Introduction

In his essay 'Dickens in Relation to Criticism' (1872), the physiologist and literary critic G. H. Lewes likened Charles Dickens's characters to 'frogs whose brains have been taken out for physiological purposes'. Lewes pursued:

> Place one of these brainless frogs on his back and he will at once recover the sitting posture; draw a leg from under him, and he will draw it back again; tickle or prick him and he will push away the object, or take *one* hop out of the way; stroke his back, and he will utter *one* croak, may or may not hop away. All of these things resemble the actions of the unmutilated frog, but they differ in being *isolated* actions, and *always the same*: they are as uniform and calculable as the movements of a machine.

This unusual metaphor forwards a familiar critique of Dickens's 'flat' personages, or 'puppets' as Lewes describes them. The ever-optimistic Wilkins Micawber of *David Copperfield* (1850) is 'always presenting himself in the same situation, moved with the same springs, and uttering the same sounds, always confident on something turning up, always crushed and rebounding, always making punch'. His mechanical actions mimic those of a 'pithed' amphibian whose spinal cord or brain stem has been damaged to render it insensible to pain but capable of demonstrating motor function and reflex action. Micawber reacts to external stimuli – to prods, strokes, tickles, or pricks – but lacks 'the distinctive peculiarity of organic action, that of fluctuating spontaneity'.[1] Although Lewes never intended to insult Dickens, many found the analogy peculiar. The response, combined with the demands of *Problems of Life and Mind* (1873), may have hastened his turn from man of letters to man of science; this was his last original work of literary criticism.[2] Yet, a few years later, while testifying before the first Royal Commission on Vivisection (1875) Lewes once more compared literary and physiological practices. This time he declared that literary criticism 'is also vivisection' and, although necessary, constituted 'real torture' for sensitive authors.[3]

As Lewes's remarks indicate, the late nineteenth- and early twentieth-century literature of vivisection was caught up not only in social debates but also in aesthetic and linguistic ones. Animal experimentation permeated the period's writings, seeped into the heart of literary-critical vocabulary, and made lasting impressions upon literary culture by offering formal and imaginative opportunities beyond a straightforward concern with animal welfare. This book is interested in the challenges and opportunities offered by the depiction of a scientific practice which strained the very boundaries of representation. During a period in which realism flourished, the literature of vivisection was preoccupied with what, for many, lay beyond the empirical: the vivisector worked in the shadows, his feelings and motivations were inscrutable, his victims could not testify, and the language of vivisection itself readily slipped from the literal to the metaphorical. Because live animal experimentation was presented as a mental operation as much as a manual one, 'vivisection' became used to navigate topics of particular interest in late-Victorian literary culture, including the uneasy ground between self and subject, creation and mutilation, and detachment and absorption. To represent vivisection was to be caught in a paradox because a practice deployed for the purposes of scientific empiricism, invested in making bodily interiors hypervisible, itself evaded precise scrutiny.

Vivisection was somewhat of an anomaly within the broader landscape of nineteenth-century animal (ab)uses which attracted humane attention. Victorian urban dwellers were heavily exposed to the sight, smells, and sounds of animals, and early animal protection efforts primarily targeted cruelties taking place in city streets, such as bloodsports and ill-treatment resulting from the transportation, sale, and slaughter of livestock.[4] Such scenes appeared in novels of the period. In 1860, Charles Dickens confronts Pip of *Great Expectations* with Smithfield cattle market, located in the heart of London, a place 'all asmear with filth and fat and blood and foam'.[5] He had earlier confounded Oliver Twist with the same 'shameful place': 'thick steam, perpetually rising from the reeking bodies of the cattle', the pens 'filled with sheep', and the 'long lines of beasts and oxen, three or four deep' about which mingled 'countrymen, butchers, drovers, hawkers, boys, thieves, idlers, and vagabonds of every low grade'.[6] Exhausted cattle could be seen flogged on the final leg of their journey to the market, such that even 'the well to do could not avoid witnessing the brutal treatment of draught animals and livestock'.[7] Vivisection, meanwhile, was rarely carried out in public places and did not feature in the everyday lives of most ordinary people. Its potential, therefore, to offend the senses (and sensibilities) of the public initially seemed limited.

