Chapter 1
Introduction
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Why So Few Animals in Urban History?

Until recently it was still possible to say that 'you will find no mention of animals in contemporary urban theory' but in the first decade of the new century the literature has changed, rapidly, with animal-centredness emerging right across the spectrum from the arts and humanities, through social sciences such as human geography, to scientific interest in urban ecosystems.[1] Jennifer Wolch's original aim in making her statement was to initiate the development of a transspecies theory that would be the foundation of an 'eco-socialist, feminist, anti-racist urban praxis'.[2] As it happened, her explanation of 'why animals matter (even in cities)' was pushing at an already opening door. The 'divide' between humans and animals – and more broadly between culture and nature – was coming under sustained and withering fire from several philosophical directions, and the result has been an enhanced considerability of animals that could only have been dreamt of three decades ago.

There are several, related reasons for the previous neglect of urban animals. Taking an historical perspective of ontology, the first of these is traceable to the Cartesian mind/body split, which, along with some forms of religious-inspired rationalism, is said to have dominated Enlightenment thinking on the mechanistic character of the human body and of natural beings.[3] Abstract metaphysics and detached, objective knowledge were privileged during this period over affect; and, later, in modernity, such dualistic logics continued to underlie and legitimate the desire of society to dominate nature, bring it under control, and modify it to human advantage.[4] As a result, some have argued that a 'natureless' or 'post-natural' urban realm was an active goal of the modern age. Such a state could never have been achieved literally, of

1. Wolch 1996: 21.

2. Wolch, West and Gaines 1995.

3. Jones 2009.

4. Goldman and Schurman 2000.

course, not least because the principal inhabitant of cities was a large-brained bipedal primate that displayed many animal characteristics and behaviours.[5]

A problem with this first argument is that it is from time to time repeated without nuance and without empirical justification. At the very least, it should be tested in different cities at different times. As will be seen in Chapters Two and Three of this book, there were large numbers of animals in many cities before 1850. They were at the centre of a circulating system which used their wastes to fertilize peri-urban agricultural production, which in turn then supplied fodder to close the loop. The evidence that these animals were unwelcome in the city is lacking until the middle of the nineteenth century. It was the birth of the sanitary idea that was responsible for a reassessment but it was not until the end of the century, or even later in some European and North American cities, that the 'Great Separation' of human residence from animal production began. So, dualism is too crude a frame to be useful, as we will see throughout this book. Indeed, with Bruce Braun, we might reject such philosophical binaries and analyze instead society's attempts to impose difference. For him, there is

> a single ontological plane ... from which emerges the differentiated and differentiating worlds that we inhabit. Hence there is not a social realm in one location and a separate natural realm elsewhere, nor a dialectical relation between them; rather the things that we consider to be natural or social can be considered so only through practices of purification by which objects are assigned to either pole.[6]

A second reason why animals have not been prominent is that in the twentieth century the study of cities was anthropocentric, to the extent that the category 'urban' acquired a transcendentally humanist quality in which animals played only bit parts, to satisfy our hunger for companionship or for meat. Even when the words 'urban ecology' were used in the 1920s by the Chicago School of sociology to characterize their analysis of locational behaviour and land use patterns, it was only the human animal that was of interest to them. The 1960s and 1970s saw a further development of this type of modelling, requiring simplifying assumptions in order to achieve meta-generalizations. Fauna, flora, water, climate and geomorphology were all erased in the rush for human behavioural insights that were undisturbed by physical contingency. On reflection, this

5. Morris 1969.

6. Braun 2009: 27.

was not necessarily a conscious disregard of animals but an artefact of a humanist and positivist performance of knowledge.[7]

Third, human imaginaries have been powerful and directional in their classification of urban animals and, as a result, four categories have arisen: (a) useful animals, for traction or meat; (b) those which can be enjoyed, such as wild garden song birds; (c) those which are desirable, for example companion animals; and (d) species which have transgressed, such as rats, cockroaches and pigeons, and are judged to be vermin because they are 'out of place' in the city. It is this last group that has been especially influential, representing as it does human-animal boundary work, where the othering of certain species facilitates their 'cleansing' from an increasingly 'pure' urban landscape.

Considering this marginalization process in more detail, feral pigeons are a good example because there are so many living in cities in Europe and North America. Feeding them is criminalized in some cities; pigeons are trapped or killed in others; and their perching is often discouraged by spikes or sticky gel. In short, they are a 'problem' species, along with starlings and house sparrows.[8] Recognizing the subjectivity of such animals and their everyday 'dumb' resistance to human demands would be a step forward for an animated urban history.[9]

A major foundational element of the purification style of thinking, which is often neglected in presentist animal studies, is the public health debate of the nineteenth and early twentieth centuries, when certain animals were linked to the spread of disease. An example is the house fly, which was largely invisible before the 1890s when at last it was 'found' to be a significant vector.[10] Another is the rat, for centuries a potent symbol of plague and pollution.[11] Rats are the closest to a mid-way category between the realms of humans and of urban wild animals. Their evolution has mirrored that of humans and

7. Modernist thinking can be made to sound like a conspiracy against animals but in practice it is arguable that urban historians had many more important research priorities to address. According to this argument, the time of animals would have come eventually as academic fashions ebbed and flowed, and so even modernism retained a (small) place in its philosophical heart for animals.

