

**THE DISCURSIVE REPRESENTATION OF
BRITISH WILDLIFE IN *THE TIMES* NEWSPAPER,
1785-2005**

A THESIS SUBMITTED TO LANCASTER UNIVERSITY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN LINGUISTICS AND ENGLISH LANGUAGE

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Declaration

This thesis has not been submitted in support of an application for another degree at this or any other university. It is the result of my own work and includes nothing that is the outcome of work done in collaboration except where specifically indicated. Many of the ideas in this thesis were the product of discussion with my supervisor, Professor Alison Sealey.

Excerpts of this thesis have been published in the following conference manuscripts.

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Abstract

This diachronic study investigates the discursive representation of four key wildlife species in Britain—red squirrels, grey squirrels, badgers, and hedgehogs. The research takes a modern-diachronic corpus-assisted discourse studies approach (Partington, 2010) to examine the patterns of change and continuity in discourse about these focus animals published in *The Times* between 1785 and 2005.

Corpus linguistic methods and tools, including the waves, peaks and troughs analysis (Gabrielatos, McEnery, Diggle, & Baker, 2012), diachronic collocates (McEnery & Baker, 2015), cluster analysis, keywords analysis, and concordances, identified three major themes in the discourse, which were explored in depth: origin and national identity, life-cycle and health, and killing animals. The extent to which the findings are consistent with changing human practices and attitudes was considered in line with the discourse historical approach (Reisigl & Wodak, 2009).

The major themes remain relevant over the period of interest but are associated with different focus animals at different times in response to text-external social, political, and cultural influences (such as changes in land management and human-human socio-political relations). Findings reflect a growing distance between humans and the focus animals over time, while (harmful) anthropocentric values underlying their representations are maintained in the discourse through strategies such as blame shifting and—often more subtly—anthropomorphism.

Repetition of anthropocentric values in news discourse has real consequences for the animals. They are the focus of human actions that are a response to socio-political factors reflected in—and perpetuated by—discourse about them. Disruption to established narratives in the discourse polarises views and causes (actual and discursive) conflict and controversy, highlighting potential difficulties with accomplishing change. The findings can be used to inform understanding of future linguistic representations of wildlife and a number of recommendations for reducing harmful anthropocentric representations are included accordingly.

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Contents

1 INTRODUCTION TO THE THESIS.....	21
1.1 Chapter introduction.....	21
1.2 Humans and animals.....	22
1.3 The focus on wildlife species.....	22
1.4 The time period of the study.....	24
1.5 News discourse in diachronic language study.....	25
1.6 Intended outcomes.....	26
1.7 Study rationale.....	28
1.8 Researcher stance.....	28
1.9 The structure of the thesis.....	29
2 WILDLIFE IN HUMAN HISTORY.....	32
2.1 Chapter introduction.....	32
2.2 The wildlife classification.....	33
2.3 Human interactions with wild animals before the late-modern period.....	37
2.3.1 <i>Pre-history</i>	37
2.3.2 <i>Middle Ages</i>	38
2.3.3 <i>Renaissance</i>	39
2.3.4 <i>Renaissance to Enlightenment</i>	40
2.4 Human-wildlife interactions since 1785.....	41
2.4.1 <i>Changes in British society</i>	41
2.4.2 <i>Major shifts in human-animal relationships during this period</i>	43
2.4.3 <i>Human-animal interactions</i>	46
2.5 Chapter conclusion.....	55
3 FOUR BRITISH WILDLIFE SPECIES: METHODS OF SELECTION AND HISTORIES.....	58
3.1 Chapter introduction.....	58
3.2 Selecting a representative sub-section of wildlife.....	59
3.3 Histories of four wildlife species.....	65
3.3.1 <i>Histories introduction</i>	65
3.3.2 <i>History of the red and grey squirrel in Britain</i>	66
3.3.3 <i>History of the badger in Britain</i>	69
3.3.4 <i>History of the hedgehog in Britain</i>	72
3.4 Language, literature and the focus animals.....	76
3.4.1 <i>Squirrels</i>	76
3.4.2 <i>Badgers</i>	78
3.4.3 <i>Hedgehogs</i>	79
3.4.4 <i>Dictionary definitions</i>	80
3.5 Summary conclusion.....	82
4 APPROACHES TO STUDYING LANGUAGE ABOUT ANIMALS.....	85

4.1 Chapter introduction.....	85
4.2 Critical approaches to studying the discursive representation of social groups	87
4.2.1 <i>Motivations for critical discourse analysis</i>	87
4.2.2 <i>Corpus-Assisted Critical Discourse Analysis</i>	88
4.2.3 <i>The Discourse Historical Approach</i>	90
4.2.4 <i>Human social actors in discourse</i>	91
4.2.5 <i>Discourse about animals</i>	95
4.3 Studying language change over time	104
4.3.1 <i>Relevant studies in diachronic CL</i>	105
4.4 Newspapers	111
4.4.1 <i>News as an historical source</i>	111
4.4.2 <i>News as a discourse genre</i>	113
4.4.3 <i>The Times newspaper</i>	122
4.5 Summary conclusion.....	126
5 METHODOLOGY AND DATA.....	129
5.1 Chapter introduction.....	129
5.2 Design of the study.....	130
5.2.1 <i>MD-CADS</i>	131
5.2.2 <i>The Discourse Historical Approach</i>	132
5.2.3 <i>Analytical tools</i>	135
5.3 The data for the present study	137
5.3.1 <i>Method of gathering and processing the data</i>	138
5.3.2 <i>Corpus composition</i>	141
5.3.3 <i>False positives</i>	147
5.4 Chapter summary	149
6 METHODS OF ANALYSIS.....	152
6.1 Chapter introduction.....	152
6.2 Preparing the data for diachronic analysis	152
6.2.1 <i>Visual inspection of the frequency distribution</i>	153
6.2.2 <i>Statistical analysis of the distribution</i>	161
6.2.3 <i>Comparing trigger events with statistically significant peaks</i>	167
6.2.4 <i>Using the analysis to segment the corpus</i>	168
6.2.5 <i>Squirrel corpus segmentation</i>	169
6.2.6 <i>Badger corpus segmentation</i>	170
6.2.7 <i>Hedgehog corpus segmentation</i>	171
6.3 Multi-perspective analytical method.....	172
6.3.1 <i>Keywords by corpus analysis</i>	174
6.3.2 <i>Diachronic keywords analysis</i>	176
6.3.3 <i>Diachronic collocates analysis</i>	178
6.3.4 <i>Animal modifiers analysis</i>	181
6.3.5 <i>Clusters</i>	182
6.3.6 <i>Concordance analysis</i>	187
6.4 The thematic categories.....	189
6.5 Chapter summary and refined research questions.....	198

7 ORIGIN, NATIONALITY, AND DISTRIBUTION	202
7.1 Chapter introduction	202
7.2 Animal habitats.....	204
7.3 Sharing “human” spaces: the garden as a liminal space	213
7.3.1 <i>Aesthetically pleasing</i>	216
7.3.2 <i>Domestic qualities</i>	217
7.3.3 <i>Performing useful actions</i>	218
7.3.4 <i>Attacking humans</i>	220
7.3.5 <i>Causing damage</i>	221
7.4 National identity.....	224
7.4.1 <i>Pride and symbolism</i>	224
7.4.2 <i>Parallels between the representation of squirrels and hedgehogs and the language of human social issues</i>	228
7.5 Chapter summary	254
8 LIFE-CYCLE AND HEALTH.....	257
8.1 Chapter introduction	257
8.2 Seasons	259
8.2.1 <i>Diachronic distribution of seasonal references</i>	261
8.2.2 <i>News values and seasons</i>	267
8.2.3 <i>Human-animal encounters</i>	270
8.2.4 <i>Weather</i>	273
8.2.5 <i>Animal actions</i>	275
8.3 Disease	282
8.3.1 <i>Diachronic distribution of disease names and labels</i>	283
8.3.2 <i>DISEASE and INFECT</i>	286
8.3.3 <i>Blame and responsibility</i>	293
8.4 Chapter summary and implications	304
9 HUMAN ACTIONS AND PURSUITS.....	308
9.1 Chapter introduction.....	308
9.2 Killing words.....	310
9.3 The four domains of killing.....	311
9.4 Diachronic distribution of KILL.....	313
9.5 Features of the language surrounding killing in the news	317
9.5.1 <i>Patterns of obscured agency</i>	317
9.5.2 <i>Patterns of obscured patients</i>	332
9.5.3 <i>Patterns of emphasised agency</i>	335
9.6 Studies of selected texts	345
9.6.1 <i>Exhibitions at Cock Pit, Westminster</i>	345
9.6.2 <i>Two shillings a tail: controlling grey squirrels</i>	350
9.6.3 <i>A waste of taxpayers’ money</i>	360
9.7 Chapter summary and implications	361
10 CONCLUSION	364

10.1 Chapter introduction	364
10.2 Analysis summary	365
10.2.1 <i>The linguistic representation of the focus animals, 1785 to 2005</i>	366
10.3 Major shared findings	371
10.3.1 <i>Increasing human-animal distance over time</i>	371
10.3.2 <i>Key themes remain relevant over time</i>	372
10.3.3 <i>Harmful anthropocentric values are maintained</i>	374
10.3.4 <i>Blame shifting</i>	377
10.4 Accounting for the findings and real-world implications	380
10.4.1 <i>Representations and identity</i>	380
10.4.2 <i>Maintaining order following disruptions to established narratives</i>	383
10.4.3 <i>Conclusions</i>	386
10.5 Limitations of the study	389
10.5.1 <i>Representativeness</i>	389
10.5.2 <i>Digital archives</i>	389
10.5.3 <i>Diachronic segmentation</i>	390
10.5.4 <i>Early data and diachronic scope</i>	390
10.5.5 <i>CDA and social impact</i>	391
10.6 Further research	391
10.6.1 <i>Tools</i>	391
10.6.2 <i>Topic</i>	392
10.6.3 <i>Positive discourse analysis</i>	392
10.6.4 <i>Widening the diachronic/text scope of the project</i>	393
10.7 Researcher stance.....	393
10.8 Recommendations.....	394
11 REFERENCES.....	401
12 APPENDICES	426

List of Tables

Table 5.1 Texts, type, and token breakdown for each corpus	142
Table 5.2 Text counts and percentage comparison of text types across corpora	146
Table 6.1 Trigger events for fluctuations in texts in the squirrel corpus.....	156
Table 6.2 Trigger events for fluctuations in texts in the badger corpus	157
Table 6.3 Trigger events for fluctuations in texts in the hedgehog corpus.....	159
Table 6.4 Peaks and troughs in the three corpora identified by the WPT analysis	166
Table 6.5 Corpora segmentation.....	173
Table 6.6 Breakdown of keywords by corpus analyses.....	175
Table 6.7 Breakdown of diachronic keywords analysis	177
Table 6.8 Different structures in the BC analysis	186
Table 7.1 Lexical and diachronic variation in animal habitat name	205
Table 7.2 Corpus extracts showing animal habitats in context	209
Table 7.3 Extracts illustrating aesthetic value of animals in gardens	216
Table 7.4 Extracts illustrating value of animal tameness in gardens	217

Table 7.5 Extracts illustrating value of pest predation performed by animals in gardens	219
Table 7.6 Extracts illustrating animal attacks on humans in gardens	220
Table 7.7 Extracts discussing damage (not) caused by animals in gardens.....	221
Table 7.8 Extracts demonstrating symbolic status of British wildlife species	227
Table 7.9 War language in the squirrel corpus.....	230
Table 7.10 Extracts illustrating human involvement in a “war” against greys ...	232
Table 7.11 Extracts from the squirrel corpus analysis demonstrating opposition between red and grey squirrels	235
Table 7.12 Red squirrel criticism	238
Table 7.13 American stereotyping in the representation of the grey squirrel....	243
Table 7.14 Corpus analysis results indicating blame or responsibility for the presence of grey squirrels in Britain.....	249
Table 7.15 Corpus analysis results indicating blame or responsibility for the presence of hedgehogs in the Hebrides	251
Table 7.16 Extracts containing <i>introduc*</i> in the hedgehog corpus	252
Table 8.1 Contexts identified in the representation of seasons in each corpus..	265
Table 8.2 Extracts from seasons analysis.....	267
Table 8.3 Human-animal seasonal encounters.....	272