Nineteenth-century animal protection legislation was often predicated as much on the morally degrading effect of cruelty upon human perpetrators as it was upon the animal's rights and capacity for suffering. As Dickens's description of the unsavoury characters of Smithfield market suggests, the potential for crime was a closely related concern.[8] In 1800, Sir William Pulteney's bill against bull-baiting sought to stamp out a 'cruel and inhuman' practice which 'drew together idle and disorderly persons' and 'created many disorderly and mischievous proceedings'.[9] Opponents retorted that bull-baiting did not produce the evils ascribed to it and that the more gentlemanly pastime of game shooting demonstrated that 'savage sports do not make savage people'.[10] The Secretary for War, describing bull-baiting as an 'athletic, manly and hardy' activity, decried the bill's 'petty, meddling, legislative spirit', and urged the House of Commons not to deprive the poor of their amusements.[11] Pultney's motion was narrowly defeated, and five more bills were put forward and defeated until Richard Martin's 1822 bill to prevent 'the cruel and improper treatment of cattle' became Britain's first anti-cruelty law. For a growing urban bourgeoisie still unsettled by the French Revolution, a desensitised labouring class inured to animal suffering threatened to become ungovernable. Once again, vivisection seemed exempt from these anxieties since it was largely practiced by a demographic not typically suspected of savagery (educated, professional, middle- and upper-class men). Moreover, it was supposedly executed in a calm and controlled manner and for the purpose of increasing 'useful' (a slippery qualification) physiological knowledge.

These factors help explain why the practice was not a prominent concern of the earliest animal welfare societies. The Society for the Prevention of Cruelty to Animals (SPCA), which gained Royal approval in 1840, briefly acknowledged vivisection as an abuse in its founding statement of 1824, and 'scientific cruelty' occasionally featured in articles and pamphlets, but the issue was not at the forefront of any campaigns.[12] Throughout the nineteenth century many accepted animal experiments so long as they were governed by 'a true sense of scientific inquiry', and not undertaken wantonly.[13] Concerns about the practice were easy to dismiss: As the movement's critics frequently pointed out, the animals sacrificed for science were far outnumbered by those used for food and clothing and most antivivisectionists did not themselves shrink from eating meat and wearing leather or fur.[14] Or, as the scientific journal *Nature* claimed in 1881, 'more pain is caused by the whip of a London cab driver in one day than is inflicted in any physiological laboratory in this country in a course of weeks'.[15]

Nevertheless, 'scientific cruelty' raised unusually powerful ethical questions and provoked strong feelings that were absent from responses to other areas of animal (mis)treatment. 'The reason vivisection seemed so very terrifying to British readers', writes Thomas G. Cole II, 'was because the general public did not fully understand what constituted proper medical practice.'[16] This explanation fails to recognise the deeply rooted anxieties of the populace. As A. W. H. Bates summarises, vivisection raised 'a multiplicity of moral problems' since it 'had implications beyond animal welfare: for the way society made ethical choices, for how science should be conducted, and for how humans saw themselves in relation to the rest of creation'.[17] It undermined supposedly unshakeable moral truths and core national values. For instance, dogs were figured as devoted servant-companions with a special moral nature and their enduring faithfulness was widely celebrated in British culture. The fact that 'even when tortured, [dogs] do not be by a snap or bite that "fellow feeling" which both binds them in companionship to man and makes them "easy" victims', only compounded the treachery of vivisection.[18] The canine character remained steadfast – compliant, trusting, and loyal – even as the physiologist's 'humanity' was increasingly in doubt.

Vivisection's invisibility to the general populace held important consequences for the movement which fought the practice. When animal abuse occurred openly in the streets, the disturbance caused might prompt a concerned passer-by or even an SPCA inspector to intervene.[19] Since live animal experimentation rarely captured public attention in this manner, opponents needed to bring powerfully imagined scenes before the mind's eye; they had to enable those who had never seen vivisection to visualise it. Equally, the discourse of invisibility and secrecy became a useful rhetorical and political tool: By emphasising 'the opacity of laboratory practice', the movement could cast suspicion upon practitioners and scientific institutions while justifying calls for ever-greater scrutiny.[20] Activists used various strategies to represent the cruel 'reality' of animal experimentation, and the fluctuation of their discourse between publicity and privacy, secrecy and disclosure, allowed a profusion of meanings to attach onto vivisection. Most Victorian antivivisectionists would never see the inside of a laboratory, let alone an actual live experiment. Unable, or sometimes unwilling, to penetrate laboratory walls, they relied instead on picturing what was going on inside.[21] Sometimes suspicious sounds and activities stimulated imaginative work. For example, in 1864, a campaign led by a group of British expatriates in Florence against the German physiologist Moritz Schiff was launched after neighbours complained about the nocturnal

howls emanating from his laboratory.[22] More commonly, however, antivivisectionists relied on piecing together, augmenting, and reframing scientists' own accounts of the practice.