8. Jerolmac 2007, 2008.

9. Miele 2009, Hribal 2007.

10. See Chapter Two.

11. Burt 2006a.

they have been largely dependent for their spread and their livelihood upon unconscious human generosity.[12] 'Becoming rat', in the sense of Deleuze and Guattari, has been a minoritarian deviance from human goals but rats have nevertheless been astonishingly successful in their strategies.[13] Rat city is a parallel, subaltern universe that the complacent among us like to pretend is virtual but which is all too present and real for people living in rat-friendly housing.[14]

Joanna Dyl's discussion of San Francisco in the first decade of the twentieth century is interesting because she finds that the city's 'war on rats' that accompanied an outbreak of bubonic plague had consequences for other animals.[15] Domestic pets and working horses were tolerated but the authorities put heavy restrictions upon back-yard chickens because their coops and feed were thought to attract rodents.[16] A 1908 ordinance required concrete floors and brick or concrete walls for coops, effectively pricing out many of the poor householders for whom eggs and chicken meat were a source of income and nutrition. Their small-scale, part-time production was replaced by large-scale, capitalized enterprises that, from the outset, understood the discourse and therefore emphasized cleanliness. A similar story could be told of milk production, which was excluded from the city in 1910, or of the controls that were imposed on the movement of horse manure from the city's stables. The anti-rat campaign therefore turned into a wide-spectrum review of the place of animals in what it meant for San Francisco to be a city.

Urban Environmental History

One disciplinary setting for the study of nature and culture has been 'environmental history' and its recent offspring, 'urban environmental history'. Fortunately both are well served with a number of state-of-the-art review papers and there is no need for us

12. Zinsser 1934.

13. Lawlor 2008.

14. For a fascinating account of rats in mid-nineteenth century London, see Mayhew 1861, vol. 3: 1-24.

15. Dyl 2006.

16. For a similar story in Australia, see Chapter Eight.

to cover this ground again in detail.[17] Instead, a brief reprise of the themes that have emerged will help to illustrate the field within which the present book was conceived.

The first theme has been the modification of the physical environment, for good or ill. This includes the levelling or grading of slopes, the filling, diversion or culverting of streams and rivers, and the sterilizing of vast areas of soil and rock under concrete and tarmac.[18] Stuart Oliver's account of the construction of the Thames Embankment is exemplary in this genre because it illustrates the complexity of the planning and engineering process but also demonstrates the Victorian discourse of dominance over unruly nature.[19] The same might be said for the several studies of the creation of the underground city to serve the needs of advanced technical infrastructures, such as pipes and sewers, cable ducts, and railways.[20] One argument has been that these services have become so vital for the continued growth and efficiency of urbanism that 'networked cities' are representative of a new phase of urban civilization.[21] Our dependence upon these systems is now so great that any interruption is catastrophic, such as the power grid failure and extensive blackout in the north east of the United States in 2003.[22] Animals are also affected by network disruptions but their resilience is influenced more by the hard landscape and systems of tunnels than it is by the services they contain. By way of illustration, the heat island generated as a side effect of urbanization would continue to provide wild habitat modification for animals even if all humans left the city.

New Orleans is another example of the challenges of making nature yield to the basic needs of a city site. Not only were the city's sea defences complicated and expensive to erect but they proved to be fatally flawed in the flooding of 2005. The articles in volume 35, part 4 (2009) of the *Journal of Urban History* on Hurricane Katrina show that this disaster was the culmination of an environmental history of neglect and partiality by the authorities which put poor people at greatest risk of

17. Melosi 1993, Rosen and Tarr 1994, Hays 1998, Platt 1999, Tarr 2001, Merchant 2002, Schott 2004, Isenberg 2006, Brantz, 2007, Melosi 2010.

18. Colten 2005, Klingle 2007, Penna and Wright 2009.

19. Oliver 2000, 2002.

20. Trench and Hillman 1985, Gandy 1999.

21. Tarr and Dupuy 1988, Graham and Marvin 2001.

22. Bennett 2005.

flooding. A related sub-theme has been the environmental damage that may be the unintended consequence of urban growth. Historically there have been many examples, such as smoke from domestic fires, industrial pollution and the discharge of raw sewage into urban rivers and water bodies.[23] These have been especially important in changing the scope and balance of animal and insect niches in cities, as have occasional disasters such as fires, earthquakes and floods.[24]

More positively, urban mammal and bird habitats are now receiving greater attention from eco-historians and geographers than ever before. Michael Campbell, for instance, sees cityscapes as shared between birds and humans.[25] A wide range of birds are attracted to suburban gardens and city centres, either to forage omnivorously on scraps, as with pigeons and gulls, or to exploit nesting sites on tall buildings that resemble cliff faces. Human feeders make a significant intervention for species that are vulnerable in cold weather, and rubbish dumps are an especially attractive, spatially concentrated feeding source for a range of birds and small mammals. As a result, it is possible to document notable successes, where certain animals – hooded crows and magpies are examples – have found urban and peri-urban areas so beneficial that the centre of gravity of their entire distribution has changed.[26] Young birds become habituated to this type of environment and show no desire to return to the rural woods and fields of their forebears to seek their living.