Table 8.4 Weather forecasting extracts	274
Table 8.5 Seasonal animal actions: spring cleaning in the badger corpus	277
Table 8.6 Hibernation extracts from the seasons analysis	280
Table 8.7 Extracts illustrating instances of <i>diseas*</i> and <i>infect*</i> assigned to each contextual category	288
Table 8.8 Badger responsibility for bTB identified in the CO and CB analyses categorised by strength of blame	294
Table 8.9 Results relating to human actors in disease context.....	296
Table 8.10 Animal naming terms in a disease context in the badger corpus	301
Table 9.1 Organisation-for-members metonymy in hedgehog control	319
Table 9.2 Hedgehog control, functionalised agents.....	320
Table 9.3 Badger control, functionalised agents, and organisation-for-members metonymy	321
Table 9.4 Obscured agency in badger control	322
Table 9.5 Functionalisation and aggregation in cruelty in badger sports	323
Table 9.6 Passive constructions in the non-intentional killing of red squirrels and hedgehogs	325
Table 9.7 Agentless passives in the context of badger cruelty.....	326

Table 9.8 Concordance lines showing all instances of “lethal injection” in the hedgehog corpus	329
Table 9.9 Mediation in the non-intentional killing of badgers and hedgehogs...	330
Table 9.10 Distancing NP from the verb <i>to kill</i> in the hedgehog corpus.....	332
Table 9.11 Nominalisations (verb-to-noun transformations)	334
Table 9.12 Taking ownership of grey squirrel control	336
Table 9.13 Named agents involved in badger killing in the domain of cruelty ...	342
Table 9.14 Humane control of grey squirrels.....	352
Table 9.15 Hedgehog cull opposition	360

List of Figures

Figure 3.1 Visual showing steps taken to select focus species.....	64
Figure 4.1 Illustrative example of suggestive placement (Gupta, 2015, p. 114).	117
Figure 5.1 Original news text from 1913.....	139
Figure 5.2 Proportions of text genres present in the badger corpus.....	143
Figure 5.3 Proportions of text genres present in the hedgehog corpus	144
Figure 5.4 Proportions of text genres present in the squirrel corpus.....	145
Figure 6.1 Frequency distribution of texts in squirrel corpus	153
Figure 6.2 Frequency distribution of texts in the badger corpus.....	154
Figure 6.3 Frequency distribution of texts in the hedgehog corpus	154
Figure 6.4 Waves, peaks, and troughs analysis output for the squirrel corpus ..	163
Figure 6.5 Waves, peaks, and troughs analysis output for the badger corpus	164
Figure 6.6 Waves, peaks, and troughs analysis output for the hedgehog corpus	165
Figure 6.7 Squirrel corpus segmentation shown on text frequency distribution graph	170
Figure 6.8 Badger corpus segmentation shown on text frequency distribution graph	171

Figure 6.9 Hedgehog corpus segmentation shown on text frequency distribution graph.....	172
Figure 6.10 Themes contained within the category of “animal qualities, states, and attributes”	194
Figure 6.11 Themes contained within the category of “actions, pursuits, and behaviours”	195
Figure 6.12 Themes contained within the category of “geographical and spatial concerns”	196
Figure 6.13 Themes contained within the category of “overtly human concerns”	197
Figure 7.1 Diachronic distribution of squirrel, badger, and hedgehog homes....	206
Figure 7.2 Diachronic distribution of <i>set(t)(s)</i> , <i>earth(s)</i> , <i>holt(s)</i> , <i>burrow(s)</i> and <i>den</i> in the badger corpus.....	207
Figure 7.3 Diachronic distribution of <i>nest(s)</i> and <i>drey(s)</i> in the squirrel corpus	207
Figure 7.4 Diachronic distribution of <i>nest(s)</i> in the hedgehog corpus	208
Figure 7.5 <i>garden(s)</i> in the hedgehog, badger, and squirrel corpora.....	215
Figure 7.6 Words denoting origin and national identity in the squirrel corpus.	226
Figure 7.7 The diachronic distribution of <i>arriv*</i> and <i>introduc*</i> by year of publication.....	250

Figure 8.1 Breakdown of seasonal references in all corpora combined	261
oFigure 8.2 Frequency of seasonal references across corpora.....	262
Figure 8.3 Frequency of references to seasons by corpus	263
Figure 8.4 Seasonal references and their seasons of publication	269
Figure 8.5 Distribution of hibernation in the seasons analysis by corpus	279
Figure 8.6 Distribution of disease labels in the respective corpora.....	284
Figure 8.7 Occurrences of <i>infect*</i> and <i>diseas*</i> by year of publication, 1973–2005	287
Figure 8.8 Frequency of <i>infect*</i> and <i>diseas*</i> assigned to contextual categories ..	289
Figure 8.9 Distribution of <i>diseas*</i> for language denoting badgers and cows	291
Figure 8.10 Distribution of <i>infect*</i> for language denoting badgers and cows.....	292
Figure 8.11 Diachronic distribution of bTB blame clusters in the badger corpus	293
Figure 9.1 Diachronic distribution of KILL across the three corpora	314
Figure 9.2 Diachronic distribution of KILL across the four domains by corpus .	315

List of Appendices

Appendix A – Descriptive information for corpora segmentation.....	428
Appendix B – Keywords by corpus results.....	429
Appendix C – Diachronic keywords results	430
Appendix D – Statistical information for diachronic collocates analysis.....	436
Appendix E – Range and frequency information for clusters analyses.....	444
Appendix F – Thematic categories in results from clusters analyses	445
Appendix G – Council rehuses badger family full text.....	447
Appendix H – Squirrel opposition extracts	448
Appendix I – Spine tingler full text	450
Appendix J – Grey squirrel ARRIVE (v) and INTRODUCE (v).....	451
Appendix K – The present weather full text	453
Appendix L – DISEASE and INFECT in general use	454
Appendix M – Badger blame clusters extended table	455
Appendix N – Killing of tubercular badgers by gas is to be resumed full text.....	457
Appendix O – STRAIN as a disease metaphor: evidence from a reference corpus	458
Appendix P – Badgered by this deadly infection full text	461

Appendix Q – All harm and killing findings from corpus analysis.....	462
Appendix R – Extracts showing agents of badger control for bTB purposes	464
Appendix S – Lethal injection evidence from a reference corpus.....	465
Appendix T – Mediation in badger and hedgehog control.....	466

List of Abbreviations and Acronyms

General abbreviations and acronyms

BNC: British National Corpus

bTB: Bovine tuberculosis

CL: Corpus Linguistics

CDA: Critical Discourse Analysis

DEFRA: Department for Environment, Food and Rural Affairs

DHA: Discourse Historical Approach

EEBO: Early English Books Online corpus

LGBTQIA: lesbian, gay, bisexual, transgender, queer or questioning, intersex, and/or asexual or allied

MAFF: Ministry of Agriculture, Fisheries and Food

MD-CADS: Modern-Diachronic Corpus-Assisted Discourse Studies

NFU: National Farmer's Union of England and Wales

OCR: Optical Character Recognition

OED: Oxford English Dictionary

RSPCA: Royal Society for the Prevention of Cruelty to Animals

SNH: Scottish National Heritage

WPT: Waves, peaks and troughs analysis

BSE: Bovine spongiform encephalopathy

Analysis abbreviations (see chapter 6 for details)

AM: Animal modifiers

CB: Clusters BE

CO: Clusters OF

DC: Diachronic collocates

DK: Diachronic keywords

KC: Keywords by corpus

Other terminology:

discourse

Throughout the thesis, I usually use the term “discourse” to mean “the characteristic ways of using language associated with particular institutions or groups”, in line with (Stibbe, 2012, p. 54) but this term is occasionally used in the thesis with different—arguably related—meanings, as defined below (see also discussion of the term in section 4.1 for more detail):

animal discourse – I use this term as shorthand for “discourse [produced by humans] about animals” (it does not denote “animal-produced discourse”). This often involves representations and evaluations of animals.

news discourse – this term refers to linguistic practices used for the purpose of making news such as word choice, but also related practices like decisions around how news stories are placed in relation to one another in a newspaper or television broadcast, and how information is ordered in a single news story, along with the perspectives that the authors give. It also involves wider practices around news-making such as the creation and distribution of news content to

audiences and the ways that audiences can complain about inaccurate or unfair stories.

human and non-human animals: I refer to non-human animals as ‘animals’ and human-animals as ‘humans’ throughout and my use of these labels is in no way intended to reflect a belief that humans are not animals; I use these labels for brevity, noting that this is also consistent with standard or general usage.

A note on formatting used throughout. I follow the convention of marking lexemes through capitalisation. General linguistic examples are italicised and specific results (words and longer extracts) appear in double quotes in text.

Throughout the thesis, I use several terms to denote red and grey squirrels, respectively: “the red/grey squirrel”, “red/grey squirrels”, “reds”/“greys”, and “the reds”/“the greys”. Reliance on any one in any particular context is not intended to convey any special meaning (i.e. reference to the species as a mass or as individuals).

1 Introduction to the thesis

1.1 Chapter introduction

This chapter provides the rationale for the present study, outlining the main aspects of the topic, with an explanation of why I believe it is worthwhile to research it. I begin in 1.2 with comments on the topic of humans and animals, which I follow in 1.3 by summarising the focus on wildlife species. I outline the time period of the study in 1.4 and section 1.5 covers news discourse in the diachronic study of language. I present my intended aims and outcomes in 1.6 and the rationale for the study in 1.7, followed by remarks on my stance and position as the researcher in 1.8. Finally, the structure of the thesis is provided in section 1.9.

1.2 Humans and animals

This thesis is as much about human animals as it is about non-human animals. According to Boddice (2008, p. 4), “[o]ur conception, construction, and constant reconstruction of ‘nature’ [...] has been crucial in forming an understanding about what it means to be human”. Central to this study, then, is a concern with the ways in which humans position themselves in relation to animals, in the context of language that is produced to inform, persuade, and entertain other humans.

As will become clear, a major feature of the dominance humans have over animals is that they are removed from the discursive representations that so often define their existences. The categories to which animals are assigned, which are often related to their actions and/or spatial locations, have implications for what they mean to humans and how they are subsequently treated (DeMello, 2012, p. 15). On the topic of humans and animals, I must add a note concerning my use of terminology in this thesis. To denote non-humans, I use the term “animal(s)” (rather than “non-human animals” or “other than human animals”) but this is in no way intended to deny the animal status of humans.

1.3 The focus on wildlife species

The category “wildlife” represents a particular type of social relationship between humans and the animals denoted by this category; animals classed as wildlife are not the “property” of humans, unlike domesticated species bred to fulfil a human requirement or pets, for example. The “great chain of being”

philosophy, based on the Platonic and Aristotelian tradition and developed by eighteenth-century writers, delineates a hierarchical schema for the natural world (Lovejoy, 1990). In this hierarchy, wild animals (excluding birds and fish) are placed below humans but above domesticated animals since they cannot be tamed and are not bred for work or food. This indicates that human relationships with wildlife differ from those with domesticated creatures; wildlife species are credited with having a greater number of sensory faculties than these animals (Darwin & Wallace, 1858), but wildlife has not been manipulated by humans in the same ways. Disagreement between urban and rural people claiming responsibility for wildlife populations historically has developed into the diverse relationships currently held in British society (Kean, 2001), where humans react to wildlife in ways ranging from protection to population control.

Social, political, and cultural factors influence human perceptions of animals (Kean, 2001) and this study illustrates this by investigating changes over time in news discourse about four wildlife species living in Britain. Three are iconic British wildlife species—the badger, the hedgehog, and the red squirrel—and the fourth is the grey squirrel, which although non-native, is now well established in Britain after its introduction in 1876, and appears on the Wildlife Trusts' list of UK mammals. The status of all four selected animals has changed historically as a result of external factors which cause humans to perceive and manage their relationships with them differently. Each has been the focus of population control measures at various times and all but the grey squirrel have been the subject of protective legislation or conservation initiatives in Britain. It is

difficult to gain social approval to kill culturally popular animals for any reason (consider the 2013–2014 badger cull pilot) in the same way as it is difficult to popularise an unpopular animal (rats, for example). Therefore, those arguing for either population control or protection of a species must seek to persuade others in line with their own ideological position. Given the shifts in status of each of the selected wildlife species during the time period covered in this study, it seemed likely that the language used to discuss them would have changed in response, and this was one aspect of my investigation.