Although partly responsible for the veil of secrecy that shrouded animal experimentation, there was some truth to antivivisectionist claims that ordinary citizens were being denied access to scientific knowledge. The 'scientific laboratory method' which began to be articulated and theorised in the latter half of the nineteenth century further excluded laypersons from 'the new physiology', a term used to describe the scientific study of the normal functioning of living organisms by means of experiment, including vivisection. Meanwhile, new graphic registration and recording technologies offered researchers privileged powers of vision and mechanical means of accessing and recording physiological data. By slicing open animal bodies and using special equipment to extract nature's secrets, vivisectors gained unparalleled access to living interiors. On the basis of biological contiguity born by 'a Darwinian cosmology whereby advanced physiological understanding of animals would illuminate the physiological understanding of man', their insights were not limited to non-human beings.[23] Regardless of differences in mass, appearance, and so forth, animal and human interiors looked and functioned similarly, such that experimental physiologists could see a fellow citizen's body in a manner alien even to the individual to which it belonged.[24] No wonder experimental science was, as Phillip Howell puts it, 'alienating and distinctly *unheimlich* . . . to the Victorian public'.[25] Vivisection made otherwise familiar objects or beings – even oneself – appear strange.

Vivisection and Late-Victorian Literary Culture focuses on the period between the first and second Royal Commissions on Vivisection (1875–1912) and the immediate aftermath, which encompasses the rise and fall of the initial wave of agitation. Although the practice of vivisection rose exponentially during this time, the fundamental character of the debates did not much change. There was little appetite for compromise and stereotypes remained entrenched. Antivivisectionists were labelled crazed sentimentalists and vivisectors were often branded heartless materialists, even sadists. The arguments and strategies of both sides also remained relatively fixed. Despite scientific breakthroughs, especially in microbiology, the movement continued to deny that vivisection produced useful results. Its supporters insisted that hypothetical benefits to physical health would always be outweighed by the spiritual and emotional damage that vivisection inflicted on individuals and society. Ironically, both sides drew from a discourse of humanity and claimed their party alone was

truly committed to reducing suffering.[26] As Bates puts it, 'There quite possibly never was a contest in which the disputants failed so comprehensively to grasp one another's point of view.'[27]

With anti- and pro-vivisectionists talking at cross-purposes, the writings of each have been characterised as 'voluminous, repetitive, and, for the modern reader, wearisome to plough through'.[28] Richard French notes the 'extraordinary persistence . . . of such relatively dull literature' filled with clichés and highly-wrought indignation and which 'becomes quickly banal with repetition'.[29] Sally Mitchell adds that the constant recirculation and reprinting of articles and letters makes it 'virtually impossible' to maintain bibliographic control of antivivisection writing.[30] The debate was circular partly by design: As this book will go on to explore, the antivivisection movement repeatedly lambasted a handful of scientists and endlessly reprinted key passages from 'set' texts. This tactic was heavily weighted towards figures and works dating from the beginning of, or even prior to, the organised controversy – a time when scientists discussed their research more unreservedly. The debate, therefore, remained pinned to early – and what scientists claimed were outdated – examples. While this book challenges unflattering assessments of antivivisection literature, the corpus certainly had its canon, its vocabulary, and its conventions.

The Vexed Relationship of Vivisection and Literature

The 'animal turn' is well and truly underway. The 1970s and eighties witnessed a growing interest in our entanglements with other animals and a flourishing of interdisciplinary approaches. Echoing the manner in which nineteenth-century animal welfare debates expressed broader social anxieties, scholars have fruitfully explored how animal experimentation became a vehicle for contemporary preoccupations with sexuality, gender, race, class and empire.[31] International conferences, dedicated presses and series, research centres, special issue journals, university courses, and academic positions have been set up in recent decades to mine the political, ethical, theological, literary, and historical significance of non-human animals. Guides such as *The Routledge Handbook of Human-Animal Studies* (2014) and *The Edinburgh Companion to Animal Studies* (2018) reflect the discipline's coming-of-age and the need to map an expanding critical landscape.