Also under this first division of urban environmental history, we note the considerable amount of research on the 'creation' of nature and the deliberate attraction of species. City parks were thought of in the nineteenth century as important mitigators of then-prevalent diseases such as tuberculosis. Fresh air and the appreciation of trees, plants and selected animal and insect species were seen to be important contributions to the health, education and well-being of responsible citizens. The animals introduced or tolerated were of the non-problematic variety, of course, so parks remained carefully controlled spaces. Smaller versions, that in effect represented landscape gardens in miniature, became increasingly popular in the suburbs from the late nineteenth century

23. Brimblecombe 1988, Mosley 2008, Collins et al. 2008, Luckin 1986, 2000.

24. Davis 1998.

25. Campbell 2007, 2008.

26. Vuorisalo 2010.

onwards. In Britain in particular, middle class householders associated respectability with the greening of the city and they felt deprived if they did not have a lawn and flower beds, with additional provision perhaps for a cat, a dog, and a children's pet, such as a rabbit or guinea pig. For America, Paul Robbins has analyzed the interesting political economy of the lawn-making industry and there have recently been other contributions on the place of nature in suburban gardens.[27]

The clash of human and animal interests may also create friction when wild species from the peri-urban hinterland are attracted to feeding or nesting opportunities in the ever-expanding suburbs. For a transitional period, or longer, there is co-presence and co-habitation in such areas. Birds are mobile and may learn to avoid zones of danger, but day-feeding mammals are relatively soft targets, such as macaques in Singapore, which are culled by the authorities as nuisance animals. Their reported boldness in 'stealing' food and 'invading' gardens is an irritant and their relatively poor image with the public has made them vulnerable.[28] In Britain, urban foxes occupy a similar niche, and they have shown a remarkable degree of adaptability in their new environment.[29] Public sympathy for foxes is greater than for macaques, but recent stories about a fox attacking babies as they slept indicate that this may eventually wear thin.[30] The point here is that 'wildness' appears to be negotiable in some urban ecologies and the attitudes of humans to wild animals are both complex and unpredictable, depending upon the 'reputation' that a species has, including media representations and primal feelings of fear and disgust.[31]

The continuing abundance of 'wild' animals in cities at first surprised and then excited ecologists in the twentieth century. Research has expanded exponentially, starting with work in postwar Berlin, London and other European countries and gradually spreading around the world. It is at last possible to say that 'cities and urban agglomerations are now addressed as complex evolving socio-ecological systems'.[32]

27. Robbins 2007, Head and Muir 2006.

28. Yeo and Neo 2010.

29. http://www.thefoxwebsite.org/urbanfoxes/index.html [accessed Nov. 2010].

30. *Guardian* June 7, 2010.

31. Ilicheva 2010.

32. Weiland and Richter 2009, Adams 2005.

The latest compilation to come to hand is the *Routledge Handbook of Urban Ecology*, edited by Ian Douglas and others, which contains 50 state-of-the-art articles. This book proves that urban ecology is now a mature participant in the academy, though its historical depth remains limited.

Urban ecology also has its practical applications. Following a phase of observation, wonder and enchantment, we are now moving into the age of 'biophilic cities'.[33] Here, plants and animals are actively encouraged by planners for a number of reasons.[34] They are seen as vital for a generation of children who have 'forgotten how to play in the woods' and instead are said to be tied to computer games at home. In car-centred cultures, their parents also need accessible and interesting walks to counter obesity and the other medical and psychological disorders that come with inactivity. The regeneration of cities can also be advanced through the renaissance of nature on vacant land, and the re-introduction of urban farms and allotments helps with a reconnexion to food production.

A second major theme in environmental history has been that of the urban metabolism. By this is meant 'how cities utilize material and energy that comes from beyond their borders' and how a form of mediation is achieved between nature and the city.[35] This idea has attracted interest on various planes. It is of importance, for instance, to those attempting to calculate the urban material footprints that say something about resource balances and sustainability.[36] Sabine Barles and her collaborators in Paris have developed material flow analyses for that city, for instance with respect to nitrogen, and have produced commentaries on exchanges between the city and its surrounding region.[37] The organic metaphor implicit in the metabolism approach may be related to bodily circulatory processes, such as the blood or digestion. It may also be theorized as understandings of space in terms of flows, as proposed by Deleuze and Guattari and elaborated, among others, by Maria Kaika.[38] Matthew Gandy's vision of the