1.4 The time period of the study

The time period I am studying—1785–2005—is important both theoretically and practically. First, the late-eighteenth century is of critical importance in terms of defining current human relationships with animals. Human experience of wildlife in Britain has undergone major shifts since the industrial revolution (see section 2.4). Factors such as urbanisation, technological and agricultural advances—all consequences of industrial advancement—have changed the landscape of Britain and this has had an impact on the way people interact with nature and wildlife. Scientific and technological advances (particularly in the animal sciences) between the early-1700s and late-1800s, alongside changes in the justice system, which removed legal responsibility from animals, are considered a turning-point for human perception of animals (Ritvo, 1987). Before these changes, animals could be tried and punished for various crimes including property damage, homicide, sodomy, and witchcraft. The late-eighteenth century also marks the end of a 250-year period of parish-led wildlife control for financial reward, and the beginning of a phase when agricultural

enclosure, the establishment of professional gamekeeping and improvements in shotgun technology led to an “indiscriminate war of attrition” against wildlife (Lovegrove, 2007, p. 1). By beginning data collection at 1785 (see section 1.5), the earliest news texts that I have gathered capture this period of change when human perception of animals was arguably shifting. The species selected have all at some point after this period been subject to control measures against a background of increasing legislative protection for wildlife generally. These measures therefore require a level of justification that would not have been necessary before this period. Second, from a linguistic perspective, the late-modern period in English (1800 to present) marks a time where, although stylistic changes occurred (i.e. vocabulary, punctuation, spelling), there were few fundamental changes in the underlying language system (Freeborn, 2006). Though grammatical change is not the primary focus of this thesis, I do recognise that certain grammatical changes have occurred in this period including in the modal system of English, as well as increasing use of progressives, for example (Close & Aarts, 2010; Leech, Hundt, Mair, & Smith, 2009). I have borne these findings in mind whilst investigating changes in the linguistic representation of the selected species.

1.5 News discourse in diachronic language study

News media is an institutional power; every article published is a social act (van Dijk, 2003). Those writing for and published in newspapers are able to exercise their influences on the discourse produced in them, by “spread[ing] cognitive structures [...] including ideological metaphors” to their readers (Stibbe, 2012).

As such, news texts are a valuable historical source for understanding cultural and political history (Williams et al., 2010).

Newspapers have “played a central role in the political, economic and cultural life of twentieth-century Britain—for much of the century, the British read more newspapers per capita than any other people in the world” (Bingham, 2010, p. 231). First published in 1785, *The Times* is the oldest daily newspaper in English still in print (Howard, 1985), which makes it an ideal source of data for a diachronic study of this kind. The latest date of the time period was imposed by the source for these texts, the *Times Digital Archive*, as at the time of data collection the last available year of publications I was able to access through this source was 2005. By setting 2005 as an end date, I was able to retain the same systematic data collection method throughout. To summarise, this study explores discourse in *The Times* newspaper about four kinds of animal classified as wildlife species (red and grey squirrels, badgers, and hedgehogs) in the period from 1785 to 2005.

1.6 Intended outcomes

It is important to study the role of language in shaping human relationships with animals historically, since people tend to frame present issues with reference to the past and (re-)interpret the past with reference to current understanding (see Carr, 1990). In fact, a number of researchers have highlighted the importance of taking an historical approach, not only to put the present into perspective, but to create a more enlightened future (Fudge, 2002; and Gold, 1998; Sax, 2008; Tosh & Lang, 2006). This research was funded for three years by the Leverhulme-

funded project *'People', 'Products', 'Pests' and 'Pets': the discursive representation of animals* (Cook & Sealey, 2013). Providing historical context for the findings from the corpus of present-day texts about animals gathered for that project, and using current understanding to evaluate past representations of wildlife, is the basis on which the two studies are related.

The present study aims to further knowledge and understanding of:

- (i) the role of language in defining human-animal relationships in British cultural history
- (ii) which linguistic factors—motivated by external political, social and cultural influences—have contributed to the (un)sustainability of human-animal relationships in the past
- (iii) the extent to which the findings can be used to inform understanding of future linguistic representations of wildlife.

The research questions concern the patterns of change and continuity in the language about the focus animals in *The Times* newspaper in the period between 1785 and 2005. I examine what circumstances in human society mean for their linguistic representation and their related harm and care. The broader questions are discussed in detail in chapter 3 and were refined further as presented in chapter 6.

1.7 Study rationale

It cannot be denied that humans have had profoundly negative effects on wildlife throughout history. The relationship between farming and the countryside has directly affected wildlife species from the Neolithic period right up until the present day and Britain has lost more of its large wildlife species (second only to the Republic of Ireland) than almost any other European country (Monbiot, 2014a).

If discourse and ideology are mutually reinforcing, then the analysis of public discourses to investigate the representation of social phenomena—like human-animal relationships—should reveal much about related cultural values at the time of production. The discursive representation of a particular species can play a part in shaping its “reality” (i.e. an “animal’s actual experience or circumstances”) (Baker, 2001, p. xvii) by influencing how humans treat the species. From an anthropocentric point of view, there is much to be gained from (re-)connecting with animals—and nature more widely—and reducing threats caused by human practices; as Wolch and Emel (1998, p. xi) put it, “[o]ur own futures are on the line too”.

1.8 Researcher stance

In line with Van Dijk (1993), I must acknowledge my personal stance towards the topic here. I am generally sympathetic towards wildlife species and I do not normally find limitation of animal freedoms to be legitimate or acceptable. I have tried to be as objective as possible but my personal stance will have influenced the analysis and the language I have used (see Martin, 1986, p. 231 for discussion

of ideological bias). In the analysis of news texts, there is an argument to be made for examination being more *researcher*-driven than corpus-driven, since researchers investigating such texts are consumers of the newspapers they analyse and the methodology necessarily involves some level of researcher subjectivity in the analysis (Taylor, 2010). As long as this is recognised and robust methods of analysis are used, the involvement of the researcher should not be a weakness.

Following several researchers, who have remarked on the dangers of studying historical texts through modern eyes (Boddice, 2008; Tosh & Lang, 2006; White, 2006), I have tried to bear in mind the difference between my reading position when analysing these texts and the reading position of the reader of the original text. This includes differences in both our political ideologies and the time in which we live.

1.9 The structure of the thesis

In **Chapter 2**, I present an historical account of major human-animal interactions from pre-history to the present, with a focus on wildlife species and what it means for an animal to be classified as such.

Chapter 3 explains how I selected red and grey squirrels, badgers, and hedgehogs as the key representative wildlife species for this study over other potential candidates, followed by details of the historical background of each of these animals in Britain.

In **Chapter 4**, I establish how a corpus linguistic approach can be used to reveal the discursive representations of the focus animals over time in light of previous research on the representations of social actors in corpus-assisted discourse studies. I also discuss existing research into how animals are represented in language, studies on diachronic language change, and the use of news as an historical source.

The method for selecting and processing texts during corpus construction and the analytical tools employed in the present study are presented in **Chapter 5**.

Chapter 6 is an intermediary analysis chapter, where I present the methods and preliminary findings from a multi-analytical approach comprised of six corpus-based analyses that I carried out on each of the three corpora. This approach identified the key themes in the discourse, which shape the remainder of the analysis.

Chapter 7 presents findings relating to the theme “origin, nationality, and distribution”. Here, I discuss the spatial representations of the animals, including how (un)welcome they are in certain spaces, and I identify parallels with human immigration in the discourse surrounding the animals.

In **Chapter 8**, I present findings relating to the theme “life-cycle and health”. The chapter discusses contrasting news values surrounding human-animal engagement over time as reflected in news about the topic of seasons and reporting about animal disease, which can overshadow this representation.

Chapter 9 presents findings in relation to the theme “human actions and pursuits”, where I focus specifically on the four domains in which humans have killed the focus animals since 1785, and how these are reflected in the language. There is some interaction between the findings discussed in the analysis chapters 7, 8, and 9 and I have taken care to signpost relevant points in those chapters where appropriate.

In **Chapter 10** I discuss anthropocentrism as the driving force behind the maintenance of the major overarching issues, and how these are mapped onto different animals at different times, reflected in newsworthiness. I account for my findings by considering the relationship between representations and identity, the motivations and linguistic strategies for blame shifting, and how disruptions to established narratives cause linguistic—and actual—conflict. I also discuss in this chapter the wider implications for humans, wildlife, and other animals in society that I have identified. After this I detail the limitations of the study, opportunities for further research, and include a note on the influence on—and impact of—my stance as researcher. I close the thesis with my recommendations for future discursive representations of both wildlife and animals more generally.

References can be found in section 11 and appendices containing additional analytical information, including extended texts, and concordance lines appear in section 12. They are signposted in the text throughout.

2 Wildlife in human history

2.1 Chapter introduction

As outlined in chapter 1, this thesis is a diachronic investigation into the representation of British wildlife in the news. The discourse historical approach (DHA) (Reisigl & Wodak, 2009; Wodak, 2001) recommends consideration of historical factors, which may influence discursive representations of the issue or topic under investigation (see chapter 6 for details). In accordance with this approach, this chapter examines the major ways in which the lives of humans and animals—and wildlife more specifically—have been interconnected over time, including how human-animal relations have changed in response to social, cultural and political factors and events (Emel, 1998, p. 86; Gold, 1998, p. xi).

The details in this chapter are necessarily brief and may overlook some finer-grained distinctions in human-animal relationships. I report here that which I have identified from the literature to be the dominant ideologies, broad shifts, and key transitions in human-wildlife relationships to provide a narrative of events from pre-history leading to present day. To establish the main ways in

which humans have related to animals before the specific period under investigation, section 2.2 introduces the label “wildlife” and what it means for an animal to be classified as such. Next, section 2.3 considers major human-animal interactions from pre-history through to the Renaissance. In section 2.4, I discuss human-wildlife relationships in the late-modern period (post-industrial revolution). I conclude in section 2.5 that anthropocentric values underpin the relationships humans have had with wildlife species in the UK and, though emerging environmental pressures influence shifts in the specific species with which humans connect over time, the broad orientations humans have towards wildlife generally are always present.

2.2 The wildlife classification

There is no catchall definition of “wildlife” but some observations can be made concerning what it means for an animal to be labelled as such. I have already established (see section 1.3) that wild animals and wildlife have certain properties that determine their position in relation to humans (i.e. they are not domesticable but fulfil alternative roles according to their qualities). Some difficulty exists in identifying where the boundaries lie with labels, domains, and classifications that are not based on biological properties; though even here boundaries are not always clearly demarcated or well suited to the goals of the various stakeholders who might wish to use them (Dupré, 2012). Classifications that are reliant on ideology or stance are more subjective. For example, “invasive” plant and animal species such as the American signal crayfish (The Wildlife Trusts, 2015) or Japanese knotweed (The Wildlife Trusts, 2011); and labels for humans including “immigrant”, “migrant”, “asylum seeker” (see chapter

4 for discussion) share issues surrounding the definition of classification boundaries.

“Wildlife” is a relatively modern word; the OED definition includes plants and animals: “the native fauna and flora of a particular region” (Oxford English Dictionary, 1986). The first recorded written instance of “wildlife” was in 1879 in the book *Wildlife in a Southern County* (Jeffries, 1879), though the word did not come into general use until the 1970s. Before this time, the same animals were referred to using the adjective “wild” (“living in a state of nature; not tame, not domesticated” (Oxford English Dictionary, 1924b)), which reveals something of the conditions under which an animal might be classified. Used in this context, the word “wild” dates back to early Old English (c725) and it was later used in compound form with various *individual* species to indicate their wild state (Oxford English Dictionary, 1924b). A noteworthy example of this is “wild deer”: *wilddéor*, which was in use from as early as 825 (Oxford English Dictionary, 1924a). “Wilddéor” later underwent a process of semantic broadening to mean “wild animal”. These observations aside, it is clear that the broad definition of wildlife has origins in “wilddéor” but such observations do little to pinpoint where the boundaries of this classification lie. What *is* possible is to examine what it means for an animal to belong to the wildlife classification and what such a label can reveal about the animal’s relationship to humans.

On this point, two main observations about an animal’s status can be made if it is labelled “wild”. First, the label has a spatial meaning, signalling a physical boundary between animal and human spaces—particularly for urban residents—suggesting the rightful places for animals to live (i.e. not where

humans live) (Corbett, 2006, p. 179). This idea is reflected in the word “wilderness” (from the Old English “wild(d)éornes”: “the place of wild animals/deer” (Harper, 2016; Spaces for Nature, 2002)). Wilderness, therefore, is space where wild animals live and humans do not. Relatedly, animals can also occupy what Philo and Wilbert (2000, p. 6) call “abstract spaces”, which are spaces assigned to animals in human classifications and orderings of the world. The abstract places assigned to wild animals include the wildlife classification itself, ideological labels including “pest” and “vermin”, and metaphorical spaces such as national symbols (see section 7.4.1).