The relationship between the literary representation of animals and animal advocacy has always been fraught, as large sections of this book will explore. Many scholars have looked askance at fictional worlds which

operate as breeding grounds for anthropomorphic creations that obscure animals 'as they really are'.[32] The role of affective stimuli – especially the problematic triad of sympathy, sentiment, and sensibility – in configuring our relationships with animals has been controversial since the eighteenth century at least. Yet literature continues to offer appealing possibilities for ethical engagement, and some researchers have returned to the sympathetic imagination as a tool for inter-species understanding and ethical thought. The evolutionary biologist Marc Bekoff, neuroendocrinologist Robert Sapolsky, and psychologist Gordon Burghardt have stressed the importance of recognising our position within the animal kingdom, subject to and shaped by many of the same evolutionary forces.[33] For Bekoff, this means acknowledging that anthropomorphising is an 'inevitable and involuntary' process which seeks to make animal thoughts and feelings accessible. He contends that if we discard anthropomorphic language 'we might as well pack up and go home because we have no alternatives'. 'Should we talk about animals as a bunch of hormones, neurons and muscles?', he asks rhetorically.[34] Martha Nussbaum argues that ethical life requires projection, so 'imagining and storytelling remind us in no uncertain terms that animal lives are many and diverse', which in turn makes animals 'real to us in a primary way, as potential subjects of justice'.[35] Likewise, for David Herman, stories (and especially graphic narratives) can promote the aims of animal studies by 'modeling the richness and complexity of "what it is like" for nonhuman others' and by underscoring 'what is at stake in the trivialisation – or outright destruction – of their experiences'.[36]

While much of this scholarship concerns twentieth-century and contemporary culture, nineteenth-century writers also harnessed the disruptive potential of the literary imagination. For example, Chris Danta has shown that 'post-Darwinian' writers, including Robert Louis Stevenson and H. G. Wells, used the genre of the fable to challenge anthropocentrism and foreground animal perspectives in ways which challenge the concept of human uniqueness.[37] Although *Vivisection and Late-Victorian Culture* contributes to these conversations, especially through discussions of Victorian animalographies in Chapter 5, it is not focused on assessing the political utility of literary texts or their value as philosophical or ethical tools to dismantle speciesism or improve conditions for animals. Such an approach can unduly limit the texts deemed worthy of study, and risks flattening the complexities and nuances of literary representations. Instead, this book opens up literary and scientific works of the period to new interpretations and uncovers writings about animals which have garnered little or no attention in animal studies, literary studies or,

indeed, in any scholarly or popular context. These include, for instance, poems, essays, and stories published in association periodicals, constituting a large corpus of hitherto neglected antivivisection literature. The literature of vivisection often contained few animals and no actual scenes of experimentation, yet these works remain fundamentally engaged with animals and their treatment, representing exciting opportunities for animal studies to expand into texts and contexts where animals appear absent.

The late nineteenth- and early twentieth-century antivivisection movement was a print-culture phenomenon and was backed by 'a veritable "who's who" of Victorian authors'.[38] However, most book-length studies of nineteenth-century vivisection are historical accounts concerned with the movement's tactics and policies rather than its literary strategies.[39] These usually conform to three main strands: accounts of the organised opposition and defence of vivisection; of the alliance between antivivisection and feminism; and of the role of experimental science in histories of emotion. While there has been some recognition of the literary and journalistic output of antivivisection societies, these materials have been largely treated as historical documents from which to extract information about the pressure groups which circulated them, rather than as invitations to consider the works' complexities as literary texts.[40] French, for instance, simply notes that short stories and poems published as pamphlets or in periodicals were 'a favourite genre' with antivivisectionists and justifies the brevity of his discussion of the monthly London Anti-Vivisection Society (LAVS) periodical, the *Animals Guardian*, on the grounds that the journal 'contained very little in the way of news or editorial matter on the movement'. As well as skating over the creative writing contained within these periodicals, many histories pay little attention to the form and language of antivivisection journalism – a body of work which French considers 'monotonously repetitive'.[41] However, the literature that emerged in response to the late nineteenth-century vivisection debates is more varied than French allows and was neither confined to the pages of the movement's periodicals nor limited to the purpose of advocacy.