33. Beatley 2011.

34. Müller and Werner 2010.

35. Melosi 2010: 10, Kaika and Swyngedouw 2000.

36. Kennedy et al.2007, Niza et al. 2009.

37. Barles 2005b, 2007, 2008, 2009, Billen et al. 2008.

38. Kaika 2005.

transformation of New York touches on this and he also sees advantages in the related concept of cyborg urbanism.[39]

Urban historians such as Joel Tarr, Clay McShane and Martin Melosi have been prominent in metabolism studies. Their version of this research has been to consider everyday aspects of the urban environment. The themes are wide-ranging but two of the most important are Tarr and McShane's work on horses, which we will call upon in Chapter Four, and Melosi on sanitation.[40] At first sight, the latter may seem to be less relevant to the present volume but it will be argued in Chapter Two that new ways of seeing nature in the city, which resulted from the 1840s' reappraisal of human and animal wastes, led to a recalibration of society's attitudes to all of its animals. This type of historical urban metabolism research recognizes the sunk costs in socio-economic systems and the technological infrastructures and inertia that lock cities into evolutionary paths from which it is costly to escape.[41] The associated politics of choice and resistance will often be socio-ecological in as much as these technologies are designed to deal with the organic consequences of city life such as sewage and rubbish.

Food has also been a consideration in urban metabolism studies, for instance in Bill Cronon's work on Chicago, but it is water that has probably attracted most attention in urban metabolism studies and if we also include water-borne sewage systems then here we can show that 'cities are pivotal sites at which the resource flows 'metabolized' by infrastructures are geographically concentrated'.[42] Erik Swyngedouw and colleagues have used Marx's concept of metabolism to explore this nexus of urban natures further.[43] Their essential point is that commodities such as water and food, which stand in for our consumption of nature, are socio-metabolically 'produced' through networks of power relations in the supply chain. The specific processes of production may be social, political, cultural and economic, and they are linked together in a 'nested articulation of significance, but intrinsically unstable geographical configurations'.[44] This

39. Gandy 2002.

40. McShane and Tarr 1997, 2003, 2007, 2008, Tarr 1999, Tarr and McShane 2005, Melosi 1981, 2000, 2001.

41. Monstadt 2009: 1926.

42. Cronon 1991, Swyngedouw 1997, 2004, 2006b, Katko et al. 2010, Melosi 2000.

43. Swyngedouw 2004, 2006a.

44. Heynen et al. 2006: 7.

networked production process is not socially or ecologically neutral and there are, as a result, always winners and losers.

Animal Histories and Animal Geographies

Other major strands of thinking about animals have emerged in the humanities and urban history,[45] and also geography,[46] without necessarily having an explicit environmental connexion. Common in Science and Technology Studies and human geography but less so in the work of historians, this genre rides under the banner of post-structuralism, although its publications have been so varied, and the intellectual energy so intense, that such a reductionist label seems ludicrous. To enable clarity, but not intended as an agenda statement, the following sub-themes are recognizable.

The first is 'animal studies', which as a field has become rich and varied; so broad in fact that it is impossible to encapsulate other than to say that it is often about human identities and place-making filtered through relationships with animals.[47] An excellent example is Kay Anderson's reinterpretation of domestication. Hitherto this was a field in which it seemed that 'humans are not in the grip of their instincts and senses ... whereas animals are little more than their biology'.[48] Anderson's review of this misplaced boundary of humanness and animality showed that the 'improvement' of animals through domestication was also implicit in harnessing the energies and regularising the rationality of many human 'others', who were racialized and gendered.[49] Domestication was, then, a politics of bringing various 'natures' under control, as defined by core Enlightenment values. Harriet Ritvo explored similar territory in her discussion of cattle breeding, pedigree and prize pets, the prevention of

45. Faure 1997, Hodak 1999, Creager and Jordan 2002, Henninger-Voss 2002, Ritvo 2002, Fudge 2002b, Pflugfelder and Walker 2005, Mason 2005, Kalof 2007, Kalof and Resl 2007, Brantz and Mauch 2009, Wolfe 2009, Brantz 2010, Montgomery and Kalof 2010.

46. Wolch and Emel 1995, 1998, Philo and Wolch 1998, Philo and Wilbert 2000, Wolch 2002, Emel et al. 2002, Johnston 2008, Wolch et al. 2003, Wilbert 2009, Emel and Urbanik 2010.

