned cattle above the age of two years” were to be assessed for tax purposes.
38 Letter from C.H. Corbett to the Warden and Members of the County Council, County Property Correspondence, 11 June 1879, Locator 5079, Box 22, File 2, QUA.
39 Newspaper report on County Council proceedings, 14 June 1879, The Daily News: 4. I have not managed to find evidence of these complaints in correspondence or newspaper clippings. They might have been made verbally to the councilmen. Nonetheless, I suspect the negative response to Corbett here was reflective of changing urban imaginaries of Kingston as a place that was propertied in a particular way. Or, at the very least, urban property was increasingly expected to look a particular way, an ideal that cows did not seem to fit.
Kingston, June 11th 1879
To The Warden and members of the County Council,
Gentlemen,
Having heard that the Committee on County Property intend reporting on the using of the Courthouse grounds by me for a pasture for my cow and ordering a discontinuance of the same and also to give the grass to Sheriff Ferguson and Mr. Ashley. I would respectfully ask the Council to modify in some way what to me is a very harsh measure. I quite agree with the gentlemen of the Committee that were the grounds in level and [illegible] condition it would be wrong to allow cattle on them. If the Council will be pleased to allow me to use the piece of ground at the back of the Court House to the west of the board walk I would be very thankful and promise to keep my cow tied in such a way as to prevent any damage being done. Sheriff Ferguson and Mr. Ashley are quite agreeable to such an arrangement.

Trusting your honorable body will grant my petition.
I remain, gentlemen, your obedient servant,
C.H. Corbett
Once the resolution prohibiting cows from pasturing on the courthouse grounds was passed, and the Council considered the problem resolved, Mr. Corbett’s cow disappeared from the historical record almost as quickly as she arrived. However, following the decision by Council, the cow would have perhaps found herself waking to an unusual set of circumstances:

Corbett opened her stall as he always did but he turned her in a different direction, toward the water. Soon she found herself in a new fenced pasture. She stood with her back to the road and tried to understand this place. It was larger than what she was used to and there were cows she did not yet know. 40 The blue of the lake was different to the muted browns of the grass and trees. A breeze from its surface washed over her. It was a fine place to be in the growing summer heat. Then there was a loud noise from behind her and she ran. A group of boys had startled her as they jumped the fence and dashed into the water. 41 Curious, she inched closer to their clothing crumpled on the ground. She tried to keep her body away, but she craned her neck for a smell. 42 In this new place she found herself feeling an ambivalent mixture of both fear and curiosity.

Considering Corbett lived on West Street, 43 a short distance from the jail, he would have likely opted to take his cow to another nearby pasture, one such as the grounds nestled between King Street and Lake Ontario, a green patch known today as Macdonald Park. Back in 1795, this land had been appropriated by the Crown and given to the captain of a merchant vessel, Henry James Murney. Murney was the sole possessor of the land until 1824 when he started to subdivide and

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40 Cows can discriminate between members of their own species, other species, different breeds, and various phenotypes. They are also able to distinguish these differences in photographs (Marino and Allen, 2017). Putting cows in places they are unfamiliar with “provokes strong behavioural and physiological responses associated with distress” (Rushen et al, 2008: 131).

41 Edwin Ernest Horsey (1934: 168) a local historian, explicitly mentioned that even in the 1880s “MacDonald Park was a cow pasture with a rickety fence surrounding it over which men and boys climbed to go swimming along the shore.” In the 1859 survey by Mr. Thomas Fraser Gibbs (Provincial Land Surveyor) this land is drawn as having a “picket fence.”

42 Cows are dichromats meaning that they only have two cones in their eyes (whereas humans have three and some birds, fish and insects have five). Cows are red/green colourblind. They see shades of red and green as different variations of brown, but they can see blue. Cows pay better attention to moving objects than stationary ones and are often “spooked” by sudden movements (Marino and Allen, 2017: 476, referring to Adamczyk et al., 2015).

43 Corbett’s address is listed at West Street in the 1879 city assessment but by 1881 his residence is listed as the courthouse itself.
sell it to interested parties (Hatlelid, 2006). In 1840, it was surrendered to the Queen to construct a fortification (Hatlelid, 2006). Less known is that the land was established as a pasture as early as 1855 when the Office of Ordnance put out a call for tenders to use “all that plot of land within the fences which surround Murney Tower.” The land was only to be used for pasturage until it could be “resumed by the Department whenever required for the Public Service.” It appears to have become a long-standing pasture used late into the 19th century (Horsey, 1934) but this usage is rarely mentioned in the dominant narratives of the place. While its military history is unpacked in detail, its use as a pasture is rarely mentioned. For example, Lyndsay Hatlelid’s (2006) comprehensive chronology of the land notes many of its military milestones but does not mention its use as a pasture. The City of Kingston’s 2011 Property Inventory Evaluations of Macdonald Park points out the military significance of this area but not that this ordnance land was ever a pasture. This kind of erasure is characteristic of how animals are scrubbed from historical records and urban histories.

44 Office of Ordnance puts out an advertisement to lease the plot of ground today known as Macdonald Park (26 July 1855, The Daily British Whig, 2).
45 Ibid.
46 Hatlied includes a map of the land in her work and an orchard and a slaughterhouse are clearly marked, even then, the animal connections are not unpacked.
Macdonald Park was historically used as a pasture (1855-1888).
While the courthouse grounds were small, the Macdonald pasture represents one of the longest stretches of uninterrupted land in Kingston. It is a fine piece of lakefront property and in 1888, nine years after Corbett’s cow might have used it, a concerned citizen wrote to *The Kingston Daily News* (possibly expressing more widely held views) to complain that the land was being used for such “ignoble” purposes as “pasturage for cows and a surreptitious bathing place for boys.” ⁴⁷ Considering the area’s military history, the citizen felt that the fenced land was a “blemish upon the city” and that such property could be put to better use, stating however that “the most pressing need” was “to get rid of the objectionable cows.” ⁴⁸ By October 1888, G.A. Kirkpatrick acquired a lease for the land and in July 1889 he negotiated giving the lease to the city so that they could

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⁴⁸ Ibid.
convert it into a park (Hatlelid, 2006). In 1890, the Dominion Government agreed for the City to
continue to rent the land (City of Kingston, 2011; Hatlelid, 2006). However, back in 1879, after a
few weeks in this pasture, Corbett’s cow was settling into a new routine and had found new joys
to occupy herself with:

She was finally becoming acquainted with the place. She liked the breeze from the water, and she most
enjoyed inspecting the fence for long strands of grass bunched by the posts. Her sticky tongue wrapped
around and uprooted them. She ruminated. Then one day she spotted something. A flower. There was a
small break in the fence, and she stepped through it. After inspecting the flower, she decided to go for a walk,
what harm could it do?

Several cows went astray in 1879, and perhaps Corbett’s cow was one of them. From at least
1838, newspapers are littered with advertisements of people looking for cows. It was almost
equally as common for people to post notices that they had found cows. Breed was rarely used to
describe the cows. Rather, people would refer to their fur, colour, and age, pointing out

49 Sabloff (2001: 70-72) discussing the significance of routinization for urban companion animals notes to
importance of “nurturance” which includes feeding practices but also touching and communication. For humans,
this routinization might also entail “telling tails,” stories of how their animals shape their lives.
50 “Grazing animals, such as cows and sheep, perform very well in maze tests, indicating they have good spatial
memory, which allows them to graze with optimum efficiency” (Marino and Allen, 2017: 479); When given the
opportunity, cows will often employ systematic searches that require both memory and spatial strategies to forage
for food. This includes targeted walking paths and adjusted searches depending on whether food is clumped or
dispersed (Marino and Allen, 2017).
51 Do cows like flowers? What flowers do they like? Are such flowers in Kingston? This type of storytelling often
prompts me to ask questions such as these. While they might seem strange, the practice of analytically and
empathetically emplacing cows in the narrative allows for what I believe to be more nuanced tellings of cows’
histories. “Cows have a well-developed gustatory sense and can distinguish the four primary tastes (sweet, salty,
bitter and sour). They possess around 20,000 taste buds. They avoid bitter-tasting foods (potentially toxic) and
have a marked preference for sweet (high caloric value) and salty foods (electrolyte balance). Plants have low
levels of sodium and cows have developed the capacity of seeking salt by taste and smell” (Marino and Allen, 2017:
476).
52 A number of cows went astray in 1879, including John O’Neill’s (Alma Street) “red and white cow with [a]
spotted head” an unnamed resident’s “brown cow with hind legs below the knees white, [and a] white star on
forehead, and lower part of tail white”; Mr. Walkem’s (Barrie Street) “white cow, between four and five years old”;
William Elliott’s (Grand Trunk Dept) “dark red cow with the tops of her horns sawed off”; and another unnamed
resident’s “dark red cow with a white face” who disappeared together with “a small white poodle dog” (see
Appendix D for a full list of newspaper articles).
53 Common colours include white, roan, and black.
distinctive features such as the colour of their noses, the shape or their horns, or distinctive markings. While some Kingstonians found cows’ wandering antics amusing, (such as the resident who joked that “Mr Walkem’s white cow saw that advertisement and walked home”); many others believed it was a serious matter, with one citizen even suggesting sprinkling Paris Green – a highly toxic, crystalline powder - on young trees to prevent “roving cattle” from destroying them.

Figure 29: Newspaper articles about ‘strayed’ and ‘roving’ cows.

54 For example, in August 1841, Catherine McLachlan put out an advertisement in the Chronicle and Gazette searching for a lost cow. While she did not name the cow, she described the cow’s body, noting that she was red with a black nose and nice horns. At this time breed was not yet used as a key descriptor of cows but the black nose of this cow suggests that she might have been from a shorthorn who were introduced to Canada in 1825 (Handley, 2015). Shorthorns were one of the first cows introduced to North America because settlers valued them as ‘multi or dual purpose’ (beef, dairy, and labour - oxen) animals.


Had Corbett’s cow gone for a walk, it was at a time when there was growing discontent with cows’ urban mobility. In the same month Corbett wrote his letter, other men were fined for allowing their cows “to run at large” and for “unlawfully impounding cattle.”57 Two months earlier, in April 1879, Mr. O’Michael and 37 others had also written to the city stating that they were “harassed by cattle” and needed to “be protected from a very great annoyance.”58 These petitioners wanted an enclosure to be erected at the Hay Market “where cattle [could] be impounded.” 59

The complaint from O’Michael and the petitioners prompted a protracted debate in Council about the efficacy of the existing pound regulations in the city. At the same April meeting Alderman Gildersleeve60 stated that “the city [had] suffered largely by vagrant animals not being placed where they cannot do private gardens damage”61 and he went on to assert that Peter Toland (the pound keeper) was “the worst official in the country.”62 A month later, Toland responded that he had been unable to impound cows because since February “there had been no pound, and no place to which cattle could be sent.”63 Alderman Pense suggested that applications be made by people willing to use their lands as a pound “even if the city has to pay a small salary.”64 By July the city was discussing by-laws related to “the establishment of pounds”65 and on the 23rd of September

57 Patrick McDermot is fined $2 for allowing his cow “to run at large” (facing up to 10 days in jail if he fails to do so), Joseph Fischer is fined $2 for “unlawfully impounding cattle,” and John Case is fined the same for “unlawfully distraining cattle” (20 June 1879, The Kingston Daily News, 2 and 5).
58 10 April 1879, The Kingston Daily News, 1; 10 April 1879, The British Whig, 3.
59 Reporting on City Council Proceedings, 10 April 1879, The Kingston Daily News, 1. Only in February 1888, in response to fresh complaints from vendors about the cows at the Hay Market “doing damage in that locality” and Shaw’s pound being too far and only offering “poor accommodation,” did the City Property Committee finally agreed to “secure the needed grounds” at the Hay Market (7 February 1888, The Daily British Whig, 5).
60 10 April 1879, The Kingston Daily News, 1; 10 April 1879, The British Whig, 3.
61 10 April 1879, The British Whig, 3.
63 6 May 1879, The British Whig, 3.
64 10 April 1879, The British Whig, 3.
65 15 July 1879, The British Whig, 3.
1879 two by-laws were passed: one to establish a pound in the south of the city, and another to establish a pound in the north.

There are several important, and entangled, property relations happening here. Not only are private propertied lands being used as public pounds, but there are also competing propertied ideas and interests. Both public and private real property had to increasingly conform to particular aesthetic and economic ideals – gardens and yards were meant to be ordered with grass and flowers, not...
domesticated animals like cows. A focus on cows shows how the emerging ideals of what a city should look like also included visions of controlled nature that were aesthetically pleasing and financially beneficial to some humans. Even though someone could technically own both land and cows, the constituted interests of controlled urban nature were increasingly pitted against the movement of cows. Nuisance and pound by-laws were important spaces where competing property interests coalesced and where cows were spatially configured as problems. These regulations established material provisions for how to control transgressive animals, namely through the creation of pounds. Animals as personal property and the interests of their owners were frequently positioned beneath that of owners of real property. Importantly, while debates on urban property relations often focus on the tension between public and private property, we see in this chapter that cows were being managed by the interests of both public and private property owners. Yet even then, animals as property sit differently to other forms of personal property in that they have their own ideas and agencies that sometimes run against dominant governing logics and economic ideals.

In the south, a pound was created “on the north side of Earl Street near its intersection with Gordon Street” on property owned by James C. Mills and leased by Samuel Shaw (slated to be the pound keeper). 69 The pound in the north was to be near “the new house of industry grounds” 70 managed by pound keeper, John Harkess. 71 With these pounds in place as well as the growing discourse

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69 A By law to establish pounds on the City of Kingston, 23 September 1879, Locator 0100, Vol 3, page 121, QUA.
70 On the 2nd of September 1879, The British Whig (page 3) reported that Mr. Isaac Simpson, the Secretary for the House of Industry, “had submitted a resolution, passed by the Directors of that institution, requesting the Council to place the contemplated pound on their property in an efficient condition for the reception of vagrant cattle” which was referred to the Committee on City Property. In 1847, in response to the famine in Ireland, Kingstonians discussed establishing a House of Industry to assist the urban poor and immigrants. By 1852 the House of Industry was established in Kingston. It was first on Princess Street, then moved to 303-305 Earl Street and later further north (Osborne and Swainson, 2011: 140-143)
71 A By law to establish pounds on the City of Kingston, 23 September 1879, Locator 0100, Vol 3, page 122, QUA.
that framed cows as objectionable, \(^{72}\) harassers, \(^{73}\) rovers, \(^{74}\) and vagrants, \(^{75}\) Mr. Corbett’s cow would likely have been impounded if she had wandered from her pasture.

Walking, she felt unencumbered. The crunch of the gravel made methodical thumps as she lumbered up the street. She stopped and wondered where she was. She saw him approach. Slowly. She didn’t know him. His hat was in hand and his face concerned. With arms outstretched, he seemed wary of her, wary of what she might do. She turned. He got her. She bellowed. He stroked her back and shushed her. She obliged and soon she was locked away in yet another fenced in yard.

It got darker and Corbett was nowhere to be seen. With her eyes white\(^{76}\) she looked frantically about the unfamiliar place. There was no sliver of light, no lake, no tufts of grass or flowers. \(^{77}\) The ground was bare and damp. Her body ached. The man with the hat put out some hay. She didn’t want it. Her stomach gave out and diarrhea streamed from her. \(^{78}\) Where was Corbett? \(^{79}\) Why was she here?

The next morning, Corbett came. He finally came. She was stressed and tired. He looked stressed and tired, too.

Being forbidden from using the courthouse grounds to pasture his cow would have had financial implications for Corbett. If he wanted to keep his cow, he would have had to pay to use another pasture (such as the one in this story) and/or he would have had to pay someone (likely a boy) to pasture her instead. If she had wandered, like some cows did, Corbett would have had to pay the impound fees too. With his real property, personal property, and taxable income only valued at

\(^{75}\) 10 April 1879, *The British Whig*, 3.
\(^{76}\) Eye white percentage is a good indicator of cow emotion. A higher percentage of visible eye white indicates fear and frustration and less eye white is associated with positive feelings (Marino and Allen, 2017).
\(^{77}\) Cows demonstrate “well-developed discrimination and spatial cognitive abilities and are capable of not only complex learning but feats of long-term memory” (Marino and Allen, 2017: 479).
\(^{78}\) Defaecation is a demonstrated fear response in cows, along with uncontrollable urination, vocalizations, and escape attempts (Marino and Allen, 2017).
\(^{79}\) “Cows are able to discriminate more complex stimuli than just static geometric stimuli, however. For instance, they are able to discriminate among individual humans on the basis of a number of dimensions. One of those is handling. Calves as well as adult cows show learned fear responses to humans who have previously handled them in a rough manner” (Marino and Allen, 2017: 478).
$400 in the city assessments, he might have decided that keeping the cow was too expensive.\textsuperscript{80} I looked at the city assessments for the next ten years (until 1889) hoping to see his cow listed there when she came of age, but she never did make an appearance. It is highly unlikely that she wandered and was not returned. Even if she was not impounded in one of the new pounds, a citizen might have taken her in. Perhaps she was the “brownish cow with some white spots on her” that John Irvine found on the 1\textsuperscript{st} of September 1879 and requested that the owner “prove property, pay charges, and take her away or she [would] be disposed as the law directs.” \textsuperscript{81} With mounting regulations, an increasing tenuousness of pasture availability, as well as growing vilification related to wandering cows, maybe Corbett thought it would be easier if he got rid of her. Perhaps Corbett decided he could not pay these charges, could not afford the pasture, and decided to let her be killed “as the law directs.”\textsuperscript{82}

While we may never fully know what happened to Corbett’s cow once she was banished from the courthouse grounds, this speculative vignette has helped to better unpack and appreciate the numerous disciplinary mechanisms that operated in Kingston to manage the mobility of cows – including fenced pastures, governmental regulation, pounds, and citizen oversight. The informed speculation has illustrated some of the potentially ambivalent feelings cows as individuals might have experienced and the varied urban spaces they might have been exposed to. Constituting cows as transgressive in by-laws is not a status that is fixed but rather one that is practiced through everyday interventions. That is, cows’ corporeal and spatial worlds were governed and altered by

\textsuperscript{80} Corbett was on the lower end of the property spectrum, below that of many labourers in the city: “In 1901, 92% of the labourers were concentrated on properties assessed at less than $750. For skilled workers the proportion was 70% with 22% assessed at between $750 and $1250” (Harries et al, 1981: 282).

\textsuperscript{81} 14 October 1879, \textit{The Kingston Daily News}, 2.

\textsuperscript{82} Ibid.
externalized practices (including confinement) which were informed by the ways in which cows were constituted as transgressive; these externalized practices would have concomitantly shifted how cows navigated and experienced Kingston.

Furthermore, while by-laws speak expressly to impounding regulations, this vignette shows that to fully appreciate cows’ problematization and invisibilization in Kingston, it is necessary to appreciate how pastures were policed and to pay attention to the material spaces where cows were governed. Whereas this section has highlighted how cows who transgressed into places they should not be (namely private and public property deemed off limits), the next section focuses on the disciplinary undercurrents of important spaces where they were allowed to be, namely pastures. This is significant because the problematization of cows in Kingston is deeply entangled with how these spaces were managed and subjected to shifting aesthetic and economic property valuations.

**Spatially Managing Cows through Pastures**

Throughout the 19th century Kingston was home to many pastures which varied in size and organization. There existed the unfenced commons, a public pasturage, located somewhere on Lot 23; the Smelter Site pasture near the A. Davis and Son Ltd Tannery; the Duff and Potter fields near Russel Street; and the nearby Caton’s pasture next to the quarry that would later become a dumping ground. Some pastures were only for horses (such as the one leased by Webster at 33 Brock Street), others were only for cows (such as Reid’s pasture on Princess near Bartlett.

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Street), and others allowed mixed populations of animals (such as R.E. Ward at 19 Rideau Street). These pastures also varied in size. While some were large like Macdonald Park, others were advertised for small groups, such as A. McCormick at 102 Centre Street who advertised a “Good pasture for four cows.” This suggests that there was a dynamic and rather extended economy related to the pasturing of animals in Kingston.

Figure 31: Some of the urban pastures and pounds near the northern boundaries of Kingston, extract from Figure 23 (Author).

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84 O'Reilly Pasture Advertisement, 22 May 1874, The Daily British Whig, 3.
85 A. McCormick’s pasture advertisement, 7 May 1910, The Daily British Whig, 3.
86 Other advertisements for pastures include Boyd on Pine Street in 1909 for horses; Murphy on the corner of Union and Center Streets in 1889; several advertisements for cow pasturage at Collins Bay between 1924-1925; James Shannon advertising a pasture farm on the property of Sir John A. Macdonald in 1867; and many more. See Appendix D for a full list of relevant newspaper artefacts.
Pastures took up urban space, required regulation, and straddled different economies and property relations. Their use extended into the 20th century. For example, in 1925 the City Property Committee called for tenders "for the leasing of pasturage on the Murdock Farm Property," an area of land near the northern boundaries of Kingston at the time. It is likely that a variety of pastures were common in other North American cities and yet, despite them being present in cities for much of their history and taking up considerable portions of what would be urban land, little attention has been afforded to their significance as pastures.

What research there is on urban pastures tends to focus on the significance of how pastures (and commons in particular) were converted into parks (Gallo, 2022; McNeur, 2014; Robichaud, 2019; Brown, 2016; Mackintosh, 2017), especially noting the uneven ramifications of such processes. The creation of urban parks was often affiliated with implicit (and sometimes explicit) racist or xenophobic ideas of social regeneration which often contributed to gentrification (Mackintosh, 2017; McNeur, 2014). For example, in 1850s New York it was believed that parks would “civilize the lower classes” and by 1857 Black people as well as German and Irish immigrants were being evicted (together with their animals) from Seneca village, an area that would later become known as Central Park (McNeur, 2014). As Catherine McNeur (2014: 207) notes, these new public resources were only to be appreciated, not used. Frederick L. Brown (2016: 94), discussing a similar trend in Seattle, writes that as the imaginary of Seattle as a modern city underwent changes so too did the spaces in which different animals were thought to belong: “dogs on lawns fit into

87 In a letter from Mr. Jas McGuire to the City Clerk placing a tender for “the Murdock Pasture,” he offers $105 “per year for this pasture and [to] keep the fences in good repair” (City Property Committee Correspondence, 12 January 1925, Locator 0100, Box 185, QUA).
88 Phil Hubbard and Andrew Brooks (2021: 1) wrote a fascinating paper which discusses how different animals are involved in and contribute to or detract from “the gentrification frontier.”
the modern city, while cows on commons did not.” Brown (2016: 14) also finds that “the sorting of animals intertwines inextricably with the sorting of people and the sorting of places,” concluding that sorting human from animal, domestic from wild, and pet from livestock were all essential to constructing both human identity as well as the urban material and imaginative landscapes of Seattle. For Steve Gallo (2022: 12), parks were actively policed and regulated because “the ultimate purpose of such improvements was not simply to change the appearance of the grounds, but to alter the public’s perception of both parks and the neighborhoods that surrounded them.”

Relatedly, parks scrubbed from urban memory the presence of many domesticated urban animals. As Andrew A. Robichaud (2019: 18) describes: “within a generation, city parks, cemeteries and pastures went from places where animals could graze and scavenge, to places that were increasingly defined by the absence of animals and the presence of cultivated trees, lawns and gardens.” While other liminal animals, like squirrels and crows, might have still been accepted (maybe even welcomed) in parks, domesticated animals like cows were not. In short, parks were important places for imagining the future of cities and this was often contingent on displacing people and animals who did not fit within emerging colonial and modernist ideals of the urban. However, I want to suggest here that while it is important to note how pastures became parks, to understand urban animals’ histories it is also important to understand how pastures were pastures. Failing to do so continues to erase the histories and stories of urban animals from urban histories.

In Kingston, the inscriptions of a place as a pasture or as a park often came with different expectations as to how cows were expected to relate to the land, and this was mediated through both externalized and internalized practices. That is, these urban spaces were materially produced
through spatial governing strategies that often involved physical interventions to which cows might have, to varying degrees, conformed. By 1883 animals’ presence in parks was highly regulated. By-laws stated that horses and cows could be ridden through parks but that horses could not be trained or broken in them; and cows had to wear a harness or be attached to a vehicle (Agnew, 1883). No animal could be fastened and left unattended in a park; and they were not allowed to “deface, disfigure, injure or destroy any trees, shrubs, flowers, plants, grass, fences or any other City Property in any such park” (Agnew, 1883: 189). That is, animals had to behave differently in parks from how they were expected to behave in pastures, demonstrating that while many pastures in cities were converted into parks, pastures themselves were a distinct type of urban space worthy of attention. Because pastures were important places for urban animals, focusing on them has the potential to say a great deal about where domesticated animals were and the ways in which they were able to navigate the city. The lack of consideration of pastures as animal spaces is indicative of how thinking about urbanization as a ‘human’ process or achievement tends to invisibilize both animal stories and spaces from understandings of cities.

Kingston’s pastures were not uniform and the governance of them actively created, tested, and sustained particular urban multispecies relations. A key institution that managed these relations was the City Property Committee as it wielded considerable sway over how Kingston’s public and private land was used.89 The Property Committee sometimes leased large swaths of land for pasturage to urban entrepreneurs who then sub-let it. For example, between 1906 and 1910, the Davis Tannery leased a plot of land at the Smelter Site and then sub-let it to others during the

89 It would also be tasked with allotting tracts of land for sale and designating the ways in which property could be used.
summer months. In 1910, the Tannery asked for a rebate of $50 because their ability to sub-lease was disrupted by the city’s possible sale of the land.\textsuperscript{90} The Davis Tannery reported a decrease in profits, earning only half of their seasonal income.\textsuperscript{91} This sheds light on the profitability of pasturage.\textsuperscript{92} In 1874, one would pay $2 per month per animal to use the O’Reilly pasture\textsuperscript{93} and by 1925 between $2.50 and $3 for a cow and $7 for a horse for the season.\textsuperscript{94} Assuming the Davis Tannery had a mix of horses and cows in their pasture, averaging these prices at $4.10, it can be estimated that at least 25 animals occupied the space during the summer months. This would result in the Tannery earning approximately $102 for the season.\textsuperscript{95}

These agreements represent private uses of municipal land, but they often came with government conditions. Leases involved not only annual contracts and monthly rents, but also other conditions such as maintaining the land and erecting fences. Fences were normally wooden slats with small entrance ways. They were important tools of municipal governance at the time but in the 1880s Kingstonians increasingly protested their use, often on aesthetic grounds (Horsey, 1934). For example, the resident I mentioned earlier who complained about Macdonald Park’s use as a

\textsuperscript{90} The City Council was in fervent discussion with the Ontario Iron and Steel Company to establish a smelting site in Kingston, even offering a bonus of $250,000 for mortgage bonds and $50,000 for free water for ten years. However, the company escalated its demands further and when the city did not deliver, they set up near the Welland Canal instead (Osborne and Swainson, 2011: 204).

\textsuperscript{91} Letter from Davis Tannery to the Mayor and Council on the 19\textsuperscript{th} of November 1910 stated, “In as much as there was uncertainty during the early half of the Summer as to whether we were to have continued possession of this property because of negotiations underway with the Smelter company we were unable to put the premises in proper fenced condition and sublet this pasture, consequently we have only got about half value out of this land this season” (Kingston Property Committee Correspondence, Locator 0100, Box 184, QUA).

\textsuperscript{92} I could not find any advertisements to indicate how much people might have paid to use this pasture and I suspect that these agreements might have been relatively ad-hoc depending on the needs of the sub-letter.

\textsuperscript{93} O’Reilly Pasture advertisement (22 May 1874, \textit{The Daily British Whig}, page 3).

\textsuperscript{94} Advertisement by Mary Simpson in Gananoque. I am assuming costs are roughly similar in Kingston (20 April 1925, \textit{The Daily British Whig}, page 13). Accounting for inflation, today that would be roughly $77 for cows and $180 for horses (Bank of Canada, 2023).

\textsuperscript{95} That would be roughly $2,639 today (Bank of Canada, 2023).
pasturage in 1888 said that the fence was “as ugly as the perverse ingenuity of deformity could suggest.” Nonetheless, fences were still widely used to both protect real property and to keep animals enclosed in pastures. Virgina deJohn Anderson (2004: 159) notes that fences were an extremely important part of the communal management of land in New England stating that “when it came to managing livestock, good fences indeed made good neighbors.... farmers who failed to keep fences in good repair could not sue livestock owners for damage from trespassing animals.”

In Kingston, it appears fences were a pivotal part of the City Council’s governance strategy of keeping land viable (and profitable) while it mapped out and decided its urban futures. This strategy was markedly different to the one used on the commons which was an unfenced, public area, and free to use.

After stitching together several archival traces of the commons in Kingston, I suspect it was a large tract of land that stretched from Concession Street in the north as far down as Union Street and, up to the 1850s, to King Street (see Figure 33). Identifying the location and contours of the commons has been challenging. There were references in newspaper articles to “a commons” near Union Street, another near Victoria Street, and a third in Williamsville. These spaces were far apart enough that at first I suspected ‘commons’ might be used interchangeably with ‘pasture,’ but the explicit mention of an “unfenced commons” in Kingston’s by-laws made me think otherwise. It was not unusual for North American cities to have open tracts of land dedicated to the public pasturage of animals (Gallo, 2022). But, unlike famous commons such the one found in

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97 13 June 1908, The Daily British Whig, 2.
99 2 September 1879, The British Whig, 3.
100 An Act to amend and repeal parts of certain acts relating to the impounding of Cattle in the City of Kingston, By-Law Book, 12 October 1874, Locator 0100, Vol 2, pages 519-520, QUA.
Boston, Kingston’s commons was not on any map or in the city directory. Nonetheless, the aforementioned locations physically map onto an area of land often shown as empty on Kingston’s early maps.

Figure 32: Some references to the Kingston’s commons.
How this land was used was shaped by a mixture of private, crown, federal, and municipal interests. In 1784, Reverend Herchmer received a Loyalist grant for this land and in 1841 the British government purchased most of it from him. John Duff then leased the property from the Ordnance Department in 1850 for a period of 21 years. The ownership of the land was transferred from the British Government to the Canadian government in 1856 and when the lease to John Duff expired in 1871, it was surveyed and divided into building lots which the federal government sold
over the next 20 to 30 years.\textsuperscript{101} Edwin Horsey (1934: 164), mentions that the city bought a tract of land “out in the commons” to convert into Victoria Park. It is interesting to note how the sale of this large area of pasturage in the 1870s temporally maps onto the time at which cows and their mobility were increasingly being problematized.

In colonial North America the commons was often legally defined as both a place (such as a pasture) and as a set of diffuse rights to access collective resources (Greer, 2012).\textsuperscript{102} And while Kingston had for much of its history a reserved space for the public pasturage of animals, this practice was under increasing scrutiny in the 1880s when the existing pound-limits were questioned. While aldermen generally agreed that the existing limits “protected” the “fine residences” in the city, there were concerns that cows in the commons were not being watched and would wander through the city, damaging property.\textsuperscript{103} Alderman McIntyre was particularly incensed, saying “the cow nuisance had become universal and intolerable” and that in preparing a new cow nuisance by-law not “a single provision should favour the cows and the cow owners” because their trespassing on “valuable property” cost “hundreds of dollars.”\textsuperscript{104} McIntyre was irate because cows recently entered his private property on Sydenham Street and upon leaving “one-bovine carried away the gate and part of the fence.”\textsuperscript{105} Others, most notably Aldermen

\textsuperscript{101} Thank you so much to John Grenville for helping to unpack the history of this piece of land and for providing me with invaluable resources to do so. This includes some maps from the National Archives in London and notes on the Kingston Collegiate and Vocational Institute which gave some background of the area.\textsuperscript{102} Allan Greer (2012) reminds us that there is an interplay between commons and enclosure which was part of the formation of colonial property regimes. Looking at colonialism in North America he notes that the tension between enclosure and commons was a “central feature of both native and settler forms of land tenure in the early colonial period and that dispossession came about largely through the clash of an indigenous commons and a colonial commons” (Greer, 2012: 366). Greer (2012: 368) posits that the pre-colonial commons had “a universal scope” that corresponded with nature whereas colonial ideas of common property were legitimated in colonial law.\textsuperscript{103} 16 May 1882, \textit{The Daily British Whig}, 1.\textsuperscript{104} Ibid.\textsuperscript{105} Ibid.
McCammon and Carson, resisted the new proposed by-law saying that it was the poor who mainly make use of the commons and would be most affected by this measure. After two rounds of voting, the impound by-laws were extended to include a portion of the commons.

Details on how Kingston’s pastures were managed and the ways in which access was practiced are scattered and hard to come by. From the pound and nuisance by-laws, I know that unlike the private pastures mentioned above, the commons was “unfenced.” Keeping in mind that the mobility of animals like cows was constituted as transgressive in spaces of configuration such as by-laws, people would have used other disciplinary mechanisms and forms of surveillance in the commons. Some newspaper reports suggest these tactics included tying the animals up in the commons and using children and young men to herd and watch them.¹⁰⁶ Had I crafted the above story to highlight that Corbett had decided to use the commons, instead of Macdonald Park, the story of the cow’s ambivalent experiences might have been different. Instead of seeing the blue of the lake or getting distracted by flowers, the story might have been more focused on her being tied up, in the sun, for prolonged periods of time or surrounded by an array of decaying matter (see Chapter 6).

Throughout this section I have given numerous geographic details pertaining to both public and private land and the ways in which they were spatially managed as pastures and the commons. This illustrates, once again, how ubiquitous these spaces were and that there was a great deal of both provisioning and managing of animals that stretched beyond pounds. Finding these details was painstaking work, requiring many hours in the archives, because unlike government buildings

¹⁰⁶ For example, in 1926 Kenneth Potter (17) and his sister were taking their cows to pasture when they saw an inmate attack a guard near Johnson Street (31 August 1926, The Daily British Whig, 7). Or in 1908 when the Humane Society complained that cows were being tied in the commons without adequate access to water (13 June 1908, The Daily British Whig, 2).
or even colonial houses, pastures and pounds are mostly invisibilized in the official histories of Kingston. This point is made most acutely when one realizes how, despite their abundance, these places (pastures, pounds, and even the commons) are not represented in the city directories or in urban maps. Putting pastures or pounds on maps or in city directories would have visibilized them as legitimate urban spaces, but keeping them unnamed or absent in such records meant that the land appeared empty, ready to be filled, and suitable for property development. This erasure was a common strategy used by colonial urban planners and cartographers who rarely included Indigenous uses of cities on official maps (Blomley, 2003).

Because they are aspirational representations, maps are powerful constitutive and disciplinary tools of knowledge (Gregory, 1994; Blomley, 2003). The conceptual drawing of the lines between commons, pastures, and parks as well as the need to impound animals when they crossed those lines all form part of what McKay (2000: 638) would call the “liberal ordering” of property relations which “separate what's 'mine' from 'yours', 'ours' from 'theirs'.” But the absence of the lines on these maps for animal spaces also actively re-constitutes cities as primarily ‘human’ spaces and neglects to account for how multiple species use, shape, and have claims to them. Over time maps become powerful technologies for representing cities and effectively invisibilizing the myriad of ways in which urban land was used, and by whom. These maps abstracted space from the relations that constituted them. They also limited the ways in which such spaces could be

107 Pounds were similarly absent. An 1860 by-law had previously established a pound in the northern part of the city, it stated that “said yard, enclosure or pound be erected and made in Lot number 4 on the West side of the Great River Cataraqui on the east side of Montreal Street and on the South side of the adjoining bridge across the Montreal Road near the residence of Peter Moyer” (By Law Book, 23 July 1860, Locator 0100, Vol 2, page 296, QUA). And on an 1873 map, a “city pound” is clearly listed on Union Street, next to the Orphan’s Home near what is today University Street. This is one of the few representations of pounds I have managed to find on maps of Kingston. Thank you to Heather Home for sending me pictures of this map (Map Cabinet, 2 June 1873, Locator V023, QUA).
understood. Kingston’s cadastral maps only show particular kinds of urban property relations, and
the near complete absence of animal spaces makes one wonder how animals, while still present in
Kingston, were already being wiped from the idealized imaginings of it. This is an invisibilization
of how multispecies relations of power shape cities and contributes to the figuring of cities as
‘human’ places, while erasing the violence of how such propertied landscapes are achieved. Had
pastures, pounds, and the commons been visible on Kingston’s early maps, perhaps their stories
(and those of the animals who most used them) would have already been told.