The second implication of the label “wild” is that it signifies something about the character of an animal. Both as part of the compound “wildlife” and as a standalone adjective, “wild” suggests that the animal is not under the control of humans (it is untamed or undomesticated) and that it might pose some risk or danger to them (Corbett, 2006, p. 179). Even if the threat to humans is not real, an animal’s predatory behaviours can indicate otherwise (i.e. threat is a real fear if not a real risk). Where both these associations (spatial and characteristic) position wildlife species in relation to humans, they have impacted on the ways in which wild such animals have been treated historically.

Boddice (2008) highlights the “system of exclusion” in early animal welfare legislation, which protected domestic animals, whilst excluding wild animals.

The 1835 and 1849 Acts¹ served to criminalise bull baiting and cockfighting whilst protecting field sports such as fox hunting by defining boundaries on the basis of domestic and wild. In this way, the wildlife classification has been bound with external social issues (see section 2.4.3 for discussion of the motivations behind this legislation).

Today, whilst some species are indisputably members of the wildlife classification, others are on the periphery. During a game pheasant's lifetime, it is subject to a number of changes in legal status, which are reflected in its classification, for example. It is classed as livestock (for tax purposes) before it is released; as wildlife in order that people are allowed to shoot it following release; and if it survives the shooting season it becomes simultaneously livestock again so that it can be legally recaptured, and a wild animal so that no person is responsible for any property damage or accidents it might cause (Monbiot, 2014b). There are a number of obvious wildlife exemplars (e.g. fox, badger, deer), which are likely so because a few illustrative animals are usually referred to in discourse about wildlife; this may be due to the fact that "[i]t is often through iconic species that people first engage with wildlife" and species considered important by wildlife organisations are promoted above others (Pitt, 2012). The four species that form the focus of the present study (see chapter 3) all indisputably belong to the wildlife classification in ways ranging from their

¹ The Cruelty to Animals Act, 1835; The Cruelty to Animals Act, 1849.

occupation of space, behaviours and, as will be demonstrated, their symbolic significance.

2.3 Human interactions with wild animals before the late-modern period

2.3.1 Pre-history

The transition to subsistence farming as the dominant way of life occurred in the Neolithic (New Stone Age) period (about 10,000 years ago in Mesopotamia), reaching Britain around 3,000 B.C. This marked a change from the (semi-)nomadic hunter-gatherer way of life of the Paleolithic (lower Stone Age) period (Clutton-Brock, 1981, p. 47; Kalof, 2007) and it is at this point that the origins of taming wilderness lie. For approximately 1,000 years before this period, areas of land were cleared and certain indigenous and non-indigenous wild animal species (e.g. pigs, cattle, and sheep) were domesticated and kept for meat, produce, and materials. The nature and “intrinsic properties” of some animals meant that they were better suited to domestication than others (Clutton-Brock, 1981; Philo, 1998, p. 57). Galton’s (1865, p. 16) six conditions that animals must satisfy in order for them to be domesticable are that they should: be hardy; have an inborn liking for humans (i.e. they should be social and easily dominated); be comfort-loving (not prone to flight); be useful as a source of food or materials; be easy to tend; and finally, they should breed freely. Species not fulfilling all these requirements were destined to remain wild. Humans had limited or no control over such animals; they had less material worth, and they were less easily understood since their social behaviours were not aligned with those of humans. Species that fulfilled some of the six conditions, such as deer, may have remained

semi-wild but have been managed and exploited by humans in ways other than those in which the truly domesticated are exploited.

Zooarchaeological data suggests that a “cultural taboo” over exploiting wild animals for food and resources existed from the Neolithic through to the Iron Age, where certain species were “sacred icons of the wilderness” (Sykes, 2017, pp. 4-7). The landscape of Bronze Age Britain was still largely forested; horses and oxen were tamed, whilst interest in exploiting wild animals for food and resources waned in this period as domesticated animals replaced the need for other resources (Bartosiewicz, 2013; Sykes, 2017). Wild animals continued to be exploited only occasionally through to the Iron Age in England but there is evidence of an increase in the utilisation of wildlife including mammals, birds, and fish in the transition to the Roman Empire (Sykes, 2017).

2.3.2 Middle Ages

In the Middle Ages, recreational hunting changed the way British people related to animals (and one another) following the Norman Conquest. Griffin (2007) provides a thorough account of hunting in this period, the core elements of which I report here. The royal pastime of deer hunting and the management that came with maintaining populations has had a long-standing bearing on the treatment and perception of other wild animals that were subsequently controlled in order to promote deer (e.g. rabbits, hares, and foxes). William I designated areas of England royal forests (known as “afforestation”) (Griffin, 2007) where, without a licence, it was prohibited to hunt all animals so that deer would not be disturbed. Afforestation altered the concept of wild animal ownership in the royal forests;

before this, wild animals were considered to be “*res nullis*: property with no owner” up until the point they were caught, an idea which dated back to the Romans (Griffin, 2007, p. 16). After afforestation, wild animal ownership became detached from land ownership and deer species became property of the king in these areas. In 1087, William II shifted hunting rights to favoured landowners and away from land occupiers, marking a change in the role of wild animals for different people. For people not afforded hunting rights in afforested areas, the killing of wild animals, even for food, became prohibited and punishable, whilst recreationally hunting wild animals became an activity reserved for aristocracy and wealthy landowners throughout the Middle Ages. The period following the Conquest saw a shift from “a situation where people seemingly negotiated with the 'wilderness' and 'wild things' to one where people felt they had the right or the responsibility to bring them to order” (Allen & Sykes, 2011, p. 7).

2.3.3 Renaissance

Popular hunting manuals in the 16th century recommended control of “vermin” and predatory wild species such as foxes, badgers, wildcats, polecats, and otters (Justice, 2015). Whilst the wealthy classes hunted protected game animals, others interested in animal sports looked to wildlife unprotected by game laws, such as badgers, foxes, squirrels and otters, for their entertainment (Griffin, 2007). One sport that gained popularity in the Renaissance period is baiting, where badgers and other animals were pitted against trained dogs for sport.

Arguably the most significant events in wildlife history in terms of the legacy effects on human relationships with wild animals are the *Tudor Vermin Acts*, a

series of legislative acts passed from 1566 (Lovegrove, 2007). They specified that varying sums of money would be paid per head for the control of named “vermin”, “pest”, and “predator” species including badgers, foxes, and hedgehogs. These Acts are the earliest evidence of systematic control of wild animals on a species specific basis. During this period (and extending beyond to the Stuart and Hanovarian periods), there was no question that certain species should be controlled and no consideration that control would cause species to become endangered (see Lovegrove, 2007 for a detailed account). Wild animals were killed under the Acts for reasons ranging from fear of large predators to genuine competition between humans and animals for food that had been triggered by the severe climate of the period. That many animals from the original lists (e.g. foxes, rats, badgers, magpies, and moles) are still considered to be pests in certain contexts today, despite no longer being in true competition with humans, demonstrates how measures based on historical factors become ingrained in cultural values.

2.3.4 Renaissance to Enlightenment

In early-modern England, animals were “outside the terms of moral reference” (Thomas, 1991, p. 148). It is argued by some that the most dominant view of animals in this period is Descartes’ (1637) “beast machine” theory (Wolloch, 1999, p. 706). It centred on the idea of human superiority, which was central to the general attitude towards animals at the time. Descartes rejected the idea that animals might have immortal souls; they were likened to machines with automatic movements and behaviours. The belief of the ancients that animals could communicate was rejected and whilst it was conceded that, in some

activities, animals (and machines) might outperform humans, they were still considered inferior because they could not act from knowledge in all circumstances, as is the way of “man”. This extreme human exceptionalism is recognisable as the basis of many human-animal relationships through the industrial age but Preece (2007, pp. 365-366) argues that the “view of animals as insentient machines was pervasively subscribed to” is a fallacy. Whether or not this is the case, anthropocentric values that were established as part of Christian belief were widely adhered to during this period (White Jr, 1967).

2.4 Human-wildlife interactions since 1785

It is already clear that human-animal relationships change over time in response to external influences. The period 1785 to the present is one of accelerated change in attitudes towards wildlife, and animals more generally. This section discusses some of the key social, cultural, and political factors that have influenced human-wildlife relationships over this period. Historically, these influences have included philosophical and religious beliefs, climate change, and the recreational activities of a select few. Debates about morality, animal protection laws, emergence and growth of animals as “things or subjects worthy of consideration” all developed in 18th and 19th century Britain (Boddice, 2008, p. 1).

2.4.1 Changes in British society

2.4.1.1 The Darwinian revolution

At the beginning of this period, the publication of Darwin’s *On the Origin of Species* in 1859 saw challenges to the anthropocentrism inherent in Christian

values and the writing of Descartes (White Jr, 1967). It argued that humans and animals shared certain higher mental faculties and provided scientific evidence against animal cruelty; however, according to Preece (2007, pp. 365-366), the work did not have the positive impact that is usually attributed to it (e.g. see Hadidian & Smith, 2001). It also increased the desire for anatomical and biological knowledge about animals and as such it precipitated an increase in animal experiments (Gold, 1998, p. 3). Despite secular enlightenment and the challenge that Darwinism presented in the “post-Christian age” of the late-1800s and 1900s, the hierarchical view of nature remained firmly entrenched (White Jr, 1967, p. 1205). The hierarchical ordering of living things in the great chain of being (Lovejoy, 1990) was replaced by the “scale of evolution” in Darwin’s work, where different species and human races were organised in order of ‘advancement’ (Sax, 2008, p. v).

2.4.1.2 Industrial and technological advancement

During the period under investigation, the shape of the countryside in Britain changed significantly in a short period as more land was devoted to farming and urban development. Technological advances in farming and land management (Pitt, 2012) and major housing development (Gold, 1998, p. 40) followed the First World War. The replacement of horse-powered farming methods with machines followed the Second World War (Lovegrove, 2007) alongside a period of accelerated agricultural and industrial technological development, urbanisation, the growth of the chemical industry, and pollution (Lovegrove, 2007, p. 50; Paquet & Darimont, 2010). Change continued as food production increased, ostensibly in line with Britain’s growing population (2.5% growth

each year) (Sands, 2012), but see Richard Body (1982) for an account rebutting this and other arguments for agricultural expansion in which he argues that the actual driving force was large companies such as ICI, Shell, BP and Fisons. By the 1980s, 70% of land in England was designated agricultural land (Shoard, 1980).

Since the Second World War, fields and farms have grown larger following changes to farming habits, which included amalgamation of farms, loss of hedgerow, and loss of trees as a result of government schemes and interventions too numerous to discuss here (see Body, 1982 for an account). The development of pesticides created a greater expectation of yield in food production, thus lowering tolerance for loss or damage caused by wildlife (Knight, 2000b, p. 9). This rapidly changing landscape had a detrimental effect on wildlife habitats and increased pressure on human wildlife relationships, as I discuss in section 2.4.3 below.

2.4.2 Major shifts in human-animal relationships during this period

Lecky famously wrote that “[t]he general tendency of nations, as they advance from a rude and warlike to a refined and peaceful condition [...] is undoubtedly to become more gentle and humane in their actions” (Lecky, 1890, p. 164). But what is often packaged as progress by writers of human-animal histories is not necessarily the case. Boddice (2008, p. 11) argues that the idea of the present being better than the past, and that the future will be better than the present is “a narrative absurdity which places all the emphasis on change”. Often it is the stable aspects of human-animal relationships that reveal something useful about

the political, social, and cultural contexts in which they occur. This does not take into account the less famous second part of Lecky's statement, which adds that the tendency towards humaneness "may be counteracted or modified by many special circumstances" (Lecky, 1890, p. 164). I did identify two fundamental shifts in human-animal relationships in the industrial age reported in the literature: one is the rise in animal ethics and the other is a change in the way humans experience time, both of which I discuss below. Components of these shifts have underlying anthropocentric concerns indicating that the motivations for change remain stable.