47. Wilbert 2009: 122.

48. Anderson 1997: 466.

49. Anderson 1995, 1997.

cruelty to animals, rabies, zoos, and hunting.[50] For her, each of these animal-human encounters served to reinforce or reproduce existing social hierarchies. In addition, Kathleen Kete's perspective on nineteenth-century Paris is that pet dogs were accorded affective characteristics, such as loyalty and heroism, that gave them some credit in the transactions of social capital, but this was not available to all dogs in the city.[51] Jean Baudrillard saw more clearly than most that such animal-human transactions were asymmetrical: 'our sentimentality towards animals is a sure sign of the disdain in which we hold them. It is in proportion to [them] being relegated to irresponsibility, to the inhuman ...'.[52]

Animal studies have also pioneered understandings of the role of animals in the past in the making and unmaking of places and landscapes.[53] Alice Hovorka, for instance, finds that chickens have played an important everyday role in African cities and she claims that 'understanding urban human-animal relations is central to explaining urbanization in Africa'.[54] Her fieldwork was in Gaberone, where there are 200,000 human inhabitants and 2.3 million chickens. The sector there is so important economically for working people that the urban planners have been forced to take a positive view of it and to zone land accordingly. Other cultural geographers have told the story of rural landscapes through animal-human entanglements and their approach shows great promise for equivalent urban histories.[55]

In the humanities, there has been the recent development of 'animality studies', sometimes with an historical twist because of its emphasis upon a canon of literature. American institutions, such as Colorado State University have been at the forefront.[56] How is this different from animal studies? Let Michael Lundblad explain:

> Animality studies can prioritize questions of human politics, for example, in relation to how we have thought about human and nonhuman animality at various historical and cultural moments ... I want to open up a space for new critical work that might have different

50. Ritvo 1987.

51. Kete 1994.

52. Baudrillard 1994: 134.

53. Wilbert 2009: 124.

54. Hovorka 2008: 95. For dogs and the ordering of urban social space in South Africa, see McKenzie 2003.

55. See Matless et al., 2005, on otters in the Norfolk Broads and Lorimer 2006 on reindeer in Scotland.

56. http://animalitystudies.colostate.edu/ [accessed December 2010].

> priorities, without an imperative to claim the advocacy for nonhuman animals that runs through much of the recent work in animal studies.[57]

A second departure has addressed the moral histories and spaces of animals, from philosophical studies of ethics to the legal and practical issues of animal rights and advocacy. Pain has been one aspect considered here, for instance in the city cattle markets and slaughterhouses, making them centres of concern for reformers in the nineteenth century, along with campaigning about the relationship between scientific advance and laboratory experiments on animals.[58] The vivisection debate, for instance, was particularly lively in Britain from the 1870s onwards and was heavily influenced by feminist activism.[59]

Third, urban political ecology has recently emerged as a means of relating ecology and political economy together in urban settings. There is some overlap with Swyngedouw's urban water research mentioned above but political ecologists are a broad church and their interest in metaphors such as metabolism and circulation should not be taken for granted.[60] Perhaps a stronger foundation is the way in which capital found ways to harness the rhythms, instabilities and time challenges of animal biology. The commodification of urban animal wastes described in Chapter Two is testament to how flexible and enterprising this sector was and how it contributed to complex systems of recycling that were very different from the large-scale, factory-based production regimes that followed.

Another application of political ecology lies in the relationship between nature and the growth of cities.[61] What I mean here is taken-for-granted, dirty, smelly, warm-blooded nature; nature 'in here', not nature as a representation of the sublime pastoral or of the wilderness. Raymond Williams' brilliant book is often quoted as a seminal work in this area but he was interested in the intertwining and dialectical opposition of these categories rather than nature *in* cities, its challenges and erasures.[62] Even James Winter,

57. Lundblad 2009: 497.

58. Turner 1980.

59. Rupke 1987, Mayer 2010.

60. Keil 2003, 2005.

61. Benton-Short and Short 2008.

62. Williams 1973.

who was writing specifically on the environment in the nineteenth century, could find no room for this neglected topic.[63]

What then of the history of urban nature? It is important to note that recent literature is at last providing relevant theoretical frameworks. One strand has been Marxist interpretations such as 'second nature' (Lefebvre) and the 'production of nature' (Smith), where the argument is that what may appear to be natural has often been influenced by human factors, along with nature that has been eliminated or compromised to the extent that it is no longer sustainable.[64] David Harvey's subtle yet powerful historical materialism takes this logic further and he concludes that

> all nature is urban nature, for to the extent that systems of production, exchange and consumption have become global, 'distant' natures and everyday urban environments are woven into tight webs of socio-ecological and spatial relations. This does much more than disturb the distinction between nature and society; it also radically reconfigures the terrain – and the goals – of green politics.[65]

Political ecologists also have an interest in the contests throughout the nineteenth and twentieth centuries over what kinds of nature should be encouraged or excluded. Urban blood sports such as bull running and cock fighting were controlled in Britain in the early nineteenth century but others, such as rat pits, took longer, and some rural hunting continues right through to the present day.[66] The Society for the Prevention of Cruelty to Animals was founded in London in 1824 and such activism in civil society was not without sympathy in the legislature. In fact there was some commonality with the 'humane' movements for the abolition of slavery and the improvement of working conditions for children.