While leasing agreements and maps tell a great deal about property, I do not want to fall into the
trap of losing sight of the animals whose lives were impacted by shifting economic and aesthetic
property valuations. Because property is not a static thing but rather a set of practiced relations
that often involves sanctioned forms of violence, if one reads municipal documents and leasing
agreements with an attentiveness towards animals, it is possible to learn something of how cows
lived in and navigated Kingston. For instance, the seasonality of these agreements shows that cows
had annual rhythms.108 Cows were “somewhere else” and eating “something else” in the winter
months, pointing to yet more urban structures and economies still to be understood. But it is safe
to assume that for some cows, summer was a time of fields, grass, and, if they were lucky,
socializing.109 Cows might have formed networks and friendships with other cows and possibly
with other grazing animals, like horses. Importantly, who socializes year on year was not
necessarily uniform. While there is reference to both cows and horses using the commons and

108 This seasonality would have also greatly shaped the sounds, smells, and sights of the city as the cows were
differently spatialized and concentrated according to season. Cows walking to and from pastures might have
muddied streets and themselves.
109 Cows live in matriarchal herd structures and are highly social animals who show preferences for who they
prefer to spend their time with (Marino and Allen, 2017; Young, 2017).
private pastures, other animals’ access to these spaces might have been more restricted. As the by-laws start to delineate different types of cows, there is a sense that there were varied urban expectations of cows. For instance, ‘meat cows’ (often referred to as ‘horned cattle’) tended to live much shorter lives than ‘dairy cows’ (often referred to as ‘milch cattle/cows’) because of the industries with which they were (and are) violently entangled (see Chapter 5 and 6). Furthermore, the growing patchwork of pasture availability meant that cows might not always see their same connections year on year. One year they might make social connections, then be deprived of those connections during the winter months, only to return to the process of developing trust and affiliations with different urban cows.

The Violence of Propertied Regulation and the In/Visibility of Cows as Transgressive

In this chapter I have shown how the propertied landscape of cities like Kingston was achieved through the multispecies management of property – this included managing cows as property but also trying to mitigate the effects of their agency on both public and private real property. The interrelations between animals as personal property and land as real property are central to understanding both how cows were constituted as transgressive and how the city was imagined as a propertied place.

The City Council and Property Committee of Kingston privileged certain forms of property, such as real estate, land, and parks, in their urban imaginaries, while overlooking the significance of animals and rental agreements. The maintenance of cows as useful objects and potentially transgressive property was (and oftentimes remains) violently maintained through the
manipulation of space: through discursively constituting cows as transgressive in spaces of configuration; through the material manipulation of their environments and mobility through creation of pounds and the management of pastures; and through the sustained regulation of their mobility by institutions like the City Property Committee.

Constituting cows and other domesticated animals as transgressive in important governing spaces like by-laws, maps, and city directories reinforces a division between a supposedly ordered human society and other beings. Many stakeholders conceived of cows’ movements and needs as outside of their propertied ambitions for Kingston. In legal spaces of configuration, there was very little room for thinking about cows’ place in the city as contributing to and forming part of what made Kingston, Kingston. Nonetheless, the sustained constitution of cows as transgressive in by-laws as well as the prolonged and complex spatial management of them through pastures and pounds suggests that these animals are so much more than propertied objects. The fact that cow can transgress should challenge conventional and static understandings of property. Cows were not simply objects in Kingston, they were historical subjects who lived through, contributed to, and impacted the city.

Nonetheless, cows were primarily visible to Kingston’s governing bodies as objects that destroyed and devalued real properties. This resulted in complex governing strategies which included incentivizing private landowners to manage public pounds and the subletting of crown and municipal land to use as pastures. These actions were done to protect the financial and aesthetic value of private and public real properties. Cows were controlled through disciplinary practices of enclosure and restraint that were both repressive and productive. Enclosing cows in pastures and
pounds and restricting them with tethers limited cows’ movement and shaped how they could be subjects. Furthermore, depending on where cows were, they were expected to behave differently. In parks, cows were highly regulated, restrained and disciplined whereas the absence of pasture by-laws suggests these were possibly more relaxed spaces. Nevertheless, the sustained mention of fences, and tethers points to the limits of cows’ autonomy, even in pastures (Swart, 2022). The existence of these technologies suggests cows sometimes had their own ideas about where they wanted to be and that these sometimes clashed with human expectations.

However, cows’ property relations in Kingston should not only be understood through the lens of the oppressive power of policy. As Palmer (2003, 2017) reminds us, transgressive behaviour in relations of domination can also be understood as resistance to human power.110 Cows not only transgressed some human imaginings and material spatial arrangements of the city, but they also attempted to appropriate and create their own social spaces. As Maan Barua and Anindya Sinha (2017: 12) note, appropriation is not only a human form of territorialization. While animals do not practice property in the same way humans do, they do create places that are important to them, and their interactions with urban spaces historically mattered to the materiality and emergence of Kingston. These relations are not only borne of human domination over cows, but cows’ resistance or possibly even ambivalence to human spatial restrictions and property valuations.

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110 In line with this sentiment, Patrice Jones (2009: 240) notes: “All of these forms of direct action are practiced by nonhuman animals, albeit without the communicative elements that would make them true propaganda of the deed. Nonhuman animals routinely and deliberately destroy walls and other structures erected by people; ‘steal’ themselves and other animals away from human possession; and refuse to accede to human authority, hegemony, or boundaries.”
Cows’ daily routines, the ways in which they resound in the place, as well as with those whom they chose to interact with, are all place-making activities. The making and remaking of pastures and parks and the constant policing of bovine mobility was a speciesist territorializing and re-territorializing of the city. Reading cows attempts to territorialize, and make decisions based on their own interests, as transgressive foreclosed opportunities for reading their wanderings otherwise. ‘Truth claims’ about how cows’ damaged private and public property would become crucial to their physical invisibilization in the city and for helping to construct an imaginary of Kingston as a primarily human place.

But logics outside of the propertied understandings of Kingston also underpinned cows’ physical disappearance from the area of study. Twenty years after Mr. Corbett’s cow had been banished from the courthouse grounds her kin would be removed from other pastures – the Smelter Site, the commons, and the Duff and Potter Fields. Forty years on, they would be removed from the Caton, Wood, and Stark pastures too. Emerging ideas about disease and concerns about hygiene (which will be discussed in the next chapter) undergirded these removals. For some cows, these were only temporary displacements, for others they would never see those spaces again. Cows would be displaced, have their lives changed, and their urban experiences altered. Daily rhythms, joys, and routines transformed. They would have different walks to different pastures, different slivers of light. Until, eventually, cows’ absence from the city was taken for granted entirely.
Chapter 5. “Risky Cows”: The Urban Governance of Milk and Disease

Figure 34: Dairies and Cows, 1880-1938 (John C. Innes Map, 1865, Author adaptation).
“This is a walling in of ‘good’ life and a walling out of risky lives. Safe life is pursued through territorial cleansing acts, where putting one’s own house in order allows an accusatory eye to be fixed firmly on outside causes of disease. Outside and inside are thereby constituted in a kind of geobiopolitics” (Hinchliffe et al, 2013: 535).

On the 17th of March 1920 the Milk Inspector for the City of Kingston (G.W. Bell)1 gave a detailed report about the state of cows and milk in the city. He began by noting there were 105 milk vendors in Kingston, 31 of whom travelled through the streets selling milk house to house,2 44 who sold it in stores, and 30 who kept one to four cows to sell milk to their neighbours.3 Milk consumption was increasing, and the inspector estimated that the city consumed roughly 7,200 quarts of milk per day (roughly a pint and a half per person). Bell noted that this would require 700-800 cows in the summertime and 1,200-1,400 cows in the winter to produce.4 In giving his report to the Local Board of Health (LBH), Bell discussed at length how cows were “susceptible to various diseases” which posed a danger to milk and by extension “man.”5 He described how cows suffer from numerous ailments, including tuberculosis, urinary infections, digestive issues, mastitis, and cowpox. He concluded his four-page report by outlining that his duties as a milk inspector are:

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1 George Wesley Brown (1858-1927) was a graduate of the Ontario Veterinary College in Toronto in 1880. He practiced in New York, then Erie for 15 years before opening his office and infirmary at 110 Clarence Street in Kingston (Fitsell, 1909). He also launched Dr. Bell’s Wonder Medicine Company. In 1899 Bell was offering his services to the LBH and in spring 1916 he was appointed as the Milk Inspector a position he has until 1930 when he was replaced with H. Murphy (Board of Health Minutes and Correspondence, Locator 0100, QUA).

2 The street vendors include 31 men who used roughly 50 horses to distribute the white substance to Kingstonians seven days a week (LBH Correspondence, 17 March 1920, Locator 0100, Box 245, QUA).

3 In an 1888 book about how to care for a milk cow, Mrs. G. Bourinot (1888) said her family cow gave twenty quarts a day and Mr. W.L Battles (1888) said his cow filled a twelve-quart pail each night and morning which is enough for a family of six.

4 LBH Correspondence, 17 March 1920, Locator 0100, Box 245, QUA. I suspect more cows would be required in the winter months because their milk production would be waning as their access to pasture diminished. They would have also been lactating for a longer period of time.

5 Ibid.
“to see that every cow that helps produce the large amount of milk is healthy, properly fed and cared for, and her milk is fit for human food; That the stables are well ventilated and clean; The milkhouses must be kept clean and sweet; To see that all cans, bottles, measures, and other vessels used for milk and cream are kept clean and used for no other purpose whatever. I make these examinations at least twice a year, and often more, as in some cases, when after making my inspection, something goes wrong with the milk which compels me to revisit the dairy to find the cause, which in most every case I find it in the cow herself” (emphasis added). 6

Dr. Bell was making his report at a time when Canadian food and milk relations were undergoing dramatic changes. It was the decade when milk would be fortified due to the ‘discovery’ of vitamins and when the benefits of pasteurization were hotly debated (Ostry, 2006). What is interesting about Bell’s report, however, is that he was clearly discussing how cows were caught within the grids of urban health regulation.

Dr. Bell blended two spatial logics for how to keep Kingstonians safe. The first logic was to treat cows and keep them healthy; the second was to monitor their environments and keep them clean. While not necessarily mutually exclusive these two logics are spatially distinctive – in the first there were concerns over how diseases could flow between bodies via milk, and in the second there were concerns about how various environments might tarnish milk. There was a governing gaze that stretched from cows’ bodies and their ability to produce milk, to the cow byres and pastures they frequented, and the labs and municipalities that monitored them. And, as Steve Hinchliffe’s (2013) insight that began this chapter suggests, when such a governing gaze moves it tends to result in spatialized territorial acts that wall off risky life.

6 Ibid.
There is a robust and wide-ranging literature that shows how the urban management of disease is shaped by gendered, colonial, and racialized logics about health (Ahuja, 2016; Talton, 2019). These scholars have shown how socio-spatial stratification in cities has resulted in vastly different health considerations and outcomes for different urban populations (Biehler, 2013; Fyre et al, 2008). Disease situations are historically specific and have socio-spatial implications for animals: animals get sick, are policed to prevent disease outbreaks, and have their lives, bodies, and
environments changed by both diseases and the regulations that follow them. Just like “feminist geographers put women on the map” (Fyre et al., 2008: 618) in this chapter I aim to put cows “on the map” in a way that takes seriously how they were, as a distinct population, historically impacted by disease management in Kingston.

Informed by emerging ideas regarding sanitation and germ theory, urban reformers in the second half of the 19th century increasingly framed animals as problems that spread diseases like smallpox, cholera, and typhoid fever (Kheraj, 2015: 48). Such conceptions were important to how animal populations were managed as threats to urban health (Kheraj, 2015) and often prompted public health officials to geopolitically wall off what was believed to be risky from what was not (Hinchliffe et al., 2013). Local Boards of Health in Canada increasingly regulated domesticated animals and the practices and substances associated with their bodies (Kheraj, 2015). Pigs and dogs who ate urban waste, cows and horses who produced manure, and chickens who cawed in the mornings have all historically been constituted as threats to the health of cities and subjected to disciplinary practices that included capture, enclosure, constraint, bodily mutilation, and death.

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7 A particularly salient example of the socio-spatial specificity of such situations is the pleuropneumonia epidemic in 1855 in which over 100,000 cows in South Africa died (see Glover, 2019)
8 Focusing on London, Atkins (1977) made one of the earliest forays into thinking about the connections between urbanization and the production of milk.
9 The waste eating and scavenging tendencies of dogs and pigs in New York are discussed by Catherine McNeur (2014) in a chapter titled “Mad dogs and Loose Hogs” in her book Taming Manhattan. Frederick A. Brown (2016) discusses the same as part of Seattle’s history. Lesley Instone and Jill Sweeney (2013) look at how contemporary dog relations with waste shape the political ecology of Australian urban space.
10 Manure is explored by McNeur (2014) in a chapter titled “The Dung Heap of the Universe.” Biehler (2010) shows how flies and manure were historically entangled in questions about urban ecologies. In a chapter titled “Farmlike City,” Phillip Gordon Mackintosh (2017) discusses how animal manure mixed in the streets of Toronto to give the city a farmlike smell.
11 Looking at urban chickens, Jeremy G. Gordon (2020) discusses the “fowl politics” of noise and “chicken rhetorics.” I used his concept to briefly look at the history of roosters in Kingston for the Stones’ Animal Histories Walking Tour (Hirtenfelder, 2023a). From 1922, noise ordinances were historically created in Kingston to remove roosters from the city (Hirtenfelder, 2023a).
Cows were kept in cities in part because milk, in an era without refrigeration, did not travel well and spoilt easily. However, towards the end of the 19th century, cities themselves were increasingly framed as dangerous to the purity of milk, troubling cows’ place within them (Brown, 2016; McNeur, 2014; Robichaud, 2019).

How cows were constituted as risks in Kingston was shaped by particular disease situations in the province and the city. ‘Disease situations’ are relational meeting places and processes that invite a variety of heterogenous stakeholders to act (Hinchliffe et al, 2017). This includes, but is not limited to, the people and animals who are impacted by disease as well as the institutions and officials that respond to them (Gandy, 2006; Hinchliffe et al, 2017; Latour, 1993). Two important disease situations in Kingston that illustrate the varied spatial logics used to both constitute and regulate cows as risks were the tuberculosis situation of 1898 and the typhoid situation between 1913-1920. Both tuberculosis and typhoid were disease situations in Ontario that stretched beyond these time frames and were responsible for thousands of human deaths in the province.

To carry out an analysis of how the tuberculosis and typhoid disease situations contributed to the problematization of cows in the city I use a combination of municipal and provincial policies to outline the general context of dairy regulation in Kingston. Health regulations and reports like Dr. Bell’s were important spaces of configuration, constituting cows as problems in Kingston. These regulations also prompted numerous disciplinary interventions into cows’ bodies and environments. Crafting speculative vignettes from traces of cows in these documents brings to the fore debates about health in the City of Kingston as well as the intensity with which cows’ and

12 I focus on these select dates because they are related to specific cows whose traces I found in the archive.
their milk and environments were subjected to disciplinary practices. The governance of supposedly risky cows included everything from constitutive practices such as killing them to inspect the inside of their bodies, to externalized practices like testing, segregating, and cleaning. Kingston’s Local Board of Health (LBH) wielded considerable disciplinary power and was essential to making cows intelligible as risks. When Kingston was incorporated as a town in 1838, the LBH was tasked “to prevent the introduction and spreading of infectious and pestilential diseases.” They used police constables to perform inspections, handed out warnings for filth or nuisances, and played an instrumental role in providing guidance on the city’s drainage systems. The LBH was a key institution for responding to concurrent and persistent outbreaks of smallpox, typhoid fever, scarlet fever, diphtheria, and tuberculosis (Low, 2015; Walter, 1839). From the 1880s, they would also become an important institution in regulating and policing cows and milk practices in the city.

The LBH advanced intimate and regular interventions into cows’ lives and spaces that were slightly different depending on the disease situation they were responding to. The tuberculosis (TB) situation of 1898 raised questions about how diseases flowed between bovine and human

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13 Instead of using a single, sustained vignette as was done in the previous chapter, I provide three separate vignettes in this one. This is partly because the governance of cows and milk involved more tactics and interventions (such as certification, testing, observing, distancing, and killing) than the regulation of cows and property (primarily enclosure and expulsion) but its also because the stories I found appeared to be more geographically and spatially dispersed.

14 The LBH was formed in 1833 when the Act to establish Boards of Health, and to guard against the introduction of Malignant, Contagious and Infectious Diseases, in this province was passed in Upper Canada. It was likely formed in response to the Cholera outbreaks in 1832 and 1834 which were generally blamed on immigrants arriving in infected ships along the St. Lawrence River (Rutty and Sullivan, 2010).

15 An Act to incorporate the Town of Kingston under the name of “The Mayor and Common Council of the Town of Kingston, By-Law Book, 6 March 1838, Locator 0100, Vol 1, page 10, QUA.
bodies prompting responses that, somewhat paradoxically, relied on killing cows to make the disease more visible, while at the same time seeking interventions to improve cows’ health. The typhoid situation between 1913-1920 raised concerns about, what I am calling, cows’ supposedly ‘dirty affiliations’ in the city and prompted a diffuse governing gaze that spatially managed cows’ bodies and environments. Before unpacking these different, but not necessarily mutually exclusive, governing responses, I first discuss milk geographies and urban animal health regulation as well as how cows were constituted as problems in Kingston’s urban health and milk policies.

Milk Geographies and Urban (Animal) Health Relations

Because of the socio-cultural symbolism of cows’ milk, this liquid has received a fair amount of attention in geography and the social sciences more generally. Areas of foci include unpacking the socio-cultural ways in which milk shapes nationalism and ideas of racial superiority (DuPuis, 2002; Hustak, 2017; Hirtenfelder and Prouse, 2021; Stănescu, 2018; Wiley, 2011); as well as the intricacies and geographies of dairy economies (Atkins, 1977; DuBois, 2019; Goodchild, 2017; DuPuis, 2002; Smith-Howard, 2014; Robichaud, 2019; Gillespie, 2014; Narayanan, 2023). There has, however, been an uneven consideration of cows in these literatures. While milk is eagerly discussed, the role and experiences of milk producing mammals is regularly side-stepped or only superficially mentioned (Adams, 2010).

That said, there is a growing body of literature that pays attention to how cows and their bodies, relations, and environments are impacted by dairy practices and economies (Adams, 2010; Cohen, 2017; Cusack, 2013; Narayanan, 2018, 2019; Gaard, 2013; Gillespie, 2014, 2018, 2021). Some
feminist scholarship highlights how the regulation of both human and cow milk is a form of sex regulation often informed by notions that the female body is a “risky environment” (Cohen, 2017). These critical animal studies scholars further argue that the reliance of industries on “feminized proteins” (Adams, 2010: 305) violates female reproduction and bodies.\(^{16}\) That is, dairy cows are engaged in a form of “sexualized labour” (Gillespie, 2014: 1321) which is contingent on them being impregnated, giving birth, having their calves taken away, and being milked. Kathryn Gillespie (2014, 2018, 2021) and Yamini Narayanan (2018, 2019, 2023) are notable geographers among these feminist thinkers. Gillespie (2014) explains how bulls, steers, cows, and calves are differently included and impacted by the commercial production of milk in the United States whereas Narayanan (2023) examines how milk production in India is shot through with caste politics and violence.

Urban histories and geographies have shown how milk was a substance that was increasingly regulated toward the end of the 19\(^{th}\) century because of emerging ideas related to bacteriology, infant health, and sanitation (Brown, 2016; DuPuis, 2002; Hustak, 2017; Kheraj, 2015, McNeur, 2014; Robichaud, 2019). Historically, human infants that were fed cows’ milk faced higher levels of morbidity and mortality, which was largely attributed to milk either not being pure enough or having been tampered with (Dupuis, 2002). For instance, in the 1850s, thousands of infants from lower-class families died in New York after being given milk from cows who had been fed leftovers (swill) from urban distilleries and breweries (McNeur, 2014; Robichaud, 2019).\(^{17}\) The

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\(^{16}\) “Feminized protein” was coined by Carol Adams (2010: 305) to refer to eggs and dairy products which are “produced through the abuse of the reproductive cycle of female animals. Feminized protein is protein taken from living female animals, whose reproductive capacity is manipulated for human needs.”

\(^{17}\) McNeur (2014) writes in detail about how the milk that came from these cows was blue and thin which led vendors to tamper with the milk by adding substances like chalk, eggs, and Plaster-of-Paris to make it white. The
high death rate of infants, coupled with high levels of disease, led urban public health reformers across North America to promote sanitization efforts.

‘The Sanitary Idea’ was the notion that individuals and communities could do something to prevent the spread of disease through early detection and cleaning of their environments (Rutty and Sullivan, 2010). The idea was popularized by Sir Edwin Chadwick in 1842 when he published a Report into the Sanitary Conditions of the Labouring Population of Great Britain. He argued that life expectancy was lower in towns than in the countryside and called for urban reforms such as improved drainage, clean water, and the removal of sewage. Chadwick was a miasmatist who believed foul vapours hampered work and were harmful to public health (Boston University School of Public Health, 2015).

The emergence of germ theories in the latter parts of the 19th century blended with miasmatic ideas and re-oriented health logics (Hinchliffe et al, 2017; Goodchild, 2017; Kheraj, 2018; Latour, 1993; Minnett and Poutanen, 2007; Nash, 2006). Germ theorists such as Louis Pasteur and Robert Koch defined disease-causing agents more narrowly than miasmatists like Chadwick. They proposed that diseases were primarily caused by microorganisms, such as bacteria, viruses, and other pathogens, rather than solely by foul odours and environmental conditions (Nash, 2006: 6). However, while germ theorists emphasized the role of microorganisms in causing diseases, there was a growing tendency among scientists and regulators to view environments as homogenous planes that diseases simply passed over rather than interacted with (Nash, 2006; Goodchild, 2017).

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crisis itself was exposed by the muckraker Frank Leslie when he was disgusted to find the milk at his door was filled with pus.
As a result of these divergent perspectives on disease causation, the differences and overflows with miasma and germ theories greatly shaped how milk, and in turn cows, were made visible and regulated as problems in Kingston.

Because of infant mortality, as well as emerging sanitary ideas, public health reformers in Canadian cities regarded milk as “one of the most dangerous, contaminated foods,” which resulted in “intense attention to the conditions of cows” (Hustak, 2017: 193). Studying Hamilton, Carla Hustak (2017) notes that cows and their milk were implicated within historically specific anxieties related to urbanization and contamination. Fears about milk resulted in cows’ health, bodies, and environments being coded as risks and in need of governance. The specific diseases and governance responses discussed in this chapter are illustrative of the varied spatial entanglements animals have with bacteria and industries in cities. Focusing on urban health regulations and practices is thus important for understanding how cows were historically problematized. To that end, I next turn to how cows were discursively constituted as problems within Kingston’s health and milk regulations.

Health, Milk, and the Constitution of Cows as Risky Objects in Kingston

The management of health and food in Canada has rightfully been called “a patchwork” of municipal, provincial, and federal regulation (Ostry, 2006: 114). These regulations underwent dramatic changes between 1870 and 1938 (Ostry, 2006).\footnote{Ostry (2006) outlines how Canada’s nutritional policy can be divided into 5 eras: 1) mid 1870s-1918 which was dominated by food safety, inspection, and surveillance and concerned with issues of adulteration and economic fraud; 2) 1918-1938 with the interwar years being characterised with the development of social and health policies. The 1920s were particularly different because of the discovery of vitamins as well as the increased focus on infant health.} Canada’s Adulteration Act of 1874 was
the country’s first consumer protection law, which was in response to concerns about vendors engaging in economic fraud by tampering with food. The Act was influenced by The Adulteration of Food and Drink Act promulgated in Britain in 1860 (strengthened in 1872). Some municipalities, like Kingston, already had in place measures to respond to the tainting of food. For example, An Act for regulating the Public Market in the Town of Kingston was passed on the 3rd of July 1838 and stated that anyone “selling or exposing for sale… unwholesome, blown, tainted, stuffed or measly meat, or poultry, fish, or other provisions” would be fined twenty shillings and the food would be “seized and destroyed.” Acts for regulating the market underwent many amendments and changes between 1838 and 1938 but, like Canada’s Adulteration Act, the earlier versions were primarily concerned with the fraudulent sale (not necessarily health) of food.

Milk and dairies were under-represented in Kingston’s early food regulations because the City Council was more preoccupied with the needs and practices of butchers. For example, in 1847 one Act for regulating the sale of Butcher’s meat in the Public Market, By-Law Book, 30 April 1844, Vol 1, page 139-140, QUA. This was made explicit in 1841 when regulators consolidated and amended the by-law to include that no person shall "use trick or artifice, or make or induce any false representation or appearance, to increase the weight, or the value of anything sold (An Act to regulate the Public Market in the Town of Kingston, By-Law Book, Locator 0100, Vol 1, page 97, QUA).
Act set the costs for animals standing in the market,\textsuperscript{24} and a year later another Act outlined where meat should be sold.\textsuperscript{25} Milk was first expressly mentioned in Kingston’s by-laws on the 18\textsuperscript{th} of March 1850 when an amended nuisance regulation stated that “it shall not be lawful to milk or feed any cows on any of the side walks or streets of the City of Kingston.” \textsuperscript{26} This by-law was more concerned with where cows were than with the management of milk and, as was discussed in the previous chapter, the ways in which cows transgressed ordered ideas of property relations. In the 1870s, as Canada was grappling with an economic depression, the adulteration of milk skyrocketed (Ostry, 2006) contributing to more legal and political regulation of the substance. While Kingston’s food regulators were long concerned with stopping food fraud, they became increasing focused on food health in the 1880s.

Ontario’s \textit{Public Health Act of 1884} outlined the wide ranging duties and powers of the Provincial and Local Boards of Health in responding to disease.\textsuperscript{27} The Provincial Board of Health would “provide all such acts, matters, and things as are necessary for superintending or aiding” a response to “formidable epidemic, endemic or contagious disease.”\textsuperscript{28} This entailed regulations to clean streets, remove nuisances, purify public conveyances, deny entrance or departure of boats, the

\textsuperscript{24} \textit{An Act to regulate the Public Market in the City of Kingston}, By-Law Book, 10 May 1847, Locator 0100, Vol 2, page 56-58, QUA.
\textsuperscript{25} \textit{An Act to regulate the sale of Butcher’s meat in the Public Market}, By-Law Book, 7 May 1849, Locator 0100, Vol 2, page 93-94, QUA.
\textsuperscript{26} \textit{An Act to amend an act entitled “an act for the suppression of nuisances in and good governance of the Town of Kingston,”} By-Law Book, 18 March 1850, Locator 0100, Vol 2, page 104-144, QUA. It concluded that no-one was permitted to let “any cows, pigs, or other animals” on the sidewalks.
\textsuperscript{27} \textit{An Act to make further provisions respecting the Public Health}, 25 March 1884, Hein Online, page 123-145. More commonly called, \textit{The Public Health Act of 1884}. It also stated that every city, township, or incorporated village was to have a Local Board of Health that needed to appoint members at the first municipal council meeting of each year. It further stated that municipalities may appoint a Medical Health Officer and Sanitary Inspector providing them with a fixed salary.
\textsuperscript{28} \textit{An Act to make further provisions respecting the Public Health}, 25 March 1884, Hein Online, page 123-145.
speedy interment of the dead, supply of medical aid, and house visitations. Local Boards of Health were expected to react to nuisances, communicate with the City Council about water management, inspect and cease the production of unsound meat and food, and ensure that houses and hospitals were disinfected.

The Public Health Act constituted “a geometry of disease” (Hinchliffe et al, 2013: 531) that involved drawing borderlines around animals and the food industries in which they were included. For example, anyone starting an “offensive trade,” such as extracting oil from fish or slaughtering animals had to obtain permission from the LBH to do so.29 Additionally, slaughterhouses had to be at least 200 yards from a dwelling-house and 75 yards from a public street. The Act prohibited the use of food from “any diseased animal”30 and, unless permitted, “no animal affected with an infectious or contagious disease” was to be “brought or kept within the municipality.”31 City officials such as the Medical Health Officer, the Sanitary Inspector, the City Clerk, and the Milk Inspector, along with experts including pathologists and bacteriologists, used their knowledge of animals, health, and veterinary science to ensure compliance with the Public Health Act.32

Milk, and by extension cows, were also featured within this imaginary of urban disease management.33 In the Act, cows, along with sewage and germs, were problematized as potential

29 Ibid.
30 Ibid., page 130-131. $250 in 1914 would be roughly $6,274 today (Bank of Canada, Inflation Calculator - earliest year available in 1914).
31 Ibid., page 145.
32 Ontario’s Public Health Act was first released in 1884 and then it was amended several times over the decade including in 1890 to add provisions related to tuberculosis and in 1892 to guard against fraud in the butter manufactories (See Appendix C for a full list of policies).
33 In December 1887, the LBH received a letter from the Provincial Board of Health which prompted them to prioritize milk in their agenda. I do not have the letter itself, only a record that MHO Fee received “a communication...referring to the matter of the inspection of milk” (LBH Minutes, 19 December 1887, Locator 0100,
threats to public health because of their affiliations with milk. Keeping milk ‘safe’ in Kingston involved several subtle and overlapping logics related to disease management, which also made cows intelligible as risks to urban health. Through emerging logics about urban health and fears regarding disease, urban cows and their bodies were, as (Cohen, 2017: 519) suggests, increasingly managed and mediated as though they were “risky environments” – or, at the very least, environments “at risk” of infection. Cows were at risk of infection from dirty spaces including stables, cow byres, watering stations, and pastures. In Kingston, it became routine for Milk Inspectors and Medical Health Officers to list the cleanliness of stables, the number of cows inspected, and the outcome of butter-fat tests. Cows were also risky to milk primarily through their bodily abilities to transmit disease and get dirty. Constituting cows in these spatial ways functioned as mechanisms through which their bodies, environments, and milk could be increasingly managed, surveyed, and eventually removed from the city.

The discourses and practices related to hygiene and cleanliness of urban milk problematized cows as, first, animals who were at risk of getting sick, and second, as animals whose bodies and environments posed a threat to milk. The remainder of this chapter addresses these two problematizations and how they prompted governance responses that sought to keep milk safe by

Vol 237, page 38, QUA). Nonetheless, by the following year the LBH was discussing in earnest milk and the inspections of dairies. While there are some references to milk between 1888 and 1890 there are no Board of Health minutes or correspondence for Kingston between 1891 and 1896 in the City of Kingston Archives. I was not able to discern why there is break in the documentation for this period. In the decades that followed milk would become one of the most regulated substances in the city. Other food, including meat, was mainly monitored by the Market Clerk which will be discussed more in the next chapter.

34 It stated: “milk shall not contain any matter or thing liable to produce disease either by reason of adulteration, contamination with sewage, absorption of disease germs, infection of cows, or any other generally recognised cause, and upon such condition being broken the said permission may be revoked by the Board” (Public Health Act, 1884: 141).

35 Schedule A, Section 10 of the Public Health Act was explicitly concerned with the milch cows, cow byres, and dairies who supplied milk.
focusing on pathogenic flows between bodies and the management of cows’ numerous, supposedly, ‘dirty affiliations.’ To do this, I focus on the tuberculosis situation of 1898 and the typhoid situation between 1913-1920.

The Tuberculosis Situation: Spatially Managing Pathogenic Flows

On the 5th of April 1898, after inspecting 677 cows kept for dairying purposes, Dr. Samuel H. Fee,36 the Medical Health Officer for Kingston, asked the LBH to consider “prohibiting” the keeping of dairy cows within “the thickly settled parts of the city.”37 He commented on the “unsuitableness” of Kingston and praised the state of cows outside of the city, saying that their food was “wholesome,” their water was “without objection,” and that they were all generally “comfortably stabled, well fed, bedded, curried or brushed.”38 He felt that removing cows from Kingston was necessary to produce milk that would be “good and wholesome.” A few days later, on the 11th of April 1898, his suspicions seemed to be confirmed when the slaughter of a cow in the city sparked controversy about the threat of tuberculosis:

36 Samuel H. Fee (1840-1905) moved to Canada in the 1830s and became Kingston’s first Medical Health Officer in March 1885 (LBH Minutes, 11 March 1885, Locator 0100, Vol 237, page 8, QUA). He was relieved of his duties in June 1905 due to an illness, he died in August of that year from a bullet wound (LBH Minutes, 11 September 1905, Locator 0100, Vol 238, page 223, QUA; 31 August 1919, The Kingston Whig-Standard, 8).
37 LBH Correspondence, 5 April 1898, Locator 0100, Box 242, QUA.
38 Ibid.
She felt tired and weak. She coughed. With the lake on their right, they walked down the street towards the noise. She curled back her lips and exposed her teeth: she could smell the shit, blood, and fear. Her eyes widened but her head drooped. She was reluctant to go. They forced her inside and killed her.

I know very little about this cow slaughtered on the 11th of April 1898. She might have been killed in the downtown market where most cows at the time were slaughtered but she might have also been killed in a private slaughterhouse, a lab, or at the veterinary school. The reason this cow’s story is visible to the historical record is because her death, or rather her lung, resulted in a flurry of inspections and correspondence about tuberculosis in Kingston’s milk supply. Cows with tuberculosis tend to show reduced milk production and hardened masses in their udders which is possibly why she was slaughtered. The same day she was killed, the Chairman of the LBH (Dr. Phelan) received a letter from concerned members of the Kingston Medical Society about this cow, stating that “a specimen of Tuberculous lung” had been put on display by Dr. W.T. Connell,

39 General lethargy is a sign of pain in animals (Rushen et al, 2008: 119).
40 Cows are microsmatic and have highly developed senses of smell. When animals curl back their upper lip, exposing their front teeth to smell it is known as the flehmen response. The flehmen response allows cows to detect stress in the urine of their conspecifics (Marino and Allen, 2017).
41 As noted in the previous chapter, increased white of cows’ eyes is a good indicator of fear. A drooped head is a sign of fever.
42 “Reluctance” is a term used in modern, industrialized settings to describe the unwillingness of cows to move. This unwillingness might be due to fear, improper handling, and/or slippery surfaces. To ensure the streamlined movement of cows in operations such as slaughterhouses “electric prods” are often used (Rushen et al, 2008).
43 I discuss slaughter in more detail in the next chapter.
44 Dr. Daniel Phelan (1854-1937) was born in Ottawa and did his university degree at Queen’s University (3 May 1937, The Kingston Whig Standard, 3). He was appointed as the surgeon at the Kingston Penitentiary in August 1897 and retired his position there in December 1915 (31 December 1915, The Daily Standard, 7). He also served as the Chairman of the LBH in 1898 (LBH Minutes, 25 January 1898, Locator 0100, Vol 238, page 3, QUA).
a pathologist at Queen’s University.\textsuperscript{45} It was feared that the lung was obtained from “a milch cow slaughtered in the vicinity of Kingston.”\textsuperscript{46}

\textsuperscript{45} Dr. Walter T. Connell (1873-1964) was a graduate student from Queen’s Medical College and served as a pathologist at the Kingston General Hospital. He established the Department of Pathology and Bacteriology at Queen’s University and his work on clinical bacteriology led to the formation of the Public Health Laboratory in Kingston in 1904 (Peacock, 2013). In 1917 he set up Grant Hall as a military hospital in response to the First World War (10 April 1964, \textit{Kingston Whig Standard}, 2). Connell actively carried out pathological tests of water and milk for the LBH between 1897-1938 (LBH Minutes and Correspondence, Locator 0100, QUA).

\textsuperscript{46} Signed by the doctors W.G. Anglin, D.E. Mundell, and R.K. Kilborn (LBH Correspondence, 11 April 1898, Locator 0100, Box 242, QUA). There was precedent for such inspections to be carried out. The amendment made to the \textit{Public Health Act} on the 7th of April 1890 required any animal suspected to have tuberculosis to undergo “scientific examination” so as “to determine whether or not such disease exists.” It also stated that anyone selling meat or milk from such a diseased animal was liable to pay a fine whereas a person who reported such an animal was entitled to half of the penalty imposed (which could be between $5 and $50) (based on 1914 prices that would be between $125-$12,254 today) (Bank of Canada Calculator).
Between 1891 and 1898, roughly 2,000 Ontarians died per year from tuberculosis and there was widespread debate about the relationship between humans, animals, and the disease. Since at least 1860 veterinarians had argued that tuberculosis could be passed from cows to humans but doctors like Robert Koch were less convinced (Cassidy, 2019). In 1882, Dr. Robert Koch identified what he called ‘tubercle bacilli’ as the causative agent in tuberculosis (Cassidy, 2019; Palmer and Waters, 2011) but only in 1901 did he recognize that the tuberculosis in humans (Mycobacterium tuberculosis) and the tuberculosis in cows (Mycobacterium bovis) was caused by different bacteria.

Today it is understood that bovine tuberculosis (bTB) is zoonotic and can spread between cows and other species (including humans) via direct contact, through aerosols, shared eating places, and the consumption of unpasteurized food (Government of Canada, 2017b). The disease can lie dormant in cows for years and clinical symptoms are often only visible in older cows. These symptoms include coughing, loss of appetite, lethargy, weakness, and enlarged lymph nodes (WOAH, 2022). In 1898, when the tuberculosis situation in Kingston was unfolding, there were still anxieties and debates about how tubercular cows’ health impacted human health. This uncertainty prompted apprehension about the boundaries between cows, humans, and microbial life and led to interventions into how urban cows were policed. Cows were becoming intelligible to Kingston’s medical men as animals who were corporeally at risk of getting sick and who might, in turn, be risky to the humans who drank their milk.