2.4.2.1 The rise of animal ethics

Domestic animals were frequently sentimentalised in the 1800s but it is not until the 1900s that an emotional regard for wildlife has been identified (Isenberg, 2002, pp. 48-49). There was a significant increase in public concern for wildlife, as "animal ethics" (an umbrella term for animal welfare and animal rights (Harrington et al., 2013)) emerged and grew in influence and popularity (for discussion see Kete, 2002; Lecky, 1890; Lovegrove, 2007; Ritvo, 1987; Ryder, 1989). Specifically, the period following the Second World War is one of accelerated interest in animal issues and consideration of wildlife species (Lovegrove, 2007). The 1960s to 1980s marked a further change of pace in terms of the increasing tendency towards the humane treatment of animals and

challenging speciesist² attitudes (Ryder, 1989, p. 3). This is reflected in the boost in wildlife-related legislation that put protective measures in place, as well as the popularisation of wildlife organisations such as the Wildlife Trusts (founded in 1957) (Sands, 2012).

2.4.2.2 “Being with” to “being alongside”

The 1800s marked the beginning of a process of separation between humanity and nature (Berger, 2009). A significant shift in the kind of temporal relations shared between humans and wildlife occurred in this period, motivated by industrialisation and associated changes in Britain (Whitehouse, 2017). In pre-industrialised Britain, human activities were closely bound to seasonal cycles; people spent more time outdoors and relied on the seasonal behaviours of animals to signal optimal times for activities on which they depended for survival. The shared dependence on seasonal cycles that humans had with animals and nature is defined as a state of “being with” (Haraway, 2003, 2008). In post-industrialised Britain, people became less constrained by seasons than in the past so this state changed; chronological time became more important for humans than cyclical time associated with seasons. Though not independent of seasonal time, the tasks and activities carried out by humans in association with chronological time are far less constrained than were activities of the past. Latimer (2013) calls this “being alongside” nature.

² Speciesism may be defined as discrimination or prejudice based on species membership; often tied with the assumption of human superiority.

In line with this, an increasing detachment, or disengagement, between humans and animals is reported by several authors (see, for example, Berger, 2009; Paquet & Darimont, 2010; and Stibbe, 2012 for discussion). One result of such detachment, according to Berger (2009, p. 27), is that now “animals are always the observed. The fact that they can observe us has lost all significance”. Increased detachment does not hold for all groups of people, however. Farmers remain somewhat constrained by “seasonality”, using seasonal heralds from animals and nature to mark periods in farming activities but (with the exception of traditional, small-scale farming operations) even this group is less dependent on cyclical time in modern day. The use of technology in indoor growing and rearing enables seasonal constraints to be overcome. Though it may be true that generally speaking people in Britain have grown more detached from wildlife over the course of this temporal shift in dependence, the seasonal behaviours of wildlife are not necessarily less important to them. Some people still respond to seasonal heralds for certain activities, though they are not as essential for survival as in pre-industrialised Britain. Hearing the first cuckoo of spring has prompted many readers to write in to *The Times*, for example (McCarthy, 2009; Whitehouse, 2017).

2.4.3 Human-animal interactions

2.4.3.1 Animals as competition

Space

Development of the countryside essentially decreased the amount of land on which it was acceptable for wildlife species to inhabit, thereby increasing the

potential for human-wildlife conflict. Agricultural development is the area where humans and animals have most come into conflict (Sands, 2012) and many wildlife populations were decimated by the changes (Shoard, 1980). This competition for space was exacerbated by war. Certain wildlife species were perceived as an obstruction to the war effort; to assist wartime food production, large numbers of rabbits were cleared from the countryside, for example (Sands, 2012). Development of land has given rise to shared human-animal physical space in which it is considered suitable or acceptable for only certain animals to be.

Head and Muir (2006, p. 506) posit that outside of academia “separationist paradigms” hold appeal (in academia, hybrid frameworks replace dualistic frameworks). Certain attitudes and practices reinforce dualisms, including the practice of establishing order in nature and the idea that genuine nature is native (Head & Muir, 2006, p. 522). This idea is explored more closely in relation to the analysis presented in chapter 7. Traditionally, the wilderness is a space for wild animals, whilst towns and cities are designated “human” spaces (Philo, 1998; Wolch & Emel, 1998). As a small island nation however, Britain does not have the kinds of wilderness spaces that lots of other countries³ have so wildlife species nearly always occupy land designated by humans for their own use, from farmland to towns and cities. One way in which spatial dualisms may be ruptured comes with “the diverse practices by which nature is welcomed into the

³ Research in animal geographies relates to Canada, Australia (Head & Muir, 2006) and Africa (Hill, 2004), for example.

city” (Head & Muir, 2006, p. 522). In Britain, some effort to make provisions for wildlife is evident in the creation of nature reserves following the Second World War; though such an act may be beneficial for both human and animals, the motivation for creating nature reserves was primarily to preserve natural spaces for future generations of people, rather than for the animals living there (see section 2.4.3.3 for discussion).

Controlling “pest” species

Alongside development in land use (for example, deforestation, growth of farmland, and the introduction of livestock), the application of pest status to different species changes over time (Knight, 2000b, p. 9). Killing wildlife for control and recreation remained a significant part of human-wildlife relationships in post-industrial Britain. In the mid-1800s, predatory wildlife species were still targeted for control without consideration of the consequences (Lovegrove, 2007). From the Victorian era until the Second World War, wildlife species that impede game- and blood-sporting activities (classed as “vermin”) were killed on an unprecedented scale to promote game species. Here, the development of shooting technology, which increased the popularity and scope of game and field sports, led to the emergence of gamekeeping as a profession (Lovegrove, 2007, pp. 1, 290). The wildlife control carried out at this time echoes that carried out in deer parks earlier, except that it was on a larger scale and with more efficient methods. The scale of this kind of killing has been much reduced since the Second World War, when most gamekeepers were called to serve in the War and few returned (Lovegrove, 2007). The National Gamebag Census carried out annually by the Game and Wildlife Conservation Trust (Game and Wildlife

Conservation Trust, 2004) indicates that though killing on estates is still carried out, it is done to a lesser extent.

In relation to this, there emerged over this period a greater need for justification for animal killing, particularly when it came to intensifying existing controls of predatory species and to applying such action to new species (see Lovegrove, 2007, p. 1); for example, foxhunters began to promote the “fox-as-pest” defence to justify their sport in response (see Marvin, 2000, p. 203).

2.4.3.2 Animals as subjects or objects of interest/study

Interest in the natural world

A peak in the interest in natural history corresponding with the start of the Darwinian revolution influenced the public’s consideration of human relationships with animals and the natural world. A shift in art (e.g. in the works of Constable and Turner) and literary subjects from the human or spiritual to the natural world can be identified from the late 1800s (Spaces for Nature, 2002). Conflicting ideals regarding wildlife in Victorian Britain are identifiable elsewhere as well. The Victorian public’s responses to Landseer’s 1848 painting *A Random Shot*, which depicts a young fawn attempting to suckle a dead doe in the snow, generated a good deal of pity and sympathy (Donald, 2006). In contrast, the Victorian public’s response to the widely carried out practice of killing the mothers of animals to capture young, manageable and transportable specimens for the purposes of exhibition in European zoos was generally accepted (Donald, 2006). This acceptance reflects the dominant British colonialist ideology of the time.

Later, a growth in the pastimes of wildlife observation emerged, with books and guides published on the subject popularised from 1915 onwards (Burt, 2011). Fashions in popular culture resulted in the implementation of specific conservation policies. The 1927 book *Tarka the Otter* and the 1969 film, *Ring of Bright Water* had an effect on the public perception of otters in Britain (Fowler-Reeves, 2007). They had been hunted for 600 years before they were protected from hunting by law in 1978⁴.

2.4.3.3 Animals as objects of protection and preservation

Environmental ideologies

A spectrum of environmental ideologies ranging from the anthropocentric to the eco-centric emerged after the Second World War (see Corbett, 2006, p. 28 for overview). Arguably the most dominant ideology in this period is conservationism (Sands, 2012). Until the Second World War, the British government had not considered wildlife protection to be important, but when planning for post-war Britain began around 1940, provisions for nature reserves and protection of special sites were made (Pitt, 2012). The Society for the Promotion of Nature Reserves (SPNR) inspired a new conservation strategy in Britain, which led to the publishing of a number of reports on the issues facing wildlife (Pitt, 2012).

⁴ The Conservation of Wild Creatures and Wild Plants (Otters) Order 1977, which came into operation on 1st January 1978 in England and Wales; otters were protected in Scotland in 1982.

Conservationism belongs to the more anthropocentric end of the ideological spectrum in that the motivation for undertaking it is commonly to preserve animal and plant life for the benefit of future generations of humans. More specifically, wildlife preservation has been carried out for the aesthetic (see Herzog, 2011; Hutchins & Wemmer, 1986) and/or instrumental value of animals to humans (balancing the economic and cultural value to humans against the threats of disease and crop damage) (Gamborg, Palmer, & Sandoe, 2012). An important direction in the present—and future—of human-wildlife relationships is the recent (and somewhat controversial) approach to conservation known as “rewilding”. This movement is a response to new understanding of present and past ecosystems; it aims to reintroduce “keystone” animal (and plant) species (e.g. beavers, boar, and wolves) into environments where they have been removed, by either direct or indirect human action (Monbiot, 2014a). Unlike conservation, which aims to “freeze living systems in time”, rewilding seeks not to control nature but to allow it to manage itself after the reintroductions are made (Monbiot, 2014a, p. 8). In other words, rewilding, motivated by a pro-ecological view, creates a deliberate distancing between humans and nature to counter both the human-wildlife conflict that came with shared physical spaces and the more abstract temporal distancing that developed during the period of rapid industrialisation.

2.4.3.4 Animal welfare and anthropocentrism

Anthropocentric perspectives have long influenced human-animal—and particularly human-wildlife—relationships. Early in the animal welfare movements, influential individuals and organisations including Bentham (Sax,

2011) and the RSPCA (Boddice, 2008) argued the case against animal cruelty on the basis that it had a negative effect on individuals and society. Anthropocentric perspectives remain part of the modern animal rights movement, where the focus is often on people. To illustrate, Sax (2011, p. v) identified questions such as “Who’s the real sentimentalist?”, “How consistent was Hitler in his vegetarianism?” and “Was Darwin progressive in his politics?” in animal ethics research.

Class prejudice and the quest for civilization

The early 19th Century “animal protection movement” in England was informed by two principles; one was a responsibility to God to protect animals and not cause unnecessary suffering; and the other was the belief that violence should be hidden from view to prevent the spread of immorality (Kete, 2002, p. 27)⁵. It is possible that aspects of human social prejudice have had a greater bearing on this early animal protection movement than consideration of the animals themselves. Several authors (Boddice, 2008; Griffin, 2007; Justice, 2015; Kete, 2002; Thomas, 1991) identified class prejudices as the motivation for the emergent animal welfare values, which served as a form of social control for those involved. It is argued that this is the real driving force behind the series of animal welfare acts passed between 1835 and 1849, which protected some animals but excluded others.

⁵ Similarly, animal slaughter for the meat trade was moved out of the cities as it increasingly conflicted with urban moral standards in Victorian Britain (Philo, 1998).

As has been discussed in relation to deer, historically the social status of the people hunting particular species says much about the perceived status of the animals themselves; quarry smaller than deer was reserved for people of more humble social standing than kings. For example, badgers, as “mere vermin”, provided sport for the poorer classes (Griffin, 2007, p. 84). In a similar way, the middle and upper class early welfare reformers in Britain targeted animal fighting and baiting as the recreational activities of poorer classes and others including Asians, Turks, Russians and Irish Catholics, whilst simultaneously defending animal sports enjoyed by themselves (e.g. fox hunting) (Kete, 2002, p. 27). There was some resistance to perceived social prejudice at this time. By 1800, it was increasingly felt that ordinary people in Britain “not only shared the same civil rights as the elite, but that they had a right to have their opinions and concerns heard by those in power” (Hunt, 2017, p. 169). A character known popularly as “John Bull”—derived from the bull in bull baiting—was seen as an everyman and was often depicted resisting the political elite in defence of his rights as an Englishman (Hunt, 2017). A cultural change in sporting interests was brought about by new protection laws⁶; rat fighting was the most popular emergent sport (Boddice, 2008, p. 248).

Kete (2002, p. 27) writes that “kindness to animals came to stand high in the index of civilization” and certain animal entertainments were condemned as dangerous evidence of cultural and political degeneracy. The following excerpt

⁶ Cruelty to Animals Act, 1835; Cruelty to Animals Act 1849

from the RSPCA Annual Report of 1836 provides clear evidence of the motivations behind the first animal cruelty legislation and the position of the organisation following the 1835 Act:

the very lowest and most debased of mankind; the law is opposed to them all; all the better part of society hate and abhor them; the wretches who exhibit them skulk to holes and corners, and darkness to hide them: and if there be some few supporters of such pursuits who are of a higher station in life, and call themselves gentlemen, if the term not be a misnomer, they also must infallibly sink into the mire of public and private contempt.