Fourth, there is 'posthumanism'. This is a movement of social scientists seeking epistemological innovation through a reconsideration of human and non-human subject positions.[67] Some have looked to unbundle the diversity of what it is to be 'animal', for instance by pointing to 'social constructions' of difference. This is based on the rejection of essential truths, conditions and identities. Others have challenged the

63. Winter 1999.

64. Lefebvre 1991, Smith 2008.

65. Braun 2006: 218.

66. Harrison 1973.

67. See the book series on 'posthumantities' published since 2007 by the University of Minnesota Press.

modernist ontological divide between humans and other animals, for instance through a flattening of the idea of separate agencies. One way of achieving this has been to imagine human-nonhuman hybrids that have shared agency, perhaps in 'actor networks' or in 'assemblages', which are mutually constituting collectives.[68] An example is the horse-drawn vehicle that we will meet in Chapters Three and Four. Apart from a few experiments with steam and electricity as motive power, most omnibuses and carriages throughout the nineteenth century were horse-powered and the combination of animal and machine was so successful that it dominated urban transport around the western world. Many horses would not have existed without urban demand and their survival depended upon their ability, for a few years at least, to pull heavy weights. Such was their indispensability that the faeces they dropped on to the street was tolerated. Horse and vehicle were an animal-machine collective that also required a human driver and all of the connexions that kept the horse fed and the vehicle maintained. It is impossible, in this view, to ascribe full agency and capacity to the human actors alone or to see animals or even nature as separate. As a result, the term nature-culture has been coined in recognition of the overlap, the merging, the entanglement, the conjoining of the two.[69]

So far this may seem palatable but some posthumanists take their argument much further. An example is the anthropocentric flavour of animal studies in that the ultimate insight is always about society or individual human identity. Posthumanists want recognition of the equivalent sociality of nonhumans and the vitalism of their worlds. For these scholars, the 'lively agencies of bodies, technologies, and places' are important and they have turned for inspiration to the theoretical work of Bruno Latour, Gilles Deleuze and others.[70] Here they have found a concern for emergent rather than fixed material ontologies. Recent work on animal subjectivities has demonstrated the relevance of this approach, for instance to the interaction of cows and computers or robot milking machines.[71]

68. Roe 2009.

69. Jones 2009.

70. Lorimer 2009: 347.

71. Risan 2005, Holloway 2007.

This thought of animals interacting with machines raises the question of the city being a more-than-human context. This is true of all people who wore spectacles to enhance their 'natural' sight, who took medicines to improve the state of their health, and who chose warm clothing in temperate climates. It was also the case for horses in harness or dogs on a leash. All were in a sense hybrids of themselves and whatever technology or organism modified their capacity for living. In the vocabulary of Donna Haraway this made them 'cyborgs' and the cities they inhabited were 'cyborg cities'.[72] Obviously the word cyborg has added meaning in the twenty-first century, with our ability to produce genetically modified organisms or have medical implants in our bodies, but the concept is also relevant to a posthumanist reading of urban history. If we were take it to its logical conclusion, we might include food and maybe even the microbes that in one way or another have become associated with humans. Zoonotic diseases, for instance, were significant in the toll of morbidity and mortality in nineteenth and twentieth century European cities and deserve an in-depth treatment from posthumanist historians.[73] Some of these organisms, particularly those causing disease, have been powerful enough to influence the course of civilizations and even the evolution of the human genome. Our co-evolution with them has been on the basis of co-presence and a sharing of resources.

One last comment on the potential for posthumanist urban histories of animals relates to the work of Sarah Whatmore. She has carved out new understandings of hybridity through work that ranges from animals used in the arenas of the Roman Empire to zoo elephants at the present day.[74] Although her approach draws upon Actor Network Theory, she goes beyond its limitations and finds plenty of room for a politics of animals. Steve Hinchliffe opens this out into the interrogation of animal presences and absences when he seeks the traces of shy animals such water voles and black redstarts in Birmingham.[75] Although historians cannot emulate the fieldwork element of this research, the implications of working with traces will not be lost on them. Hinchliffe has already shown the value of vitalist framings in this regard with his call

72. Haraway 1991. See also her posthumanist discussion of companion animals. Haraway 2003, 2008.

73. Atkins 2010, Nimmo 2010.

74. Whatmore 2002.

75. Hinchliffe and Whatmore 2006, Hinchliffe 2007.

for a rethinking the complex human-nonhuman entanglements of BSE.[76] In sum, this group of researchers has opened up new perspectives on the ontological politics of urban animals that are relevant right across the social sciences.