The letter from the Medical Society about the diseased lung was discussed at the next Local Board of Health meeting on the 3rd of May 1898.47 The fear was that the cow had come from a farm that

47 LBH Minutes, 3 May 1898, Locator 0100, Vol 238, page 15, QUA.
supplied Kingston with milk: Rideau Stock Farm (769 Montreal Street)\textsuperscript{48} owned by Frederick. A. Folger\textsuperscript{49} and leased by James Younger. Later testaments from Folger,\textsuperscript{50} Younger,\textsuperscript{51} and William Nichols,\textsuperscript{52} the veterinary surgeon who obtained the lung for Connell, refuted the charge. Folger also released an article in the \textit{Daily British Whig} stating that he had a veterinary certificate to prove his herd was free from tuberculosis and he would be “taking legal proceedings” against anyone falsely blaming his farm.\textsuperscript{53}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure37.png}
\caption{Rideau Stock Farm (the pink circle) housed at least 100 Holsteins in Kingston, extract from Figure 34 (Author).}
\end{figure}

Folger’s strong reaction may have been because Rideau Stock Farm was a prize-winning farm that had been home, since at least 1885, to pure-bred Holstein cows.\textsuperscript{54} While not listed in the city

\begin{itemize}
\item\textsuperscript{48} Also known as Rideau Dairy or Rideau View Dairy.
\item\textsuperscript{49} Frederick A. Folger (1849-1904) was the manager of the Kingston Light, Heat and Power Company in Kingston (29 February 1904, \textit{The Weekly British Whig}, 3). He was also the owner of the Rideau Stock Farm in the north of the city (769 Montreal Street) which was home to prize winning cows and horses (22 February 1893, \textit{The Daily British Whig}, 3).
\item\textsuperscript{50} 18 May 1898, \textit{The Daily British Whig}, page 6; 25 May 1898, \textit{The Daily British Whig}, page 5.
\item\textsuperscript{51} LBH Correspondence, 21 May 1898, Locator 0100, Box 242, QUA.
\item\textsuperscript{52} LBH Correspondence, 2 May 1898, Locator 0100, Box 244, QUA.
\item\textsuperscript{53} 25 May 1898, \textit{The Daily British Whig}, 6.
\item\textsuperscript{54} A detailed description about the farm and its operations with both horses and cows can be found in \textit{The Daily British Whig} (22 February 1893, 3).
\end{itemize}
assessments, a newspaper article revealed that he had a herd of roughly 100 cows, one of whom (Nixie L. 3155) won first prize twice at the Toronto Industrial Fair. And he had two bulls (Ethelka’s Prince 13637 and Ludwig Pietertje 17980) for “serving” the herd.\textsuperscript{55} Rideau Stock Farm also supplied Kingston with milk. Nonetheless, by the 7\textsuperscript{th} of June 1898, Dr. Fee reported that the cow with the tubercular lung was “not owned by or connected with any herd of the Milk Vendors who supply the City with Milk.”\textsuperscript{56} In fact, it appeared as though she was a personal cow of B.W. Folger (not F.A.), who came forward to say that the lung was from “a red cow” owned by him and not affiliated with Rideau Stock Farm.\textsuperscript{57}

\textsuperscript{55} He also mentions that every February or March about fifty cows “will drop calves” which he sells for $10 if they are taken before they are two weeks old (22 February 1893, \textit{The Daily British Whig}, 3).
\textsuperscript{56} LBH Correspondence, 7 June 1893, Locator, Box 242, QUA.
\textsuperscript{57} 8 June 1898, \textit{The Daily British Whig}, 3.
Kingston, Ont. June 7th, 1889

To the Chairman & Members
Of The Local Board Of Health:

Gentlemen,-

In the matter of the communication from the Kingston Medical Society, re Tuberculous Cow, which was referred to me for investigation, I beg leave to state that I made all possible enquiries regarding the matter, and find that the cow in question was not owned by or connected with any herd of the Milk Vendors who supply the City with milk.

I also beg to report that, in company with the Sanitary Inspector, I visited 164 places in the City, where cattle are kept, and found of that number, that milk was sold at 46 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.

I have the honor to be, Gentlemen,

Your obt. servant,

Samuel W. Lee

Figure 38: MHO reports on the tuberculosis situation (LBH Correspondence, Locator 0100, Box 242, QUA).
Figure 39: Documents attesting that the cow with the tuberculous lung did not come from Rideau Stock Farm (and a photo of a Rideau Dairy delivery horse).
While the City Directory made it easy enough to discern that “B.W. Folger” was “Benjamin W. Folger” who lived at 221 King Street it was more difficult to figure out where his cow was. Like Corbett’s cow in the previous chapter, B.W. Folger’s cow was not listed in the city assessments. “A red cow” might refer to a cow who has not yet given birth, in which case she might have been too young to have been listed in the assessments. However, considering her lungs were already studded with tuberculosis, a disease which can take years to progress, I suspect she might have been an older cow. If this was the case, then the most reasonable explanation might be that she was stabled outside of the city at Lake Ontario Park, on property owned by B.W. Folger and his brother, Matthew H. Folger.

Another good reason to believe that she was stabled in (or near) Lake Ontario Park is because on the 25th of May 1898 when F.A. Folger was trying to clear Rideau Stock Farm’s name he told The Daily British Whig that the cow with the tubercular lung “had not been pasturing on Rideau Farm but at Ontario Park, near the asylum, where so many cattle [had] been slaughtered on account of the disease.”

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58 Benjamin Webster Folger (1838-1914) was a successful businessman in Kingston. He moved to the city in the late 1860s and founded the Folgers Bros, an important firm in the city. Folger managed the Street Railway Company as well as the Kingston and Pembroke Railway. He also founded the Canadian Pacific Express Company (27 March 1914, The Daily British Whig, 5).
59 1898 Kingston City Directory.
60 #20 Sydenham Ward, 1898 City Assessment, Locator 0100, QUA.
61 A reminder: cows who are younger than two years of age were not listed in the city assessments.
62 That is not to say, however, that younger cows do not get the disease. Cows of all ages are susceptible, but it is a slow progressing disease (Bolaños, et al, 2017).
63 B.W. and M.H. Folger owned this property as a stop of the Street Railway Company. Another possible explanation is that she was stabled with Benjamin’s brother on Emily Street because he was listed as having a cow there from 1896-1898 (but not in 1899).
64 25 May 1898, The Daily British Whig, 6.
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)\textsuperscript{65} 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.” \textsuperscript{66}

_The cows had been standing in barn when she hacked and coughed._\textsuperscript{67} She was an older cow, something of a leader among the herd of 39.\textsuperscript{68} 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.\textsuperscript{69} They bellowed and shuffled.\textsuperscript{70} He left and as time passed, she moved her feet more and her head sagged.\textsuperscript{71} One of the five cows with whom she spent most of her time tried to lick her.\textsuperscript{72} When the man came back, he touched her ears, then her nose, and left.\textsuperscript{73} 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 \textit{M. bovis}) into her shoulder and monitoring her temperature (often through touch) for 24-48 hours (Smith-Howard, 2014; Palmer

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\textsuperscript{65} 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).
\textsuperscript{66} 29 April 1898, \textit{The Daily British Whig}, 6.
\textsuperscript{67} A cough is a clinical symptom that tuberculosis has reached the cow’s lungs.
\textsuperscript{68} 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)
\textsuperscript{69} 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).
\textsuperscript{70} Cows are highly social animals who often engage in allelomimicry, sometimes called contagious behaviour (Phillips, 2002).
\textsuperscript{71} These are all indicators of a fever.
\textsuperscript{72} Grooming each other maintains peer bonds (Phillips, 2002).
\textsuperscript{73} With the absence of a thermometer these touches test if a cow has a fever (Doyle and Moran, 2015).
\end{flushright}
and Waters, 2011). Likely having observed changes in her temperature, Dr. Clarke killed her on the 29th 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.

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.

With his suspicions confirmed, on the 11th 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 14th 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.

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74 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.

75 13 May 1898, The Daily British Whig, 2.

76 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)

77 14 May 1898, The Daily British Whig, 2.
Dr. Connell joined Dr. Clarke to inspect the first five cows slaughtered. He found their infections were most pronounced in their intestines and liver which prompted him to make connections between tuberculosis and food consumption. When reflecting on his inspection in an article in *The Daily British Whig* he said:

“These cases alone would, if any proof were needed, establish the fact of infection with tuberculosis via food, and as such they are or ought to be an important object lesson to us for if one cow can infect another by infecting the food, cannot human beings be infected from the milk of diseased animals as it has time and again been proved that tubercle bacilli do often exist in the milk of tubercular animals and that too when no

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78 13 May 1898, *The Daily British Whig*, 2. Depending on where in the human body disease is found it can cause significant side-effects: TB in the kidneys and bladder make urination painful; in the genitals it causes chronic pelvic pain; in the pericardium it can make breathing difficult; in the brain it leads to headaches, fever, and confusion; in the intestine one might experience diarrhea and blood from the anus; and on the skin it causes open sores with pus (Merck Manuel, 2022). Very rarely are the clinical symptoms of cows with tuberculosis discussed with such detail. Considering cows are mammals with central nervous systems and that many of the cows discussed in this chapter had late stage of tuberculosis, it is likely they were in considerable discomfort and pain.
actual disease of the udder can be detected….Now you will see the point I wish to establish is the possibility of infection by tuberculosis in food, more particularly infection by means of milk from tubercular cattle. Tuberculosis in cattle does exist in this neighborhood and in other places than at Rockwood asylum. There is no doubt at all in the minds of those most capable of judging, that milk from such infected herds is dangerous, particularly to infants, children, and invalids who are in fact those who partake most freely of this foodstuff.”

This statement from Connell speaks to flows between pathogenic bodies and how the movement of bacteria between and through bodies was mediated. While tuberculosis could spread through direct contact and aerosols (often putting those closest to the infection most at risk) the focus for Connell was on how transmission occurred through consumption and how bacteria travelled via relations of eating and drinking: cows got sick through shared troughs and watering holes, humans got sick through consuming their milk. These could be understood as “contact zones” (Haraway, 2008: 4) or, as Hinchliffe et al (2017: 8, 17) so convincingly argues, “achievements,” because diseases are not so much moving between or meeting at “sites” but are relationally constituted. That is, disease situations related to milk are not encountered as much as they are produced by dairying relations, which includes milking cows, consuming their milk, and regulating them.

As alluded to by Connell, the cows at Rockwood were only one case of tuberculosis. In addition to Folger’s cow other cases were reported, including in May 1898 when Mrs. Devana’s cow on Division Street “was taken ill,” “appeared to be suffering from a fever,” and died. The post-mortem found that “one lung had almost entirely decayed away and the other was badly affected.” The fear of disease and the pursuit of knowledge made what cows ate and drank and

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80 17 May 1898, The Daily British Whig, 2.
81 Ibid.
the inner recesses of their bodies open to inspection. The unhealthy and/or dirty body prompted a “gaze,” or as Hinchliffe et al (2013: 535) might say, “an accusatory eye,” deeper into the recesses of cows’ bodies, making very particular parts of their bodies known and visible (including lungs, udders, and teats). Such a gaze also brought into view some socio-spatial relations and raised questions about where cows were stabled, what they ate, and conditions under which they were kept, also prompting concerns about the vulnerability of humans near cows and the risks of consuming their milk.

Even though Connell confidently stated that there was “no doubt” that drinking milk from cows infected with tuberculosis was “dangerous,” there was dispute on this point in Kingston. As one anonymous writer to The Daily British Whig said: “There is a decided diversity of medical opinion regarding the disease in cattle known as tuberculosis and the possibility of the human race contracting the disease from cattle.” The disagreement related to the threat tubercular cows posed to human health emerged during the previously mentioned LBH meeting in May 1898. Whereas doctors J.D. Thompson and R.K. Kilborn wanted animals with the disease to be “isolated” and for people with tuberculosis to not mix with cows because the “contagion was readily communicated,” doctors R. Meek and D. Phelan, thought the threat was “groundless” and the risk of disease transmission through meat and milk “very slight.” Dr. Phelan, the Chairman of the Board, explained why he thought milk from tuberculosis cows was not dangerous in an article in the Weekly British Whig, which I quote at length below:

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82 13 May 1898, The British Daily Whig, 2.
83 17 May 1898, The Daily British Whig, 2.
84 LBH Minutes, 3 May 1898, Locator 0100, Vol 238, page 15, QUA.
85 4 May 1898, The Daily British Whig, 2.
86 Ibid; 7 May 1898, The Daily British Whig, 2.
“It will be interesting to know how far milk and needs may be affected or dangerous to health. It has not been clearly defined when a diseased animal becomes dangerous to others, and it is supposed that animals are practically free from the danger of contagion in a common pasture. Where existing hygienic surroundings in stables are insufficient, such as bad ventilation, filthy byres in which cows are tied up for a long time, bad drainage, drinking out of a common trough, there the disease is likely to revel. The progress of the disease in cattle is slow and its presence may not be suspected for months or years as the animals appear in perfect health. It has been estimated that about twenty percent of slaughtered animals have tuberculosis in their lungs and about the same percentage have it in other parts of the body, making about forty percent of cattle tuberculous…. The danger regarding the use of meat and milk of diseased animals for food has been greatly exaggerated, and much alarm unnecessarily occasioned…. As regards the use of milk from tuberculosis cows the most scientific men of Europe, who have given the matter their careful attention for many years, are of the opinion that there is little if any danger. Milk is certainly typical food and contains all the necessary constitutes of the growth of the child. As it is supplied in cities it contains numberless germs which have the power of multiplying and producing such diseases as cholera infantum. The germs of tuberculosis are incapable of multiplying in milk.”

Dr. Phelan’s view on milk and the threat of cows was markedly different from that of Dr. Connell. Part of the reason for the disagreement between Kingston’s medical men about the threat of tuberculosis in milk was because famous doctors like Robert Koch (and the “scientific men of Europe”) said the pathogenic threat of contracting tuberculosis through milk and meat was minimal (Palmer and Waters, 2011; Cassidy, 2019). This debate shows how transnational flows of knowledge impacted how urban Boards of Health responded to disease threats. Transnational flows of knowledge informed the social and institutional spaces in which cows were defined as risks to urban health, but the contours of this problematization were not predetermined. Both Connell and Phelan used scientific knowledge to justify their claims regarding the riskiness of cows and how they should be regulated. Whereas Connell was focused on pathogenic and corporeal flows through practices of consumption, Phelan was more concerned with how diseases

88 6 May 1913, The Daily British Whig, 6.
manifested in urban environments. Their different approaches likely reflected tensions between germ and miasmatic theories, with Phelan more seamlessly blending miasma and germ theories and Connell strictly following the movement of bacteria. Over time, however, it would become widely accepted (even by Koch) that tuberculosis was zoonotic, and it was a disease humans could contract from cows not only by drinking their milk but also from being near them.

The case of the tubercular cows in Kingston in 1898 is just a snapshot of what was a much more protracted tuberculosis situation in the city. From at least 1898 milk vendors needed a license to operate in Kingston. Licensing not only required that vendors pay a fee and tag their cows but they also had to submit a certificate from a veterinary surgeon confirming that each of their cows had been tested for tuberculosis in the preceding three years.89 The LBH often discussed tuberculosis, had reports from the Conference of the Prevention of TB,90 and in their annual meetings established by-laws to stop spitting in the city.91 In 1908 the LBH established a sub-committee focused on tuberculosis92 and, in 1909, the LBH tried desperately to build a TB sanitorium in the city.93 Tuberculosis remained a problem in Kingston until 193894 but by that time there had been

89 In accordance with Section 10 of the Public Health Act (LBH Minutes, Locator 0100, Vol 238, page 126, QUA). The propensity for licensing and certification was not only used with cows and milk. Barbers, ambulances, and carters needed certificates to operate, and school children needed certificates to prove they had been vaccinated against smallpox. One had to have a license to be a milk vendor, to cut ice, to operate a Chinese laundry, to collect garbage, to collect bones, to feed waste to pigs, to have a store, to be a street vendor, to operate a junk and second-hand business, to operate a tavern, to operate as a carter, and to drive a car (LBH Minutes and Correspondence and Kingston By-Laws, 1838-1938, Locator 0100, QUA).

90 LBH Correspondence, 14 Feb 1901, 9 Dec 1901, 24 April 1911, Locator 0100, Box 242, QUA.

91 LBH Correspondence, 15 March 1904, Locator 0100, Box242, QUA.

92 LBH Minutes, 6 April 1908, Locator 0100, Vol 239, QUA.

93 Sanatorium for Consumptives was not to be established within 150 yards of an inhabited dwelling without consent by resolution in writing of the Local Board of Health (LBH Minutes, 21 June 1909, Locator 0100, Vol 239, QUA).

94 MOH gave a general report of the TB situation in Kingston: Report on “The Tuberculosis Problem”: there were 15 human deaths in 1937 which was higher than the Provincial average. Kingston had weak diagnostic services, especially for the poor, and when this improved with the launch of the TB clinic cases jumped in 1938 from 15 to 49 (LBH Minutes, 6 December 1939, Locator 0100, Box 241, File 2, QUA).
a subtle shift from focusing on cows’ health and environments as a means to avoiding disease situations related to milk to treating milk directly through pasteurization (a shift I return to at the end of this chapter). However, even though pasteurization reduced the threat of tuberculosis for humans who consumed cows’ milk, cows continued to be impacted by the disease. As Kendra Smith-Howard (2014: 29) succinctly notes: “Pasteurization did nothing to eradicate tuberculosis [or other diseases] among cattle, but it made milk safe [for some humans] to drink.”

The stories about B.W. Folger’s cow, the Rockwood Asylum’s cows, and Mrs. Devana’s cow are about cows who fell ill, whose bodies were intervened upon, tested on, cut up, and displayed as a means of making tuberculosis visible and the threat to urban and human life knowable. Practices such as quarantining, inspections, tuberculin tests, and slaughter contributed to constituting cows as problems: both as at risk of infection and (potentially) risks to human health. While there was disagreement about the pathogenic flows between cow and human bodies, the dispute itself made cows visible as subjects whose health needed to be governed. That is, cows’ entanglement with the problematization of milk, even if contentious, brought into view how diseases and environmental factors impacted their health.95

While attention to cows’ health was driven by the desire to secure human health, it prompted discussion (even if contested) about the flows and connections between bovine and human bodies as well as between cow environments and human consumption. The Rockwood cows and B.W. Folger’s cow both lived outside of the city but their diagnosis with tuberculosis prompted anxieties

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95 Pasteurization disrupted historical practices of observing cows and their behaviour in cities to determine their health, practices such monitoring their behaviour, observing their appetites, and assessing their bodies and environments (Smith-Howard, 2014).
within the city about how unregulated flows of milk might put Kingston’s human residents at risk of infection. It is perhaps situations such as these that prompted the Provincial Board of Health in 1900 to extend the jurisdiction of Local Boards of Health, giving them the power to regulate rural vendors and farmers who provided cities with milk.96

While there was some debate in Kingston in 1898 regarding the origin of germs in cows and their transmission to humans through milk, there was consensus that unclean environments and practices could directly impact the purity of milk, irrespective of cows’ health. This understanding spurred governing responses that were not necessarily concerned with treating the diseases humans and cows shared (zoonotic) but rather monitoring and cleaning environments. To shed light on the logics that underpin this more environmental way of thinking, and how it further problematized cows in Kingston, I now turn to the typhoid situation in Kingston between 1913-1920.

The Typhoid Situation: Distancing Cows from Risky Affiliations

Between 1880 and 1931 over twenty thousand people in Ontario died from typhoid (Ross, 1935). Otherwise known as the “filth disease,” typhoid fever97 is a highly contagious bacterial infection

96 On the 10th of February 1888 the LBH made an appeal to the province to extend the Board’s jurisdiction and enable them to “prohibit the sale of milk in the municipality in which the board has jurisdiction by vendors whose dairies are outside the limits of such municipality, except on condition of the vendor receiving a license from said board under such conditions as they prescribe” (LBH Minutes, 10 February 1888, Locator 0100, Vol 237, page 41, QUA).

97 Typhoid fever is one of the oldest human diseases written about in western literature and is thought to have caused “the plague of Athens” in 430 B.C (Galan, 2016). In 1856, William Budd demonstrated that the transmission of typhoid fever was due to contaminated water (Low, 2015: 204). Budd also hypothesized that other mediums could carry the bacteria (Steere-Williams, 2010). This was proven in 1871 by Edward Ballard, who investigated an outbreak in Islington, England, concluding that “to eliminate the local causes of disease transmission—dairies with inadequate drains, water, and sewerage supplies—and to change dairy practices, including milk adulteration” (Steere-Williams, 2010: 525). The first edition of The Milk Journal in 1871 contained an article about the
caused by interactions with *Salmonella typhi* (Steere-Williams, 2010). Unlike tuberculosis, which affects both cow and human populations, the bacteria which causes typhoid shows little effect in mammals other than apes, including humans (Galan, 2016). The bacteria travel through urine and feces; and water or milk contaminated with these microbes can spread the disease further. Symptoms of typhoid include a high fever, stomach pain, a cough, diarrhea, and death. Kingston’s LBH started to pay more attention to the relationship between milk and typhoid in the early 20th century when, despite Council’s efforts to close diseased wells and chlorinate Kingston’s water, the city continued to experience sporadic outbreaks.

Typhoid outbreaks in the city were increasingly connected by the LBH to cow spaces (most notably their bodies and pastures) and these events became important mechanisms in constituting cows, and many of their affiliated relations and practices, as problems. Keeping dirt out of milk involved intimate interventions that stretched from cleaning cows’ teats and udders, to monitoring their air, water, pastures, and relations. These measures made cows visible and intelligible as threats to the health and safety of Kingston, leading to disciplinary measures that must have shaped the everyday experiences of cows, such as Mrs. Laird’s in the vignette below:

*It was summer and it was hot. She walked through the pasture and flies buzzed just above the ground. She took a drink from the stinking stream. Her muck mixed with the muck of the field. Her feet were stuck. With*  

connections between milk and typhoid as well as an article by Ballard, titled "On Some Sanitary Aspects of Cowkeeping, and the Trade in Milk in London," where he argued that the problematic practices of cow keeping in the city were a danger to public health (Steere-Williams, 2010: 530).

98 It appears that it can be caused by both *B. typhosus* and *Salmonella typhi*. The latter of these is related to the bacteria that causes Salmonella in food poisoning. Antimicrobial resistance is increasing in the *Salmonella typhi* bacteria that causes this disease.

99 Dr. Gladys Kalema-Zikusoka notes that because other great apes – like gorillas – have such close genetic connections to humans they can also get sick from the disease (S5E9, The Animal Turn Podcast).

100 In popular discourse at the time, flies were readily associated and affiliated with dirt and disease. See for example: “facts about the fly” (6 September 1913, *The Daily Standard*, 11).
great effort, she pulled her legs free from the slew and tried to remember not to come this way again. As she walked her shins, stomach, and teats became brown with dirt.\textsuperscript{101} Soon it would be time to go.

In the dusk of day, she walked with the others across the muddy street and into the courtyard.\textsuperscript{102} She could smell the privy that lay adjacent to their shed.\textsuperscript{103} There were two pigs and three cows in the byre, a shared water trough, and the air was thick.\textsuperscript{104} Sometimes they opened the window so that sunlight and fresh air would come through.\textsuperscript{105} Today was not one of those days.

On the eve of a typhoid outbreak in August 1913, Mrs. Mary Laird’s three cows were pasturing in the Duff and Potter Fields with at least 25-30 other cows.\textsuperscript{106} The Duff and Potter fields lie “between Division and Montreal Street and [are] bounded by Russell Street on the south.”\textsuperscript{107} Mrs. Laird was one of six people who owned cows on Russell Street at the time,\textsuperscript{108} a house conveniently located adjacent to the pasture.

\textsuperscript{101} Cows wading through dirty or muddy pastures came up time and again as a concern for the LBH because this practice made cows udders and teats dirty.
\textsuperscript{102} Recall, as discussed in the previous chapter, from 1874 cows could only move through the city at particular times of day (between 5 and 8am and between 4 and 7pm) (By-Law Book, 12 October 1874, Locator 0100, Vol 2, page 519-520, QUA.
\textsuperscript{103} The distance of privy pits from wells and cow sheds became a matter of concern. Courtyards and backyards were busy places and included infrastructure such as cowsheds, privies, and potentially wells.
\textsuperscript{104} The Sanitary Inspector Report of 1914 lists Mrs. Laird as owning three cows and 2 pigs (Locator 0100, QUA).
\textsuperscript{105} While milk was being increasingly tested for bacteria, regulators were still concerned with the odours cows were exposed to. This is a melding together of different health paradigms – miasma and germ theory.
\textsuperscript{106} 14 August 1913, \textit{The Daily Standard}, 1.
\textsuperscript{107} Report stuck in the LBH Minutes Book, 14 August 1913, Locator 0100, Vol 240, QUA.
\textsuperscript{108} This according to observation made in the Sanitary Inspector Nicholas Timmerman’s Report Book in 1914. Timmerman’s inspections for 1912 were on pieces of paper that were lose in the 1914 Inspection Book. While the notes within could be from a 1912 inspection, I suspect that they are notes from a 1914 inspection. The Sanitary Inspector ran out of pages in Book 5. The last page of 1914 was W. Cozen at 381 Division Street and the first person listen on the loose 1912 piece of paper was L. Viskims at 387 Division. Furthermore, Russell Street does not appear in the 1914 inspection book (Sanitary Inspector Book, 1914, Locator 0100, QUA).
I know as little about Mrs. Laird as I do her cows. Mrs. Laird was not present in the Board of Health documents, and she was never listed as an official milk vendor in the city’s directories, but I built this story around Mrs. Laird and her cows to show how the in/visibility of different cow populations in Kingston is also tied to the in/visibility of different human populations in the city. In Kingston’s city assessments, women were often only listed as owning cows when they were widows.\footnote{This is perhaps tied to women’s right to own property: in 1884 Ontario passed the \textit{Married Women’s Property Act} which gave married women the same legal rights as men, allowing them to buy property (Government of Canada, 2017).} Nonetheless, while many women did not necessarily own urban cows, they were often in charge of milking them; a relationship that was changing as dairying increasingly became the...
preserve of men (Brown, 2016; Robichaud, 2019). But in 1913, this cow was accustomed to being milked by Mrs. Laird:

She was used to the daily rhythms. She knew what to expect. Mrs. Laird would let them into the byre and there would be more food in her stall. She would brush them and the bits of mud and muck that had caked to their bodies would fall to the floor. Then they would be walked one by one from the cowshed, past the privy, next to the milk-house. Things looked and smelled different there. First Mrs. Laird would tie up her neck and then her tail; then she would take time to wipe her udders and each teat with a cold, wet cloth. Then, the sound of milk hitting the bottom of a bucket would fill the air. Her udders were sore and slightly red. Sometimes at these moments she would remember her calf and wonder where he was. She would then be wiped again, quickly this time, before being led back to the cowshed where she would spend the night sleeping on bits of straw. Tomorrow they would go back to that pasture that smelled.

But, like Corbett’s cow in the previous chapter, this cow would have her daily routine disrupted.

On the 14th of August 1913, the Medical Health Officer (Dr. A.R.B Williamson) for Kingston

...
notified the Board that, because of an outbreak of typhoid, cows were no longer allowed to use the fields and that the sale of their milk was “forbidden” until more suitable pastures were found.\(^{116}\) MHO Williamson had tied four cases of typhoid to “the use of milk from cows pasturing at the Duff and Potter fields.” By the 18\(^{th}\) of August there were five cases of typhoid; three of them were people who lived on Russell Street, perhaps one of them was Mrs. Laird.\(^{117}\)

\textit{The next morning, as she watched Mrs. Laird enter the byre something seemed off. The woman moved slower than normal and clutched her stomach. The cows moved uneasily.} \(^{118}\) Instead of untie\(\text{d}\) them and taking them to pasture, Mrs. Laird put down some hay and left them in the hot byre.

Dr. Williamson suspected the outbreak was because “running through the fields [was] an open watercourse that in the upper portion near the city limits, receive[d] sewage.”\(^{119}\) According to an article in \textit{The Daily Standard} the watercourse ran “from back of the Fair Grounds” and contained a large amount of \textit{colon bacilli} because several homes and a slaughterhouse drained into it.\(^{120}\) Despite having prior knowledge of this watercourse since at least 1909 when Alderman Hoag and Mrs. Allison (583 Division Street) brought it to the attention of the LBH, no action had been taken to address the issue.\(^{121}\) It was only in 1913 with this typhoid outbreak that the situation was “condemned” as “a grave menace to the health of the community.”\(^{122}\) And while the MHO

\(^{116}\) LBH Minutes, 14 August 1913, Locator 0100, Vol 240, QUA.
\(^{117}\) By the 18\(^{th}\) of August there were five reported cases of typhoid – three on Russell Street, one on Charles Street and one on Ontario Street (18 August 1913, \textit{The Daily British Whig}, 1). By the end of the year at least eight cases were traced back to milk from cows in this field (17 January 1914, \textit{The Daily British Whig}, 6).
\(^{118}\) Cows are highly social animals who experience emotional contagion; they would have also had expectations regarding their day so it is highly unlikely that would not have noticed something was wrong with Mr. Laird.
\(^{119}\) LBH Minutes, 14 August 1913, Locator 0100, Vol 240, QUA.
\(^{120}\) 14 August 1913, \textit{The Daily Standard}, 1.
\(^{121}\) LBH Minutes, 14 August 1913, Locator 0100, Vol 240, QUA.
\(^{122}\) Ibid.
“notified the owners of cattle pasturing there to remove the same immediately,” he also urged the Board to build a sewer to redirect the watercourse.\(^{123}\)

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The LBH recommended that a sewer be built from the corner of Concession and Division Streets to redirect the watercourse and that sewers be extended on Russell, Thomas and/or Stephen streets as outlets. In essence, the LBH and the City Engineer hoped the watercourse would collect in the Division Street sewer and then flow into one of these perpendicular sewers, offloading somewhere other than the Duff and Potter fields. Interestingly, this redirection might have contributed to another pasture being condemned a few years later.

Figure 43: Duff and Potter fields and Caton’s pasture impacted by sewage flows, extract from Figure 34 (Author).

124 I think, at this time, they chose to extend the drain on Thomas Street (A By-law to acquire lands for the extension of Thomas Street in the City of Kingston, By-Law Book, 29 September 1913, Locator 0100, Vol 21, QUA).
In 1920, cows were removed from Caton’s pasture because the Stephen Street sewer was unloading there. The situation was made worse by seepage in the ground from the neighboring Bagot Street Dump. Milk Inspector Bell said that cows were drinking dirty water which was “green on top” and he was concerned because cows “wade through the mire, which causes the teats to become covered with this mud and naturally more or less of it gets into the milk.”

That is, bacteria (such as those that cause typhoid) were believed to be entering milk by moving from human sewage to dirt in pastures, onto bovine bodies, and then into pails. As the flows of sewage in Kingston were modified and pathologic understandings of disease took hold, cows’ presence in the city was increasingly problematized because of their affiliations with substances and places constituted as dirty.

As stated in the previous chapter, pastures were not (and are not) static, neutral places. They are sites that represent a constellation of economic and social practices that shaped the city of Kingston and the lives of those who were affiliated with them. Unlike the common rhetoric and visualization of pastures, they were not necessarily bucolic spaces. Sludge, sewage, and mess flowed through them, and they were places through which microbes moved and diseases emerged. The removal of cows, like Mrs. Laird’s, from these pastures was part of the longer entanglements of cows with both dairy and disease discourses. Horses, whose teats and milk were not important to Kingston’s dairy economy and health concerns, were permitted to keep pasturing in these soiled places. Dirt itself was not the problem; it was dirt in relation to cows’ bodies and the urban consumption of

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125 While earlier than in Kingston, similar conversations were happening in Hamilton. “In 1902, J.A. Ruddick, as Minister of Agriculture, asserted that ‘unbusinesslike competition’ among creameries could involve accepting any milk without considering its quality. Ruddick attributed milk impurities to cows drinking out of muddy ponds, germs and dirt on the flanks and udders, and vile odours absorbed by the milk. For Ruddick, capitalist competition in milk production could prompt carelessness” (Hustak, 2017: 200).
milk that were. The re-direction of sewage in this part of the city was also part of a topographical and economic story, a story in which the land slopes toward the marshes of the Inner Harbor and in which the working-class neighborhoods found in Frontenac and Cataraqui wards were neglected until the sewage became a threat to the city at large through typhoid outbreaks.

Sewage-flooded pastures were only one of cows’ affiliations constituted as problematic in Kingston. The LBH materially regulated other spaces, relations, and substances affiliated with cows and the production of milk. This included the byres where they slept, the animals and milkers with whom they were associated, and numerous substances from their bodies and environments. Cow byres, for instance, were an important cow space increasingly problematized in the city. Cows slept in byres and were often confined to them for long periods in the winter months.\(^{126}\) Kingston’s 1898 by-law for regulating and licensing milk vendors stated that “The licensee shall at least twice a week during the season the cows are stabled turn out into the open air or procure to be turned out into the open air the cows whose milk he vends or sells in said City.” Even though germ theory was slowly displacing miasma theory, at the time of the 1913 typhoid outbreak in Kingston, it was still generally believed that bad air could cause disease, thus it was required that cow byres had adequate ventilation.\(^{127}\) This had the dual effect of securing cows fresh air but also of problematizing the smell and locations of cows and byres in the city.

\(^{126}\) 17 May 1898, The Daily British Whig, 2; The 1916 By-Law for Regulating Milk and Cream explicitly required cows be let out of the stable twice a week.

\(^{127}\) A By-Law for Licensing and Regulating Milk and Cream Vendors and for Providing for the Inspection of Milk, Cream, Cow Byres, and Dairies, By-Law Book, 20 November 1916, Locator 0100, Vol 24, QUA. It stated that “all cow-byres, stables, premises and places where cows are shall be kept clean and dry and thoroughly lighted, ventilated and drained.”
Figure 44: An example of an Inspection Card of a Dairy, 1910 (LBH Correspondence, Locator 0100, Box 244, QUA).
Figure 45: Undated Blank Inspection Card (LBH Correspondence, Locator 0100, Box 242, QUA).
The LBH received numerous complaints about the smells cows made and the other undesirable populations those smells attracted. For example, in May 1922 J.W. Ballard (a professor at Queen’s University) complained about cows pasturing on the land behind his house (120 College Street) and said “The odor and the flies…were terrible” and that while he had “no objection to cows being pastured in the field” he wanted them to be far enough from his house that the flies did not prove to be a nuisance. The coupling of flies and disease has a long history (Biehler, 2010, 2013). There were fly catching competitions in many cities across Ontario (Mackintosh, 2017) and, as Minnett and Poutanen (2007) note, the vilification of flies went together with the rise of germ theory. Public health campaigns actively used flies as symbol with which to communicate germ theory – they went from “playthings” to “germs with legs” (Minnett and Poutanen, 2007: 34).

It is perhaps not a stretch of the imagination to assume that cows living adjacent to a sewage-flooded pasture were also bothered by flies:

As the day progressed, they stood in the barn, anxious to be let out. She stomped and shook her head. Her tail twitched. Inside the confines of the barn, she couldn’t escape the flies as they landed on her shoulder, neck, and eyes.

While cows were affiliated with flies because the insects were attracted to the smell of the manure in their sheds and the sewage in their pastures, flies were not cows’ only problematized animal affiliation. When scoring dairies, the LBH often penalized them if other animals were housed
with cows. The 1916 *By-Law for Licensing and Regulating Milk and Cream Vendors* explicitly stated that fowls, hogs, horses, goats, and sheep were not to be located with cows. While I was unable to find evidence that Mrs. Laird had a milk license, as a person with three cows, she was likely supplying milk to her neighbours. If Mrs. Laird had a milk license, she could have been penalized for having her two pigs near her three cows. It seems other animals were being constituted, although differently, as threats to the safety of milk, which would have the effect of isolating cows from opportunities for multispecies relations.

Cows’ relations with certain humans were also problematized. For example, it was common for the LBH to distance cows from people who were sick. In 1908, Mr. R. McFee’s cows were removed from the pasture at the Smelter Site because Mrs. McFee was accepted as a cook for smallpox patients isolated there. The LBH thought it was “unwise for the McFee woman to mix promiscuously with the public in her milk business.” The LBH not only wanted to separate cows from sick people but from supposedly dirty practices too. In 1909 a veterinarian reported to the LBH that he deplored the supposedly “filthy habits of those in attendance of cows,” such as dipping their fingers into milk, and felt the situation was “worse in the cow house today” because “the place formerly taken by women [was] now largely taken by men.”