The last few years have seen a little more attention paid to the literature and visual culture of vivisection. In *Mobilizing Traditions in the First Wave of the British Animal Defense Movement* (2019) Chien-hui Li charts how Britain's early animal welfare organisations actively fashioned rather than passively inherited a humane literary heritage; by performing a series of 'mobilizing tasks' such as reviewing, criticism, and the solicitation of literary patrons, animal workers extracted useful 'resources contained

within the various literary traditions'.[42] By restoring 'the creative agency of animal defenders', Li offers a much-needed intervention in the historiography of Victorian animal protectionism. However, she tends to overestimate the mediating power of the movement over the images, language, and meanings of vivisection. While her monograph provides a valuable introduction to animal protectionism's literary-cultural links, the role of animal protectionists in 'recreating and energising' literary traditions is never fully explored, and the literature itself is not studied in depth: it takes up a small portion of the survey which also examines an impressive range intellectual traditions such as Christianity, natural history, evolutionism, and political radicalism.[43] In short, *Mobilizing Traditions* attends to the political function of 'literary tasks' rather than the fundamentals of literary texts and foregrounds 'critical' rather than 'creative' forms of writing which are often (erroneously) treated as less literary. This approach risks perpetuating a reductionist approach to literature as merely a functional tool employed to convey the claims of brutes.

Vivisection and Late-Victorian Literary Culture does something quite different: It traces how the vivisection debates shaped and even generated discourses only loosely connected to their 'original' contexts. When working with some of the same sources and events recorded in histories of the opposition and defence of animal experimentation, it does so with a literary-critical investment in language, genre, and style. Even those writers committed to aiding the cause found it tricky to prune the topic to serve political ends and to manage and direct reader responses. Its fecundity proved irrepressible and made cross-pollination inevitable. Ethics gave way to aesthetics, and the achievement of political ends was frustrated by representational preoccupations. This book, then, moves away from the socio-political contexts in which the late nineteenth- and early twentieth-century vivisection debates have been extensively read. Instead, it shows that although the controversy certainly did give rise to naïve and simplistic propaganda literature, it also provoked and shaped complex and substantial issues relating to literary purpose and production. Indeed, the preoccupation with vivisection was fundamentally bound up with the nature and limits of representation.

Those scholars who have considered Victorian vivisection through a distinctly literary lens have done so in shorter, article-length pieces, and have tended to focus on a limited selection of novels such as H. G. Wells's *The Island of Doctor Moreau* (1896) and Wilkie Collins's *Heart and Science* (1882). *Vivisection and Late-Victorian Literary Culture* seeks to join up these fractured analyses of individual texts, placing familiar titles in

conversation with now rarely read works, like Ouida's *Toxin* (1895), as well as the largely untouched body of 'purpose' literature, spanning unsigned periodical poetry to novels such as Walter Hadwen's *The Difficulties of Dr Deguerre* (1913–18). This approach recognises the cultural impact of ephemeral works and the role they played in establishing the key tropes, characters, and plots surrounding vivisection which were often complicated and adapted in subtler texts with more enduring appeal. Not that 'purpose' literature necessarily lacked aesthetic or artistic value. Drawing the net wider, however, shows that texts about vivisection were more diverse than has been recognised; writers often borrowed from a range of literary traditions including sensation fiction, gothic, romance, literary criticism, and biography and reshaped these forms in the process. The practice also generated unique literary forms such as animal-centred criticism and animalographies.

'Protest' or 'purpose' literatures raise tricky questions concerning terminology and definition. I use these terms interchangeably to refer to Victorian antivivisection texts funded by or published via an antivivisection body and/or which foreground three key strategies: building empathy for fictional or real animals liable to vivisection; shocking readers into social awareness about 'scientific cruelty'; and modelling symbolic action or provoking emotional or actual agitation.[44] Importantly, texts concerned with vivisection often muddy the relationship between fact and fiction and between historical account and literary text. Ann Loveridge suggests that Leonard Graham's novella *The Professor's Wife: A Story* (1881) and Colmore's *Priests of Progress* (1908) were unusual for including primary sources published in both the general press and specialist periodicals.[45] However, as Part II demonstrates, references to primary texts, real figures, and events were a mainstay of much antivivisection fiction. Exchanges between literary and non-literary writing travelled in each direction: while novels and poems liberally helped themselves to journalistic sources, supposedly factual, eyewitness accounts borrowed gothic tropes and relied on literary allusions. The boundary between fact and fiction was often soft and porous. Central to the book's argument is that literary representations of vivisection fed off and back into non-literary forms. Each chapter positions literary works alongside texts not commonly valued for their complexity, but which do, in fact, reward close readings. The interdisciplinary approach of considering literary works alongside scientific ones sheds new light on the intermingling of disciplines and discourses in the period. Only by reading across these often-arbitrary lines can the period's shared preoccupations, anxieties, and representational challenges become visible.