History–Nature–Animals–Cities

Nature for us is not 'eternal and immutable'.[77] On the contrary, even the 'wildness' of certain urban animals does not mean that they shun the advantages of living in or near humanized landscapes. Nor have cities necessarily degraded existing animal habitats in the way that is sometimes attributed to them. Those in Britain and continental Europe mainly grew from smaller settlements and have not modified a 'natural' environment. They were merely an intensification and a scaling-up of already humanized landscapes, where flora and fauna had long since been modified and physical changes initiated to hydrological and biogeochemical cycles. One profound change, though, in the age of tarmac and concrete, was the introduction both of organically sterile areas and of fragmented zones of habitat where biodiversity has sometimes actually increased.[78]

As Byrne and Wolch observe, 'nature suffuses the city'.[79] This realization means that we can now admit, in retrospect, that seeing cities as 'unnatural' was an oversight. It follows that, not only is the meaning of 'natural' softening but also in some quarters the nature-culture divide itself has begun to dissolve, or at least is losing its categorising power.[80] Studies of urban habitats, urban ecology, urban ecosystems, and urban nature have become possible and even desirable. Cities can now be seen as home – albeit with different mixes of encouraging and discouraging factors – to vast numbers and species of plants and animals. As we have seen, vermin, parasites and microbes can all be viewed as part of such a zoöpolis. Why not?

It was with these thoughts of uncertainty and complexity in mind that a team of scholars approached the topic of 'Animals in the City' at the Eighth International

76. Hinchliffe 2001.

77. Braun 2009: 21.

78. Alberti 2009, Mockford and Marshall 2009.

79. Byrne and Wolch 2009: 47.

80. Jones 2009.

Conference of the European Urban History Association in Stockholm in September 2006. Three of the chapters in the present book were papers in that session and five others are by the participants. In one way or another they pick up on themes that have been raised earlier in this chapter, although we make no claim to a comprehensive set of answers to the challenges raised there. Our disciplinary backgrounds vary but most of us have associations with either history or historical geography. This gives our stories a greater epistemological coherence than is true of many edited collections.

The opening Chapters, Two to Four, are closely related. They look at working and productive animals that lived and died in cities in the nineteenth century, using mainly the case study of London. The purpose overall is to argue that their presence yields insights into evolving contemporary understandings of the category 'urban' and therefore what made a good city. Chapter Two begins with an investigation of dirt, waste and the role of animal 'nuisance' as a catalyst to both medical and sanitary theories of the environment. There is plenty of evidence, it seems, that cities such as London and Paris continued to host food-producing livestock, from pigs to milch cattle, in large numbers and the resulting smells and faeces were only brought under control in the second half of the century by concerted legislative and regulatory action. It was the deliberate rupture of this function, coupled, in the second and third decades of the twentieth century, with the decline of horse-powered transport, that started moves towards the cleansed and de-animalized 'modern' city that was a goal for many.

A related strand of argument in Chapter Two is that the sewering of cities from the mid nineteenth century onwards weakened another link with the countryside. This was the circulation of nutrients, which for centuries had seen animal manure and human night-soil transported to peri-urban fields and, in return, vegetables and animal fodder were marketed in the city. A pinch point was the failure of sewage irrigation to be successful on a large scale, meaning that the disposal of all forms of human waste became a matter of municipal management rather than of profit. This was crucial to a growing perception by the local state of 'city versus country' in an era when it increasingly had the power and the capacity to shape urban futures. The chapter gives a name to this ontological re-mastering and parting of the ways: the Great Separation.

Chapter Three takes the recycling argument further. It identifies around London a 'manured region' where much of agricultural prosperity was sustained by animal dung

in the nineteenth century. The radius of this was short because of the expense of carting a heavy, low-value, waste product, but within the favoured zone there was intensive horticulture and hay production. As the numbers of urban animals declined, so this system of sustainable fertility was undermined. A similar fate awaited the manured regions of Paris, Berlin and New York, although each city had its own pace of change related to factors such as attitudes to the presence of animals in urban areas and the technologies of disposing of human waste.

There has been surprisingly little about dead animals in urban history. Slaughterhouses have properly received attention but the bellowing of dying beasts has made us deaf to what happened next. Economic historians have examined the meat trade and leather but the other 'blood and guts' by-products have been under-researched. Chapter Four reminds us that animals made a major contribution, even when dead. Their traces were everywhere. There were many urban industries involved in processing the by-products of animal carcases, not just the meat but everything from blood to the use of fat in candles. The spatial patterning of these activities followed a particular logic, notably in south London, where the district of Bermondsey has a strong claim to the title 'animal city'. It was not only home to live productive animals and to slaughter-houses but it also had the largest single concentration in Britain of employment in processing the body parts of cattle and sheep. Its many tan yards and leather factories were internationally renowned for the quantity of their output, and animals were undoubtedly the crux of the local economy for centuries. The smells and pollution would have been an unbearable nuisance anywhere else in London, but in Bermondsey they represented a job opportunity and complaints were muted, proving that attitudes to the Great Separation were differentiated and that the 'purification' of the urban environment is likely to have been strongly contested in some districts.

Chapter Five stays with the dead animals theme. Here Paul Laxton gives a close reading of disputes in nineteenth-century Edinburgh about diseased meat: how common it was and its implications for human health. What emerges is a drama of personalities. The veterinarian, John Gamgee, and city Medical Officer of Health, Henry Littlejohn, were critics of a meat trade that sought to profit from a poor quality product. Against them were the vested interests of the meat trade, as might be expected, but also the veterinarian, William Dick, who was sceptical of the danger of zoonotic disease for

consumers. This is not just a case study of the clash of interests but also a penetrating insight into the significance of individual agency at the local level. In the absence of the quality assurance systems that are taken for granted today, consumers relied for protection upon the enthusiasms of local actors and their ability to manipulate the political forces manifest locally.