This same vet reported that “pure milk” required “a healthy cow—well fed” and for milk to be kept clean. He believed that if the proper measures were not taken, milk could be tarnished by dust, premises often found “in need of improvement” and the bacteria count in their milk “rather high in most cases” (LBH Correspondence, 1930, Locator 0100, Box 246, QUA).

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132 LBH Minutes, 15 May 1908, Locator 0100, Vol 239, QUA.
133 Report by Lieutenant Col. J. Massie (a veterinarian for the Royal Canadian Horse Artillery), LBH Correspondence, 12 May 1909, Locator 0100, Box 243, QUA.
straw, impure air, epithelium from cows’ teats, hair from their udders, blood and pus from milk ducts, cow dung, dirt from milkers’ hands, and dirty receptacles. Some milkers took extra measures to try and keep milk clean, including tying up cows’ tails so that hair, dirt, and skin particles did not fall into pails when milking. There were, then, a whole host of substances from cows’ bodies and environments that were constituted as risky to the safety of milk. It was for these reasons that milkers were also expected to clean cows’ udders and teats both before and after milking, that licensing became more routine and inspections standardized, and that testing became a regular feature of milk management.

From at least 1889, testing was regularly used to make the health threats associated with milk more visible. There was an institutional geography to this testing: The Milk Inspector performed field tests, known as dirt tests, to identify visible contaminants in milk, employees at the Dairy School conducted butter-fat tests to examine milk’s solid contents to detect any adulteration, and scientists at the Pathological Lab at Queen’s University carried out bacteriological tests to identify germs such as *Salmonella typhi*. These tests were thought to reflect biological and environmental risks and provide guidance on the spaces and practices the LBH needed to intervene in. From 1927, however, there was a marked decline in milk testing in Kingston. Dr. James

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134 The Kingston Dairy School (later known as the Eastern Dairy School) was established in December 1894 to offer “instruction in cheese making and the production of creamy butter” (School of Agriculture Calendar, page 22). It burned in a fire in 1922 and was immediately rebuilt (16 March 1922, *The Globe and Mail*, 12). In 1936 the Eastern Dairy School was transferred from Kingston to the Agricultural School in Kemptville (6 April 1936, *The Globe and Mail*, 2). In 1919 the Superintendent for the Dairy School (L.A. Zufelt) was frustrated and startled by the milk supplied by vendors in the city. He said almost half of the samples he tested were “below the legal standard” and he did not see why they were testing milk if nothing was being done about it: “The milk vendors are simply laughing in their sleeves at the bluff or camouflage which the city is trying to put over regarding the milk question” (LBH Correspondence, 27 February 1919, Locator 0100, Box 245, QUA).

135 On the 26th of February 1903, the LBH received a letter from the Provincial Board of Health stating that they could save money by having typhoid related tests done at the Dairy School (LBH Correspondence, Locator 0100, Box 242, QUA).
Miller, a bacteriologist at Queen’s University, sent a letter to the LBH in September 1927 concerned that no samples had been sent to his lab for the year and he worried that milk vendors would become careless if they were not being tested. He continued his plea in 1928 saying that “vendors should know that they are liable at all times to have their milk examined in this way.”

The LBH discursively and materially separated milk from the very environments and bodies that were essential to its production. These distancing tactics were enforced in material spaces of governance through inspections, testing, and licensing that had been mobilized in spaces of configuration like by-laws and reports. The underlying logic was to ensure the safety of milk for human consumption by severing it from various perceived threats. Cows were made intelligible as risks through their supposedly ‘dirty affiliations’ and the LBH attempted to keep cows clean to ensure the supposedly pure production of milk. When milked, cows’ bodies shed unwanted substances like hair, skin, and mud. Furthermore, cows’ associations with spaces like sewage-soaked pastures and smelly cow byres, as well as their interactions with pigs, flies, sick individuals, and allegedly questionable milkers, contributed to their visibility as problems in Kingston.

The governing response of the LBH involved a dispersed gaze that problematized cows’ daily interactions and spatial relations. For a cow like the one belonging to Mrs. Laird, this meant the spaces in which she moved and lived were subjected to constant (if not perfected) practices of monitoring and distancing and might have even been removed from the places and relations she

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136 James Miller (1876-1958) was born in England and would become the head of Pathology at Queen’s University. He helped establish the Ontario Association of Pathologists (18 October 1958, The Kingston Whig-Standard, 15). From 1921, James Miller provided the LBH with extensive bacteriological reports related to the city’s water and milk supplies (LBH Minutes and Correspondence, 1921-1938, Locator 0100, QUA).

137 LBH Correspondence, Locator 0100, Box 246, QUA.
was familiar with (such as the Duff and Potter fields, the pigs, and possibly even Mrs. Laird). This spatial governance of milk also influenced the development of regimented urban dairying spaces. Diseases like typhoid involved dividing space into functional, disciplined, and sanitized sites. Milk houses and cow byres were strictly evaluated by the LBH, and vendors were penalized if a privy pit or animal manure was too close. Milkhouses were expected to be sterilized environments with all instruments used to manage and store milk (including bottles, pails, and hands) thoroughly cleaned. The LBH monitored the separation of milking spaces, attempting to sever the movements and flows that connected them.

Pasteurization is the killing of microbes through heating, and it offered an extension of the distancing logics that were at play when the LBH responded to disease situations like typhoid. For example, when commenting on a 1918 outbreak of typhoid connected to ice-cream, MHO Williamson said that even though the bacteriological tests did not “absolutely confirm the circumstantial evidence” he felt “ice cream made from pasteurized milk was infinitely superior from the bacteriological point of view to ice cream made from raw milk.” He went on to say that this raised questions about the city’s milk supply and that while the Board insisted “on the producer keeping only healthy cattle in his herd, and on reasonable cleanliness in attention to cattle, 

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138 Sue Donaldson and Will Kymlicka (2015: 57) note that in multispecies sanctuaries, such as VINE, animals often make friendships outside of their species and that this is perhaps not surprising with domesticated animals because “one of the distinctive features of domesticated animals is precisely their capacity for interspecies sociability.”

139 The board received a letter from Whiting, legal counsel, about the matter, saying that if they created such a law, it would be subjected to being repealed (LBH Correspondence, 27 November 1920, Locator 0100, Box 245, QUA).
byres, containers &c.,” milk was still susceptible to being “infected in various ways.” He suggested that the only way to avoid these threats was through pasteurization.

Even though MHO Williamson was calling for pasteurization as early as 1919 it would be another two decades before the city made it law. Pasteurized milk was, however, being advertised by some of Kingston’s dairies much earlier. In 1913, a month after the typhoid outbreak linked to the Duff and Potter fields, Price’s Dairy put out an advertisement advising, “Avoid typhoid by using pure pasteurized milk.” Furthermore in 1920, when Caton’s pasture was a problem, Masoud’s ice-cream parlour stressed the sanitary condition of their business in local newspapers, saying that pasteurized cream was the “only safe guarantee to the people who eat ice cream.” In 1932 Kingston was home to at least five pasteurization plants and “a little better than half” of the city’s milk was pasteurized. By 1937 roughly 85% of milk sold in the province was pasteurized and in 1938, the Ontario Public Health Act was amended to make it compulsory for urban municipalities, like Kingston, to pasteurize their milk (Ostry, 2006: 44; Ebejer, 2010: 37).

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140 LBH Correspondence, 8 January 1919, Locator 0100, Box 245, File 1, QUA.
141 The process is named after the French microbiologist Louis Pasteur (Latour, 1993).
144 The pasteurization plants included: Price’s Dairy, Hemlock Park Dairy, Crown Dairy, W.R. Bakers, and M.J. Potters. In his annual report for 1932, the Milk Inspector Murphy inspected 2,023 cows and found them “clean and apparently in good health.” He noted that in most cases cows were “clipped in order to make easy the cleaning of udders and surrounding parts, where dirt is most likely to accumulate” (LBH Correspondence, 18 November 1932, Locator 0100, Box 246, QUA). Interestingly in 1934 a supplier in Kingston could get a license but not call their milk “certified” if it had been pasteurized. This would change just a few years later.
145 Yet the provincial government was reluctant to fully mandate pasteurization because of the “vocal rural lobby that defended the virtues of fresh milk with an almost religious fervour” (Ebejer, 2010: 37).
146 The Hepburn government was both praised and criticized for this decision. Supporters thought it was progressive, but many rural stakeholders objected to it. It was not clear why milk was being targeted as a reservoir of disease (and not other foods like meat) and many did not believe the scientific evidence supporting pasteurization as their communities had long consumed raw milk (Ebejer, 2010: 37). Others, still, thought it was an “invasion of personal freedom” (Ebejer, 2010: 38).
This is not to say that cows and their environments were not still being inspected in Kingston: they were. However, a new lexicon and network of surveillance was emerging that was centered almost exclusively on ‘milk spaces,’ which were not necessarily ‘cow spaces.’ In 1933, for example, the Director for Sanitary Engineering in Toronto (A.E. Berry) came to inspect the city’s pasteurization plants.\footnote{On invitation by Kingston’s Mayor Hopkins, see the report (LBH Correspondence, 1933, Locator 0100, Box 246, QUA).} He reported on how milk reached the plants (their levels of bacterial contamination and cooling), the equipment at the plants (like thermometers, pasteurizers, coolers, sterilizing compounds), and operating techniques (uniformity of temperatures, bottling, spatial management). He did not mention cows or the environments from which milk was obtained. Pasteurization...
distanced milk from the messy environments, practices, and connections necessary for its production, also invisibilizing the violence of dairying relations and urban health regulation for cows.

The Violence of Health Regulation and the In/Visibility of Cows as Risks

Urban dairy cows, while sometimes problematized for their property transgressions, were valued in Kingston because humans used their milk. However, in the late 19th century, as ideas regarding how diseases spread changed, questions about milk’s safety came to the fore in provincial and municipal regulations. In this context, cows became visible to the LBH as risky objects that needed to be managed. That is, sanitary ideas opened spatial imaginaries that made the connections and flows between bodies and environments differently intelligible.

Testing and distancing tactics emerged in response to varied disease situations. When the threat was believed to be zoonotic and directly attributed to cows, like with tuberculosis, cows were subjected to tuberculin tests and could be killed so that their insides might be inspected. Tuberculin tests and certification were also used by some dairies to distance themselves from risky cows, as was the case with Rideau Stock Farm. Conversely, in instances where the threat was considered environmental, like with typhoid, the LBH adopted a more dispersed approach. Milk was tested for bacteria and efforts were made to separate cows from their various ‘dirty affiliations,’ including other problematized populations, locations, and substances. Whereas governance responses to tuberculosis made the inner recesses of cows’ bodies (such as their studded lungs), and possibly
their health, visible to regulators; responses to typhoid encompassed that considered the potential threats posed by cows’ environments, bodies, and relations to the safety of milk.

The everyday and frequent interventions into cows’ lives had material and emotional impacts for the cows involved: Folger’s cow was killed and cut up; the Rockwood Asylum’s cows were tested and their herd disrupted; Mrs. Laird’s cow was removed from her pasture and possibly alienated from the pigs she knew. These cows experienced daily disciplinary incursions and externalized practices into their lives and bodies. They were cleaned, tethered, tested, tied, and segregated. Some cows would experience constitutive practices, like being killed, so that a disease could be known (like Folger’s cow and 28 of the Rockwood cows). And almost all of them would have also experienced the environments and situations that prompted the spread of disease. Mrs. Laird’s cows experienced grazing in a sewage-filled pasture and the Rockwood herd experienced chronic, and painful, tuberculosis.

While cows were visible to the LBH as problems there were also interventions to improve the health and environments of cows. It was mandated, for example, that cows had ventilation in their byres and when acute situations became visible (such as the sewage-flooded pasture in 1913) measures were taken to improve them (here it meant inserting a drain). Of course, these interventions were not necessarily intended for the cows’ benefit but rather as mechanisms to make milk safe for humans to drink. Nonetheless, cows and their bodies and environments were visible to Kingston’s governing bodies, including the LBH but also the City Council who made by-laws to provision for them. However, as milk and bacteria became more and differently visible to the city’s regulators, cows became less so.

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Pasteurization sought to sidestep the dairy industry’s messy relations and had the effect of obfuscating them. In the tuberculosis and typhoid situations, there was an implicit understanding that milk was a threat to the health of Kingston: milk from cows could be dangerous if cows were sick and if it was contaminated by cows’ bodies or environments. But when raw milk became the locus of attention in the 1920s, the governing gaze shifted almost exclusively to treating milk. That is, pasteurization not only killed bacteria but made invisible the journey of how milk was produced, and the numerous social, ecological, and often violent practices and spaces required to make it ‘safe’. Furthermore, the visibility and constitution of ‘raw milk’ as dangerous was both speciesist and sexist. ‘Raw milk’ was only dangerous because it was a milk consumed by humans instead of calves. Drinking cows’ milk was (and continues to be) contingent on distancing cows from their milk and from meaningful mother and feeding relations (Hirtenfelder and Prouse, 2021; Narayanan, 2023).

Pasteurization also had the effect of fetishizing milk as a commodity (Cohen, 2017). As Cohen (2017: 512) postulates, the ready uptake of pasteurization was not only a matter of public health but offered a way in which to make milk a better commodity, one that was more standardized and easily scaled up. Evidenced by the pasteurization advertisements in the 1920s and ‘30s pasteurization provided a competitive edge. Furthermore, reliance on raw milk potentially threatened the stability of the markets reliant on it (such as butter, cream, and later ice-cream) and limited the financial potential of milk.148 With standardization, cow herds grew substantially and

148 At the same time as pasteurization was becoming more widespread, there were pricing changes that made the production of milk more profitable and more exclusive (Ebejer, 2010: 29). This had the effect of not only placing cows at greater distances from cities but housing them in more intensive operations in which diseases could thrive. The cost of converting from a raw milk dairy to a pasteurized one coupled with the Great Depression “irrevocably ‘squeezed out’” (Ebejer, 2010: 31) small distributors from Ontario’s milk business. Canada was hard hit by the
– with the decline of urban property available for pasturage – having cows in Kingston would not only be constituted as risky to human health, but also impractical for markets.

While this chapter has focused on how cows were constituted as risks and the material implications of being governed as such, it is important to remember that what enables the use of cows as milk producers is that they are also constituted as property and commodities.\textsuperscript{149} Even though it was the consumption of milk that was risky to human health, the LBH did not seek to stop this consumption – only to make it safer. However, making milk safe for humans was (and continues to be) dangerous for cows. The utility of cows as objects greatly shapes the ways in which they can live and opens new ways in which they can be problematized and managed. One of those ways is as risks in public health relations, and another is as waste in capitalist relations. It was not only cows’ affiliations with disease situations that made them visible as problems in Kingston, or their transgressions in property relations; it was also their entanglement with the economic objectives of dairy and meat industries. As will be argued in the next chapter, waste is the significant other of capitalist relations and, once again, the constitution of cows as objects of utility (i.e., meat) opened new ways for them to be constituted as problems – this time as waste.

\textsuperscript{149} In a 1907 Report, for instance, MHO Williamson reported “from a purely business standpoint however, the average dairyman realized that proper housing for healthy thoroughbred cattle and absolute cleanliness in handling milk are money making factors” (LBH Correspondence, 1 May 1912, Locator 0100, Box 244, File 3, QUA).
Chapter 6. “Wasted Cows”: The Urban Governance of Slaughter and Death

Figure 47: Afterlives of Cows, 1838-1938 (John C. Innes Map, 1865, Author adaptation).
“Waste is the political other of capitalist value” (Gidwani and Reddy, 2011: 1625).

In March 1981, Alderman Helen Cooper brought into Kingston’s council chambers “two rotting cowhides wrapped in plastic bags” that had been retrieved from the property that was formerly the site of the A. Davis and Son Ltd Tannery (Welbourne, 2021). Located in Kingston’s Inner Harbour, the Davis Tannery opened in 1872 and specialized in making leather for shoes. It was in operation at a time of “economic experimentation” in the city (Osborne and Swainson, 2011: 218) where, between 1860-1940, several factories operated along the shores of the Cataraqui River. Cows’ skin arrived in open rail cars¹ and parts of the flesh that were not used were illicitly dumped in the city’s marshes. While historically people complained about the Davis Tannery for being “unsanitary,” especially as it related to the living conditions of the immigrants who worked there,² it was generally accepted that tanning factories were indicators of progress.

Like other North American cities, Kingston’s forays into industrialization have left an ecological footprint and the city’s waste continues to be (re)mobilized in questions about urban development and environmental protection. In 1981, Alderman Cooper was concerned with the ecological impacts of the tannery and wanted an environmental study done before any developments were approved (Welbourne, 2021).³ She was successful, and it was found the area was heavily polluted

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¹ See a detailed operational map of the tannery, Production Flow Chart, Locator 2319.2, Box 17, File 10, QUA.
² A report by the Sanitary Inspector Nicholas Timmerman about the Davis Tannery notes that there is a shack where seven men eat, cook and sleep. These men are immigrants from Russia, Austria and Italy. After noting the living conditions Timmerman goes on to say that “the class of men who occupy this place are dirty by nature, therefore an expensive building would soon be in the same condition as the present one” (LBH Correspondence, 20 June 1918, Locator 0100, Box 244, File 9, QUA).
³ Thank you to my supervisor Laura Jean Cameron for also putting me in direct contact with Helen Cooper who, via email, confirmed that this did happen and that the hides had been retrieved by Helen Henrikson, a committed environmentalist in the area.
with high levels of toxicity (Welbourne, 2021). In 2020, there was renewed interest to develop the
area but the redevelopment plan was resisted by citizens who wanted to protect the provincially
significant wetland and old-growth forest (Forestell, 2022; Nielsen, 2017). In light of the stiff
opposition, Kingston’s City Council voted against the redevelopment in September 2022
(Ferguson, 2022). The history of this site not only highlights the legacies of waste but also how
the consumption of animals has transformed Kingston’s urban landscape; implicit herein are
questions about economic value and animal death.

Considering one of the key tropes used by historical geographers to explain why cows were
removed from North American cities is that slaughtering them had become environmentally
problematic (Cronon, 1991; Robichaud, 2019; Mackintosh, 2017), the intersection of waste and
death provides another useful starting point for thinking about how cows were problematized in
Kingston. How animals and their deaths were constituted in relation to capital accumulation and/or
urban waste management had significant implications for how they could live and die in the city.
The bodies and lives of some cows were deemed worthy of protection (for a time) whereas others
were not (Collard and Dempsey, 2017). While often thought of as separate from one another, the
legislative parallels between the urban management of slaughter and the regulation of waste are
made plain when one views them through a lens of animal death and questions of value. Implicit
in by-laws about the weight of meat, the cleaning of shambles, and the distancing of

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4 Members of No Clear Cuts Kingston, a local advocacy group, agree that something needs to be done about the
dumping of waste on the site and argue the proposed developments would jeopardize the area’s biodiversity.
After the City Council rejected the redevelopment plan, the developer appealed the decision to the Ontario Land
Tribunal: the hearing is set to commence 30 January 2024.

5 For example, some domesticated species are ‘protected’ from predation, but this is often in service of their later
killing as agricultural animals.
slaughterhouses are the deaths of cows entangled in the socio-economic production and reproduction in Kingston. As has already been shown in this dissertation, legal processes inflect other economic and political processes (and vice versa), and they can have material consequences for the animals who are defined within their grids.

In Kingston, commodification (like property and sanitation) made animals visible to urban governing structures and industries as particular ‘objects,’ and this status had implications for how cows could be urban subjects. Because waste is supposedly devoid of value it could be considered “the political other of capitalist value” (Gidwani and Reddy, 2011: 1625). Consequently, in this chapter, I want to explicitly think about how cows’ deaths were affiliated with waste. To do this, I rely on newspaper articles as well as minutes and correspondence from the Kingston City Council, the Local Board of Health, and the Kingston Health Committee, the latter who carried out waste management. To understand the experiential dimensions of such constitutions, I use two speculative vignettes that contrast how cows were differently valued in Kingston’ capitalist and waste relations: the first is about a dairy cow and steer who were killed for the Easter Meat Market in 1868 and the second is about a deacon calf discarded as waste in 1887. Contrasting these two vignettes shows how cows were differentially valued and constituted in Kingston as commodities and waste. First, however, I discuss the intersection of waste geographies and capital relations and then give details about how slaughter and waste were regulated through Kingston’s policies.

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6 Thank you to members of the “The Waste of the Body Group” at the Max Planck Institute for their comments and thoughts on an earlier and shorter version of this chapter.

7 I tried to find some research that could explain the difference between a “nuisance ground” and a “dumping ground” but came up with remarkably little. The Collins Dictionary states that nuisance ground is a (now outdated) term in Canadian dialect for “a dump.”
Waste Geographies and Urban (Animal) Capital Relations

Waste is a subject about which people feel strongly; there is outrage when waste is too close, dismay at how much waste is produced, anger that not enough is being done to curb its generation, and concern that its negative impacts are unevenly distributed. There is also a general preoccupation with concealing and forgetting waste (Douglas, 2003; Hird, 2021). However, what is constituted as waste and makes people angry or uncomfortable is not, as Gidwani and Reddy (2011: 1650) argue, “a transhistorical given.” This is because waste is “a mobile description of that which has been cast out or judged superfluous in a particular space-time” (Gidwani and Reddy, 2011: 1650).

Unlike today where waste management in Canada is almost exclusively focused on waste post-consumption (Hird, 2021), Kingston’s historical management of waste involved a focus on some places of production, such as rendering facilities and slaughterhouses. However, as these practices moved out of the city, the question of how production contributed to urban waste became increasingly obfuscated. This despite most waste being generated at the extraction and production stages of a commodity’s life (Hird, 2021). There has, however, been some movement in urban studies, through considerations of urban metabolism, to make these flows of production more explicit (Barua, 2019; Heynen et al, 2006; Oliver, 2021c, 2021d); as well as some impressive environmental histories that have shown how a discursive divide of the city from nature is an illusion (Cronon, 1991).

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8 Some ‘waste’ is not forgotten but turned into something else through creative waste management practices (Siragusa and Arzyutov, 2020).
9 Catherine Oliver (2021d), on the Animal Turn Podcast, spoke about how urban metabolism and food relations can be used to carry out analyses that are sensitive to animals.
Animals are implicated in these histories of urban waste. Scholars have written about how the manure that animals produced shaped the texture and smell of cities (Mackintosh, 2017); how some animals were reliant on scavenging household waste (Brown, 2016; Hird, 2021; Robichaud, 2019; McNeur, 2014); how urban slaughter and meatpacking operations produced large amounts of blood and offal that tarnished local ecosystems (Cronon, 1991; MacLachlan, 2001; Philo, 1995; Robichaud, 2019); and how those thought of as vermin have been readily discarded through extermination campaigns (Jerolmack, 2008; Narayanan, 2017). As Nagy and Johnson (2013: 4) note when animals are called “trash,” they are being described as “worthless, useless and disposable, none of which are inherent qualities of an animal itself; rather it defines an animal’s relationship to humans or attitudes about how humans understand the way an animal fits into our worldview.” Animal death and slaughter, like material waste, have been subjected to shifting cartographies of exclusion and forgetfulness.

Together with their property status, some animals’ commodity status shapes the ways in which they are epistemically visible to regulators, governance structures, and industries. A commodity does not have intrinsic value, rather, value is something that is extracted from it through capitalist exchanges and relations (Collard, 2014). Many scholars have shown how animals’ lives have been shaped by their commodity status and what is expected to be extracted from their lives and deaths (Bobrow-Strain, 2009; Collard and Dempsey, 2013; Gillespie, 2021; Gunderson, 2011; Torres, 2007). Torres (2007) calls agricultural animals “superexploited living commodities,” Collard and Dempsey (2013) refer to them as “lively commodities,” and Kathryn Gillespie (2021: 282) explains how, depending on their life stage, a single cow may be constituted as a “soon-to-be dead commodity” and as a “dead/once living commodity.” These scholars flag how being constituted
and produced as a commodity legitimizes and endorses exploitation and the use of violence, such as being slaughtered or discarded (Collard and Dempsey, 2013; Gillespie, 2021; Torres, 2007). That is, when it comes to animals, a commodity is not only an object that is exchanged but an experience that is lived.

Collard and Dempsey (2017) have developed a heuristic to illustrate how capitalist relations produce hierarchical valuations of animals: There are some animals who are “officially valued” and who capital can see, then there are those waiting to be used (“the reserve army”), those who are ignored by capital but essential to social reproduction (“the underground”), those who are “a threat” to capital accumulation, and those who are devoid of value (“outcast surplus”) because capital cannot see them (Collard and Dempsey, 2017). Animals can move across these valuations (such as from officially valued to outcast surplus) “because capitalist social relations depend on the ‘wasting’ of some bodies” (Collard and Dempsey, 2017: 83). This heuristic offers an avenue for thinking about how populations within the same species (or even an individual at different life stages) might be differently valued and in turn regulated. It also offers an opportunity for thinking about what it means to be valued as a commodity and/or discarded as waste.

So often in the telling of meat or milk histories the “once living/soon-to-be dead commodity” (cows) is neglected for a focus on the economic and social ramifications of their “afterlives” (such as waste or meat). Gillespie (2021: 280) reminds us that cows being spoken of as commodities and treated as “lively, soon-to-be-dead commodities” has implications for how they live. Furthermore, how cows are framed in academic literature has consequences for how they can be understood as historical subjects, and writing on cows’ urban histories sometimes erases their aliveness in favour
of speaking about the commodities that are extracted from them. While related, thinking about the significance of death for cows is different from thinking about the significance of meat or milk for markets, a point made clear by Kathryn Gillespie (2021) when, discussing dairy cows at cull markets, she says:

“They [cows] are living and not living, experiencing keenly these last days, hours, moments before they are sold once more, their bodies reduced to living flesh sold by the pound. One of the consequences of commodification, of materially and conceptually rendering animals as commodities, and even writing critically about their commodification is that who they are, as living, feeling, social beings (who they are in spite of and exterior to their commodification) can be easily obscured. So, yes, they are the soon to-be-dead, living dead, and future corpses, but they are not only that, and keeping this tension in mind may help to avoid the persistent erasure of their still-aliveness and their suffering, an erasure that is so easily accomplished through the commodification process” (Gillespie, 2021: 290).

This chapter attempts to walk the tension that Gillespie (2021) so lucidly writes about by highlighting how cows’ lives and bodies were made intelligible and governed as commodities and waste. The commodities and waste that are produced from animals’ deaths can be thought of as afterlives.  

10 That is, the “slaughtered, rendered commodity forms [and waste] are the afterlives of the lively commodity, the afterlife of liveliness of a life oriented around being commodified. They are not simply, then, a dead commodity, but a once-living commodity—a commodity-after-life” (Gillespie, 2021: 291).

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10 Howell (2002) uses afterlife to discuss the politics of dogs’ burials in Victorian England by owners who hoped they would have a spiritual life after death.
Because waste is “a generous linguistic, symbolic, and material signifier” (Hird, 2021: 12), focusing on it offers a useful way in which to conceive of the death of urban animals while at the same time making the historical violence of commodification visible. Bringing waste and death together in the same frame allows me to hold in tension the commodity status of animals and their subjectivity while at the same time illuminating often invisibilized places and practices in the history of urban slaughter (Philo and MacLachlan, 2018). A focus on waste analytically allows for the consideration of the material waste slaughter produced together with ideas of how cows’ lives (and opportunities to live) were wasted. First, however, I turn once again to Kington’s by-laws as an important space for understanding how cows were historically constituted as commodities and waste, and how this contributed to their problematization in the city.

The Regulation of Slaughter and Waste in Kingston

Kingston’s market square is one of the oldest in Canada. It was established in 1801, officially designated as a market in 1811, with butcher’s stalls added in 1819. Located between “St George’s church and the river,” the market was open everyday (except Sundays) to sell “all butcher’s meat, butter, eggs, poultry, fish and vegetables” (Osborne and Swainson, 2011: 45). Unsurprisingly, market regulations were one of the earliest and most important spaces for constituting cows in Kington as commodities (namely meat) and for problematizing some of their afterlives (such as waste from slaughter).

The management of filth, waste, garbage, or offensive matter was found in several regulations in Kingston. For example, the 1838 Act for the Suppression of Nuisances in and good government of...
the town of Kingston\textsuperscript{11} had several provisions related to dumping. It stated that no one was allowed to deposit or throw away “dung, manure, slops, or filth” in any streets, wharves, the shore, or the harbour.\textsuperscript{12} Furthermore, no-one was allowed to have “putrid or unwholesome substances” on their lots or in their cellars.\textsuperscript{13} In 1840 an amendment was added which said that anyone found dumping “the carcass or any part of the carcass of any dead animal whatsoever” could be fined between five to ten dollars.\textsuperscript{14} From at least 1866, the LBH was also troubled by manure left in yards\textsuperscript{15} and from the early twentieth century it was concerned with how such manure might tarnish wells or milk.\textsuperscript{16} While an explicit by-law related to the management of waste in Kingston was only created in 1903,\textsuperscript{17} waste was implicated in many of the city’s market, health, and food by-laws.

Kingston’s early market by-laws were primarily concerned with preventing the fraudulent sale of food, yet they were simultaneously and subtly shot through with concerns related to disease and waste.\textsuperscript{18} The Clerk of the Market was responsible for inspecting meat; giving out licenses; collecting rates, fees, charges, and tolls; monitoring the scales and weights; and removing anyone behaving untoward, such as people who were shouting or gambling. Importantly, the Market Clerk

\textsuperscript{11} By-Law Book, 25 June 1838, Locator 0100, Vol 1, pages 40-44, QUA.
\textsuperscript{13} Ibid.
\textsuperscript{14} Roughly $416-$832 today (xe.com and the Bank of England Inflation calendar).
\textsuperscript{15} LBH Minutes, 7 March 1866, Locator 0100, Vol 236, page 33, QUA.
\textsuperscript{16} Manure would have been an interesting waste dimension to unpack further but for the purposes of this chapter I am focusing on the intersection of waste and death.
\textsuperscript{17} A By-Law to authorize the appointment of scavengers and define their duties, By-Law Book, 12 April 1900, Vol 8, QUA. An explicit by-law for the management of waste in Kingston was only created in 1903 (A by law to regulate the conveyance of garbage offal and kitchen refuse through public streets, By-Law Book, 30 March 1903, Locator 0100, Vol 11, QUA). It stated that no garbage, offal, or kitchen waste could be transported through the city unless it was covered; and that such vehicles needed to be kept clean and free of “foul smelling substances.”
\textsuperscript{18} Market regulations were included in the 1838 Act to incorporate Kington as a town (An Act to incorporate the Town of Kingston under the name of “The Mayor and Common Council of the Town of Kingston, By-Law Book, 6 March 1838, Locator 0100, Vol 1, pages 1-25, QUA).
also had to ensure the market was “generally clean”\textsuperscript{19} and a Market Scavenger was employed to ensure that “all scraps, bones, refuse of meat or fish, garbage or rubbish, remaining in or near the Market House” when it closed were removed.\textsuperscript{20}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{kingston_market_square_1900.png}
\caption{Kingston’s iconic market square, 1900 (V23 Market Square-18, QUA).}
\end{figure}

\textsuperscript{19} Ibid, page 78-99.
\textsuperscript{20} Ibid, page 102. The scavenger was paid three half-pence by each butcher in a stall, and half-penny from everyone else in a stand per day.
While some private slaughterhouses did exist, animals were mostly slaughtered at the market square. The Market Clerk assigned “places for the sale and standing of horses, swine, cow, and other cattle” and by 1841 it cost at least 3 pennies per day for “every head of horned cattle” exposed for sale at the market and 1 penny per day for every “calf, head of sheep or swine” exposed. Cows were kept in pens or enclosures close to the market and, representative of the times, slaughtered on an ad hoc basis (MacLachlan, 2001). Butcher stalls were available inside the

21 It was forbidden to “kill or slaughter any animal whatever in any street or any part of the said town.” People could get approval to operate their own slaughterhouses but if they killed an animal in the city without such permissions, they could be fined between ten shillings and £5 for their offences (An Act to alter and amend an Act passed by the Mayor, Aldermen, and Commonality of the Town of Kingston in Common Council assembled on the 25th day of June 1838, entitled “An Act for the Suppression of Nuisances in, and good government of the Town of Kingston, By-Law Book, 25 June 1840, Locator 0100, Vol 1, pages 73-74, QUA).

22 Namely: “That part of the Market Place number one as above described on the North east side of the Market Building and lying east of King Street shall be and the same is hereby established as a market for the sale of Horses, Cattle, Sheep, and Pigs in which and not elsewhere within the City, the same may be exposed and exhibited for sale properly secured; and that said last mentioned market shall be called and known as the Cattle Market and that part of City Buildings now known and used as a Butcher’s Market shall be the Butcher’s Market for the sale of fresh Butcher’s meat under this By Law by retail or otherwise” (A By Law to regulate the Public Markets of the City of Kingston, By-Law Book, 12 April 1867, Locator, Vol 2, page 414, QUA). This remained in the by-laws until 1895 (see the Consolidated By-Laws).

23 An Act to regulate the Public Market in the Town of Kingston, By-Law Book, 4 October 1841, Locator 0100, Vol 1, pages 78-99, QUA.

24 Ibid.
shambles to the highest bidder and butchers could only use the stands outside once those were full.25 Farmers were permitted to sell meat from any stand of vehicle in the marketplace if they had “raised and fattened” their “stock” on their own premises.26

While the Market Act underwent numerous amendments and several repeals,27 the sale of meat remained the exclusive right of butchers and farmers and the Market Clerk and Scavenger continued to ensure the market ran smoothly and was kept clean. There were, however, some notable changes: in 1842, preparing for the city to become a capital, the Council authorized the erection of a new City Hall and Market House28 and while these were being built the Council also established “a market for wood, hay, cattle and other purpose” in “the vacant ground in rear of the Church and District Gaol, adjoining Johnson, Wellington, and Clarence Streets;”29 in 1854 the Council legislated that any dogs found mingling in the market would be shot;30 and in 1855, “the North East side of the Place D’Armes extending from the House formerly occupied as an office by the Royal Engineers to the East side of Wellington street” was established as an additional “market for cattle, horses, sheep and pigs where such may be exposed or exhibited for sale whilst properly fastened to the stakes in the said market and no where else within the City or the liberties

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25 Ibid. Hucksters were not allowed to sell meat, but they could use the stands to sell other merchandise.
26 Ibid.
27 The repeals were to update the market by-laws including how much it cost to keep animals and sell items.
28 An Act to Authorize the borrowing of the sum of Twenty Thousand Pounds Sterling for the Erection of a City Hall and Market House, By-Law Book, 21 October 1842, Locator 0100, Vol 1, pages 129-131, QUA. In 1865 the great wing of the market burned down and a smaller shambles, the one that stands there today, was built in its place (Osborne and Swainson, 2011).
30 A Market By Law to provide by one general by law to regulate the public market of the City of Kingston and for other purposes and to repeal the several By Laws previously passed for regulating the market of said City, By-Law Book, 20 April 1854, Vol 2, pages 196-212, QUA. Also see Agriculture Subject Files, 1850-1869, Locator 5079, Box 21, File 6, QUA.
thereof.” This market would become known as Market Number 2 or the Hay Market where, you might recall, Mr. O’Michael and 37 others would complain about cows’ disruptions (Chapter 4). By 1938 anyone selling anything deemed “offensive or undesirable” by the Market Clerk had to conduct their business in Market Number 2, including the sale of wood, fodder, hides, and skins.32

With the passing of the Public Health Act in 1884, the Local Board of Health became more involved in the management of the market, waste, and urban slaughter practices. From 1884, the LBH needed to approve private slaughterhouses;33 seized and destroyed food that appeared “diseased, or unsound, or unwholesome,” including “unsound meat;”34 and responded to

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31 A By law to regulate the public market in the City of Kingston, By-Law Book, 15 May 1855, Locator 0100, Vol 2, page 228, QUA.
32 1938 Consolidated by-laws.
33 The Public Health Act (Hein Online, 123-145) prohibited the accumulation of filth which included refuse and “animal matter,” and said animals could only be slaughtered two hundred yards from any dwelling-house and seventy yards from any public street.
34 The Public Health Act (Hein Online, 123-145). The Schedule outlined rules for the disposal of sewage and refuse. Rule 5 stated that “all putrid and decaying animal or vegetable matter must be removed from all cellars, buildings, out-buildings and yards on or before the fifteenth day of May in each year” (page 142). There was a special rule for pigs (rule 7) and livery stables (rule 8) which stated how far from dwellings they needed to be, and the
complaints about “offensive trades” such as blood, bone, soap, and tripe boiling, extracting oil from fish, tallow melting, and animal slaughter.\textsuperscript{35}

From 1907, meat became federally regulated when the Canadian Government passed the \textit{Meat and Canned Foods Act} which “established a regulatory system for all animals intended for slaughter as well as for the inspection of packaged meat products” (Ostry, 2006: 16). This regulation came after the \textit{American Pure Food Law} was passed in 1906, following the scandal caused by Upton Sinclair’s novel \textit{The Jungle} which revealed problems related to food safety and the beef industry in that country (Ostry, 2006).\textsuperscript{36} The \textit{Meat and Canned Foods Act} gave the Canadian government authority to inspect any products prepared for and packed in cans, stipulated labelling requirements for packaged foods, and required that the name of the company, as well as the contents and weight, be marked on the packages (Ostry, 2006: 16).