(RSPCA, 1836, p. 33)

This quote demonstrates that class distinctions between proponents are not as clear-cut as popularly assumed. Elite individuals did attend and participate in animals sports (“[c]ockfighting is one notable example” (Boddice, 2008, p. 204)). Where the animal welfarists conceded that nobles were involved in sporting activities in the dog pits, their presence was a concern because of the effect that the “lower orders” would have on the minds of the “higher classes” (RSPCA, 1833, p. 13). This section shows that, at least for an influential few, animal welfare was important enough to campaign and legislate for early in the period under investigation. At the same time, historical social prejudices have impacted on the fortunes of both wild and domestic animals. Importantly for the present study, the badger probably benefited from animal welfare reform, though illegal baiting was, and still is, carried out in Britain (see section 3.3.3).

2.5 Chapter conclusion

The species that comprise the classification of “wildlife” do so partially by design. Through the killing of large predators, humans have reduced wild animals to members of the wildlife classification that have evaded domestication attempts but are not a physical threat. This chapter has provided a socio-historical account of the main ways in which these animals have been caught up in human issues over time. It is sometimes clear that aspects of human-wildlife relationships are a direct result of external factors. Some aspects of human-animal relationships remain stable but adaptations are made to negotiate these in the context of the broad shifts that occurred. For example, attempts to control and manage wildlife appear throughout history but are manifested in changing ways, from killing large predators to eliminate competition, to culling to promote game, through to the control and preservation of “wild” animals associated with conservation.

From this review of the literature, I have identified a number of broad shifts. Before the Middle Ages, there was a reliance on wild animals for survival, which developed into a reliance on domesticated animals where wild creatures were rarely exploited. In the post-industrial age, there is evidence of increasing detachment from “wild” animals, which coincides with the growth in interest in abstract representations of them. In addition, the rise in animal ethics and the practice of protecting and preserving wildlife species emerged and gathered momentum in this period.

Driven by industrialisation in Britain (into which feed scientific and technological advances, urbanisation, and increased pressures on wildlife species and habitats

resulting in the conservation movement) in the late-modern period, human-wildlife relationships developed rapidly. Where animals are physically present in modern Britain, it is difficult for them to exist in spaces not set aside for human use; from “urban” wildlife to those inhabiting farmland, shared spaces have caused conflict between humans and certain wildlife species. All this in turn has implications for the ways in which wildlife species are perceived and treated, the most extreme manifestations of which see particular species as something either to be nurtured and cherished or to be feared and eliminated.

On the whole, the literature shows that humans’ destructive and anthropocentric tendencies to exploit the natural world extend back throughout history. Though it is true that the post-industrial period is undoubtedly one of change and conflict in the major orientations people have towards wildlife in Britain, this overarching anthropocentric approach towards animals has not changed significantly. As Monbiot (2014a, pp. 7-8) puts it: “[t]here was no state of grace, no golden age in which people lived in harmony with nature”. To some extent this is to be expected; humans can only view the world from a human perspective (Heuberger, 2017), but a move away from the extreme manifestation of this—human exceptionalism—is arguably identifiable in elements of the modern animal ethics and rewilding movements.

The attitudes and practices towards animals that I have identified in this chapter translate to a number of roles that wildlife species have in society: they are competition, objects of interest and study, and a focus of protection and preservation. Now that the historical context has been established, including major shifts and catalysts for change in human attitudes and practices towards

animals, the following chapter discusses this research in relation to the four species that form the focus of the present study.

3 Four British wildlife species: methods of selection and histories

3.1 Chapter introduction

I have introduced some of the main influences on human-animal relationships in British history and established that there are broad shifts and general trends that have a bearing on the ways in which animals are viewed. According to Kellert (1983, p. 260), “the destiny of many animals will depend on people’s subjective feelings towards a particular species”. In order, then, to contextualise the material presented in the following chapters, I must first consider the animal foci of the study: red squirrels, grey squirrels, badgers, and hedgehogs. This chapter presents the practical considerations that guided the direction of the study in terms of how and why the four focus animals were chosen out of hundreds of potential candidates (3.2). Following this, I present a chronological account of factual information that I have gathered from the limited number of experts in

the natural histories of these animals (3.3). Finally, researching these species-specific histories highlighted a small number of literary observations and language-based studies that reflect human perceptions of them; I address these in section 3.4.

3.2 Selecting a representative sub-section of wildlife

In this study I am concerned with how British wildlife species are represented in *The Times* newspaper in the period 1785 to 2005 and whether these representations have changed during this period. I explored what is feasible to investigate in the news in this time period by narrowing down candidates both through research and considering practical issues with data collection.

Abstractness of keyword terms is typically problematic for a keyword search of digital databases for suitable texts as has been noted by Partington, Duguid, and Taylor (2013, p. 285) in their investigation of anti-Semitism in the UK press⁷. As I discussed in chapter 2, the category “wildlife” is a human construct, the boundaries of which are not clearly defined. For this reason, I consulted *The Wildlife Trusts*, an organisation containing 47 groups in the United Kingdom, the Isle of Man, and Alderney, which is dedicated to the protection and recovery of nature, and wildlife in particular. I used the *Wildlife Trusts*’ “Species Finder” tool to generate a reliable and sufficiently comprehensive list of 493 separate British

⁷ They were restricted to examining the reporting of anti-Semitism as opposed to when writers were carrying out an act of anti-Semitism (“Those Jews – they control the media, the banks, US foreign policy”) because it was not possible to isolate these examples using a keyword search of *antisemit*/anti-Semit**.

wildlife species that could be used as keyword search terms to identify relevant texts for data collection (Wildlife Trusts, 2011a, 2011b)⁸. I then carried out four exercises in order to narrow the focus of my project: a pilot of the search method, wider reading, plotting the dates of published articles, and a corpus pilot exercise. I detail each of these exercises below; and have provided a visual summary in Figure 3.1.

First, I carried out a scoping exercise of news texts dated 1900-1985 in the *Times Digital Archive*⁹ using the 493 species names as key search words to identify relevant texts to serve as data for my study. This served as a useful means of identifying and working through any methodological problems with the practicalities of searching this way. It also confirmed the viability of the scope of my project in terms of the representation of the various wildlife types. The number of hits returned for each keyword was recorded along with any issues with retrieval identified during this process.

This task highlighted a number of methodological problems with article retrieval for several of the keywords. I found two types of “false hit” (i.e. the database returning incorrect or irrelevant forms) that diluted my search results. The first

⁸ Initially I considered legislation as a possible source but found it was not helpful for my purposes. The Wildlife and Countryside Act of 1981 includes sections on wild animals, wild birds, and wild plants but whilst some species are explicitly named in this piece of legislation, their inclusion is politically motivated and as such it does not provide a comprehensive list of wildlife species.

⁹ The *Times Digital Archive* is an historical newspaper archive of *The Times* newspaper published between 1785 and 2005 (at the time of data collection for the present research). The archive is searchable by keyword and results can be filtered by date and news section (news, editorials, and letters etc.).

type resulted from the database incorrectly retrieving words with similar orthography to the keyword search term. For example: the word “more” was returned in a keyword search for “mole”; “other” and “offer” were returned in a search for “otter”; “and” was returned in a search for “ant”; and “bath”, “but”, and “that” were returned in the search for “bat”. Similarly, a search for “wasp” returned instances of the word “was” when it was followed by a word beginning with the letter “p”. The other kind of false hit relates to the correct form being returned but from synonyms or irrelevant references rather than a reference to the animal (false positives). Some of the more common false positives I found in this case were: “Florence **Nightingale**”, “Cricket **bat**”, the phrase “the world’s your **oyster**”, and “Adrian **Mole**”. Other false positive hits were found to have some symbolic or metaphorical connection with the animals themselves. Information about false positive hits relating to the excluded species provide a good indication of the ways in which animal naming terms feature in language (see 5.3.3 for details). This aside, I determined to limit the data collection to instances of animal naming terms that referred to the actual animals (as was the case for the ‘People’, ‘Products’ ‘Pests’ and ‘Pets’ [...] project (see Sealey & Pak, 2018 for details)), which meant that search terms yielding a high result of false positive hits were rejected at this stage.

It was also clear from this exercise that many British wildlife species, despite being of vital concern to conservationists (and other groups concerned with wildlife populations), rarely feature in news articles. Other species were found to feature in a much larger number of articles. These findings allowed me to identify a list of wildlife keywords which caused minimal issues when used as

key search terms and to narrow the focus of the project by removing all search terms that returned a high proportion of irrelevant (false) hits or fewer than 100 hits in total. At the end of this exercise, a total of 112 species of the original 493 remained for potential investigation.

Key areas of interest were then established through wider reading guided by my own “real-world” knowledge of key species. The texts I used for this process included those produced by animal welfare organisations, conservation charities, gamekeeping organisations, and UK legislation. This guided the selection of 17 species that are both important (news) text-externally and feature prominently in news texts: badgers, grey squirrels, red squirrels, rabbits, foxes, hedgehogs, wasps, deer, pheasants, kestrels, pigeons, common seals, grey seals, fallow deer, muntjac deer, red deer, and roe deer. Reflection and re-examining of the focus of the study in line with new understanding of the literature, outside sources, and the data itself is an important part of the DHA (Reisigl & Wodak, 2009). Findings from this exercise relating to the focus animals are reported in section 3.3.

Next, I ascertained whether there was an adequate distribution of articles for the remaining animals across the time period of interest in order to assess the viability of a diachronic analysis. To do this, I searched the *Times Digital Archive* using the same wildlife keyword search terms as before. I then gathered the news texts (articles and letters) from 1875 to 1985, checking each article by hand for relevance before plotting its year of publication across time. During this exercise, I discarded species for which the search results could not be accurately filtered and for which the high number of hits precluded hand-checking in line with the methodology I used to gather articles for the other animals (fox and

pigeon). The results of the date plotting exercise indicated key periods when my selected animals were newsworthy, as well as gaps when they were not written about. I found that many of the peaks and gaps in the number of articles written about these animals coincide with key events, such as the introduction of an important piece of legislation or the outbreak of war.

Finally, a corpus construction exercise using texts gathered for the grey squirrel allowed me to identify and overcome any methodological issues I encountered in the construction of this pilot corpus, before I applied the methodology to the remaining texts. To construct my pilot corpus, I followed Sinclair's (2005) recommended steps for building a corpus (see 5.2.3 for details of the corpus construction methods used in the present study).

Sourcing texts from the *Times Digital Archive* meant I was limited to downloading the texts one at a time; I timed the process of downloading and renaming each file with my own text identifier, manually correcting each text, and adding structural mark-up. I found that the data processing methods described in section 5.2.3 were extremely time consuming, although every effort was made to make the process faster and easier. Following this exercise, I further refined the list of potential candidates, excluding a further 11 species from investigation.