Chapter Six, by Sabine Barles, is about 'undesirable nature' in nineteenth-century Paris. A discussion of nuisances illustrates similarities with London in terms of the survival of animals and animal-related trades in the centre of the city until the end of the century. And the smells were like London, as was the production of milk and the slaughter of animals. But Paris is much better documented than London, not only having octroi records of imports into the city, but also a greater appetite for surveys and statistics about animals, their by-products and their wastes. This chapter should be read alongside Professor Barles' other work, which together provides an example to us all of how history, with or without the animals, can help us to understand the evolution of the present environmental contexts and problems of our large cities.[81]

Takashi Ito, in Chapter Seven, argues that animal spectacles in nineteenth-century London influenced contemporary interpretations of the urban experience. London Zoo is used as a case of this public animal world. Its role as an animal space is first of all evaluated by comparison with the sites of other animal spectacles in the city. Then the zoo is contrasted with Smithfield, the infamous livestock market, in order to highlight the issue of animal inclusions and exclusions. Dr Ito also discusses the boundary between humans and animals, and the reactions to the zoo animals that resisted their confinement or transgressed their expected roles. Overall, the essay explores how the geographical transformation of London influenced popular sensibilities about animal life, and how this affected the emergence of different 'animal spaces' in the city. The zoo's success was a function of its location in Regent's Park and its portrayal as a scientific institution rather than a tawdry menagerie.

Chapter Eight, by Andrea Gaynor, is devoted to the contested spaces of suburbia in Australia in the period 1890-1990. Back-yard chickens, or 'chooks' as they were known, are a good example, first of the everyday acceptance of small livestock in these

81. Barles 1999, 2001, 2002, 2005a, 2005b, 2006, 2007, 2008, 2009.

cities, as a 'natural' presence and, second, of the needs of ordinary working people to find additional income and food sources, for instance during the economic depression of the 1930s. In one Melbourne suburb in the late nineteenth century as many as two-thirds of households kept chooks but this proportion fell steadily in most Australian cities in the twentieth century. One reason for the eclipse of household fowls was the introduction of regulations that addressed health concerns about the proximity of residences to farm animals. This was in a similar spirit to the nuisance- and health-related legislation and local by-laws in Britain. A second factor was the 'modern outlook' that emerged in the twentieth century, affecting everything from the images in home-making magazines to the zoning mentality of local councils about the proper place of food production, which should be separated from residential districts. By the 1950s and 1960s, many of the interviewees for this study were pursuing other leisure activities and women's increasing participation in the workforce meant that they had less time and inclination to look after chickens. Overall, the chooks are a convenient vehicle for telling the story of what makes a good city and a good citizen.

The last word, in Chapter Nine, goes to Philip Howell. He has written about urban dogs before, for instance in his classic paper 'Flush and the *Banditti*', which is about dog stealing.[82] On this occasion he looks at the problem of the public dog and produces an account that enlightens us on the nature of space in Victorian and Edwardian London. The first thread is the call for dogs to be muzzled in public because of the fear of rabies. Although this disease was never so common in Britain as on the Continent, it nevertheless produced reactions that were close to hysteria. We might be forgiven for taking the second theme, the increasing use of the dog leash, as a similarly disciplinary measure but Dr Howell finds good reasons to interpret it differently as means by which owners and their pets were able to create an altogether more positive public response and therefore carve out spaces in which particular behaviours were positively encouraged and even celebrated.

This is a book of selected animal case studies of nineteenth- and twentieth-century cities. As specified in the original conference, the emphasis is upon European cities, including Perth and Melbourne in Australia, which were heavily influenced by

82. Howell 2000, 2002.

British values and by British immigration. We acknowledge that our insights are therefore limited to this narrow context and to a number of animal species. An extension of our enterprise might have included chapters on back-yard pigs, on 'nuisance animals' such as rats or pigeons, and it would have been particularly valuable to have further explorations of the concept of wildness, either in semi-domesticated species such as cats or the shy mammals of which so little trace is visible. Parasites, fish and microbes are other absentees but the point that we have raised is that there are so many participants in animated cities that no single compendium could ever be comprehensive.

Our collective voice in this book is that of the urban history literature rather than the more theory-intensive animal geography that is becoming influential, or even the environmental history that has been so prominent in America. This has given us the scope to develop arguments based upon the extensive use of archival source materials. These are much richer than has perhaps been imagined hitherto and great potential remains for further work. As mentioned earlier, historians often deal in traces, and we think that for animated cities these legitimately include the manure of live animals and the by-products of dead animals. Together these are departures from the existing literature, along with an interest in the cultural politics of accessories such as muzzles, leashes, cages and chicken coops.