Unlike with milk, meat had been consistently regulated in Kingston since the site was established as a town in 1838. Where and how much meat could be sold had always been a matter of concern.\textsuperscript{37} However, how meat was understood in relation to waste did change. Waste was a diffuse matter, found in numerous by-laws and co-opted under the general term “nuisance.” However, in the twentieth century waste materialized as something that needed distinct management and this led

\begin{footnotesize}
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\footnotetext{35} If someone doing a “noxious or offensive trade” did not obtain permission they could be fined up to $250 (\textit{Public Health Act, 1884}, Hein Online, 130-131).
\footnotetext{36} \textit{The Jungle} (1906) is a fictional book written by Upton Sinclair. It is about Jurgis Rudkus, a Lithuanian immigrant working in Chicago’s meatpacking district. The book unpacks the working and living conditions of Jurgis and his young wife, which includes dubious landlords, cruel bosses, and debilitating work environments. Sinclair worked in a meatpacking plant to research the book and his novel, according to Ostry (2006: 15), “almost solely” inspired the \textit{American Pure Food Law} as well as “the temporary elimination of imports to Britain and the rest of Europe.”
\footnotetext{37} It is not clear from my study materials why meat was regulated so much earlier than other food stuffs.
\end{footnote}
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to a physical distancing of meat from waste. From at least 1867, butchers started to set up independent butcher shops (outside of the market)\textsuperscript{38} and “offensive matter” like hides were relegated to the Hay Market, further from the city center. This, as many scholars have noted in other cities (Cronon, 1991; Robichaud, 2019; Philo, 1995; Philo and MacLachlan, 2018; Otter, 2005), was a side effect of attempts to sanitize and modernize. However, as waste management in Kingston became more institutionalized, specific places for organic matter (such as the incinerator) and the burial of large animals (such as horses) formed a wastescape that stretched from animals bought and sold as commodities, to the production and sale of the commodities extracted from their bodies, and the discards the city wished to forget about.

What to do with waste, how best to collect it, and what measures should be taken to handle different kinds of waste (including tins, ashes, and animals) was a subject Kingston’s governing bodies were actively trying to iron-out in the early twentieth century. Waste management was not objective, neutral, or static. In Kingston, waste management historically involved high levels of negotiation, experimentation, and learning from the practices of other cities. For example, in 1912 the City Clerk (W.W. Sands)\textsuperscript{39} wrote to other municipalities in Ontario inquiring whether they used contractors to collect garbage,\textsuperscript{40} and in 1918 he wanted to know their experiences of feeding pigs

\textsuperscript{38} \textit{A By Law to regulate the Public Markets of the City of Kingston}, By-Law Book, 12 April 1867, Locator 0100, Vol 1, page 422, QUA.

\textsuperscript{39} Dr. William Wallace Sands (1870-1954) was appointed as the City Clerk of Kingston in 1906 and served in that position for 30 years. He also served as the Justice of the Peace for 25 years and practiced medicine in the city between 1906 and 1936 (4 March 1954, \textit{The Kingston Whig-Standard},15).

\textsuperscript{40} Their responses give a rare glimpse into the history of urban waste management in Ontario. Waste management was not standardized and clerks were trying to figure out strategies: Brantford did not allow private parties to collect garbage and afforded to hire its own men through tax provisions; London had recently passed a by-law for a new garbage system but it was not yet operational; St. Catherines said they provided services to some sections of the city and that garbage collection worked well for houses but not shops; Toronto hired its own employees; Brockville had yet to develop systematic collection system; Hamilton allowed for public scavenging; Guelph
waste. Kingston actively learned from other cities’ practices and by-laws which, as Kheraj (2015) has pointed to elsewhere, resulted in a standardization of urban ecologies.

To better centralize the management of waste, the Kingston City Health Committee was established in 1915. The correspondence and reports generated by this committee between 1915 and 1936 were primarily concerned with garbage collection and the functioning of the city’s nuisance grounds and incinerator. In 1927, the Committee oversaw the closing of the old incinerator on King Street and the opening of a new one on Murdock Farm (where dead animals were burned). They also managed the nuisance grounds and dump sites which included the management of non-organic waste (such as at the Bagot Street Dump) and the burial of dead animals (like at McCallum’s Farm and later Murdock Farm, also called the Division Street Dump). There was a geometry and a logic to which waste went where and it was shaped by both market and health concerns as well as shifting ideas of the place of waste in the city. The Committee was disbanded on the 1st of January 1938 when, because of its “technical nature,” the management of garbage became the purview of the City Engineer who needed to report to the Board of Works.

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41 Belleville confessed they had never thought about feeding waste to pigs and were keen to learn from Kingston’s experience; Guelph said they were considering it as a practice; the City Clerk from St. Catherines said they had tried to feed pigs waste but found that residents were not careful enough and a number of pigs died because of “broken glass and other material being thrown in the cans.” In Ottawa the practice was discontinued because it had become “illegal to keep hogs in the city” but the Health of Animals Branch of the Agricultural Department of the Dominion Government still issued permits to feed pigs outside the city waste from urban public buildings (Kingston City Health Committee Correspondence, 18 February 1918, Locator 0100, Box 225, QUA).

42 This is when its correspondence began in the Archives, but it may have formed earlier.

43 Kingston City Health Committee Correspondence, Locator 0100, Box 225, File 1 and 8, QUA.

Nonetheless, the practices of distancing waste from the production of meat contributed to the relative absence of animal stories in Kingston’s urban history. Such distancing adds to what William Cronon (1991: 256) would call a “second death” because not only did animals physically die in and for cities but their connections to the city were largely removed from the consciousness and memory of many North American urbanites. Cronon (1991: 256) contends that “forgetfulness was among the least noticed and most important of its [meatpacking industry] by-products” in Chicago. I address these forgotten histories in the next two sections where I explicitly show how the different constitution of cows and their bodies as commodities intersected with the problematization of waste in Kingston.

**Tracking the Traces of Officially Valued Cows: Slaughterhouses and Rendering Facilities**

Animals who are discursively constituted as commodities (like meat) in by-laws are often also those who are “officially valued” in capitalist relations (Collard and Dempsey, 2017: 85). Officially valued animals are animals that “capital can see” and around whom activities are established to extract value from their lives and deaths (Collard and Dempsey, 2017: 86). Focusing on the Easter Meat Market of 1868, this section is about the cows that ‘capital could see’ in Kingston and how their lives and deaths were spatially governed through urban capital and waste relations.

For animals like cows, many urban spaces implicated in the governance of such relations could be thought of as “death-worlds” and “rotting-worlds” (Gillespie, 2021: 281). Gillespie (2021: 291)
calls modern day cull markets death-worlds because they are organized around “those designated as the living dead,” and rotting-worlds because they are characterized by once vibrant bodies in various stages of decay. Thinking about the flows of cows’ afterlives as visibilizing an urban geography of death and rotting worlds highlights how the constitution of cows as commodities happened in tandem with the problematization of them as waste, and the violence of governing relations that managed them as such. To visibilize these connections, I focus on the slaughter of cows who were officially valued in Kington, such as those who were killed for the city’s Easter Meat Market:

It was April 1868 and he stood in the pen with the others, many of them strangers. Just yesterday he had been among different cows where he was fed slop several times a day. Now his large body was tethered to a post, and he stood next to an older cow in an unfamiliar yard. The abrasion on her udder smelled. \(^{45}\) Nervous, he shook his head and tried to pull away from the tether that held him. \(^{46}\) Men came and took the old cow away.

Since at least 1857, the Easter Meat Market brought travellers to Kingston from as far as Toronto and Montreal. \(^{47}\) An array of carcasses were shown in the marketplace and newspaper reports called them “bountiful shows” \(^{48}\) and “gorgeous displays.” \(^{49}\) The supposedly “beautifully fatted” \(^{50}\) beef came from heifers (cows who have not yet given birth), steers (males who have been castrated),

\(^{45}\) Mastitis was (and continues to be) a prevalent disease among cows and leads to inflammation of the udder. This cow might have had cowpox too (Milk Inspector Annual Report, LBH Correspondence, 18 January 1921, Locator 0100, Box 245, QUA).
\(^{46}\) Enlarged eye whites, loud vocalizations, and head shaking are indicators of fear or frustration (Marino and Allen, 2017).
\(^{47}\) Spring Walks, Edward John Barker, 11 April 1857, Locator V23 P-11, Box 1, QUA. The market burned in a fire in 1865 and, once rebuilt, was used as the site for proclaiming Canada a country on the 1st of July 1867.
\(^{48}\) Spring Walks, Edward John Barker, 11 April 1857, Locator V23 P-11, Box 1, QUA.
\(^{49}\) Spring Walks, Edward John Barker, 23 April 1859, Locator V23 P-11, Box 1, QUA.
\(^{50}\) This was in reference to Mr. Flanigan’s (the ex-mayor’s) Ox who weighed 1500 lbs (Spring Walks, Edward John Barker, 11 April 1857, Locator V23 P-11, Box 1, QUA).
and oxen (males who have been castrated and often also work as draught animals) who were slaughtered for the event.

Figure 51: Some accounts of the Easter Meat Market
I imagine the cow in the vignette was one of the many dairy cows who were kept in backyards, hotels, and hospitals in Kingston for the purpose of supplying milk. While I have no evidence she was in the “Cattle Market” in 1868, I speculate her presence there because it is perhaps easy to forget that dairy cows are also destined for slaughter. Even though dairy cows in Kingston’s past likely lived longer than some of their contemporary kin, the effects of multiple pregnancies would have shown on the cow’s body. She might have had abrasions from years of rough handling, and she might have had mastitis with milk or even blood oozing from her udders.

Because her body was in such a state of deterioration, it is unlikely that this cow was one of the “excellent” or “splendid” carcasses put on display at the Easter Meat Market. It is more likely that her flesh was smoked and put in something like sausages. Sausages were invented at least 3,000 years ago as a means of preventing waste because animal flesh decays so quickly (Allen, 2015). Sausages are also comprised of lower-grade meat, therefore costing less to produce and often hiding the corporeal effects of commodification and deterioration found on animals’ used bodies. Unlike the dairy cow who was older and would have been kept alive until her owner

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51 Cows were not recorded in Kingston’s city assessments between 1853-1867. In 1852, 226 cows were recorded in Kingston and by 1868 this number had jumped to 779 cows. Part of the reason for this jump is because in 1868 John Breden (#366 Victoria Ward) was recorded as having 514 cows and Lawrence Herchmer (#310 Victoria Ward) was recorded as having 1000 sheep.

52 “That part of the Market Place number one as above described on the North east side of the Market Building and lying east of King Street shall be and the same is hereby established as a market for the sale of Horses, Cattle, Sheep, and Pigs in which and not elsewhere within the City, the same may be exposed and exhibited for sale properly secured; and that said last mentioned market shall be called and known as the Cattle Market and that part of City Buildings now known and used as a Butcher’s Market shall be the Butcher’s Market for the sale of fresh Butcher’s meat under this By Law by retail or otherwise” (A By Law to regulate the Public Markets of the City of Kingston, By-Law Book, 12 April 1867, Locator 0100, Vol 2, page 414, QUA).

53 Cows can live beyond twenty years but in industrial settings dairy cows are slaughtered between the ages of three to seven (Gillespie, 2018:17).


55 One of the earliest accounts of sausage are from murals in Egypt which display them being made “from the blood of sacrificial cattle” but the earliest written account was in Homer’s Odyssey (Allen, 2015: 10).
thought she was no longer valuable as a milk producer, the steer would have been slaughtered young. And while he might not have had the same signs of physical wasting, the intention that he would become meat shaped his life.

The steer was one of the hundreds of “horned cattle” who were fattened with “distillery wash” at Kingston’s Distillery and Brewery (Cooper, 1856: 38).56 More commonly referred to as “Morton’s Brewery,” Kingston’s Distillery and Brewery opened in 1834 and by 1844 the British Whig described how “Mr. Morton’s Mammoth Distillery”57 used over 500 bushels of grain daily and “fattened” over 200 “horned cattle” over the winter months, to be killed in May and June (Cooper, 1856).58 By 1855 an estimated 1,000-1,200 cows were fattened there (Cooper, 1856). Feeding cows (including steers) leftovers from distilling and brewing processes was common practice in cities in the early 19th century; and it is what contributed to the Swill Milk Crisis in New York in the 1850s (McNeur, 2014; Robichaud, 2019).

As mentioned in the previous chapter, cows can get very sick from drinking swill resulting in the loss of their teeth and tails, and their milk turning a pale blue colour (Bourinot, 1888; McNeur, 2014; Robichaud, 2019). Feeding cows swill in Kingston would have been viewed as cost-effective because it allowed brewers and distillers to make use of something that would normally be

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56 Today, steers are over-represented in the meat industry because they gain weight quickly. Furthermore, castration of domestic animals is a practice that is at least 8,000 years old, and it is believed to produce males who are less aggressive.
57 1 March 1844, The British Whig, 2.
58 Many of Morton’s “High Wines” were exported but “Morton’s Proof” was “celebrated at the dinner table” and local tavern keepers were readily supplied with his “excellent beer” (Spring Walks, Edward John Barker, 21 May 1849, Locator V23 P-11, Box 1, QUA). Despite his successes, Morton went bankrupt in the 1859 and was obliged to mortgage his property and lease his business (Magill, 1976). After Morton’s death in 1864, the brewery and the property continued to be managed by a bank agent (Mr. A. McCormick) and cows continued to be fed on the premises.
considered waste. Fattening operations, like the one found at Morton’s, are possibly early forms of what are today called feedlots, a type of animal feeding operation designed to get animals as fat as possible before they are slaughtered.

Figure 52: Morton’s Distillery and Brewery, 1910, Artist Ella Fraser (V-23-Ar-19_3, QUA).
While cows were fattened at Morton’s Distillery, they were not necessarily owned by James Morton or those managing his estate.\(^59\) A note in the margins of the 1860s census revealed that John Breden fed at least 500 cows at the Distillery from 1860. Receipts from 1867 and 1868 reveal Breden spent $5120 in 1867 for “feeding 512 head of cattle” there.\(^60\) From as early as 1857, Breden supplied butchers with cows to be killed and displayed as meat at the Easter Meat Market: in 1857 he fed two heifers (each weighing 1,000 lbs) who were butchered and displayed by John Geales;\(^61\)

\(^59\) I only found reference to one cow who was listed under “inventory” between 1860-1863 in Morton’s fonds (1861-1876, Locator 2269.7, Box 1 and 2, QUA)

\(^60\) Receipt from the Kingston Brewery and Distillery, 1 August 1867, Locator 2269.7, Box 2, File 8, QUA. That is roughly $460,000 CAD today (xe.com and Bank of England Inflation calendar). When my husband spotted that John Breden owned 514 cows and Lawrence Herchmer 1000 sheep this confirmed my suspicion that there were likely larger herds of animals kept in the city but not necessarily recorded in the Assessments. Another local historian, Jennifer McKendry, sent me a picture of the 1861 census that stated John Breden owned “500 head of cattle in Morton’s (or Nicke’s) Distillery valued at £3,000.” An 1868 receipt explicitly stated $13 per-head Receipt from the Kingston Brewery and Distillery (13 November 1868, Locator 2269.7, Box 7, File 8, QUA).

\(^61\) Spring Walks, Edward John Barker, 11 April 1857, Locator V23 P-11, Box 1, QUA.
in 1860 he fattened, “one very fine ox” butchered and displayed by Mr. Henry Andrews;62 and in 1868 Henry Andrews butchered 6 steers who were fed by Breden. The steer in the above vignette is one of these six.

The steers were likely walked from the brewery, which sat near the outer limits of Victoria Ward, along King Street to the Market. With the water on their right, they would have been driven past Macdonald Pasture where other cows might have been grazing63 before being tied up in “The Cattle Market” on the “Northeast side” of the market square.64 After the dairy cow was taken away in April 1868, the steer might have spent an uncomfortable night tied up in the enclosure:

He was tired. The back of his legs were stained with diarrhoea. He bellowed loudly.65 Some men came and tried to quieten him. The whites of his eyes showed, and he thrashed.66 They hit him with rods until he stopped. Then they undid the tether and walked him away from that horrible place. People were shouting, horses briskly walking, and many others stood in the square.67 The cacophony scared him and as he grew restless, the men hit him again.68 Then he smelled the blood and the fear in the urine.69 He resisted going inside. Two men with stained coats waited for him there. One grabbed his tether, and the other raised his hand. The poleaxe hit him with a blow, and he was momentarily stunned before he felt the stab in his neck.70

62 He was “considered the best ox that [had] been slaughtered in Upper Canada for years” (9 April 1860, The Daily British Whig, 2).
63 Recall that it functioned as a pasture between 1855-1890.
64 I do still find it remarkable that there is so little visual documentation of cows or of meat from this time. Considering the gushing descriptions, one would expect that there would be some sort of visual account of these events. Perhaps these will be found in the Board of Trade Fonds or Agricultural files.
65 Loud vocalizations are a stress response (Marino and Allen, 2017).
66 Indicators of stress and fear (Marino and Allen, 2017).
67 The many historical images and photos of Kingston’s market square show that it was a bustling place often filled with wagons, men, and horses.
68 “Loud noises, particularly the sound of people shouting are disturbing to cattle” (Rushen et al, 2008: 131).
69 Cows are microsmatic and have advanced senses of smell. The have the flehmen response which means they can curl back their upper lip to smell. This type of smelling allows cows to detect stress in the urine of their conspecifics (Marino and Allen, 2017).
70 Being stunned makes an animal’s body rigid and the process of slaughter easier and less dangerous for those doing the killing.
This steer’s life had been shaped by the inevitability that he would be killed to be meat. He was castrated, kept in an overcrowded barn over winter, and fed a mash to make him gain weight quickly so that, once dead, his body could be turned into an array of commodities. In the early 19th century, slaughterhouses in Canada were “typically ill-designed, imperfectly drained, and insufficiently lighted and ventilated” (MacLachlan, 2001:127). In the late 1860s, Kingston was home to a large market shambles in which cows (and many other animals) were slaughtered. The market by-laws reserved stalls for butchers because killing animals, particularly large ones like cows, was skilled work that required space. Cows were also normally killed and dressed individually by a team of two or three men (MacLachlan, 2001). Otter (2005), discussing slaughter in London, notes that in the 19th century poleaxes were the dominant method for stunning cows before bleeding them. 71 Bleeding involves severing the carotid arteries and jugular veins at the cranial part of the neck, before leaving the cow to die from blood loss. 72 Called exsanguination, cows can take 20 seconds to a minute to die from such blood loss (Sinergia Animal, 2023).

Slaughterhouses are spaces in which relations of domination are the primary power relation. Animals are spatially organized through a series of enclosures that greatly reduce their chances to react (Thierman, 2010; Morin, 2020; Pachirat, 2011). This entails externalized practices such as confinement and physical violence. Animals’ bodies and movements often conform to the governing principles of slaughterhouses, not because they want their deaths but rather because they have been trained, tamed, and broken in such a way that they become docile animal subjects.

71 Smaller animals were not stunned before being bled.
72 While there are few photos of the animals killed at the market, there is ample evidence that that dead animals were there. An archaeological excavation of the market square uncovered numerous animal bones (Cataraqui Archaeological Research Foundation, 2010).
They have internalized what it means to behave to avoid punishment.\textsuperscript{73} Even though the steer resisted the violence he faced, he was still killed in a place that could only be thought of as a death world for these animals.

The steer was killed so that his dead body could be displayed at the Easter Meat Market but meat on display at the marketplace was not his only afterlife. While Kingston was not home to large meatpacking or canning facilities, the steer’s body would have still been rendered into an array of other commodities. Such commodities sit tentatively on a borderland between waste and commodity in that rendering facilities process animal remains that are ‘left over’ from slaughter (including bones, skin, and offal) into other products (Gillespie, 2021).\textsuperscript{74} Historically these products included everything from lard to candles, glue, brushes and soaps (Cronon, 1991).

Renderings were historically essential to the industrialization of slaughter because they inspired disassembly lines which turned ‘waste’ into profits for meatpackers. Disassembly lines were innovated in Cincinnati in 1830s\textsuperscript{75} and perfected in Chicago in the 1870s.\textsuperscript{76} They involve taking animals’ bodies apart piece by piece and using standardized human labour whereby a person stands in one place doing the same task repeatedly (Arms, 1959; Cronon, 1991; Fitzgerald, 2010; Gordon, 1990). Instead of a cow being killed by a small group of butchers and sold ‘fresh’ directly to

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\textsuperscript{73} The steer in the vignette resisted being confined and led to his death but considering the size of steers as well as the extent to which they can be controlled they are likely much more docile that their ancient kin, aurochs.

\textsuperscript{74} Today, high temperatures rid these remnants of bacteria and these ‘leftovers’ are converted into everything from bone meal, to soap, gelatine, and pharmaceuticals (Gillespie, 2021).

\textsuperscript{75} By the 1830s Cincinnati was known as Porkopolis, the largest pork packing center in North America (Cronon, 1991: 225).

\textsuperscript{76} The Union Stockyards opened in Chicago on Christmas Day 1865. At its peak 21,000 cows; 75,000 hogs; 22,000 sheep; and 200 horses were being handled there at any given point in time. As meat packers moved out of cities, it saw massive declines in the 1930s and the stockyards closed in the 1970s (Cronon, 1991: 210 and 259).
customers, large numbers of cows were killed in Chicago, cut up into standardized pieces, pre-packaged, and sold at rates never seen before. These meatpacking facilities would inspire Henry Ford’s assembly lines, a defining feature of mass production (Arms, 1959; Cronon, 1991; Baics and Thelle, 2018; Philo and MacLachlan, 2018). Disassembly lines were revolutionary because they allowed meatpackers (like Swift and Armour) to profit off parts of the animal that were once considered waste by making more products from a single animal than ever before (Cronon, 1991). This allowed meatpackers to dominate meat markets by undercutting the prices of small-scale butchers in cities across North America (Cronon, 1991; Ficek, 2019).

Figure 54: Disassembly line in Cincinnati, 1873 (Lithograph Henry François Farny, United States Library of Congress).

77 Canadian meatpacking originally entailed filling white-oak barrels with salted or pickled pork or beef to be exported to the United Kingdom (MacLachlan, 2001).
The Grand Trunk Railway, which had a stop in Kingston, has an interesting history with the emergence of meatpacking and its ability to undersell butchers. Other railway lines in the U.S. were not enthusiastic about Swift’s refrigerated railcars (developed to transport chilled beef) because they had already invested in developing technology for the transportation of live animals (who were also heavier) to cities in the east, like New York (Cronon, 1991). Fortunately for Swift, the Grand Trunk was not a successful carrier of live animals because it was so much more circuitous, so they gladly jumped on the opportunity to transport Chicago’s dressed beef. By 1885 the Grand Trunk was transporting 292 million pounds of beef from Chicago (Cronon, 1991: 239). It is unlikely Kingston was untouched by these interventions and more research is needed to understand how the manufacture and consumption of meat in the city changed at this time. But back in the 1860s, even though Kington was not home to a disassembly line, there were several rendering operations in the city. Consequently, to unravel the connections between commodification and waste in Kingston further, I continue to track the traces of the steer’s story, after death:

As his heartbeat stopped the blood flow slowed. His tongue stuck out from his open mouth. His eyes were open but motionless. With his body still warm the men began their work. They cut off his head, then his front feet, and finally his tail. Then they hung him up and began the process of skinning him.

One industry in Kingston that relied on the skin of cows was the tanning industry. Between 1838 and 1938 Kingston was home to several tanneries including Minne’s Tannery and Glue Factory.78

78 The tannery had an advertisement in the 1857 City Directory, but it was not listed in the 1865 or the 1867 City Directories as a tannery. It was put up for sale in early 1865 (5 April 1865, Kingston Daily News, 4) but the LBH was
the Ford Tannery,\textsuperscript{79} and Strange’s Tannery.\textsuperscript{80} From the 1880s, Kingston’s Board of Trade also appointed Hide Inspectors to grade, and sometimes store, the skins of cows, such as John McCammon,\textsuperscript{81} Henry LeHeup,\textsuperscript{82} and Patrick Lyons.\textsuperscript{83} Perhaps William Ford Junior bought the steer’s skin from Henry Andrews, the butcher who killed the steer for the Easter Meat Market. William Ford Junior took over his father’s business in “Leather and Findings” opposite the market and his father operated a tannery in “Hatter’s Bay” (what is today known as Portsmouth).\textsuperscript{84} Only a few years later, in 1873, William Ford Junior would open the Ford Tannery in an area of Cataraqui Ward that would, over the course of its history, be home to at least four tanneries,\textsuperscript{85} including the infamous Davis Tannery mentioned at the start of the chapter.

\textsuperscript{79} McKendry (2018) has the tannery as opening in 1873 and closing in 1895, burning down in 1896 and taken over by the McLeod tannery (see \textit{The Daily British Whig}, 17 November 1896, 1).
\textsuperscript{80} A report by Heritage Kingston places the tannery in Portsmouth village (10 April 1865, \textit{The Kingston Daily News}, page 2).
\textsuperscript{81} Appointed on the 6 of June 1894 (\textit{The Daily British Whig}, page 1) and he resigned on the 16\textsuperscript{th} of March 1899 (\textit{Weekly British Whig}, 3).
\textsuperscript{82} Appointed on the 28\textsuperscript{th} of July 1903 (\textit{The Daily British Whig Standard}, 7) he set up on King Street and by November complaints were being sent to the LBH about the odors coming from his premises. In April of 1904 the LBH declared it a nuisance (LBH Minutes, Locator 0100, Vol 238, page 209, QUA).
\textsuperscript{83} Like LeHeup, Patrick Lyons premises were inspected in early 1904 (LBH Minutes, 21 April 1904, Locator 0100, Vol 238, page 206, QUA). In November of 1908 the LBH received a letter from “one who suffers” to say that they are having to contend with “rotten smell of skins” on Ordnance Street (LBH Minutes, 24 November 1908, Locator 0100, Vol 239, QUA). The skins were said to be “discharging in the yards” and causing a “nuisance” (LBH Minutes, 7 December 1908, Locator 0100, Vol 239, QUA) but shortly thereafter Lyons responded saying he does not store hides there (LBH Correspondence, 9 December 1908, Locator 0100, Box243, File 4, QUA).
\textsuperscript{84} Others listed in this type of business were John McKay Junior at 176 Princess, John Smith on Brock Street near the corner of King Street, and William Matin in the Lambton Buildings doing wholesale on Princess (1865 City Directory). William Ford Senior had long operated as a merchant of hides and wool at 67 King Street and had a tannery in “Hater’s Bay.”
\textsuperscript{85} Ford Tannery (1865-1896), McLeod and Wright Tannery (1900), Kingston Tannery (1900-1903), and the Davis Tannery (1903-1973).
Figure 55: Ford and Sons, opposite the market square with pile of skins outside, 1900 (F01411-512535-1, QUA).

Figure 56: Ford and Sons store (the orange leather symbol) opposite the Market Square, extract from Figure 47 (Author)
As late as 1897, it was still common for “tanners to buy all the hides they need[ed] direct from farmers or butchers, the skins being brought to the tanneries for disposal.” Butchers had no use for the skins so taking them to tanners afforded them with an opportunity to extract more financial value from an animal’s death. Butchers would often sell skin “wet” because it had “just been removed from the carcase” and then hide-buyers or tanners would salt it and store it away, where it would dry and lose one to eight pounds in weight. Once dried and at the tannery, the animals’ skins would be cut down the middle into two sides. Each side would be soaked in water to remove loose dirt, limed to open skin pores, and any remaining hair burned off. Next, the skin would be “fleshed” to remove “particles on the flesh side of the hide” before being tanned. Earlier tanneries, like the Ford’s Tannery, would have used tannins like tree bark to turn the flesh of animals like the steer a different shade of brown. Then the skin would have been wrung, dried, split lengthways, shaved, coloured, pasted, washed, boarded, buffed, brushed, seasoned, pressed, and shipped. From here, the flesh – now called leather – would be bought and made into an array of commodities, including shoes and bags.

86 12 May 1897, The Daily British Whig Standard, 2. However, later tanneries – like the Davis Tannery – would almost exclusively buy their hides from outside of the city. To make leather for shoes the Davis Tannery required “plump hides” which were generally produced in Western Canada and supplied through a brokerage firm in Toronto (Davis Tannery Situation Analysis, Locator 2319.2, Box 17, File 17, QUA). Commenting on the request by tanners that hide inspections become compulsory in Ontario, John McKay (a famous furrier in Kingston) illuminated some of the ways in which the afterlives of cows, namely their skin, economically (and materially) moved through the city. Tanners wanted to secure “better class of skins.” Flies and insects lay eggs in the backs of cows “which leads to grubby skin” and a “number one hide must not have more than three grubs in it” (12 May 1897, The Daily British Whig Standard, 2). McKay believed the real reason tanners wanted compulsory inspection was to prevent tanners from exporting their hides.

88 Davis Tannery Situation Analysis, Locator 2319.2, Box 17, File 17, QUA.
89 The Davis Tannery made use of chrome tanning, a more modern method, where the hides were delimed and then dumped in a chromic acid solution for at least 48 hours to preserve the hide (Davis Tannery Situation Analysis, Locator 2319.2, Box 17, File 17, QUA).
90 Davis Tannery Situation Analysis, Locator 2319.2, Box 17, File 17, QUA.
While leather dealings, hide inspections, and tanners were sometimes complained of as nuisances in Kington that caused bad smells and were somewhat unsanitary, in the 19th and early 20th centuries they were generally an accepted part of Kingston’s urban landscape. Today, these urban tanneries are often discussed as examples of early polluting industries and blamed for the damage their waste did to surrounding waterways, marshlands, and soils (Duerkop, 2010; Welbourne, 2021). But tanneries can also be thought of as death and rotting worlds for animals: they were industries that relied on the death of animals like the steer and they made use of speed, lime, and salt to actively guard against decay. But the steer’s flesh and the commodities which would be made from his skin are part of only one flow in his commodified afterlife; many other items would be made from his blood, organs, and bones. Back at the slaughterhouse, the butchers continued their work of taking the steer apart:

*His now skinless body hung from the hook.* 91 A large cut was made down his mid-section and his insides came out. His organs and blood spilled from him. The men’s overalls were stained with blood as they began the process of cleaning and sorting the steer’s insides into different parts. Then the butchers hung him in their stall, ready to be carved up and sold by the pound, or even the quarter.

While the steer’s skinless body would be displayed in two halves at the Easter Meat Market on the 10th of April 1868, his insides would be boiled and converted into other items. For example, his fat would be mixed with the fat of other animals and melted down to make “tallow” or “lard” used in cooking and to make soaps and candles. Unlike the praise the carcases at the Meat Market received, activities such as tallow melting along with blood, bone, soap, and tripe boiling were regulated as nuisance trades. People regularly complained about slaughterhouses in Williamsville

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91 To achieve this his Achilles tendons on his back legs would need to be cut.
because of “the accumulations of putrid blood [and] offal.” The LBH also responded to numerous complaints about “grease and blood” and the storing of rags and bones. Whereas meatpackers would, eventually co-opt these activities to scale up meat production and increase profits, in Kingston’s urban history these activities were dispersed, often located in factories or residences in outlying neighbourhoods.

The negative effects of transforming the steer (and many others like him) into varied commodities was unevenly distributed in the city. As in other cities, the urban poor and working-class citizens of Kingston experienced the environmental consequences of meat-based industries most profoundly. Part of the reason for this environmental racism was because most of the work force in Kingston’s tanneries were immigrants and much of the tallow melting and blood boiling was done by Kingston’s poorer residents. Furthermore, these factories, slaughterhouses (excepting the market), and nuisance trades were (through regulation and monitoring) relegated to specific parts of the city in what Robichaud (2022: 638) “animal suburbs.” In Kingston, two such suburbs included the Inner Harbour in Cataraqui Ward (where many of the tanneries, factories, dumps, rag, and bone industries were concentrated) and Williamsville (where many private slaughterhouses and nuisance grounds operated). And while it is certainly true that many animals lived in these areas, these animal suburbs could also be thought of as waste, rotting, or even death suburbs.

92 LBH Minutes, 26 August 1854, Locator 0100, Vol 235, page 22, QUA.
93 LBH Correspondence, 4 June 1909, Locator 0100, Box243, QUA.
94 LBH Correspondence, 2 and 27 November 1917, Locator 0100, Box244, File 8, QUA; on the 12 of May 1904 two peddlers (Susman and Cohen) were inspected by the board because “a quantity of bones” were causing a nuisance (LBH Correspondence, Locator 0100, Box242, QUA). In 1910 Council objected to the storage of rags and bones by MR. Zacks (LBH Minutes, 11 Oct 1910, Locator 0100, Vol 239, QUA).
95 An example is the “The Butcher’s Reservation” built on marshlands of San Francisco in 1870 (Robichaud, 2019). Immigrants and the urban poor were severely impacted by these regulations not only because they often relied on urban animals (especially pigs) as a source of subsistence, but they also worked in these industries and were often implicated in racist discourses about urban dirt.
Figure 57: Visualizing Williamsville and the Inner Harbour (Google Maps, Author).

Figure 58: The many tanneries of Cataraqui Ward, extract from Figure 47 (Author).
The death of cows in Kingston also resulted in the accumulation of wealth and the expansion of markets. While John Breden sometimes supplied butchers at the market with animals for the Easter Meat Market, his main operation likely lay outside of the city. Breden came to Kingston in 1828 as a butcher and served as Kingston’s mayor between 1866-1868. He also worked as “a cattle merchant” and “cattle dealer” whereby he would “fatten cattle” at Morton’s who he then “shipped to various markets.” From 1860 to at least 1868, Breden kept more than 500 cows at

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96 In 1869, because of an increase in grain prices, he stopped supplying the Easter Market with “Fat Cattle”, but he continued to be listed as a “cattle merchant” in the city directories. In 1869 we learn just how far his reach and supply to Kingston’s butchers was, when, in the annual reporting of the Easter market the journalist started by stating “Owing to the stoppage of the works at Morton’s Distillery, Mr. John Breden could supply no more Fat Cattle, and the Kingston Butchers had to go far afield for their supplies, several as far as Guelph and Stratford” (29 March 1869, *The Daily British Whig*, 2).

97 Listed as such in the 1871 and 1881 Censes respectively.

98 20 September 1884, *The Daily British Whig*, 3. More work would need to be done to see if Breden kept his cows at Morton’s when it changed ownership in 1873. However, Breden did put out an advertisement in the same year.
Morton’s Distillery. This location was beneficial for distillery mash and access to the port. The steers and cows Breden fattened were not exclusively for domestic consumption but were likely being shipped to the United States and even the United Kingdom. By the time Breden died in 1893 he had accrued a massive amount of wealth and property with some saying that he might have been “one of the wealthiest men in the city.” Considering his prominence, it is surprising that more has not been written about him but, thinking back to the earlier discussion about animals and property in the city (Chapter 4), it is interesting to think about the tension between how cows were policed as being transgressive and damaging to property valuations while at the same time the violent management of their lives and deaths contributed to the accumulation and generation of property. That is, cows and their lives and deaths were intimately entangled with the management of waste (trying to avoid decay and gain distance from offensive matter) but they are also very much part of capital and property accumulation in cities.

Animals who were historically rendered into commodities in North American cities are often epistemically and imaginatively invisible in urban histories and geographies. Their deaths are rarely explicitly mentioned so it is perhaps easy to forget that tallow, tripe, and offal were the fat,

looking for a farm of about 400 acres where he could keep 60-70 cows, perhaps before they were sent to be fattened (18 March 1872, British Whig, 3). But by 1877, Morton’s Property was up for sale (19 September 1877, The Daily News, 2). When he was remarried (at 85) in 1884, the journalist noted that he had retries a few years prior. Perhaps he had stopped working as a “cattle dealer” when his access to cheap grain and a useful port at the distillery were no longer options (20 September 1884, The Daily British Whig, 3).