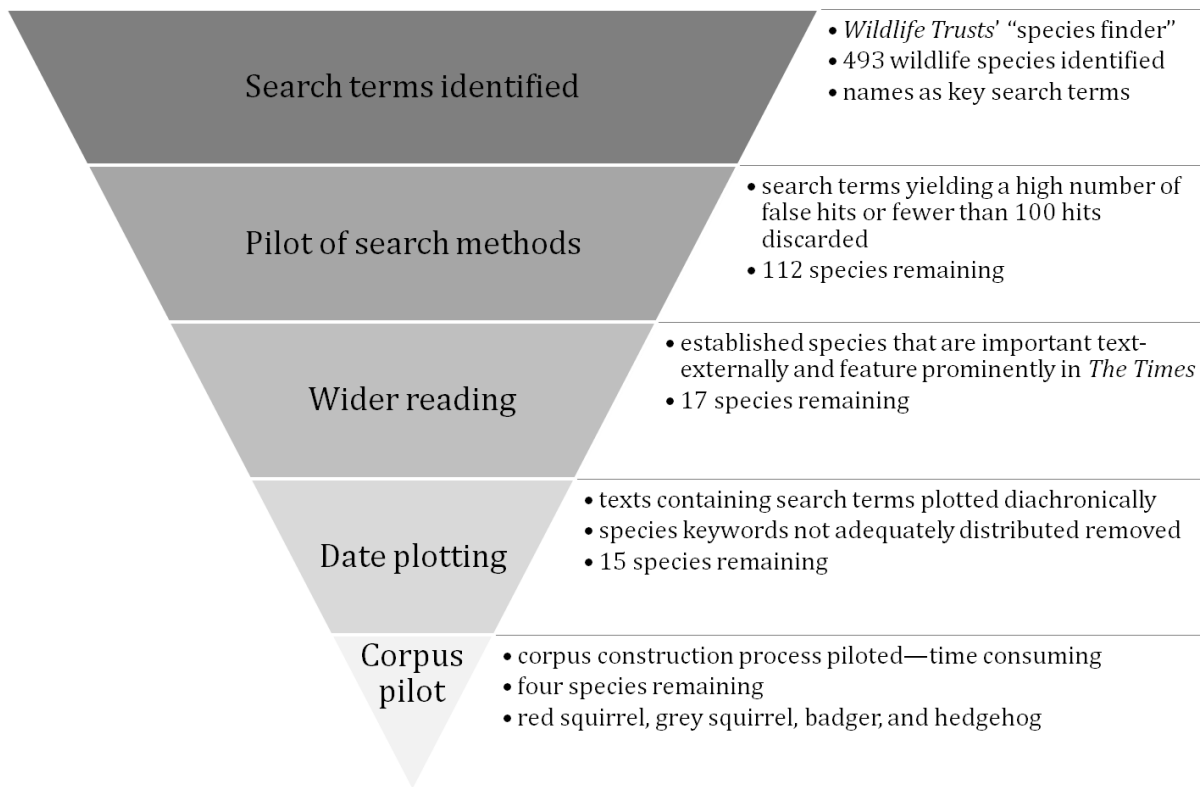


Figure 3.1 Visual showing steps taken to select focus species

In sum, the names of the four species selected for investigation—*red squirrels*, *grey squirrels*, *badgers*, and *hedgehogs*—(i) were suitable for use as key search terms in that they did not generate an impracticable number of false hits for manual selection of texts during data collection; and (ii) returned a suitable number of texts distributed over time to enable diachronic analysis. The names of several other species were also suitable following these criteria. They were considered and dismissed on the basis of personal interest, prior knowledge, and background research.

3.3 Histories of four wildlife species

3.3.1 Histories introduction

Having detailed the process by which the focus animals were chosen for the present study, this section is dedicated to accounts of the ways in which human lives have been connected with the four species. I also considered how the social, cultural, and political factors I identified in chapter 2 might affect change and stability in the orientations that groups of people have towards these creatures in Britain. Red and grey squirrels are discussed together in section 3.3.2; following this, the badger and hedgehog are considered separately in sections 3.3.3 and 3.3.4, respectively.

This research revealed that: the history of badgers and humans is primarily concerned with various motivations for killing badgers, particularly in sports, gamekeeping, and for disease control; the history of the hedgehog is a story of persecution and decline (by way of accident and design) in mainland Britain, as well as isolated island culling and strong objections to it; and finally, the history of the squirrel in Britain is about changing favours and the hunting, culling, and conservation that have been carried out in response to this. Much of the material for this research comes from the social history *Silent Fields: The Long Decline of a Nation's Wildlife*, written by Lovegrove (2007). Unless otherwise indicated, the factual information provided in this section (3.3) is attributed to him.

3.3.2 History of the red and grey squirrel in Britain

The European red squirrel (*Sciurus vulgaris*) is native to Britain and its populations are declining. The eastern grey squirrel (*Sciurus carolinensis*) is not native but is presently well-established and thriving in Britain. Historically, red squirrel populations have been seriously affected by severe weather conditions, deforestation, and disease. The species was almost extinct in Scotland in the seventeenth century and was believed to be extinct across Britain by 1842. A number of successful reintroductions were made after this recorded extinction and red squirrels flourished to the point that they became a woodland pest. Clubs were formed to control their numbers from 1880. Despite this, grey squirrels were introduced to Britain from America in a series of introductions into private gardens between 1876 and 1937 (Coult, 2012). The introduction was “motivated by a desire for novelty” and the belief that species diversity was supported by Darwin’s theory of survival of the fittest (Joseph, 2013, p. 185). This means that at the time that the greys were introduced, the status of the two species was reversed in comparison to their status today: greys were seen as intriguing and attractive garden animals, whilst the reds were considered to be a pest species in need of control.

In the 1930s, grey squirrel populations began to cause problems for farmers and other groups. Many rural people were anti-grey squirrel, pro-control, and disliked the sentimental views of urban people, who objected to acts of harming them (Kean, 2001). In 1931, a countryside and field sports magazine *The Field* declared the grey squirrel the enemy of the farmer, the bird lover, the naturalist, and the fruit-grower, due to the grey squirrel’s natural stripping and foraging

behaviours (The Field, 1931 in Kean, 2001). In the same year, The National Anti-Grey Squirrel Campaign was launched by Laurance Swainson and was kept in the public eye through informing the press, publishing journal articles and distributing leaflets and posters (Radnor, 1955, p. 56). The Campaign encouraged the public to kill grey squirrels for financial reward and it ran alongside others in the 1930s that concentrated on the total elimination of “invasive” species (including the American species muskrats and coypu (Gosling & Baker, 1989)) from the British Isles.

The grey squirrel has been blamed by many red squirrel conservation groups (as well as historians (Owen, 1978), scientists, government officials, and members of the public) as the singular (e.g. see European Squirrel Initiative) or main (e.g. see Northern Red Squirrels) reason for the decline of the red squirrel. Feeding competition between red and grey squirrels is popularly thought to be a factor in the present decline of the reds (see Joseph, 2013 for alternative view), though a rarely acknowledged underlying cause for this competition is the reduction of hazel woods after the Second World War (Kenward & Holm, 1993). Unlike grey squirrels, red squirrels do not thrive on an acorn diet and this means that once the reduced hazel crop has been eaten, grey squirrels are still able to thrive in hazel-oak woods (i.e. the majority of the wooded areas in England), where red squirrels are not.

Grey squirrels are at present the subject of several legislative orders, the first of which passed in 1937, that prevent their importation, keeping or release¹⁰. One further reason that red squirrel conservationists give for the control of grey squirrels is that the greys carry and transmit a pox virus to which they are not susceptible but which kills red squirrels (Ruddock, 2008). Grey squirrels are culled both to promote red squirrel populations and for industrial (forestry and gamekeeping) reasons. Grey squirrel control is still carried out by professionals but is increasingly controversial with the British public. A recent petition against such action branded cullers as “racist” (Ward, 2017).

Over this same period, the red squirrel has completely disappeared from many areas of Britain, though it prospers in Europe (Hodgetts, 2017, p. 22). Reds are now the object of localised conservation efforts across the country after the Joint Nature Conservation Committee introduced a strategy for red squirrel conservation in 1996 (Pepper & Harrison, 1998) and listed it as a priority species in the UK Biodiversity Action Plan (Joint Nature Conservation Committee, 2016). The Forestry Commission (2017) currently estimates that there are around 140,000 red squirrels in Britain, confined mainly to Scotland and the North of England.

It is often overlooked in the histories of the red and grey species that (at different times) both have been the subject of population control efforts and have had

¹⁰ "Grey Squirrel Prohibition of Importation and Keeping Order" (1937); "Grey Squirrels (Warfarin) Order" (1973); "Wildlife and Countryside Act" (1981)

“prices on their tails” (Lovegrove, 2007, pp. 95-96). In the case of the red squirrel, its cultural representation has developed from a woodland pest to a nostalgic symbol of a rural past in response to the establishment of the grey species, which has itself been framed as a threat to English values. This cultural representation of red squirrels is particularly popular with the rural community. In 2008, *The Field* described reds as “choosy and patriotic” in their eating habits (p. 2). As red squirrel populations declined from people’s experience, they became symbolically more visible as “emblems of a mythic past” and have more recently been described as “iconic of the nation alongside such symbols of Englishness as red phone boxes, warm beer, and cricket bats” (Kean, 2001, pp. 164-165). The iconic appeal of the red squirrel remains so strong that it has become the “poster animal for the UK conservation movement” (Joseph, 2013, p. 185) and in 2015, Prince Charles (patron of the Red Squirrel Survival Trust) called for the red squirrel to be made Britain’s national mascot (Radio Times, 2015). With the above in mind, those advocating grey squirrel control not only seek to prevent problems caused by their physical presence (e.g. damage and disease) but also to preserve a symbolic sense of Englishness.

3.3.3 History of the badger in Britain

The European badger (*Meles meles*)—colloquially named “brock” (Smith, 1979), “greys”, “bagerts”, or “pates” (Lovegrove, 2007, p. 233)—live in family groups called clans (or cetes) in setts which are passed down through generations of badgers and can be inhabited for hundreds of years.

This animal has been subject to some of the highest levels of persecution from various groups of people, from gamekeepers to farmers, throughout history. Badgers were classified as a vermin species under the Tudor Acts from 1566 to the late-1800s (Lovegrove, 2007; Thomas, 1991). The badger bounty was triple that specified for any other animal listed in the Acts, which indicates the importance that was placed on control of badgers at this time. Parish payments ceased by the 1700s but the view of badgers as vermin continued beyond this. An eighteenth-century household guide to killing vermin states, “Badgers are pernicious Creatures and destroy young Lambs, Pigs, and Poultry [sic]” (Unknown Author, circa. 1755, p. 27).

Middle-English hunting texts indicate that badgers were “markedly beneath the dignified interest of a noble huntsman”, who considered bears, boars and harts to be more suitable quarry (Justice, 2015, p. 111). Badgers instead provided popular sport for the poorer classes, who enjoyed “baiting” (the practice of pitting trained dogs against badgers for sport) and “digging” (the practice of digging badgers out from setts often using terrier dogs to locate the animals). Badger baiting gained popularity around the mid-1500s (Kalof, 2007) and was commonplace until the 19th century (Justice, 2015). Badgers had declined as a result of this early persecution; they were near extinction in 1846 and reintroductions to preserve the species were made to certain areas in the late-1800s.

Early opposition to badger bloodsports from eighteenth and nineteenth century animal welfare reformers reveals something about the way that badgers, and the people involved with them, were viewed over time. The elite reformers

expressed disapproval of cruelty to badgers (and other animals) and concern over the effects of engaging in such sporting practices on the moral disposition of the poorer classes (Justice, 2015; Kalof, 2007; Kete, 2002; Thomas, 1991). After much debate, the baiting of any wild or domestic animal was first made illegal under the Cruelty to Animals Act in 1835, though it was bulls, and not badgers, that were the primary focus of this legislation. Crucially, badger digging (often a precursor to baiting) was not legislated against at this time.

Wider animal welfare campaigning and reform in the nineteenth and twentieth centuries laid great focus on the badger. It was the first animal to be protected by species-specific legislation in Britain with the Badgers Act of 1973 and it is the wildlife species with the greatest level of legal protection in Britain today. Badger digging was made illegal under the Badgers Act, a century after baiting was made illegal.

The most recent and arguably most significant issue in the history of the badger is bovine tuberculosis (bTB). The association between badgers and bTB was first made in 1971 (Muirhead, Gallagher, & Birn, 1974) and 49,000 badgers were culled between 1975 and 1997 to prevent the spread of this farming disease. The badger culls have been highly controversial. At the heart of this controversy, there is a debate surrounding whether badgers are “‘pests’ to be ‘managed’ and removed when they get in our way; or a cherished, characteristic wildlife species to be preserved” (Cassidy, 2012, p. 18). Supporters of the culling campaigns have included farmers and farming associations (such as the Countryside Alliance and the National Farmers’ Union), whilst those opposing the culls include conservation and animal welfare groups (such as the League Against Cruel

Sports, the Hunt Saboteurs Association, the RSPCA and the Badger Trusts). The effects of perturbation, where infected badgers move away from cull zones, increased the spread of bTB (Carter et al., 2007; Pope et al., 2007). Despite this, another wave of cull trials was carried out in 2012 and 2013.

The legacy effect of early persecution continued; despite prohibitive legislation, baiting and digging experienced something of a “renaissance” in the early 1990s (Gold, 1998, p. 46) and are still carried out in Britain today (Badger Trust, 2018). Badgers have also been blamed by the gamekeeping community in modern day for predation of poultry, lambs, and the eggs of gamebirds, even though modern gamekeeping practices offer little opportunity for badgers to predate on birds or their eggs. Nevertheless, badgers appeared on the *Shooting Times*’ list of the “30 Most Wanted” pest species (2005, p. 100) demonstrating that these animals are still negatively perceived by gamekeepers in modern times.