99 It is interesting to note that the shift from managing cows as vagrants in 1879 (Chapter 4) to managing their riskiness between the 1880s and 1930s (Chapter 5) maps almost perfectly onto broader national and global meat politics. In 1879, the British Empire put in place what would become known as “The Cattle Embargo.” They stopped the live import of cows from the United States which for a brief time increased how many cows were exported from Canada. However, by 1892 Canada was included in the embargo when rumours circulated cows with pleuro-pneumonia had been imported from the United States to Montreal. See Subject Files-Cattle Embargo, 1920-1922, Locator 5110.1, Box 34, File 34, QUA.

100 28 June 1893, The Daily British Whig, 1.
stomach lining, and organs of once-living animals. In Kingston, cows are also rendered invisible in contemporary accounts about the city’s heritage. For example, descriptions on the websites for the Tett Center for Creativity and Learning (Young, 2010) and the Isabel Bader Centre for the Performing Arts (which today stand where the Distillery once was) mention Morton, his support of over 60 families, the bushels of grain consumed, the fermentation tanks, and the barrels of whisky produced but they fail to note that between 1844-1868 thousands of cows were fattened there. Furthermore, the current discussions about the ecological devastation caused by the Davis Tannery in Cataraqui Ward sometimes fail to connect the history of urban tanning in Kingston to the uneven environmental impacts that are generally caused by the human (and indeed urban) consumption of animals.

Through tracking the traces of the steer’s death at least two disciplinary logics are clear: one is the desire to guard against the wasteful use of animals’ bodies and to mitigate the environmental effects of their slaughter (including smells and pollution); and another is the desire to extract as much economic value from their deaths as possible (through the generation of many commodities including: sausages, meat, leather, glue, soap, tallow, and lard). But when these decompositions, smells, and commodities are analyzed as animals’ afterlives, the level of violence animals faced in life and death becomes plain.\(^{101}\) The inevitability that the steer would be killed to make commodities shaped his life. He was subjected to constitutive practices (like feeding operations) which physiologically altered his body. He also experienced externalized practices like castration and being kept in overcrowded barns. The hundreds of other cows who were not walked from the

\(^{101}\) Remember that afterlife is a way in which to conceive of commodities that come from animals to make visible the life used in making such a commodity possible (Gillespie, 2021).

256
Distillery to the Market might have faced longer torments such as being enclosed on dank and dark ships.

The connections between distilleries, markets, tanneries, and other rendering facilities not only provides a geography of Kingston’s economic and industrial history but offers a way to conceive of cities as death and rotting worlds for animals. But such worlds also extend beyond slaughter. Many of Kingston’s domesticated animals met deaths different from that of slaughter. They died in road collision, drowned, and were poisoned. .102 There were also those who got sick and died. Then there were those animals who were killed or left to die because their lives and bodies (either entirely, or at some point) were constituted as valueless. Unlike the steer who capital could see and whose afterlives were entangled in a variety of commodity and waste flows in Kingston, in the next section, I am concerned with cows that capital could not see and who were constituted as waste because it was believed no economic value (or no more economic value) could be extracted from them.

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102 The most well recorded animal deaths in Kingston are those of horses who died from road collisions, falling in the lake, and being over-exerted in races. The City Commissioner also often recorded the dumping of their bodies. In 1882, for example, a complaint was made against James Coleman for leaving a dead horse in a quarry (City Commissioner Daily Diary, December 1882, Locator 0100, Vol 1 974A, page 24, QUA). In 1884, Kiel Glazier was fined $1.84 for dumping a dead horse on The Commons contrary to the by-law (page 44). George Wright was also fined in the same year for the same offence (page 44) and Francis Luaish deposited “a carcase” on the Commons (page 49). Another species of animal often recorded as dead (in fact in the documents I looked at was only visible when dead) were cats. On the 11th of December 1883, a dead cat was found lying on Ontario Street (page 35) and another on Brock Street (page 35). In 1884 dead cats were found lying on West Street (page 50), Montreal Street (page 49), and King Street (page 50) (City Commissioner Daily Diary, 1881-1897, Locator 0100, Vol 1 974A, QUA).
Breath. His first breath.

It was all so new. And there she was. Mother, his mother. She licked him and he knew. He knew he was safe.¹⁰³ She would protect him. He must just stay close. She licked some more. Another breath. Then they came, the creatures he did not know. She stood in front of him.¹⁰⁴ He huddled behind her. He was safe, he reminded himself. But she bellowed, urinated, and her ears shot upward and forward.¹⁰⁵ He cowered. They got his legs and pulled. They dragged him. She bellowed some more. They dragged him further. He shook with fear. He was still so new to this world, this terrifying place.¹⁰⁶ As they dragged him away from his mother, he could hear her voice grow fainter. She sounded strained. She was afraid too.¹⁰⁷

Without her milk, he weakened. Without her protection, he weakened.¹⁰⁸

Now everything was dark, and they were dragging him again. They flung him. His body ached and his bones broke. Then there was silence. They were gone. She was gone. He was alone in a black landscape.¹⁰⁹ It had been two days since he was born. Only two days since he met and smelled his mother.

He was so alone. He was treated like nothing but waste. His whole life, a waste.

A final breath.

¹⁰³ Licking is a crucial part of mother-calf bonding (Marino and Allen, 2017: 484).
¹⁰⁴ Maternal protectiveness is well illustrated by cows who in agricultural experiments moved in front of an unfamiliar vehicle approaching their calves 99% of the time (Marino and Allen, 2017: 487).
¹⁰⁵ Cows’ ear posture is associated with different states of mind. Cows who are not relaxed often have their ears upright and forward facing (Marino and Allen, 2017: 481).
¹⁰⁶ Calves learn fear responses “to humans who have previously handled them in a rough manner” (Marino and Allen, 2017: 478).
¹⁰⁷ Cows form strong maternal bonds with their calves after just five minutes of contact. Several studies illustrate that both cows and calves experience distress when they are separated (Marino and Allen, 2017: 485).
¹⁰⁸ Calves who are given continual access to their mothers in the first 12 weeks of life display higher levels of sociality and fewer stress responses (Marino and Allen, 2017: 489).
¹⁰⁹ More research is needed to understand the preferred method for dealing with male calves at this time. People did abandon animals in the commons/nuisance grounds in Kingston, so it is reasonable to think this calf was left there.
On the 11th of March 1887, someone by the pen name “The Explorer” wrote to *The Daily British Whig* a graphic description of their journey to the city’s nuisance grounds, at the western end of Johnson Street, Rideau Ward. They painted a dystopic picture of what the nuisance grounds had become. Not only were their nostrils “assailed with a horrible stench” which “carried on its dank breath nothing but the foul heavy steam of corruption and decay” but the ground was covered in “bleached bones” and “festering scraps of flesh”; a scene The Explorer describes as a “*tumuli* of rotting garbage which almost concealed the more cleanly relics of death from view.” Their description included the nearby body of a dead horse who “shapely in life” had now “swelled to abnormal proportions.” Other “objects of horror” included “reeking carcasses,” “crows emboldened by their inertia,” and “a hideless deacon calf” on which a “coal black Newfoundland dog” had been eating. Other citizens joined The Explorer to complain about the nuisance ground and used similar tropes and grievances to describe the place, including: descriptions about the “offensive stench,” fear of how much worse the smell would be when the weather warmed, concern about disease transmission, criticism of the Board of Health for not taking enough steps to abate the situation, and anger that the concerns of residents in Williamsville were not taken seriously.

The articles also often included graphic descriptions of animals’ bodies (including cows, horses, and dogs) in varied states of decay (often being eaten by roaming pigs and dogs). The skinless deacon only briefly mentioned in the Explorer’s dystopian account inspired the above narrative.

‘A deacon’ is the male calf of a dairy breed, so called because they are regularly killed shortly after birth. Some male calves were, to borrow language from Collard and Dempsey (2017),

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110 11 March 1887, *The Daily British Whig*, 11
111 Ibid.
112 Such as *The Daily British Whig* (14 March 1887, 5 and 15 March 1887, 8).
constituted as “outcast surplus.” Out-cast surplus is ‘waste’ that is “produced through capital production/consumption that is not repurposable” (Collard and Dempsey, 2017: 79). That is, unlike animals whose lives and deaths are “officially valued” as a means of making money, “outcast surplus” are not. This distinction is important because the ways in which cows are valued in capitalist relations is not uniform. While dairy cows, for instance, are valued for their milk and steers for their meat, male calves born to dairy cows are often not seen by capital. To put it bluntly, “it does not pay to raise calves” (Bourinot, 1888: 13).

Feminist scholars interested in dairying have focused on how the industry denies cows meaningful motherhood because their calves are taken away shortly after birth (Cusak, 2013; Eisen, 2019; Gillespie, 2014; Narayanan, 2019a). Some have looked at how the motherhood of humans and cows are entangled in the industry (Gillespie, 2014, 2018; Gaard, 2013; Hustak, 2017; Narayanan, 2019a) while others explore how cow motherhood is entangled within scientific rhetoric and regulation (Cohen, 2017; Hirtenfelder and Prouse, 2021), and how cows face different gendered pressures (Gillespie, 2014; Narayanan, 2019a). Together these scholars show how the making of milk and the killing of cows is crosscut with “sexual politics” (Adams, 2010: 303), “gendered violence” (Narayanan, 2019a: 1) and “gendered commodification” (Gillespie, 2014: 1321) which physically hurts cows and destroys meaningful kin relations.

Calves, bulls, and steers were comparatively less visible in Kingston’s municipal by-laws and LBH correspondence than dairy cows. While the by-laws would have applied to all ‘cattle’ including ‘horned cattle’ the gendered division of labour when it comes to producing milk often meant that 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. I suspect that bulls were only brought into the city for short periods of time (if at all) for reproduction and steers (like the one discussed above) might have been confined to farm lots or brewery sheds for fattening operations.113 There would have also been males born to urban dairy cows.114

While some calves in Kingston in the 1880s would have faced similar violence to the steer in the previous story,115 being killed for veal or used for calf leather, many others would be thrown away in nuisance grounds. This was especially likely after 1865 when an amendment to the Kingston by-laws added: "That all veal not of a good quality at least a fortnight old and properly fed shall be forfeited and the vendor of such bad veal be subject to the fines and penalties imposed by the Market By-Law."116 Said differently, to sell a calf for veal the farmer would need to keep them

113 In the municipal records there is remarkably little on how such animal reproduction takes place: whereas “horses for covering mares” were briefly mentioned in the city assessments between 1838-1850, bulls were never recorded there. Perhaps Kingstonians took their cows to a local farm to be impregnated, such as at Rideau Stock Farm where you might remember F.A. Folger kept a bull.

114 This differential geography and mobility of dairy cows, bulls, and steers was also part of emerging and increasingly reified ideas about breed. During the 19th century there was a de-coupling of the ways in which cows were valued and beef and milk breeds became increasingly specialized. Today there are between 1-1.5 billion cows on Earth who are divided into three distinct sub-species: Zebuine (Bos Taurus Indicus), Taurine (Bos Taurus Taurus), and Sanga (Bos Taurus Africanus) and at least 1408 breeds (Lambert, 2019). These sub-species and their breeds do not necessarily have uniform histories. This is clear when we realise that 184 breeds are now extinct and 490 of them are considered at risk (Lambert, 2019). However, because of their centrality in Western (and increasingly Asian) markets centred on meat and milk, only a handful of breeds represent most of the cows on Earth (such as the Brahmin, Holsteins, Shorthorns, Angus, Charolais, and Herefords). Each of these categorizations represent a different way in which cows have been taxonomized, categorized, and objectified as tools in human progress. As particular breeds and ‘types’ of cows became epistemically visible as more or less valuable ‘inputs,’ other breeds and ‘types’ were less frequently included in those industries (Hirtenfelder and Prouse, 2021).

115 ‘Veal’ has a different texture to ‘regular beef.’ It is pale because of the undeveloped muscles of the calf. ‘Slink veal’ is taken from stillborn calves and pregnant cows who are slaughtered. Like the cow and the steer in the previous vignette, calves destined for slaughter will be stunned, cut, bled, dismembered, skinned, and disembowelled. Today, approximately 470,000 males are born in the dairy industry each year (Reed et al, 2022). For the males sent to the beef industry they are castrated and “disbudded” which causes “severe pain.” Most farmers reported killing at least one calf a year at birth with methods such as blunt force (Reed et al, 2022).

116 By-Law Book, 16 April 1865, Locator 0100, Vol 2, page 406, QUA. Interestingly, this market by-law was signed by John Breden when he was mayor.
alive and healthy for at least two weeks, a price many might have thought too high. Unlike the slaughterhouses and tanneries in Kingston that were socially and spatially structured around the death of an animal and had activities to guard against rotting, nuisance grounds were areas where both the rot and death of animals might be plainly visible and smellable. While the dairy cow and the steer at the Easter Meat Market were constituted and governed by the utility and commodity expectations of them in life, those who were discarded were shaped by their lack of value. That is, how valuable the animal was before-death or at-death would determine the geography of their bodies after death. A cow who died in an accident\textsuperscript{117} or a calf who was deemed worthless in Kingston would have likely found their final resting places in an urban nuisance ground.

Kingston’s LBH and City Council struggled between the 1860s and 1880s to secure appropriate places for dumping “nuisances.” While it was illegal to dump dead animals on vacant lots from at least 1840, where to put dead animals was not always clear and when a site was secured it was often the subject of passionate complaint. For example, on the 30\textsuperscript{th} of April 1866, Mr. Duff and Bryant’s farms were confirmed as places “to deposit filth”\textsuperscript{118} but a few years later Jacob Bajus protested with 90 others the “heap of deposits” and “offensive matter” on the property.\textsuperscript{119} Then, in August 1871, the City Council agreed to pay J. Robb $5 per annum to use his property on the corner of Johnson and Macdonald streets as a “nuisance ground.”\textsuperscript{120} A year later the city had no nuisance ground until Mr. John Creighton (Warden of the Penitentiary) offered a portion of the

\textsuperscript{117} On the 2\textsuperscript{nd} of January 1879 it was reported that a cow belonging to Mrs. Sullivan (a widow on Montreal Street) was hit by a train near the old oil storehouse. The cow broke her leg and was so badly injured, “it had to be killed” (2 September 1879, \textit{The British Whig}, 3).

\textsuperscript{118} LBH Minutes, 30 April 1866, Locator 0100, Vol 236, pages 39-40, QUA.

\textsuperscript{119} Ibid.

\textsuperscript{120} LBH Minutes, 25 January 1872, Locator 0100, Vol 236, page 65, QUA. Roughly $480 CAD today (xe.com and bank of England Inflation Calculator). He was also exempt from paying taxes on his property.
penitentiary lands for use.\footnote{Kingston penitentiary was the first penitentiary in the country, and it too has an interesting entanglement with cows. The penitentiary was home to a large prison farm and their cows were later moved to Collins Bay penitentiary which was ordered closed in 2010. The prison farm has since re-opened which has prompted debate about prisoner labour, animal rights, and infant formula (see Evolve our Prison Farms, 2023).} By 1877, the city found itself without a nuisance ground again and people were dumping on the commons. For example, in 1880, Mr. P. Maloney wanted to dump a horse and cow who burned at the Hogan fire, but the police could not tell him where to do so, so he left them on the commons. Mr. Maloney was later ordered to remove the bodies but there was no appropriate place for them to go. The article from The Explorer in 1887 came, then, in a context of rising concerns and frustrations about waste management in the city.

The LBH tried to deal with the problematic nuisance ground. They first sprinkled bushels of lime to abate the smell (apparently to little effect) then they decided to move the waste once it thawed. But where? Dr. Fee suggested the nuisance ground be relocated to a piece of ground near the Davis Tannery in Cataraqui Ward. In the end, the Board put out a call for tenders. A tender is a government invitation for different interested parties to make offers for how much they would want to lease their land for or to do work for a specific sum. On the 14\textsuperscript{th} of March (only a few days after The Explorer wrote their piece), an official notice for tenders was in the newspapers looking for “a Nuisance Ground for the disposal of night soil, carcasses, garbage, and other decomposing matter.”\footnote{See the advertisement in the \textit{The Daily British Whig Standard} (29 March 1887, 8). Council requested that the ground on Grove Street be “used for depositing rubbish, properly fenced on line of street, provided with a gate” (LBH Minutes, 28 March 1887, Locator 0100, Vol 237, page 30, QUA). The nuisance ground was required to be at least a square acre field, surrounded with a six-foot fence and a gate (LBH Minutes, 4 April 1887, Locator 0100, Vol 237, page 31, QUA).} By April the city was discussing the tenders from John Jones and James Scrutin (proprietors of the Willow Farm, a mile from the city, asking $100), W. Roddy (corner of Johnson
and Regent streets, asking $200), \textsuperscript{123} and C. Goodell (a mile from the city, asking $100). But, while the Board was concerned about pestilence and the damage to property valuations, no action was taken.\textsuperscript{124}

\textsuperscript{123} W. Roddy also wanted to manufacture the nuisances so that he could “sell it to gardeners or farmers. Animals would be placed in vats and destroyed by chemicals” but it was decided that people in the neighbourhoods might complain about the offensive smells (LBH Minutes, 4 April 1887, Locator 0100, Vol 237, page 31, QUA).

\textsuperscript{124} Ibid.
The LBH was criticized for their indecision and for not taking seriously the needs of working-class residents who lived west of Gordon Street (now University Street). Mr. I. Breck threatened legal action if nothing was done. Alderman Snowden said: “Rideau Ward had been used as a dumping ground quite long enough” and that “the city never had a nuisance ground that was looked after properly.” An author (signed Sanitus) in a related newspaper article suggested that the nuisance ground was not a matter of health but also of progress. They wanted a city with clean water and streets illuminated with electric light, and without coal chimneys and “foul spot[s]” like the nuisance ground.  

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126 14 March 1887, *The Daily British Whig Standard*, 5. The author of this article stated that the caretaker accepted the job but that the salary of $100 per year was not sufficient so he had neglected his duties. As noted in Chapter 4, in 1870s and 1880s, Kingston experienced several socio-economic and technological changes which prompted a reimagination of the city; garbage and dead animals did not fit within these idealized visions.
outside of the city, the LBH eventually accepted a tender from Mr. Kirkpatrick to lease his land on Grove Street.\textsuperscript{127}

An additional nuisance ground was eventually established outside the city (2.5 miles) in 1889. Commonly called McCallum’s Farm, the city used this plot of land for burying animals until at least 1927. The city had a tenuous agreement with Mrs. Elizabeth McCallum to use her land for these purposes and almost every year between 1909 and 1927 either the city or Mrs. McCallum threatened to end the lease; both parties accused the other of not upholding their ends of the agreement. The fragile nature of the deal and the spike in illegal dumping might have been why, in 1913, the city erected yet another dump (the Bagot Street Dump), which was used until at least 1932 when Sanitary Inspector Sleeth noted that garbage collectors did at least 150 extra trips to dump animals there, mostly cats.\textsuperscript{128} While cats and other small animals were being dumped at the Bagot Street Dump, larger ones were likely still being taken to McCallum’s Farm where they could be buried. However, at some point it was decided that the Bagot Street Dump should be used exclusively for non-organic matter which meant that the Board relied solely on Mrs. McCallum’s Farm for such waste.\textsuperscript{129} The significance of this situation was summarized by Sanitary Inspector Sleeth when, on the 15th of September 1927, he stated:

\textsuperscript{127} LBH Minutes, 19 December 1887, Locator 0100, Vol 237, page 39, QUA.
\textsuperscript{128} 5021 loads of garbage were collected in 1931. The work was done by five wagons and one truck. The Sanitary Inspector described how, "Over 200 loads of ashes and tins were taken by truck to the Bagot Street Dump. One hundred and fifty extra trips were made by the Collectors for dead animals (mostly cats)" (Kingston Health Committee Correspondence, 21 January 1931, Locator 0100, Box 225, QUA).
\textsuperscript{129} On the 24th of January 1913, Mr. Nash was to "be notified that whereas he is owner of a lot on Bagot Street near the City’s dumping ground, which is being used at present time for dumping dead animals [sic] etc., and which is causing a nuisance, that he will be held responsible for the same” (LBH Minutes, 24 January 1913, Locator 0100, Vol 240, QUA).
"The City Treasurer has informed me that the lease held by the City in connection with the McCallum Farm and used as a nuisance ground may be cancelled at any time. The cancellation of this lease would mean that the City would be without a place in which to dispose of dead animals, such as horses etc. The incinerator which is giving good satisfaction as a garbage burner is not equipped for the burning of animals larger than dogs."\(^\text{130}\)

Earlier in the year, on the 3\(^{rd}\) of February 1927, the Committee of City Health sold the incinerator property on King Street to the Public Utilities Commission for $4000 and it was moved that they accept the offer from the City Property Committee to lease an acre of land from Murdock Farm (also known as the Division Street Dump)\(^\text{131}\) for $1750 so that the new incinerator could be constructed upon the property.\(^\text{132}\) By October 1927, possibly in response to the situation with Mrs. McCallum, the Property Committee also secured “a piece of ground for the disposal of dead animals located about a hundred yards south of the incinerator” (also on the Murdock Property).\(^\text{133}\)

The incinerator was an important tool for the city for managing waste. It was used to burn smaller animals like dogs and cats which meant that the nuisance grounds became mostly concerned with managing large dead animals, primarily horses but sometimes cows. It was resolved that the Sanitary Inspector and the Secretary for the Committee of City Health develop rules to avoid the area becoming a nuisance.\(^\text{134}\) Until at least 1933 large pits (22X6X6) were dug there for burying

\(^{130}\) Kingston Health Committee Correspondence, 15 September 1927, Locator 0100, Box 225, QUA.

\(^{131}\) You might recall from Chapter 4 that the City Council put out a call to lease the Murdock property for pasturage. The property lies near the northern boundary of Cataraqui Ward. More work is needed to find out whether they did in fact lease that land, or simply decided to keep it and covert it into a dump. $4,000 in 1927 would be $68200 today (Bank of Canada, Inflation Calculator).

\(^{132}\) LBH Minutes, 4 January 1927 and 3 February 1927, Locator 0100, Box 241, File 1, QUA.; Kingston Health Committee, 1927, Locator 0100, Box 225, QUA.

\(^{133}\) Kingston Health Committee Correspondence, 27 October 1927, Locator 0100, Box 225, QUA.

\(^{134}\) LBH Minutes, 27 October 1927, Locator 0100, Box 241, File 1, QUA. From 1928 the delivery of dead animals was only allowed between 7 am and 5pm.
dead animals. Animals’ dead bodies were placed in these pits, then covered with lime and soil to mask the sight and smell of rot and decay.

Figure 62: The Bagot Street and Division Street Dumps, extract from Figure 47 (Author).

As the management of garbage became more specialized it became more rigidly spatialized. Some nuisance grounds/dumpsites were dedicated to the dumping of dead animals (namely horses) whereas others were for inorganic matter and, following the fire at the Bagot Street Dump fire in November 1917, others for ashes. The bodies of smaller animals were dumped (sometimes illicitly)

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135 Kingston Health Committee Correspondence, 12 December 1929 and 21 December 1929, Locator 0100, Box 225, QUA., LBH Minutes, 2 November 1933, Locator 0100, Box 241, File 1, QUA.
at the Bagot Street Dump and burned in the incinerator whereas large animals like cows and horses were buried at Mrs. McCallum’s Farm and later the Division Street Dump. Horses were more often discussed in relation to these nuisance grounds than cows. It is, therefore, interesting to think about how varied valuations materialized animals and made them differently visible in waste management strategies. Perhaps the relative lack of reference to cows in discussions about the burial of bodies is because they were generally, somehow, still taken apart as “officially valued” in spaces like slaughterhouses and tanneries where some economic value could be extracted from them. Nonetheless, there would have still been cows who were outcasts and who capital could not see, like Mr. Maloney’s burned cow and the deacon calf. For these cows as well as the innumerable other animals whose bodies burned, decayed, and decomposed in these spaces, dump sites and nuisance grounds could be thought of as death and rotting worlds.

Not only are some death/rotting worlds and waste/death suburbs obfuscated in urban maps and directories, but dead bodies were also invisibilized. This is illustrative of how animal and waste spaces did not fit within the city council’s urbanized ideals. As Hird (2021) so eloquently notes, despite the production of waste being something we do every day, waste is surrounded by diligent practices of forgetting and “waste repositories make their appearance on and in the landscape as a material enactment of forgetting” (Hird, 2021: 13). The removal of animal slaughter and remains from the city contributed to the invisibilization of animals’ entanglement with urban commodification and consumption. It is also part of the reason why animals’ histories and the everyday violences they faced (such as being run over, raced, or poisoned) are opaque. For the deacon calf in 1887, this violence could not be separated from the entanglement of his species and his mother in industries that rely on bovine bodies. His life was only constituted as waste in a
system that valued animals and their bodies based on economic utility. The calf himself, however, would have keenly felt the violence of what it means for one’s life and kin relations to be utterly disregarded.

The Violence of Market Valuations

Implicit in academic writing and histories of urban slaughter and waste are the lives and deaths of actual animals. In my dogged desire to tell a cow history, not a milk or meat history, of Kingston, I have been compelled to think in more nuanced and granular ways in terms of how cows lived in and were removed from Kingston. In the previous two chapters, I discussed how cows’ mobility, and their bodies were problematized through ways that constituted them as both transgressive property and risky transmitters of disease. These constitutions took place through legislation and the regulatory practices that enacted such legislation. Being defined as transgressive and risky had implications for the ways in which cows moved, ate, and drank in the city. It also put them under increasing levels of scrutiny toward the end of the 19th century. I have highlighted the violence implicit in these relations: the violence of having their mobility curtailed and their daily rhythms disrupted, and the violence of having their bodies intervened upon and their spaces monitored. Haunting the edges of these practices is the overt violence experienced by Kingston’s cows because of how they were caught up within the city’s urban industries. Cows were used to supply milk, eaten for meat, and their dead bodies used in tallow, bone boiling, and leather industries (among others). When cows are part of industries which seek to extract utility or economic value from them, all cows (including dairy cows) are killed. This violence is often taken for granted. It is also made possible because cows are legally and in practice constituted as property; it is
furthered and legitimized through making them intelligible and producing them materially as commodities.

By contrasting the lives and deaths of cows in Kingston who were officially valued or cast-out as waste, two distinct but intermingled urban geographies have come to the fore. The first involves connections between several of Kingston’s businesses and industries including breweries, markets, butchers, tanneries, and smaller scale rendering operations. Cows and their afterlives moved through different paths in Kingston and were subjected to a wide array of practices and labours to make them commodities (including meat, leather, tallow, and lard) but the making of commodities also produced unwanted effects (such as smells and blood), the unseemliness of which was regulated through market, health, and garbage by-laws. The inevitability of becoming meat shaped the ways in which “dairy cows” and “horned cattle” lived, with the former being used in milking operations until their bodies showed visible signs of deterioration and the latter being subjected to unhealthy feeding practices. Both would experience the fear of being tied up in a noisy market square and the violence of being dragged into a shambles, stunned with a poleaxe, and killed with a knife.

The second geography is almost the inverse of the first with spaces and connections that tried to disguise the waste that materialized because of commodity relations. This cartography is characterized by spatial practices of forgetting. This includes abstract notions of waste, the severing of kin relations, and the disposal of dead animals. Animals died in Kingston in innumerable ways and when their dead and rotting bodies were plain to see and smell, it created anxiety, not out of ethical concerns related to the death of animals, but rather because the smell of
rot and the sight of decaying bodies provoked ambivalence. Nonetheless, as waste management became more routinized and rigidly managed, the bodies of the many animals who died in Kingston from accidents, abuse, and illness would disappear, creating a supposedly sanitized landscape.

To politicize Kingston’s wastescapes, I have illustrated how they could also be understood as deathscapes. That is, while slaughterhouses, rendering facilities, and nuisance grounds represented environmental challenges, they were also the manifestation of regulations, practices, and industries centered on using animals. The legal and practiced management of waste in Kingston was mediated through animal death that relied on the creation and maintenance of particular spaces of legal and material violence. Different animals’ dead bodies became visible as problems based on the spaces and industries with which they were entangled, such as horses with collisions and calves with dairy. Furthermore, the discarding of their decaying bodies was differently spatialized with smaller animals going to the incinerator and larger animals being buried. Cows and the ways in which they lived and died in Kingston were also marked by differences in age and gender. The almost deafening absence of deacon calves and other male bovines in some municipal records points to how male and female cows might have spent time differently in the city, moved through more and less varied spaces, and been differently visibilized to governing bodies.

However, as the newspaper article from The Explorer illustrated, these “other cows” also have stories to be told. Even though these stories are frequently unwritten because these cows were not necessarily valued in urban industries, they are stories worth writing not least because these were events that would have been important to the cows involved. Failing to see this, failing to see how
cows in Kingston’s history experienced the regulations of the city as experiential subjects and social beings, is certainly a second death.

Returning to “waste” and its importance as a signifier, I want to suggest that this chapter has also pointed to how the commodification and economic valuation of animals (and the violence that is required to do so) is related to a wasting of life: the wasting of animals’ bodies through milking and fattening practices, the wasting of cow-calf bonds, the wasting of potentially different and less violent relations between cows and humans, as well as the wasting of life for those who are killed. While the main thrust of this dissertation is to unpack how cows, as a species and population, disappeared from Kingston, this chapter has shown that removals also happen at smaller, more personal scales. It is methodologically and ethically important to remember that individual cows (like the dairy cow and the steer in 1868; and the deacon calf in 1887) were removed from the city through a violent removal from life. These were urban subjects and individuals who had emotional and complex lifeworlds and who experienced being slaughtered or discarded. That said, the regulations and practices that made slaughter and animal waste in the city objectionable contributed to the general sentiment that animals like cows were inextricably linked to waste in Kingston. It was the combination of consolidating and industrializing markets with the modern desire to push waste from view that further problematized the place of Kingston cows.

The removal of slaughter and nuisance grounds from Kingston did little to disrupt the ways in which cows are constituted as commodities but rather re-spatialized them and made the effects

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136 At any given point, over two million of Canada’s 3.5 million ‘beef cows’ are in a 500kms squared area known as Feedlot Alley in Alberta. It is not only the animals who are concentrated in specific places but also the ownership of the industry itself is concentrated in the hands of a few (MacLachlan, 2001). Roughly 85% of the meat in the United
of their entanglement with urban consumption\textsuperscript{137} and waste less apparent. Today only cows’ sterilized afterlives (like pasteurized milk, pre-packaged meat, and already-made leather shoes) are visible in the city, but cows’ lives and deaths remain characterized by a network of death and rotting worlds which include concentrated feeding operations, industrialized disassembly lines, manure lagoons, veal crates, bolt-guns, rendering facilities, fashion outlets, and urban dinner plates. And, as the two rotting cows’ hides brought before City Council by Alderman Cooper demonstrate, these traces of cows’ pasts have the potential to call into question unyielding marches toward progress, modernization, and development.

\textsuperscript{137} Arcari et al (2021) show how the net increase of the consumption of animals in cities has had devastating consequences: while urban areas only make up 1\% of the world’s habitable land, they are responsible for using over 80\% of its resources. They further note that over 50\% of the world’s habitable land is used for agriculture and 77\% of that is reserved for ‘livestock.’

States comes from four companies (Cargill, Tyson Foods, JBS SA, and National Beef Packing) (Reuters, 2021) and in Canada, only two companies are responsible for ‘processing’ 85\% of federally inspected meat (Cargill Inc. and JBS SA) (Edmiston, 2020).
Chapter 7. Conclusion: The Problematisatio of Cows in Kingston and the Process of Writing their Histories

4.13. No person shall keep livestock of poultry on any property except in a veterinary hospital or clinic or as part of a cultural, recreational or educational event, including a public or agricultural fair.

4.14. The regulation set out in 4.13. does not apply to agricultural property, to a property of five or more acres, or to property that houses horses that are in the service of the City or a local board of the City.

(By-Law Number 2004-144; Passed 22 June 2004; Updated 5 May 2015).

The 2015 *By-Law to Regulate Animals* that is currently in use in Kingston is mostly concerned with the keeping, breeding, and controlling of hens, cats, and dogs. While hens were mostly absent in by-laws between 1838-1938, today there are at least sixteen provisions related to hens and trespassing. “No owner,” for example, “shall cause or permit his or her hen to become a public nuisance by persistently clucking” (City of Kingston, 2015: 17), and “hen coops and hen runs shall be maintained in a clean condition and the coop shall be kept free of obnoxious odours, substances, and vermin” (City of Kingston, 2015: 16). Dogs and cats must be registered with the city, and they are not allowed to trespass. Furthermore, dogs are “not permitted to become a public nuisance by persistently barking or howling,” “damaging private property,” or “interfering with waste management activities” (City of Kingston, 2015: 18).

Even superficially considering this by-law reveals that despite Kingston having undergone numerous technological and infrastructural changes, the language and ideas used to control domesticated animals have remained remarkably stable. That said, cows are relatively absent in this 2015 by-law and are only implicated in the two provisions related to livestock noted at the start of this chapter. Therefore, while the language and ideas remain similar to what they were 185
years ago, there are distinct temporal and geographic aspects to how different animals are included and defined as problems by municipal legal structures.

As a critical animal geographer, I have aimed to disrupt anthropocentric, speciesist, and humanist urban imaginaries in this dissertation. I have advocated for theoretical, methodological, and political interventions that take animals seriously as urban subjects. Because the problematization of animals is a common but underexplored and undertheorized urban occurrence, I sought to understand this process while at the same time empirically and methodologically exploring the effects of such problematization on cows in Kingston between 1838-1938. But this dissertation has done more than give an account of how cows were problematized in Kington; it has shown how the city is a site of multispecies power relations and that the problematization of animals is not a given, pre-determined, or static process but one that has been informed by historically and geographically located practices that are deserving of attention.

As a reminder, problematization is a complex, multi-faceted, spatial process in which problems are discursively and materially constituted and regulated. I have argued that paying attention to the spatial dimensions of problematization offers analytical opportunities for thinking through the material and imaginative effects of what it means for animals to be objectified as problems. Consequently, in this dissertation, I analyzed how between 1838-1938 cows in Kingston were discursively constituted as problems in spaces of configuration, corporeally and environmentally managed as problems in material spaces of governance, and rendered visible and reified as problems in different institutional and social spaces.
Cows in Kingston were discursively made visible and constituted as transgressive, risky, and waste in by-laws and inspector reports. While the property, health, and waste committees in Kingston often had different agendas, by the end of the 19th century, they all perceived cows as problems, albeit in distinct ways. From at least the 1870s, the City Property Committee considered cows to be transgressive in the city’s property relations as cows’ presence was thought to endanger the aesthetic and economic value of public and private property. With the rise of bacteriology in the 1880s, the Local Board of Health perceived cows as potential risks to the safety of milk and urban health relations. And, at the turn of the 20th century, Kingston’s Health Committee regarded cows’ dead bodies as waste that needed to be properly discarded to achieve modern, sanitary ideals. Cows were discursively constituted as problems in Kingston, and they were materially and socially managed as such through disciplinary practices designed to constrain and restrict their movement, inspect their bodies and environments, and profit off their lives and deaths.

That is, cows were managed in material spaces of governance through interventions suggested in legal spaces. For example, Kingston’s Council created by-laws that responded to the property, health, and sanitation concerns of its committees which also legitimized disciplinary, and often violent, interventions into the lives (and deaths) of cows. Cows were impounded, inspected, tethered, tested on, and killed. These constitutive and externalized practices were physically impressed on cows’ bodies and environments, opening and foreclosing opportunities for cows to act. For instance, increasingly restrictive nuisance and pound by-laws curtailed cows’ urban mobility, while policies regarding the safety of milk thwarted cows’ opportunities to interact with other animals, and the valuations of their dead bodies as waste or commodities in market by-laws.
shaped how they died and the flows of their afterlives. These interventions had the effect of physically and epistemically in/visibilizing cows in Kingston’s urban historical imaginary.

As I have shown in this dissertation, cows were problematized in Kingston because they flouted propertied, health, and sanitary urban imaginaries, they were entangled with urban milk and meat industries, and they had numerous problematized affiliations with places, disease situations, and other populations. In the remainder of this concluding chapter, I discuss some of the mechanisms used to spatially constitute and manage cows as problems and how these also invisibilized cows in imaginaries of Kingston as a clean, prosperous, and healthy city. Then, I turn to how I methodologically made cows visible as historical subjects and how this sparked consideration of previously neglected dimensions of this city’s history. I close with a final speculation, this time one about the future of Kingston and cows.

The Invisibilization of Cows in the Imaginary of Kingston as a Clean, Prosperous, and Healthy City

Kingston went from being a city in which cows were governed as objects but were still physically and epistemically visible as lively beings, to a city in which they are mostly visible as commodities such as beef and milk. This change in the physical and epistemic in/visibility of cows in Kingston can partly be attributed to how they were problematized in the city’s history. The problematization of cows in Kingston was shaped by broader power relations and interests. It was managed through routinization and rigid spatialization, aiming to re-order the city’s multispecies relations. Practices of distancing and forgetting further invisibilized cows’ urban relations and experiences.
The problematization of cows in Kingston was *embedded within and shaped by broader power relations and interests*. Henry George’s *Progress and Poverty* in 1879 sparked debates about taxes and how property in Kingston should be valued. Scientific breakthroughs by Louis Pasteur and Robert Koch, laws in Britain, and food scandals in the United States informed policymakers regarding how best to regulate milk. Kingston's waste management policies were also influenced by the experiences of other municipalities in Ontario, as well as the interests of international meat economies. The problematization of cows in Kingston did not, therefore, occur in isolation but responded to the needs and desires of various stakeholders, including private property owners, industry, and provincial regulators.

Addressing the problematizations of cows as transgressive, risky, or waste in Kingston’s property, health, and commodity relations required a socio-spatial re-ordering and re-imagination of cows’ place in the city. This re-ordering was facilitated through the *rigid routinization and spatialization* of cows’ daily practices and the city’s multispecies relations. For example, cows could graze in pastures but not in parks or on sidewalks, and the times at which they could move to and from pastures were strictly regulated. If cows were caught moving outside of the spaces or times designated by Council, they were impounded. Furthermore, the spatialization of dairy cows' bodies involved the separation of cows from their supposedly ‘dirty affiliations.’ Cow byres were separated from milk houses and meticulous steps were taken to separate dirt from teats so as to ensure the ‘safe’ production of milk. Additionally, the specialization of waste management saw a spatial sorting of animals and their deaths. Smaller animals, like cats, were incinerated whereas larger animals, like cows and horses, were buried. As the spatialization of cows’ bodies, relations, and deaths became routine it also normalized their physical and epistemic invisibility in the city.
Distancing and forgetting were also practices for invisibilizing cows in the urban imaginary of Kingston. Even though cows were physically in Kingston they were discursively distanced from it. Animalized spaces like pastures, pounds, and the commons were excluded in Kingston’s maps and city directories, also removing opportunities to imagine them as part of the city’s future. Keeping these places unnamed on maps gave the illusion of empty land ready to be filled and suitable for property development. Furthermore, because of cows’ ‘dirty affiliations’ in dairying they were distanced from places, relations, and experiences that might have been important to them including familiar pastures, maternal connections, and life. When pasteurization emerged as the main technology for mitigating milk-related disease threats in the 1920s, it also had the effect of distancing cows from the imaginations of the urbanities who drank their milk. Finally, to mitigate the negative environmental effects of turning cows into commodities like meat, leather, and tallow, waste management involved practices of distancing and forgetting about rot and decay. This included putting animals’ deteriorated bodies in sausages, cleaning places where animals were killed, and burying unwanted cows in nuisance grounds. Ultimately slaughterhouses, rendering facilities, and dumping grounds were pushed from the Kingston creating the illusion of a sanitized city not entangled with the death and rotting worlds of animals.

Cows have also been neglected and forgotten in the contemporary property, market, and waste histories of Kingston. Cows are, for example, excluded in the histories about Macdonald Park, Morton’s brewery, the Market, and the Davis Tannery where they were pastured, fattened, killed, and rendered. Furthermore, the histories of cow-based industries and the people who were impacted by and profited off them have not yet been told. Men such as George W. Bell, Walter T.
Connell, and John Breden, who played significant roles as a Milk Inspector, Pathologist, and Mayor respectively, achieved success based partly on their involvement with cows. Because I wanted to privilege cows’ experiences and spaces, I did not have the space or time to dive deeply into details about the humans with whom they related, including these men but also the immigrants and working class Kingstonians who relied on cows in the Inner Harbour and Williamsville. The details regarding these individuals and groups remain under-developed and need further academic attention.

Analyzing cows’ histories and experiences in Kingston has raised questions and opportunities for future research too. For example, how was the political economy of meat in Kingston impacted by the meatpacking industry in Chicago and the introduction of pre-packaged meat via the Grand Truck Railway? How were Kingston’s prison farms connected to the city’s urban economies and imaginaries? How are the lives of cows currently in Kingston differently in/visibilized? And, perhaps most importantly, how could animals be better configured as subjects in urban policies and regulations?

Overall, in Kingston’s past, cows were systematically relegated to specific spaces, regulated in terms of their bodies and practices, and ultimately excluded from the urban landscape and public consciousness of Kingston. Processes of routinization and spatialization as well as practices of distancing and forgetting were important in mitigating the effects of problematized cows. However, they also had the effect of invisibilizing cows in the imaginary of Kingston as a clean, prosperous, and healthy city. Cows were visible to the city’s regulators as property, commodities, and problems, which constituted them as things that need to be managed. Because cows are either
omitted in contemporary accounts of Kingston’ past or reified as property, commodities, or problems, in my analysis I aimed to present an alternative perspective by positioning cows as historical subjects who experienced these governing strategies.

Making Cows Visible as Historical Subjects

Frustrated by the tendency to treat animals as objects in historical writing and urban theory-building, I wanted to explore how I might better represent cows as historical subjects in my analysis of problematization in Kingston. Located within Critical Animal Studies, my analysis was, unashamedly, focused on cows and their connections. I took seriously the traces and threats of violence that were expressed in policy documents and resisted treating cows as objects, metaphors, commodities, or things. To understand the governing logics at play in Kingston I read along the grain of the archive, but to understand the socio-material impacts of problematization on cows I read against it. To represent the personal and affective dimensions of problematization for Kingston’s cows, I crafted speculative vignettes about cows’ experiences and developed alternative maps of Kingston.

Perhaps the biggest contribution of writing speculative, but informed, vignettes was how they prompted me to think about cows’ physiology, psychology, and socio-spatial worlds. By actively positioning specific cows in my writing, I was able to contemplate their sensory, spatial, and social experiences. The fact that cows are highly social animals who engage in contagious behaviour, organize themselves in matrilineal structures, and enjoy being close to their kin, gave me tools with which to understand the significance of the various disciplinary practices they were subjected
to. For example, I could think about the significance of what it meant for Corbett’s cow to stand in an unfamiliar pasture, what it meant for the Rockwood herd when their members began to disappear, and what it meant for the deacon calf to be discarded as waste. Methodologically, the vignettes made visible the daily, seasonal, and annual rhythms of Kingston’s cows as well as the violences they experienced. These included the overt violence experienced by cows like the dairy cow and steer killed at the shambles in 1868 as well as some more subtle violences cows experienced like having their expectations and needs sidelined.

While useful, I tried to be sensitive to the limits to which I could push these vignettes. Corbett’s cow and the story of how she was removed from the courthouse, introduced to Macdonald Park, and possibly impounded was made possible because of the large amount of material in 1879 that was directly problematizing cows. The vignettes about Folger’s cow and the Rockwood herd in 1898 were connected both historically and socially, but I chose to weave a separate story of Mrs. Laird’s cow in 1913 because her story raised different considerations about the entanglement of space, milk, and disease situations in the city. And, finally, the comparison of the afterlife flows of the steer and dairy cow killed for the Easter Meat Market in 1868 with that of the deacon calf being dumped in the nuisance ground in 1887 further illuminated how the experiences, lives, and deaths of cows in Kingston were not uniform even if some of the violences they experienced were related to interconnected industries.

Maps also made some of the spatial dynamics and relations that have been neglected in histories of Kingston more visible. While the maps presented at the start of each chapter only offer approximations of where pastures, butchers, and dairies were, they make the city and its history
differently visible. This includes making apparent the connections between pastures and pounds; between dairies, pastures, and sewage; and between breweries, butchers, and nuisance grounds. Presenting these elements together assists in thinking about cows’ mobility, the spatial management of milk, and the flows of cows’ afterlives. Kingston becomes visible as a place where real and personal property were animated through multispecies relations of displacement and gentrification and where the consumption of milk and practices like pasteurization may have contributed to the exacerbation and invisibilization of certain disease situations. Furthermore, it is a site that both contributes to and sustains the death and rotting worlds tied to the consumption of animals, while actively attempting to forget them.

While I sought to make cows more visible in my writing, such imagination work has stretched beyond this dissertation and into my social and institutional space – into Kingston, the city I lived while undertaking my PhD, and Queen’s University, the place I studied. Throughout the course of my PhD, I have given lectures about animal geographies, taught my own course about urban animal histories and geographies, developed walking tours about animals’ histories on campus and in the city, created an archival resource guide, displayed stories about cows in public exhibitions, been interviewed on CBC, and given a Heritage Talk in City Hall. Through these efforts I have opened the imaginations of local Kingstonians, archivists, and students to thinking about their city and multispecies relations differently. I have, hopefully, unleashed excitement not only around how interesting this work is but its significance in creating better, and more just, urban futures.
Imagining an Intentional Urban Future

As mentioned at the start of the chapter, dogs, cats, and chickens in Kington are currently problematized using logics and discourses similar to those historically used to problematize cows. While the problematization of each of these species is geographically, socially, and historically distinctive, the constitutive power of problematization to shape how multiple species can be urban should not be underestimated. As I have argued throughout this dissertation, recognising the contours and the spaces in which animals are problematized is important because these configurations legitimize the use of violent disciplinary practices and foreclose other ways in which urban multispecies relations could be.

I want to present two visions for the future of Kingston. One envisions a city that continues to define and govern animals as problems, leading to a decreased, or perhaps differently, animated city where domesticated animals continue to be chained, leashed, caged, killed, and coerced into conformity. A city that remains hostile to wild animals, subjecting them to extermination campaigns and implementing aggressive architecture to curtail their mobility. The other envisions a city in which the intricate social and ecological worlds of animals are acknowledged. A city with designs to support and foster more egalitarian human-animal relations. This city incorporates car free zones and has diverse movement corridors through which animals can travel. Some land is biodiverse habitats that that provides meeting and feeding ground for numerous animals including insects, deer, and domesticated animals. Perhaps some areas are left uncontrolled, letting other species decide how they might want to territorialize and urbanize it.
In this future, cows are not commodities or property to be used; they are members of Kingston. Rather than being intelligible as problems, cows are understood as beings who require space and decision-making power to determine their futures. As Will Kymlicka (2017) notes, justice not only requires that domesticated animals are protected from exploitation and harm, but they also need to be recognized as individuals with their own lives to lead. If one positions domesticated animals as members of society, members of the family, and co-workers, then different obligations and considerations come to the fore such as how they relationally shape social norms and what services they are entitled to (Kymlicka, 2017). Creating just cities necessarily requires thinking about multispecies relations of power and resisting regulation that objectifies and essentializes animals. Such reductive municipal regulation needs to be opposed in favour of policies that take animals seriously as social, complex beings with minds and bodies of their own. When such social and corporeal complexity is taken into account there is perhaps fertile ground on which cities can be imagined anew.

Inspired by Sue Donaldson’s (2020) development of a speculative city (Riverside) to think through how domesticated animals might participate in urban politics, I finish my dissertation with a final speculation, this time about Kingston’s future. Looking, as I have done, at the history of cows in Kingston illustrated that urban multispecies relations are not pre-determined. This means then that there is space in which to think about urban governance that is not contingent on constraining and distancing animal life from cities but on finding socio-spatial ways in which humans and animals could less violently relate and urbanize. The speculation below is a radical, yet pragmatic, view of what could be an uncharted future. It speaks to an ontological invisibility that has haunted the
edges of my work - what would it mean to no longer understand cows as agricultural animals to
be used but as animals who have claim to urban space.

She walked with her young calf and five other cows along the gravel road.¹ The cows took a detour through
the trees when they heard a cyclist coming. The cyclist slowed and gave a soft wave. The mother cow
turned, and the others followed her deeper into the woods. Three young piglets joined and soon the calf
and piglets were chasing each other.²

Recognizing that domesticated animals are an important part of the city’s heritage, Kingston’s City
Council has turned sections of its waterfront in Cataraqui Ward into a reserve. The city is experimenting
with this space to see what opportunities there are for an intentional multispecies community.³ The reserve
initially encompassed the land formerly occupied by the Davis Tannery but it has since expanded to include
additional areas. A fence has been set up along Montreal Road and motorists are reminded to slow down.
A wildlife bridge has been established to go over the highway and sometimes deer, but also cows and foxes,
can be seen using it.⁴ These cows have chosen to stay near Belle Park as the cyclists and hikers give some
protection from the coyotes.

Two of the five cows like to stand at the gate near Caton’s pasture waiting for people to take them on a
walk.⁵ There are harnesses near the gate and some Kingstonians are designated cow walkers. Some people
become frustrated and honk their horns when cows roam through the city unaccompanied. But most
Kingstonians view cows and this reserve as an important part of their community. Consequently, when
cows wander alone people watch what they are doing and pay attention to whether it is once-off
occurrence or a re-occurring request.⁶ The reserve is not perfect but it is the beginning of a different type

¹ Cows are let out to pasture in Alpine regions. There are rules that cyclists and hikers have to follow when walking
in these regions. This includes not approaching the cows and keeping dogs on leashes.
² Domesticated animals are social and this extends beyond their own species. Like humans, dogs, and cats – some
cows find a great amount of joy from interacting across species lines (Donaldson and Kymlicka, 2015).
³ “Intentional” is borrowed from Donaldson and Kymlicka’s (2015) consideration of sanctuaries as “intentional
communities.” They note the difference between a refuge model which focuses almost exclusively on safety versus
an intentional model that extends beyond safety and thinks about how domesticated animals might seek
opportunities to be themselves and shape their communities.
⁴ Fences can cause trouble for other animals, possibly cutting off migratory routes. The fence would need strategic
holes, breaks, and tunnels that allows animals to pass.
⁵ Boundaries, like gates, where various members meet can give animals opportunities to express what they want.
⁶ For political inclusion, institutional mechanisms need to be put in place that take seriously what animals are
communicating when they move and what they might be suggesting for how society is structured (Donaldson,
2020).
of socio-spatial relationship, one that fosters an understanding of cities as places with obligations to multiple species.
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### Appendix A. Full List of Archival Material Consulted in the Queen’s University Archives

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<thead>
<tr>
<th>Fonds (Locator)</th>
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<tr>
<td><strong>A Davis and Son Fonds</strong> (2319.2)</td>
<td>• <strong>Box 17:</strong> Subject Files: Hide Futures Market (file 3), A very short history, 1946-1959 (file 9), Production Flow Chart, 1960s (file 10), Situation Analysis (file 17) [partial scan, 22 pages].</td>
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| **Andrew Joseph Connidis Fonds** (Map Cabinet) | • **Map 32:** 'Eastern Dairy School' (1922) - 5 architectural drawings: blueprints.  
• **Map 34:** 'Kingston General Hospital' - 12 architectural drawings: blueprints.  
• **Map 9:** Wilmot’s Dairy - 1 plan: whiteprint, 7 architectural drawings: whiteprints. |
| **Bill Fitsell Fonds** (2405.6) | • **Box 1:** Almanacs (file 2) [full scan, 19 pages]. |
| **City Directories** | • **Digital Kingston:** 1855-1923 [online].  
• **Books:** 1923-1939. |
| **City of Kingston Fonds** (0100) | • **Box 1088.4:** Petitions, bill, summons, 1876-1879 (2 files); Correspondence City Council and Mayor (1 file); Reports of the Committee on City Property (1 file); Report of the Committee of the Market, 1876-1879 [partial scan, 36 pages].  
• **Box 1088.5:** Pay Records and Receipts, 1842-1844, file 1; Miscellaneous Papers, 1844 (file 2-3); Petitions, Papers of City Hall and Market Building, 1844 (file 4-5); Petitions – Carters License, 1844 (file 8); Reports of Surveyors and Clerk of Markets, 1844 (file 9); Letters, 1844 (file 10); Reports: Select Committee, 1844 (file 11); Petitions – Drains, 1844 (file 13); Sundry Tenders, 1845 (file 14); On Fire and Water, 1844 (file 15); Accounts – Pay Lists, 1844 (file 16); Monies Owed, 1844 (file 18); Application Situation of Collection of Taxes, 1844 (file 19); Tenders, 1844 (file 20); Reports: Board of Works, 1844 (file 21); Taxes and Assessments, 1844 (file 22); Applications: Foreman of Laborers, 1844 (file 23); Applications: Selection of Sub-Constable, 1844 (file 24); Taxes and Assessments, 1845 (file 26); Letters of Credit, 1845 (file 29); Petitions Relating to Drains, 1845 (file 30); Reports: Treasurer’s, Clerk of the Market, Chief Constables, 1845 (file 31); Petitions: Streets Flagging, Plank Walk, 1845 (file 32); Accounts, 1845 (file 33); Letters of Credit, Receipts; Wadiwell’s Account, 1844 (file 35); Accounts – Paylists, 1844 (file 36); Petitions – Miscellaneous, 1844 (file 37); Letters of Credit, Ledgers, Receipts, Rough Sheets, 1844-1845 (file 34); Petitions, 1845 (file 39); [partial scan, 2,233 pages].  
• **Butcher’s Petition:** George A Kirkpatrick and 900 others regarding sale of Butcher’s Meat in City, 1879 [photographs]. |
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<td>By-Law Book, Consolidated 1895</td>
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<td>By-Law Book, Vol 1-4: 1838-1891</td>
<td>[full scans, 1,682 pages]</td>
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<td>By-Law Book, Vol 5-7: 1891-1899</td>
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<td>By-Law Book, Vol 8: 1900</td>
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<td>City Commissioner Daily Dairy</td>
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<td>LBH Minutes, Vol 235</td>
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<td>Box 45: Reports of Agricultural Committee, 1836-1950 [full scans, 87 pages].</td>
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<td><strong>J Douglas Stewart fonds</strong> (5079.12)</td>
<td><strong>Box 9</strong>: Kingston Mineral Spring (file 2), Kirby John Will and Inventory (file 3), Queen’s University Buildings (file 14); Thomas Rogers, Street Surveyor, Police Officer (file 20), Thomas Rogers: Property and Will (file 21), Thomas Rogers: Domestic (file 23) [partial scan, 107 pages].</td>
</tr>
<tr>
<td><strong>James Morton estate sous fonds</strong> (2269.7)</td>
<td><strong>Box 1</strong>: Insurance (file 1); Weekly Statements, 1863 (file 2); Weekly Statements, 1864 (file 3); Inventories of Stock (file 12); Misc Financial Papers, n.d. (file 25); Misc. Correspondence, n.d. (file 26); Misc. Correspondence (file 28) [partial scan, 93 pages].</td>
</tr>
<tr>
<td><strong>J.B Salsberg fonds</strong> (2303.36)</td>
<td><strong>Box 6</strong>: Politics-Labour: Milk, 1947-1954 (file 8) [full scan, 251 pages].</td>
</tr>
<tr>
<td><strong>Kingston Miscellaneous Collection</strong> (2285)</td>
<td><strong>Box 1</strong>: E.E. Horsey, 1849-1877 (file 1); Buildings prior to 1970 (file 21) [partial scan, 64 pages].</td>
</tr>
<tr>
<td><strong>Kingston Milk Producers Association</strong> (2285.8)</td>
<td><strong>Box 3</strong>: Minutes Book (file 14) [full scan 143 pages].</td>
</tr>
</tbody>
</table>
• Folder: V23 PuB-HDH: Hotel Dieu Hospital, 1950s.  
• Folder: V23 PuB-Post: Post Office, 1876-1990.  
• Map Cabinet: Maps, 1632-1998.  
• Map Cabinet, V23 Ar-31.1: John C. Innes Map, 1865.  
• Map Cabinet, V23 Maps-Brosius:-7: Brosius Map of Kingston, 1875.  
• Map Cabinet, V23 Maps-Kingston-18: Thomas Fraser Gibbs Map, 1850.  
• Shelf: V23 Par.: Parades, 1800-1983.  
• Shelf: V23 Str.: Streets, 1859-2006.  
• Shelf: V23 Veh.: Vehicles, 1800-1990. |
| --- | --- |
| Ontario Federation of Agriculture fonds (5069) | • Box 3: Correspondence: Hog producers, 1962-1964 (file 1); Milk commission (New Ontario), 1965 (file 10); Milk Recording, 1968 (file 11) [partial scan, 103 pages].  
• Box 4: Milk Producers, 1946-1949 (file 23).  
• Box 7: Ontario Federation of Agriculture Ledgers, 1955-1957.  
• Box 9: Subject Files: Cooperatives of Marketing Boards - Study Dairy Relations, 1967 (file 15); Cream and Milk - Historical Data (file 19) [partial scan, 66 pages].  
• Box 12: Subject Files: Ontario Cheese Producers Marketing Board (file 35); Milk Marketing Proposed New Plan (file 13) [partial scan, 105 pages]. |
| Peter Milliken fonds (5162) | • Box 15: Frontenac County Milk Committee (file 19) [partial scan, 11 pages]. |
| Smith Family fonds (3011) | • Box 1: Long Lake Cheese Factory: Improved Milk Book, 1915 (file 1) [full scan, 37 pages].  
• Folder F3 E7: Factory Milk Book and Invoices - Factory Milk Book and Invoices, 1921 (file 1) |
| Tett Family fonds (2247) | • Box 8: Legal Documents - Agreement regarding a Milch Cow, 1880 (file 1) [partial scan, 4 pages]. |
| Thomas Ashmore Kidd fonds (2210) | • Box 7: Milk Control Act, 1934 (file 38) [full scan, 69 pages]. |
| W.R. Research Notes (5077) | • Box 4: Milk Control Act (file 29) [partial scan, 7 pages]. |
# Appendix B: Relevant Historic Timeline of Kingston

## Before the 1830s

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1493</td>
<td>The Spanish introduce cows to the Americas.</td>
</tr>
<tr>
<td>1673</td>
<td>Louis de Buade, Comte de Frontenac, introduced cows to the Kingston area.</td>
</tr>
<tr>
<td>1675</td>
<td>René-Robert Cavelier de La Salle also introduces cows to Fort Frontenac.</td>
</tr>
<tr>
<td>1758</td>
<td>The British capture and destroy Fort Frontenac/</td>
</tr>
<tr>
<td>1763</td>
<td>The French cede the territory to the British</td>
</tr>
<tr>
<td>1783</td>
<td>British acquires land from the Mississauga people through the Crawford Purchase. The treaty was never formally signed</td>
</tr>
<tr>
<td>1784</td>
<td>Revered Herchmer receives a Loyalist grant for a plot of land that stretches from Concession Street down to the lake. This will be used as an unfenced commons where cows and horses graze.</td>
</tr>
<tr>
<td>1788</td>
<td>Settlement becomes known as “King’s Town.”</td>
</tr>
<tr>
<td>1795</td>
<td>Macdonald Park is appropriated and given to Henry James Murney who owned the land until 1824 when he started to sub-divide it. French traveller comes to Kingston and remarks that there is no market in King’s Town and cows are brought to the settlement from New York.</td>
</tr>
<tr>
<td>1801</td>
<td>A market is established in Kingston.</td>
</tr>
<tr>
<td>1811</td>
<td>The market is officially designated as a market.</td>
</tr>
<tr>
<td>1812</td>
<td>The War of 1812 increases Kingston’s significance as a military, naval, and political hub, also resulting in an influx of military men.</td>
</tr>
<tr>
<td>1816</td>
<td><em>Kingston Police Act</em> released and it has rules and regulations that prohibiting animals running in streets and slaughter in the city.</td>
</tr>
<tr>
<td>1819</td>
<td>Butcher’s stalls are added to the market.</td>
</tr>
<tr>
<td>1829</td>
<td>Complaints about cows in Ward 2, a wealthier part of the city.</td>
</tr>
</tbody>
</table>
**1830s**

1830s Cincinnati developing disassembly lines.

1832 Cholera outbreak

1833 The Local Board of Health is formed.

1834 The Council appoints a pig catcher. There is another cholera outbreak. The Kingston Distillery and Brewery is established.

1838 Kingston incorporated as a town with four wards. The town has regulations for impounding cows, managing cartmen, and monitoring the sale of meat. Cows (157) and horses (151) are listed in the city assessments as taxable forms of personal property. The Local Board of Health is included in the initial regulations. Measly or tainted meat is not allowed to be sold and there is also an *Act to Suppress Nuisances*.

**1840s**

1840 Dogs are included as taxable property in the city assessments. Cows cannot be impounded if they are going to or returning from pasture. Macdonald Park is surrendered to the Queen to construct a fortification. Anyone found dumping a carcass can be fined.

1841 Kingston becomes the first capital of Upper Canada. The British government purchases most of Revered Herchmer’s tract of land.

1842 Sir Edwin Chadwick releases his report on sanitary conditions which prompts ‘the sanitary idea’ in cities.

1844 Kingston is no longer the capital of Upper Canada. Morton’s Brewery fattens at least 200 cows on their premises. Cows cannot be impounded before six o’ clock in the morning or after six in the evening.

1846 Kingston incorporated as a city with five wards.

1848 An Act to prevent cruelty to animals is passed. It is mostly focused on horses with some provisions for ‘other animals.’
1850s

1850  Kingston’s boundaries are expanded and it now has seven wards. It’s recorded animal population triples. There is an amendment to by-law regarding the suppression of nuisances. John Duff leases the Ordnance land frequently used as ‘the commons’ (lease to land until 1871). It is unlawful to milk cows on sidewalks or streets. There is a swill milk crisis in New York.

1852  House of Industry is established in Kingston.

1854  There is no legislation that any dogs found wandering the market may be shot.

1855  Macdonald Park, ordnance land, is used as pasturage. Market Number 2 is established. At least 1,000 cows are being fattened at Morton’s Distillery.

1856  Ownership of John Duff’s land on the commons is transferred from the British to the Canadian government, until John Duff’s lease expires in 1871.

1857  City Property Committee is in operation in Kingston from at least 1857. They manage tenders, conduct property evaluations, and control who can but lots of land as well as how they land can be used. Since at least 1857, Kingston’s Easter Meat Market attracts visitors to the city. John Breden is also recorded as having sold cows to be butchered at the market.

1859  James Morton goes bankrupt and his property and business (including the fattening of cows) are mortgaged.

1860s

1860  A pound is established in the north of the city. Since at least 1860 veterinarians argue that tuberculosis can be passed from cows to humans but medical doctors are less convinced. John Breden fattens at least 500 cows at Kingston’s Brewery.

1862  A pound is established in the western part of Kingston.

1865  Animals not collected in the pound will be auctioned or killed, owners have three months to collect the money. Goats and geese are added to impound laws. There is a new by-law regulating the sale of veal.

1866  John Breden becomes the mayor of Kingston. Animals at the market are weighed at the weigh house near Market No. 2. The Local Board of Health is concerned with manure stored in yard.

1867  Butcher’s are allowed to set up independent shops.
1868 There is a spike in cow and sheep populations as 1,000 sheep and 500 cows are recorded as belonging to Herchermer and Breden respectively. Henry Andrews butchers six steers sold to him by John Breden and puts them on display at the Easter Meat Market.

1869 Further amendments to policies regarding the impounding of cows in Kingston

1870s

1870 The military leaves the garrison and Council realizes it needs new means to sustain itself. Canada is grappling with a depression and the adulteration of milk sky rockets. Disassembly lines are perfected in Chicago in the 1870s.

1871 Edward Ballard investigates a typhoid outbreak in England and proves milk can transmit the disease. The Local Board of Health agrees to pay John Robb to use his property as a nuisance ground.

1873 Pound on Earl Street visible on city map (one of the only times this happens).

1874 Further amendments to policies regarding the impounding of cows in Kingston. Canada’s Adulteration Act is passed. One could expect to pay $2 per month to use the O’Reilly pasture.

1873 Royal Military College opens. The Ford Tannery opens.

1874 From the 1st of November no horse, cows, goats, pigs or geese are allowed to run at large within the limits of the city except on the unfenced commons. Cows permitted move to and from pastures between 5-8am and 5-7pm.

1877 Morton’ Brewery is sold. Paired telephones and horse powered street railway are introduced to Kington. The city has no nuisance ground.

1878 A by-law is passed limiting where fresh meat is allowed to be sold. Over 900 butchers sign a petition, likely protesting these new provisions. 721 animals are recorded in Kingston’s city assessments: 201 cows, 314 horses, 197 dogs, and 9 pigs.

1879 There are rising tensions about wandering cows. C.H. Corbett requests to let his cow pasture on the courthouse property, Mr. O’Michael and 37 others write a complaint about being harassed by cows at Market No. 2, some citizens suggest poisoning cows. Two new pounds are established in the city, one in the south and another in the north with Samuel Shaw and John Harkess their respective pound keepers. The British Empire puts in place a “cattle embargo” which stop live
imports from the United States and leads to a brief increase of exports from Canada. Henry George’s *Progress and Poverty* is published sparking debates about property laws.

1880s

1880  Mr Maloney dumps a dead horse and cow on the commons because no nuisance ground is available.

1881  Pound by-laws state for the first time that nothing will prevent the impounding of cows and animals trespassing on private property or parks. Additional pound limits are put in place and cows will be impounded if they are south of York, Picard and George (now Raglan) streets.

1882  Pound limits are expanded further, this time into the commons. Cows are not allowed to graze or loiter in, and public place and they need to wear a harness when walking in any public street or place. Sheep and poultry are added to the impound by-laws. Dr. R. Koch identifies “tubercle bacilli” which is often thought of as the beginning of the bacteriological revolution.

1883  Public health is explicitly mentioned in relation to the management of ‘nuisances.’ Butchers and meat vendors no longer need permission from Council to sell meat if it is larger than a quarter. Anyone selling in quantities less than a quarter need a license from the Treasurer which is valid for a year. Animals movements in parks becomes highly regulated.

1884  Ontario releases the *Public Health Act* and with its passing the Local Board of Health become more involved in the management of waste and slaughter in Kingston. Ontario becomes the first province in Canada to enact the *Married Women’s Property Act*.

1885  Dr. S.H Fee appointed as the Medical Health Officer for the Local Board of Health (LBH) and William J Gordon is appointed as the Sanitary Inspector. Rideau Stock Farm is established and is home to prize winning Holsteins. The Grand Trunk Railway is transporting chilled beef from Chicago which fundamentally changes meat markets.

1886  Pound limits are expanded further into the commons.

1887  A nuisance ground on Johnson Street becomes a contentious issue as dead animals and other matter are dumped there. The LBH puts out a call for tenders but no action is taken. The Local Board of Health receives a letter from the Provincial Board about its management of milk.
There are complaints that Macdonald Park is fenced and used as a pasture for cows. G.A. Kirkpatrick acquires a lease for MacDonald Park. The City Property Committee agrees to build an enclosure at the Hay Market to address marauding cows. Fences are increasingly viewed as unsightly. The Local Board of Health appeals to the province to expand their jurisdiction for the management of milk. Calves likely only stayed with their mothers for 3-4 days. 1,904 animals are recorded in the city assessments: 343 cows, 609 horses, 772 dogs, 80 butches, 12 sheep, 88 pigs.

G.A. Kirkpatrick gives lease for Macdonald Park to the city so that they can convert it into a park. Mrs McCallum’s Farm, 2.5 miles from the city, starts to be used as a nuisance ground to bury dead animals. Testing is regularly used to make threats to the safety of milk visible.

**1890s**

1890 The *Public Health Act* is amended in relation to the sale of milk and meat from animals infected with TB. William McCammon is appointed the Clerk of the Market and the Harbour Master. The City of Kingston obtains the lease for Macdonald Park from the federal government.

1891 No bird (except wild geese, ducks, and partridges) may be exposed for sale unless they have been plucked. Meat can only be sold in Market No.1 if it has been weighed on the public scales. Tuberculosis is killing roughly 2,000 people in Ontario per year.

1892 The Public Health Act is amended to guard against the fraudulent ale of butter. Canada is included in the “cattle embargo” restricting the live importation of cows to the United Kingdom.

1893 Mary Mill’s pound is established with John Patterson as the pound keeper. The LBH appoints a Milk Inspector.

1894 A by-law is passed to encourage the planting of trees in public spaces. Another is passed for licensing and regulating milk vendors in the city. A general scavenger for the city is appointed. The Kingston Dairy School is established.

1895 A by-law regarding tax on dogs is passed to ‘protect sheep.’ An act to regulate public parks is also passed. Mules and asses are added to the impound by-laws. The Ford Tannery burns down.

1896 An Act to inspect milk and meat in the city is passed including private slaughterhouses. It gives the LBH control over cattle yards, pens and slaughterhouses.
1897 There are concerns about hide inspection. It is still common for tanneries in Kingston to buy skin directly from butchers in the city.

1898 There is a tuberculosis situation in Kingston. A debate about milk safety ensues after a cow with tuberculosis is killed and her lung is put on display. A cow belonging to Benjamin Folger is killed and Dr. W.T. Connell puts her tuberculous lung on display. This sparks debate in the city about the safety of milk and the flow of diseases between animal and human bodies. The Rockwood Dairy herd is infected with tuberculosis and 28 of the 39 are killed. Milk vendors need a license to operate in Kingston.

1900s

1900 The province extends the jurisdiction of the Local Board of Health so that they can now monitor and inspect dairies outside of the city but who supply the city with milk.

1901 Dr. Robert Koch finally concedes that the tuberculosis in cows and in humans are different.

1902 A public pound is established in the fairgrounds and Samuel Conley is the pound keeper.

1903 A by-law directly related to garbage and kitchen refuse is passed. The Local Board of Health receives a letter from the province saying they can save money if they have their milk tested at the Dairy School.

1906 The *American Pure Food Act* is passed. William Wallace Sands is appointed as the City Clerk, he actively writes to other cities about their urban developments. Davis and Sons lease a plot of land by the smelter site and sub-let it as pasturage. The Humane Society complains about cows tied in the commons without access to water.


1908 There is an outbreak of smallpox and the LBH wants to tend to those with the disease at an Isolation Hospital on the smelter site; cows who pasture at that property are ordered removed. The Province of Ontario passes the *Milk, Cheese, and Butter Act* to prevent fraudulent sales of milk. The LBH establishes a sub-committee focused on tuberculosis. Mrs. McFee is not allowed to continue her milk business while attending to smallpox patients. Dr. Archibald Williamson becomes
the Medical Health Officer for Kingston. The LBH receives complaints about sewage and a watercourse.

**1910s**

1910  Davis and Sons pasturage use is disrupted as the city tries to sell the smelter site property; they ask for rebate of $50.

1911  *Ontario’s Milk Act* is passed.

1912  City Clerk Sands writes to other municipalities to find out how they collect garbage.

1913  There is an outbreak of typhoid, and it is connected to a milk from cows pasturing on the Duff and Potter fields. At least 25-30 cows pastured there, possibly including three cows belonging to Mr. Laird. The Bagot Street Dump comes into operation.

1914  World War 1 declared.

1915  The Kingston City Health Committee is established to centralize waste management.

1916  Dr. George W. Bell is hired as the Milk Inspector for the City of Kingston. A By-Law is crafted that is expressly concerned with the licensing and regulating of milk and cream vendors in Kingston. It explicitly states that cows must be kept separate from other animals.

1917  Bagot Dump fire

1918  World War 1 is declared over. There are complaints about the unsanitary conditions of how migrants need to live at the Davis Tannery. City Clerk Sands writes to other municipalities to inquire about feeding waste to pigs. There is another outbreak of typhoid in Kingston, this time connected to ice-cream.

1919  MHO Williamson is of the opinion that milk should be pasteurized.

**1920s**

1920  Increasing concerns about cows getting sick and pasturing on dirty urban pastures (including Caton’s and Strark’s pastures). New regulations state that cows are not allowed to be fed distillery slop and must be kept clean. There are about 100 pigs in the city. Milk Inspector Bell gives a detailed report of cow ailments and notes
roughly 700-800 cows in the Summer and 1200-1400 cows in the winter are needed to supply Kingston with milk.

1921 To get a milk vendor license one needs to have a certificate from the Milk Inspector saying that their cows are free from disease. James Miller, a pathologist at Queen’s University, complains about the lack of milk testing in the city.

1922 The Kingston Dairy School burns down. There is a complaint about cows pasturing on the field near College Street. Roosters in Kingston are problematized for their cawing.

1924 Charles E. Wilson is appointed the Market Clerk, Harbour Master, Meat Inspector and Fuel Inspector.

1925 The City Council starts to collect taxes for the removal and disposal of garbage. The City Property Committee calls for tenders for leasing pasturage on the Murdock Farm Property. One paid roughly $3 to pasture a cow and $7 to pasture a horse.

1926 William John Morgan is appointed as the Milk Inspector for the City. Kenneth Potter and his sister walk their cows to pasture and see an attack on Johnson Street.

1927 Dr. James Miller, a bacteriologist at Queen’s University is concerned with how few samples of milk he is sent. The lease with McCallum Farm, used as a dump to bury dead animals, is ended. A new incinerator is set up on Murdoch Farm, later called the Division Street Dump. The city also creates a pit there to bury dead animals.

1929 Milk must be sold in bottles with the vendor’s seal and approved sterilized appliances. No milk is allowed to be sold in the city unless from cows who have been proven free from TB and disease. It is obligatory to use a modern milk strainer. Henry Murphy is appointed as the Milk Inspector.

1930s

1932 William Peters is appointed as the Market Clerk, Harbour Master, and Inspector of Meat. Kingston is home to at least five pasteurization plants. Garbage collectors are doing extra trips to collect dead animals.

1933 Director comes to inspect Kingston’s pasteurization plants and cows are not mentioned. Canadians are hard hit by the Great Depression.

1934 Milk must be bottled using automatic bottling or capping machines. Cows not allowed to be fed slop and must be healthy and cleaned before being milked.
1935 All milk sold in the city has to be either pasteurized or certified.

1936 The Dairy School moves to Kemptville in August.

1937 Dr. Blacker is appointed MHO and Milk Inspector. Roughly 85% of milk in Ontario is pasteurized.

1938 Some amendments are made to the market by-law. Dr. R.S. Peat is made the MHO. Pasteurization becomes compulsory when the *Public Health Act* is amended. Anyone conducting an undesirable business (such as selling skins) needs to do it at Market Number 2. The Kingston City Health Committee is disbanded and water management is taken over by the Board of Works.

1939 World War 2 declared.
Appendix C: Timeline of Relevant/Referenced By-Laws and Acts

*Please note that irregular capitalization and hyphenation in titles is consistent with the original documents (excepting titles that were in all-caps).

1830s
1833-02-13, *Act to establish Boards of Health, and to guard against the introduction of Malignant, Contagious and Infectious Diseases, in this province*, Chapter XLVIII, Upper Canada (Available online, UNB Libraries).

1840s
1840-03-05, *An Act to impose a Tax upon Dogs and to regulate the manner in which the same shall be kept by the owners thereof*, Chapter 11, Kingston (By-Law Book, Vol 1: 60-64).
1840-12-22, *An Act to authorize and empower the worshipful the Mayor of the Town of Kingston to demise lease and set certain Lands situate in the Market Square of the said town to and for the public uses thereof*, Chapter 18, Kingston (By-Law Book, Vol 1: 82-83).


1844-05-20, *An Act to amend and repeal parts of certain Acts relating to the impounding of cows* Chapter XLVIII, Kingston (By-Law Book, Vol 1: 139-140).


1850s


1850-12-30, *A By-Law to amend the act to regulate the public market in the City of Kingston*, Chapter XLVI, Kingston (By-Law Book, Vol 2: 121).


1854-04-20, *A Market By Law to provide by one general by law to regulate the public market of the City of Kingston and for other purposes and to repeal the several By Laws previously passed for regulating the market of said City*, Chapter LXXVIII, Kingston (By-Law Book, Vol 2: 196-212).


**1860s**


1865-08-07, An Act to amend and repeal parts of certain Acts relating to the impounding of Cattle &c, in the City of Kingston, Chapter 150, Kingston (By-Law Book, Vol 2: 400-401).
1867-04-12, A By Law to regulate the Public Markets of the City of Kingston, Chapter 158, Kingston (By-Law Book, Vol 2: 422).
1867-04-29, A By Law to amend the By Law to regulate the Public Markets of the City of Kingston, Chapter 159, Kingston (By-Law Book, Vol 2: 440).
1867-04-29, A By Law to amend the By Law to regulate the Public Markets of the City of Kingston, Chapter 160, Kingston (By-Law Book, Vol 2: 440).

1870s
1872, The Adulteration of Food and Drink Act, Britain (Hein Online).
1874-05-26, Canada’s Adulteration Act, Canada (Ostry, 2006).
1874-10-12, An Act to amend and repeal parts of certain acts relating to the impounding of Cattle in the City of Kingston, Chapter 202, Kingston (By-Law Book, Vol 2: 609-612).
1875-09-27, A by-law relative to Dogs, Chapter 203, Kingston (By-Law Book, Vol 2: 615-617).
1876-02-28, A By Law to amend the By Law relating to the public markets passed 12th April 1867, Chapter 209, Kingston (By-Law Book, Vol 2: 627-628).
1875-10-11, A By Law to amend the By Laws relating to the Public Markets of the City of Kingston, Chapter 204, Kingston (By-Law Book, Vol 2: 615-617).
1876-12-04, A By-Law to amend the By-Law regulating the Public Markets of the City of Kingston, Chapter 9, Kingston (By-Law Book, Vol 3: 33-34).
1877-09-24, A By Law to amend the By Law to regulate the public markets of the City of Kingston, passed 12th April 1867, Chapter 21, Kingston (By-Law Book, Vol 3: 84-85).


1878-12-20, *A By Law to amend section twenty seven of the By Law entitled “A By Law to regulate the Public Markets of the City of Kingston” passed on the 12th day of April 1867*, Chapter 37, Kingston (By-Law Book, Vol 3: 112-113).

1879-05-19, *A By Law to grant Licenses for the sale of Fresh Meat in less quantities than by the Quarter Carcase and to impose a license fee therefor and for other purposes*, Chapter 39, Kingston (By-Law Book, Vol 3: 114-120).


1880s

1880-11-01, *A By Law to amend the By Law passed on the twelfth day of April A.D 1867 entitled “a By-Law to regulate the Public Markets of the City of Kingston,”* Chapter 58, Kingston (By-Law Book, Vol 3: 147).


1881-05-30, *A By Law to amend the By Law entitled “A By Law to regulate the public market in the City of Kingston passed on the 12th day of April 1867,”* Chapter 71, Kingston (By-Law Book, Vol 3: 164-166).

1881-10-17, *A By Law to amend By Law instituted by “a By Law to regulate the Public Markets of the City of Kingston passed on the twelfth day of April one thousand eight hundred and sixty seven*, Chapter 79, Kingston (By-Law Book, Vol 3:179-181).


1883-08-06, *A By-Law to appoint officers under the By Law passed on the 15th day of June 1840 entitled “An Act to alter and amend an act passed by the Mayor, Aldermen, and commonality of the Town of Kingston in common Council assembled on the 25th day of June 1838 entitled ‘An Act for the suppression of nuisances in and good government of the Town of Kingston’ to enforce and carry out the same*, Chapter 113, Kingston (By-Law Book, Vol 3: 249-250).


1883-11-26, *Division II, Title 6 – Fresh Meat*, Kingston (Consolidated By-Laws, 52-57).


1883-11-26, *Division IV, Title 1 – Cruelty to Animals*, Kingston (Consolidated By-Laws, 66-67).


1883-11-26, *Division VI, Title 3 – Milk*, Kingston (Consolidated By-Laws, 130-132).


1883-11-26, *Division VIII, Title 1 – Streets*, Kingston (Consolidated By-Laws, 146-165).


1883-11-26, *Division IX, Title 2 – Fence Viewers and Fences*, Kingston (Consolidated By-Laws, 186-187).

1883-11-26, *Division IX, Title 3 – Public Parks*, Kingston (Consolidated By-Laws, 187-190).


1887-06-27, *A By Law to appoint a general scavenger for the City of Kingston and to define his duties and the process to be charged by him*, Chapter 191, Kingston (By-Law Book, Vol 3: 413-415).


1888-03-23, *An Act to provide against frauds in the supplying of Milk to Cheese or Butter Manufactories*, Chapter 32, Statutes of the Province of Ontario (Hein Online: 78-80).

1889-12-16, *A By to partially exempt Joseph Carrington’s Tannery from the payment of municipal taxes for a period of five years from the first day of January 1889*, Chapter 295, Kingston (By-Law Book, Vol 4: 231).
1890s

1890-02-03, *A By Law to ratify and confirm the appointment of the members of the Local Board of Health for the City of Kingston*, Chapter 301, Kingston (By-Law Book, Vol 4: 242-243).

1890-04-07, *An Act to amend the Public Health Act in respect to the Sale of Milk and Meat from Animals affected with Tuberculosis*, Chapter 61, Statutes of the Province of Ontario (Hein Online: 141-142).

1890-06-30, *A By Law to change the name of certain streets in the City of Kingston therein mentioned*, Chapter 331, Kington (By-Law Book, Vol 4: 326-328).


1891-05-04, *A By Law to amend the By Law passed on the 27th day of June 1887 entitled “A By Law to appoint a general scavenger for the City of Kingston and to define his duties and the prices charged by him,”* Chapter 357, Kingston (By-Law Book, Vol 4: 391).

1891-08-10, *A By Law to repeal a by law and to amend the by law entitled “A By-Law to consolidate and amend the By laws of the Corporation of the City of Kingston and to repeal certain By laws,”* Chapter 384, Kingston (By-Law Book, Vol 5: 3-4)

1891-12-14, *A By-Law respecting Public Market number one in the City of Kingston and the weighing of fresh or butchers meat market and sold therein*, Chapter 395, Kingston (By-Law Book, Vol 5: 30).


1892-04-14, *An Act to amend the Act providing against Frauds in the supplying of Milk to Cheese or Butter Manufactories*, Chapter 53, Statutes of the Province of Ontario (Hein Online: 656-657).

1892-05-16, *A By Law to amend the By Law entitled “A By-Law to consolidate and amend the By Laws of the Corporation of the City of Kingston and to Repeal certain By laws,”* Chapter 415, Kingston (By-Law Book, Vol 5: 75-76).
1893-01-16, *A By Law to appoint a Local Board of Health in and for the municipality pf the City of Kingston*, Chapter D, Kingston (By-Law Book, Vol 5: 155).


1893-10-16, *A By-Law to Appoint a Medical Health Officer and a Sanitary Inspector for the City of Kingston*, No. 463, Kingston (Consolidated By-Laws, 78-79).


1894-05-14, *A By-Law for Licensing and Regulating Milk Vendors within the City of Kingston, and Fixing the Fee to be paid for such License, and for other Purposes*, No 494, Kingston (Consolidated By-Laws, 245-250).

1894-10-15, *A By-Law to appoint a General Scavenger for the City of Kingston, and to Define his Duties and the Prices to be Charged by Him*, No.497, Kingston (Consolidated By-Laws, 256-258).

1894-10-29, *A By Law to partially exempt Joseph Carrington’s “Tannery” from the payment of municipal taxes except local improvement rates and School taxes or rates, for a period of ten years from the first day of January 1894*, Chapter D, Kingston (By-Law Book, Vol 5: 410-411).

1895-02-11, *A By Law to appoint a Local Board of Health in and for the municipality of the City of Kingston*, Chapter D, Kingston (By-Law Book, Vol 5: 431).


1897-11-08, *A By-Law to partially exempt John McLeod’s Tannery from the payment of municipal taxes, except local improvement rates and school taxes or rates for a period of ten years from the first day of January 1897*, Chapter 645, Kingston (By-Law Book, Vol 6: 324).

1898-01-30, *A By Law to amend By-Law No. 494 entitled “A By-Law for Licensing and Regulating Milk Vendors within The City of Kingston and Fixing the Fee to be Paid or Such License and for Other Purposes, No. 8.,* Kingston (By-Law Book, Vol 7: 9).


1899-01-09, *A By-Law to appoint two members on the Local Board of Health for the City of Kingston, No.2.,* Kingston (By-Law Book, Vol 7: 2-3).

**1900s**

1900-01-08, *A By-Law to appoint two members on the Local Board of Health for the City of Kingston, No.2.,* Kingston (By-Law Book, Vol 8).

1900-04-12, *A By-Law to authorize the appointment of scavengers and define their duties, No.11.,* Kingston (By-Law Book, Vol 8).


1900-06-04, *A By-Law for Licensing and Regulating Milk Vendors within the City of Kingston, and Fixing the Fee to be Paid for Such License, and Other Purposes*, No.19., Kingston (By-Law Book, Vol 8).

1900-07-09, *A By-Law to declare that the tax on dogs imposed by R.S.O Chapter 271 shall not be levied*, No.24., Kingston (By-Law Book, Vol 8).


1902-01-13, *A By-Law to appoint two members of the local Board of Health for the City of Kingston*, No.3., Kingston (By-Law Book, Vol 10).


1903-01-12, *A By-Law to appoint two members of the Local Board of Health*, No.5., Kingston (By-Law Book, Vol 11).


1904-01-11, *A By-Law to appoint two members of the Local Board of Health for the City of Kingston*, No.3., Kingston (By-Law Book, Vol 12).


1904-02-29, *A By-Law to partially exempt the Tannery of A. Davis & Son, Limited, from the payment of municipal taxes except local improvement rates and school taxes or rates for a period of ten years from the first day of January 1904*, No.10., Kingston (By-Law Book, Vol 12).

1904-12-05, *A By-Law to extend to 31st December, 1904, the operation of two certain By-Laws partially exempting Joseph Carrington’s Tannery and to make the same applicable to the said Tannery as now owned and occupied by Messrs. Davis & Sons.*, No.61., Kingston (By-Law Book, Vol 12).

1905-01-09, *A By-law to appoint two members on the Local Board of Health for the City of Kingston*, No.7., Kingston (By-Law Book, Vol 13).


1905-10-09, *A By-Law to appoint a Medical Health Officer for the City of Kingston*, No.51., Kingston (By-Law Book, Vol 13).


1906-01-08, *A By-Law to appoint two members of the Local Board of Health*, No.4., Kingston (By-Law Book, Vol 14).


1907, By-Law A By-law respecting Certain Officials of the Corporation, No.4., Kingston (Revised By-Laws, 23-38).

1907, By-Law A By-law respecting Fences and Fence Viewers, No.7., Kingston (Revied By-Laws, 50-51).

1907, By-Law A By-law to License and Regulate Certain Trades, No.12., Kingston (Revised By-Law, 63-81).

1907, By-Law A By-law respecting the Closing of certain classes of shops, No.16., Kingston (Revised By-Laws, 84-86).


1907, A By-law relating to the Public Health, No.18., Kingston (Revised By-Laws,100-111).

1907, A By-Law relating to the inspection of Meat, Milk and Other Foods, No.19., Kington (Revied By-Laws, 112-113).

1907, By-Law to secure the Sanitary Condition of Buildings, No.24., Kingston (Revied By-Laws, 144-156).


1907, A By-law respecting Dogs. No.28., Kington (Revied By-Laws, 174-176).


1907, A By-law respecting Public Park and Public Squares in the nature of Parks. No.31., Kingston (Revied By-Laws, 196-200).

1907-11-28, Meat and Canned Foods Act, Chapter 27, Canada (Ostry, 2006).

1908-01-13, A By-Law to appoint two members of the Local Board of Health for the City of Kingston, No.5., Kingston (By-Law Book, Vol 16).

1908-04-14, The Milk, Cheese, and Butter Act, Chapter 55, Statutes of the Province of Ontario (Hein Online: 193).

1909-01-11, A By-Law to appoint two members on the Local Board of Health for the City of Kingston, No.3., Kingston (By-Law Book, Vol 17).

1910s
1912-01-08, *A By-Law to appoint two members of the Local Board of Health for the City of Kingston*, No.3., Kingston (By-Law Book, Vol 20).
1913-09-29, *A by-law to acquire lands for the extension of Thomas Street in the City of Kingston*, Kingston (By-Law Book, Vol 21, No.60).
1914-01-12, *A By-Law to appoint three members of the Local Board of Health*, No.5., Kingston (By-Law Book, Vol 22).


1917-03-26, *A By-Law to amend By-Law No.55, 1916, as to the date and duration of Licenses issued thereunder, No.20., Kingston (By-Law Book, Vol 25).


1917-03-26, *A By-Law to amend Section Two (2) of By-Law No.16 of 1915 and increase the annual tax on dogs, No.22., Kingston (By-Law Book, Vol 25).


1920s

1920-05-10, A By-Law to repeal by-law No.55, 1916, being a By-Law for licensing and regulating milk and cream vendors and for providing the Inspection of milk, cream, cows, cow byres, and dairies, No.33., Kingston (By-Law Book, Vol 28).
1920-11-22, A By-Law to amend the By-Law relating to the inspections of meat, milk, and other foods, No.34., Kingston (By-Law Book, Vol 28).
1921-01-10, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.3., Kingston (By-Law Book, Vol 29).
1921-03-14, A By-Law to amend the by-law passed on the 10th of May 1920, entitled “A By-Law for licensing and regulating milk and cream vendors, and for providing for the inspection of milk, cream, cows, cow byres, and dairies.” No 11., Kingston (By-Law Book, Vol 29).
1921-04-11, A By-law to amend By-law No. 33, 1920, No.21., Kingston (By-Law Book, Vol 29).
1922-01-09, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.1., Kingston (By-Law Book, Vol 30).
1923-01-08, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.3., Kingston (By-Law Book, Vol 31).
1923-06-05, A By-law for prohibiting the sale of fruit, candy, peanuts, ice-cream or ice-cream cones within the City of Kingston, without a license, No.31., Kingston (By-Law Book, Vol 31).
1924-01-07, A By-Law to appoint three members of the Local Board of Health, No. 2., Kingston (By-Law Book, Vol 32).
1924-04-28, A By-Law to provide for the licensing and regulation of dogs, No. 16., Kingston (By-Law Book, Vol 32).


1925-03-23, *A By-Law to levy a tax of one (1) mill on the dollar upon the assessed value of the land in the municipality of the City of Kingston for the purpose of defraying the cost of the collection, removal and disposal of garbage and other refuse throughout the whole municipality*, No.12., Kingston (By-Law Book, Vol 33).

1926-01-04, *A By-Law to appoint three members of the Local Board of Health for the City of Kingston*, No.4., Kingston (By-Law Book, Vol 33).


1927-01-03, *A By-Law to appoint three members of the Local Board of Health for the City of Kingston*, No.1., Kingston (By-Law Book, Vol 35).


1927-03-25, *A By-Law to levy a tax of one mill on the dollar upon the assessed value of the land in the municipality of the City of Kingston for the purpose of defraying the cost of the collection, removal, and disposal of garbage and other refuse throughout the whole municipality*, No.13., Kingston (By-Law Book, Vol 35).


1928-03-19, *A By-Law to levy a tax of one mill on the dollar upon the assessed value of the land in the municipality of the City of Kingston for the purpose of defraying the cost of the Collection, removal and disposal of garbage and other refuse throughout the whole municipality*, No.13., Kingston (By-Law Book, Vol 36).


1930-01-06, *A By-Law to appoint three members of the Local Board of Health for the City of Kingston*, No.4., Kingston (By-Law Book, Vol 38).


1931-03-23, *A By-Law to Levy a Tax of one-half Mill on the Dollar upon the Assessed Value of the Land in the Municipality of the City of Kingston for the Purpose of Defraying the Cost of
the Collection, Removal, and Disposal of Garbage and Other Refuse Throughout the Whole Municipality, No.22., Kingston (By-Law Book, Vol 39).

1932-01-04, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.3., Kingston (By-Law Book, Vol 40).

1932-03-21, A By-Law to Levy a Tax of one-half Mill on the Dollar upon the Assessed Value of the Land in the Municipality of the City of Kingston for the Purpose of Defraying the Cost of the Collection, Removal, and Disposal of Garbage and Other Refuse Throughout the Whole Municipality, No.12., Kingston (By-Law Book, Vol 40).


1933-01-03, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.3., Kingston (By-Law Book, Vol 41).

1934-01-02, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.2., Kingston (By-Law Book, Vol 42).


1934-12-17, A By-Law for regulating milk and cream produced for sale, offered for sale or sold within the city of Kingston, No.59., Kingston (By-Law Book, Vol 42).

1935-01-07, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.3., Kingston (By-Law Book, Vol 43).

1935-02-11, A By-Law or regulating milk and cream produced for sale, offered for sale or sold within the City of Kingston, No.6., Kingston (By-Law Book, Vol 43).

1936-01-06, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.2., Kingston (By-Law Book, Vol 44).

1936-03-30, A By-Law to Levy a Tax of one-half Mill on the Dollar upon the Assessed Value of the Land in the Municipality of the City of Kingston for the Purpose of Defraying the Cost of the Collection, Removal, and Disposal of Garbage and Other Refuse Throughout the Whole Municipality, No.10., Kingston (By-Law Book, Vol 44).

1936-04-06, A By-Law to amend By-Law No.6, 1935, A By-Law for Regulating Milk and Cream Produced for sale, offered for sale, or sold within the City of Kingston, No.13., Kingston (By-Law Book, Vol 44).


1937-01-04, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.2., Kingston (By-Law Book, Vol 45).

1937-01-04, A By-Law to repeal By-Law No.13 and By-Law No.49 both of The By-laws of 1929, No.7., Kingston (By-Law Book, Vol 45).

1937-03-22, A By-Law to Levy a Tax of one-half Mill on the Dollar upon the Assessed Value of the Land in the Municipality of the City of Kingston for the Purpose of Defraying the Cost of the Collection, Removal, and Disposal of Garbage and Other Refuse Throughout the Whole Municipality, No.16., Kingston (By-Law Book, Vol 45).

1937-04-05, A By-Law to regulate the issuing of all Permits and Licenses by the Corporation of the City of Kingston, No.18., Kingston (By-Law Book, Vol 45).


1937-09-13, A By-Law to appoint a Medical Health Officer, No.24., Kingston (By-Law Book, Vol 45).

1937-12-07, A By-Law to Amend By-Law No.16 of the Revised By-Laws of the City of Kingston, No.30., Kingston (By-Law Book, Vol 45).

1938-01-03, A By-Law to appoint three members of the Local Board of Health for the City of Kingston, No.2., Kingston (By-Law Book, Vol 46).

1938-03-07, A By-Law to Levy a Tax of 70/100 on the dollar upon the Assessed Value of the Land in the Municipality of the City of Kingston for the Purpose of Defraying the Cost of the
Collection, Removal, and Disposal of Garbage and Other Refuse Throughout the Whole Municipality, No.10., Kingston (By-Law Book, Vol 46).


1938-09-14, A By-Law to appoint a Medical Officer of Health, No., 17, Kingston (By-Law Book, Vol 46).


1938, A By-law respecting the various administration duties of the Corporation, No.2., Kingston (Consolidated By-Laws, 18-19).


1938, A By-Law to license and regulate certain trades, No.7., Kingston (Consolidated By-Laws, 49-71).

1938, A By-Law to provide for the licensing and regulation of dogs, No.8., Kingston (Consolidated By-Laws, 72-74).


1938, A By-Law to provide for the Collection, Removal, and Disposal of Garbage and other Refuse, No.18., Kingston (Consolidated By-Laws, 398-400).


1939, A By-Law respecting Fences and Fence Viewers, No.31., Kingston (Consolidated By-Laws, 454-455).
Appendix D: Timeline of Relevant/Referenced Newspaper Articles

1840s

1850s

1860s


1870s


**1880s**


1898-04-29, “Tuberculosis Discovered: The Cattle on Rockwood Hospital Farm are Affected.” The Daily British Whig, page 6. Available from Newspapers.com:


1898-05-04, “There is no need of fear. So say members of the Board of Health.” The Daily British Whig, page 2. Available from Newspapers.com:


1900s


1910s


1920s


1930s


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Later


**Appendix E: Partial Health and Milk Timeline**

<table>
<thead>
<tr>
<th>Year</th>
<th>Level</th>
<th>Policy Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>Lower Canada</td>
<td></td>
<td>First Sanitary Commission established in Canada made in Quebec to deal with cholera (Bryce, 1910). The country faced a massive cholera epidemic.</td>
</tr>
<tr>
<td>1833</td>
<td>Upper Canada</td>
<td>An Act to guard against the introduction of malignant, contagious and infectious disease in this province and for the formation of local boards.</td>
<td>Assented 13 February 1833. Enlarged in 1835 and remained unchanged until 1849 (Bryce, 1910).</td>
</tr>
<tr>
<td>1842</td>
<td>Britain</td>
<td></td>
<td>Sir. Edwin Chadwick publishes his Report into the Sanitary Conditions of the Labouring Population of Great Britain which sparks 'The Sanitary Idea.'</td>
</tr>
<tr>
<td>1848</td>
<td>Britain</td>
<td>Public Health Act.</td>
<td>Introduced more proactive measures to prevent disease and promote health (Ostry, 2006).</td>
</tr>
<tr>
<td></td>
<td>United Province of Canada</td>
<td></td>
<td>Establishment of a Central Board of Health which responds to the cholera epidemic in 1849 and then ceases to exist until 1854 when it starts up again (Bryce, 1910).</td>
</tr>
<tr>
<td>1850</td>
<td>United States</td>
<td></td>
<td>Swill Milk Crisis in New York (McNeur, 2014; Robichaud, 2019)</td>
</tr>
<tr>
<td></td>
<td>Kingston</td>
<td>An Act related to the suppression of nuisances</td>
<td>Assented 18 March 1850. Says it is unlawful to milk cows on sidewalks.</td>
</tr>
<tr>
<td>1856</td>
<td>Britain</td>
<td></td>
<td>William Budd demonstrates transmission of typhoid via water (Steere-Williams, 2010).</td>
</tr>
<tr>
<td>1860</td>
<td>Britain</td>
<td>The Adulteration of Food and Drink Act.</td>
<td>The first food regulation policy in the British Empire (Ostry, 2006).</td>
</tr>
<tr>
<td></td>
<td>Britain</td>
<td></td>
<td>Veterinarians demonstrate that tuberculosis can be passed from cows to humans.</td>
</tr>
<tr>
<td>1871</td>
<td>Britain</td>
<td></td>
<td>Edward Ballard investigates typhoid outbreak in Islington and connects it to a milk supply. The first edition of The Milk Journal has an article about the connections between milk and typhoid (Steere-Williams, 2010).</td>
</tr>
<tr>
<td>1872</td>
<td>Britain</td>
<td>The Adulteration of Food and Drink Act.</td>
<td>Altered to give chemists the ability to test food and Market Clerk’s the right to seize it (Ostry, 2006).</td>
</tr>
<tr>
<td>1873</td>
<td>Ontario</td>
<td>Public Health Act.</td>
<td>The first Public Health Act in Ontario is passed (Rutty and Sullivan, 2010)</td>
</tr>
<tr>
<td>1874</td>
<td>Canada</td>
<td>The Adulteration of Food Act</td>
<td>Canada’s first consumer protection law, inspired by Britain’s 1872’s amendments (Ostry, 2006).</td>
</tr>
<tr>
<td></td>
<td>United States</td>
<td></td>
<td>American Public Health Association established: “It was not indeed until 1874 that a small association now embracing four nations and known as the American Public Health Association, was formed in New York by a few</td>
</tr>
</tbody>
</table>

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public-spirited medical men and laymen, to promote the public health idea” (Bryce, 1910: 289).

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Event</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1875</td>
<td>Canada</td>
<td>The Sanitary Journal is published (later The Canadian Health Journal) for the first time by Edward Playter. Its last issue was published in 1892.</td>
<td></td>
</tr>
<tr>
<td>1878</td>
<td>United States</td>
<td>A National Board of Health is established.</td>
<td></td>
</tr>
<tr>
<td>1879</td>
<td>Canada</td>
<td>An Act to provide against Infectious of Contagious Diseases affecting Animals</td>
<td>A federal act assented on the 15 May 1879. Diseases must be reported to the Minister of Agriculture Ottawa.</td>
</tr>
<tr>
<td>1882</td>
<td>Ontario</td>
<td>Ontario becomes the first province to establish a Provincial Board of Health and Dr Bryce was appointed the first secretary. It serves as an advisory to local authorities (Rutty and Sullivan, 2010).</td>
<td></td>
</tr>
<tr>
<td>1883</td>
<td>Kingston</td>
<td>By-Law: Inspection of Milk and Other Natural Products</td>
<td>City Commissioner to function as the Inspector of Milk meat, poultry, fish, and other natural products offered for sale for human food or drink, in the City of Kingston, ex officio, and without salary as such Inspector.</td>
</tr>
<tr>
<td>1884</td>
<td>Ontario</td>
<td>Public Health Act.</td>
<td>Prepared by Dr. Peter H. Bryce, it was assented on 25 March 1884. It required that Local Boards of Health be established in each city (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td>1885</td>
<td>Ontario</td>
<td>Amendment to Public Health Act</td>
<td>Gives Local Boards of Health the capacity to hire a local Medical Health Officer and sanitary inspectors (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td>1886</td>
<td>Quebec</td>
<td>Public Health Act.</td>
<td>Quebec passes a Public Health Act and establishes a Provincial Board of Health the following year (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td>1887</td>
<td>New Brunswick</td>
<td>Public Health Act.</td>
<td>New Brunswick releases a Public Health Act which establishes a provincial Board of Health too (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td>1888</td>
<td>Ontario</td>
<td>An Act to provide against frauds in the supplying of Milk to Cheese or Butter Manufactory</td>
<td>Assented on the 23rd of March 1888.</td>
</tr>
<tr>
<td>1889</td>
<td>Nova Scotia</td>
<td>A Central Board of Health is established (Rutty and Sullivan, 2010).</td>
<td></td>
</tr>
<tr>
<td>1890</td>
<td>Ontario</td>
<td>An Act to amend the Public Health Act in respect to the Sale of Milk and Meat from Animals affected with Tuberculosis</td>
<td>Assented 7 April 1890.</td>
</tr>
</tbody>
</table>

Ontario establishes the first public health laboratory in North America and it focused on the systematic testing of milk and water supplies and samples taken from diphtheria and typhoid cases.
<table>
<thead>
<tr>
<th>Year</th>
<th>Province</th>
<th>Act Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1891</td>
<td>Ontario</td>
<td>An Act to Amend the Public Health Act / The Public Health Act of 1891</td>
<td>An Act to amend the Public Health Act in respect to the Sale of Milk and Meat from Animals affected with Tuberculosis is repealed and a different paragraph pertaining to animal disease is inserted. Each municipality is expected to hire a Medical Health Officer.</td>
</tr>
<tr>
<td>1892</td>
<td>Ontario</td>
<td>An Act to amend the Act providing against Frauds in the supplying of Milk to Cheese or Butter Manufactories</td>
<td>Assented 16 May 1892.</td>
</tr>
<tr>
<td>1893</td>
<td>Ontario</td>
<td>Act to prevent the Fraud in Sale of Milk</td>
<td>Assented 27 May 1893.</td>
</tr>
<tr>
<td></td>
<td>Kingston</td>
<td>A By-Law Respecting the Inspection of Milk and Other Natural Products for Sale</td>
<td>Assented 16 October 1893.</td>
</tr>
<tr>
<td>1894</td>
<td>Kingston</td>
<td>A By-Law for Licensing and Regulating Milk Vendors within the City of Kingston, and Fixing the Fee to be paid for such License, and for other Purposes.</td>
<td>Assented 14 May 1894.</td>
</tr>
<tr>
<td>1895</td>
<td>Kingston</td>
<td>A pathology and bacteriology unit is established at Queen’s University and Dr. W.T. Connell becomes its first full time professor and chair (Queen’s University, 2023).</td>
<td></td>
</tr>
<tr>
<td>1898</td>
<td>Kingston</td>
<td>A By Law to amend By-Law No. 494 entitled “A By-Law for Licensing and Regulating Milk Vendors within The City of Kingston and Fixing the Fee to be Paid or Such License and for Other Purposes.</td>
<td>Assented 30 January 1898.</td>
</tr>
<tr>
<td></td>
<td>Kingston</td>
<td>TB outbreak among cows in Kingston and neighbouring areas. This sparks a debate among Kingston’s medical men about whether cows infected with tuberculosis can pass the disease through their milk.</td>
<td></td>
</tr>
<tr>
<td>1903</td>
<td>Kingston</td>
<td>A By-law for licensing and regulating milk vendors within the City of Kingston, and fixing the fee to be paid for such licence, and for other purposes.</td>
<td>Assented on 4 June 1900.</td>
</tr>
<tr>
<td>1905</td>
<td>Saskatchewan</td>
<td>Public Health Act.</td>
<td>Saskatchewan is made a province and develops a Public Health Act that is praised for its focus on testing water, managing sewage, and responding to TB cases (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td>Year</td>
<td>Location</td>
<td>Legislation</td>
<td>Description</td>
</tr>
<tr>
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<tr>
<td>1906</td>
<td>America</td>
<td>American Pure Food Law.</td>
<td>This inspired much of Canada’s upcoming legislation and was partly prompted by the release of Upton Sinclair’s novel The Jungle (Ostry, 2006).</td>
</tr>
<tr>
<td></td>
<td>Kingston</td>
<td>By-Law relating to the inspection of Meat, Milk and Other Foods</td>
<td>Revised By-Laws.</td>
</tr>
<tr>
<td>1908</td>
<td>Ontario</td>
<td>The Milk, Cheese, and Butter Act.</td>
<td>Assented 14 April 1908.</td>
</tr>
<tr>
<td>1911</td>
<td>Ontario</td>
<td>Amendments to the Public Health Act.</td>
<td>Ontario makes a series of amendments to the Public Health Act and releases a separate Milk Act (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td></td>
<td>Manitoba</td>
<td>Amendments to the Public Health Act</td>
<td>Like Ontario, Manitoba makes changes to its Public Health Act relating to milk supplies (Rutty and Sullivan, 2010).</td>
</tr>
<tr>
<td></td>
<td>Ontario</td>
<td>An Act respecting the Production and Sale of Milk for Human Consumption. Ontario Milk Act.</td>
<td>The powers of Local Boards of Health powers are strengthened to better manage milk supplies.</td>
</tr>
<tr>
<td>1912</td>
<td>Ontario</td>
<td>Public Health Act.</td>
<td>Ontario revamps its Public Health Act, creating 10 health districts each with a full time Medical Health Officer.</td>
</tr>
<tr>
<td>1913</td>
<td>Kingston</td>
<td>A By-Law for Licensing and Regulating Milk and Cream Vendors and for Providing for the Inspection of Milk, Cream, Cow Byres, and Dairies.</td>
<td>There is a typhoid outbreak in Kingston which is connected to cows pasturing in a sewage-soaked pasture in the city.</td>
</tr>
<tr>
<td>1916</td>
<td>Kingston</td>
<td>A By-Law to repeal by-law No.55, 1916, being a By-Law for licensing and regulating milk and cream vendors and for providing the Inspection of milk, cream, cows, cow byres, and dairies.</td>
<td>Assented 20 November 1916.</td>
</tr>
<tr>
<td>1918</td>
<td>Kingston</td>
<td></td>
<td>Kingston faces both the influenza pandemic and an outbreak of typhoid which is later connected to an ice-cream supply.</td>
</tr>
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<td>1920</td>
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<td>A By-Law to amend the By-Law relating to the inspections of meat, milk, and other foods.</td>
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<td>A By-Law to amend the by-law passed on the 10th of May 1920, entitled “A By-Law for licensing and regulating milk and cream vendors, and for providing for the inspection of milk, cream, cows, cow byres, and dairies.”</td>
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<td>1922</td>
<td>Queen’s University</td>
<td>“The Pathological Unit” becomes officially “The Pathology Department” of Queen’s University and Kingston General Hospital and moves into its permanent home of the newly constructed Richardson Laboratory building, where it still resides</td>
<td>(Queen’s University, 2023).</td>
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<td>1927</td>
<td>Kingston</td>
<td>Kingston told to stop selling butter from the Montreal Dairy Company because of an outbreak of typhoid in that city. The Montreal typhoid epidemic was caused by contaminated milk. It killed 533 people and impacted over 5,000 others. City officials blamed a lack of pasteurization</td>
<td>(Rutty and Sullivan, 2010).</td>
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<td>1932</td>
<td>Quebec</td>
<td>Over 527 cases and 45 deaths in Quebec after an outbreak of typhoid in St Maurice Valley region. The worst outbreak since Montreal 1927</td>
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<td>1934</td>
<td>Ontario</td>
<td>Reorganises its Health Department and allows counties, municipalities and/or districts to combine health services</td>
<td>(Rutty and Sullivan, 2010).</td>
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<td>1934</td>
<td>Ontario</td>
<td>The Milk Control Act.</td>
<td>The Milk Control Act was passed on the 3rd of April 1843 and saw the creation of The Milk Control Board which was given far-reaching powers. The Milk Control Board of Ontario was established “to bring some order out of the chaos” regarding milk regulation and pricing (Ebejer, 2010: 22).</td>
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<td>1935</td>
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<td>A By-Law for regulating milk and cream produced for sale, offered for sale or sold within the city of Kingston.</td>
<td>Assented 17 December 1934.</td>
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<td>1936</td>
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<td>Health League of Canada is launched and one its main focal points is the pasteurization of milk</td>
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<td>A By-Law to amend By-Law No.6, 1935, A By-Law for Regulating Milk and Cream Produced for sale, offered for sale, or sold within the City of Kingston.</td>
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<td>Roughly 85% of milk sold in the province is pasteurized (Ebejer, 2010).</td>
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Appendix F: Changing Animal Population Dynamics by Ward: City Assessment Data for Cows, Horses and Dogs (1846-1904)

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<td>1,691</td>
<td>1,804</td>
<td>1,917</td>
<td>1,915</td>
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</table>

*I had incomplete information for dogs in 1902 so I duplicated the numbers from the previous year.
*You will notice a spike in both sheep and cow populations in 1868 because in that year the city assessor recorded John Herchmer having 1000 sheep and John Breden 514 cows.