3.3.4 History of the hedgehog in Britain

The Western European hedgehog or common hedgehog (*Erinaceus europaeus*) has many colloquial names, including “urchins”, “highoggs”, “fuzzpigs”, “hoghogs”, and “hedgepigs” (Lovegrove, 2007, p. 189); “hedghogge” was the standard spelling until the 1800s (Warwick, 2014), though it does not appear in *The Times* in this format. Public perception of hedgehogs in the early-modern period was very different to that in present day. They were considered “the very emblem of craft and cunning” (Thomas, 1991, p. 127); they were embedded in folklore and superstition as predictors of change in the weather in the 1500s (Thomas, 1991, p. 75); as a bad omen to meet on a bridge (Scottish folk tale from

1889) (Warwick, 2014, p. 80); and as symbolic of the Gypsy community's struggle of living alongside non-Gypsies.

The dietary preferences of the hedgehog have traditionally made it unpopular with certain groups of people. For example, whilst hedgehogs were a "national dish" eaten by Gypsies everywhere (Dick Zatta, 2005, p. 286), for others, the predatory relationship between hedgehogs and snakes (Reeve, 1994; Topsell, 1658) corrupted hedgehogs and made eating them taboo (Dick Zatta, 2005). One common rural myth in pre-industrialised Britain talks of hedgehogs suckling milk from cows' udders (Thomas, 1991), essentially taking for their own consumption produce that was reserved for humans. In the 1800s, a small number of people, including the poet John Clare, dismissed this belief, stating that the size of hedgehogs' mouths prevents such an activity and modern accounts suggest that the myth comes from hedgehogs attempting to eat the teat rather than suckle the cow's milk (Reeve, 1994). Hedgehogs were also reported to take hen's eggs, which unlike the milk myth, is not false. Nevertheless, for both reasons, hedgehogs were included on the Tudor lists as a vermin species and a bounty of between 2d. and 4d. per hedgehog was paid from 1566 until 1852.

Following the end of the parish payments, gamekeepers continued killing hedgehogs as pests; more than 10,000 hedgehogs were killed on estates from the late-1800s to the 1960s (Morris, 1994) for stealing eggs, and killing young gamebirds and nesting adult birds. Meanwhile, hedgehog populations suffered as a result of changes in land management (including agricultural and domestic pesticide use). This is cited as a contributory factor in the recent decline of Britain's hedgehog population by Wembridge (2011), and a primary factor by

others (e.g. see Lovegrove, 2007; People's Trust for Endangered Species, 2017; Warwick, 2014). The introduction of mechanised farming led to larger fields and a loss of hedgerow habitat for hedgehogs.

Hedgehogs have been heavily surveyed since the late twentieth century and these surveys have highlighted a decline in Britain's hedgehog populations since 1960, with a loss of at least a quarter of the population in the first decade of the twenty-first century (Wembridge, 2011). To preserve populations, they are partially protected by a number of legislative acts, the first of which is the Wildlife and Countryside Act of 1981 but, unlike badgers, hedgehogs do not benefit from any species-specific legislation. The various surveys confirmed that land management practices were among the reasons for the decline of hedgehogs, the most significant of which are the agricultural revolution, growing road networks, and suburban land development. The growing road network fragmented habitat and created isolated pockets of hedgehog populations that are vulnerable to localised extinction (Nelson, 2009; Warwick, 2014). This accounts for between 50,000 and 100,000 deaths annually in the 1990s (Morris, 1994) and around 12,000 in the late 2000s, owing to lower hedgehog numbers.

The most recent controversy involving hedgehogs in Britain was a cull on the Hebridean Islands of Uist and Benbecula where they had been introduced in 1974 to manage garden pests. In 2000, a study identified predation by the non-native hedgehogs as a major threat to wading bird populations in South Uist (Jackson & Green, 2000). Uist Wader Project (consisting of Scottish Natural Heritage, the Scottish Government, and the Royal Society for the Protection of Birds Scotland) began culling hedgehogs shortly after as a supposedly "humane"

alternative to relocation (Fowler-Reeves, 2007, p. 27). After public demonstrations, thousands of public complaints, and a relocation trial, Uist Hedgehog Rescue (funded by Scottish Natural Heritage) paid members of the public for help with relocation. Since 2002, 1600 hedgehogs have been moved to the mainland (Moss, 2013) and culling was halted altogether in 2007.

The strength of public feeling in opposing the Hebridean culls illustrates a reversal in the way these creatures are perceived by many British people. Hedgehogs continue to be treated as pests in certain circumstances, however. The animal appears on the *Shooting Times'* (2005, p. 99) list of the "30 Most Wanted" wildlife pests, though its inclusion on the list is more for taking wild birds' eggs rather than for posing a significant threat to game shooting. On the other hand, the hedgehog's diet of little plant matter (Reeve, 1994) and plenty of garden pests such as slugs, snails, caterpillars, beetles, and other insects, has led to it being known popularly as a "friend" to gardeners in recent years (Fowler-Reeves, 2007; Lovegrove, 2007).

Today, there are many organisations and individuals dedicated to the protection and preservation of hedgehogs, including the British Hedgehog Preservation Society, the People's Trust for Endangered Species, the RSPCA, and dedicated hedgehog hospitals such as St Tiggywinkles. Hedgehogs were added to the list of "priority species" (along with the red squirrel) under the 2007 UK Biodiversity Action Plan (Joint Nature Conservation Committee, 2016).

3.4 Language, literature and the focus animals

As the present study is concerned with representations, I close this chapter with a brief survey of the literature reporting various framings of the focus animals, which have been identified in campaign and industry literature, the online and print media, scientific journals, and literature. These representations are sometimes the result of, or catalysts for, changes in the perception of these animals at certain points over time; literature in particular can have a profound effect on popular opinions of animal species. I provide these details here in advance of a more thorough investigation into what a discourse analysis approach can offer the present study.

3.4.1 Squirrels

It has been suggested that anti-American sentiment in Britain has impacted on attitudes towards the grey squirrel in Britain (see Coates, 2014). In fact, Coates identified dislike of the greys around the time of American military intervention in Vietnam (1965 – 1973), reflecting anti-American feeling in Europe at this time. But Middleton, an influential promoter of the anti-grey squirrel message in the 1930s, proposed the reverse causation, saying, “I know of more than one patriotic Englishman who has been embittered against the whole American nation on account of the presence of squirrels in his garden” (Middleton, 1931 reported in both Coates and Kean 2001). It seems more likely that generally, prejudicial feeling towards the Americans led to negative representation of the grey squirrel (and other invasive American species) since the late-nineteenth, early-twentieth centuries, rather than the animals’ presence generating British

dislike of the American people. The reason for this is that anti-American ideas were first formed at a time when grey squirrels were favoured in Britain.

To elaborate, popular and influential English literature of the time (particularly the works of Charles Dickens (*American Notes*, published 1842) and Frances Trollope (*Domestic Manners of the Americans*, published 1832)) portrayed Americans as brash, impolite and ill-mannered; these views formed the very earliest American stereotype, according to O'Connor (2004, p. 79). To the British, Americans seemed greedily self-serving and materialistic (Schama, 2003). Furthermore, a perception of America as materialist and industrialist saw the country as posing a threat to Europeans, who idealised their own "more refined" culture, serving both to create opposition between American and British people and to give the British cause to reject those with such qualities (O'Connor, 2004, p. 79). These factors are said to have a bearing on the negative perception of grey squirrels and increased support for the red squirrel. Kean (2001, p. 168) argues that farmers identified increasingly with the red squirrel, whilst the non-native origins of the grey squirrel meant that it became a "metaphor for foreign destruction".

Such representations extend to modern scientific discourse. Joseph (2013), in his analysis of Gurnell, Wauters, Lurz, and Tosi (2004) accuses these animal biologists of "dabbling in 'species politics'" (Joseph, 2013, p. 186). Overall, the 2004 study of interspecies competition found that "there was no significant effect of grey squirrels on residency of adult red squirrels or on population turnover rate" (Gurnell et al., 2004, p. 26) but this finding is obscured by the writers' repeated uses of loaded terms such as "alien" and "invasion" (see also Hodgetts,

2017); vague language (“it is well-known that”, “is possible”, “might take place”); contradictions; and statements presented as facts but not based in science¹¹. It seems that historical social frictions become a trope so well-established that it is difficult even for scientists to avoid this kind of language.

3.4.2 Badgers

The literature reveals that a badger-as-victim framing is a popular theme across literary and media representations. For example, putting the reader in the place of a single badger appears in literary references to badger sports. The Anglo-Saxon riddle poem *The Badger* (10th century) in which a badger protects his clan against diggers; John Clare’s *The Badger* (c. 1830), which dealt with the increasingly controversial issue of baiting by writing from the badger’s perspective; and both Edward Thomas’ *The Combe* (1917) and Williamson’s *The Epic of Brock the Badger* (1926), are all critical of those who participated in badger sports. According to Justice (2015, p. 174), the historical concern with the poorer classes (see section 3.3.3) set the tone for discussions of baiting and digging in contemporary media reports, which have associated the bloodsports with “urban gangs, lower class Others” with illicit motivations. He argues that part of the reason why badger killing is so controversial in industrialised Britain may be because the badger has become both emblematic of Britain’s rural past

¹¹ The paper argues, “[t]he widescale replacement of the native Eurasian red squirrel [...] by the North American grey squirrel [...] is a well-documented example of an invasion by an alien species with the concomitant loss of a native species” but provides no evidence for this, later stating that “there is no evidence of interference competition between adults of the two species” (Gurnell et al., 2004 p. 27).

and “symbols of an imperilled land” (Justice, 2015, p. 114). Such a representation of the badger’s character can be found in the *Animals of Farthing Wood*, a television series based on the books by Colin Dann (1979-1994), where a badger takes a proactive role, leading other woodland animals against the threat of developers.

Cassidy (2012) carried out qualitative analysis of a range of texts about badgers (news (modern and historical), social media, web pages (including government sites), TV, radio, and images relating to both badger sports and bTB). She found that the badger was framed in two main ways: a positive framing (the “good badger” exemplified by the *Wind in the Willows* character) and a negative framing (the “bad badger” destructive, diseased, and a predator). One strategy used by pro-cull media to legitimise the culling of badgers is alluding to welfare concerns—badgers suffer from bTB so culling is the kindest thing to do (Cassidy, 2012). A large part of the way the badgers are viewed and represented by those wishing to protect them is as victims of human interference. Strategies used by badger protectionists in the bTB debate include putting people (readers) in the place of the badger and the use of emotive words for killing usually reserved for human death such as “holocaust” (p.6). In addition, “victim” badgers are sometimes presented as females, children, or refugees, or caught up in human war (p. 6).

3.4.3 Hedgehogs

The literature surrounding the framings of hedgehogs is fairly limited in comparison to that of squirrels and badgers. In early literary representations,

hedgehogs mainly feature as dark, magical, or ominous creatures. For example, they are presented in a negative light twice in similar circumstances in some translations of the Bible (see the destruction of Babylon (Isaiah 14:23, English Standard Version); and the fall of Ninevah (Zephaniah 2:14, English Standard Version)). Here, places that have been destroyed by God are considered fit only for certain animals, including the hedgehog. Negative literary references to hedgehogs also appear later in Shakespeare. In *A Midsummer Night's Dream* (1605) (Act II, Scene 3) Shakespeare “casts it among other low beasts” (Warwick, 2014, p. 80), snakes, newts and blindworms; and in *Richard III* (1633) (Act 1, Scene 2) Anne uses “hedgehog” as a term of abuse for the deformed Richard. Warwick (2014, p. 182) recognises the year 1905 as the point at which public perception of hedgehogs changed from mainly negative to mainly positive—the same year that Beatrix Potter published her book *Mrs Tigglywinkle* about a “good”, pleasant hedgehog character.

3.4.4 Dictionary definitions

Finally, in line with Heuberger (2017), who identified that dictionary definitions of species names offer an insight into human perceptions of them, particularly with respect to anthropocentrism and anthropomorphism, I close with an examination of both historical and modern definitions of the focus animals.

Squirrel: no entry for squirrel

Badger: “A brock” (p. unmarked)

Hedgehog: “Hedge-hog [*hedge* and *hog*] 1. An animal set with prickles, in an hedge. *Ray*. 2. A term of reproach. *Shakesp*. 3. A plant. *Answorth*” (p. unmarked)

Johnson (1768)

Squirrel: no entry for squirrel

Badger: “An animal that earths in the ground” (p. 55)

Hedgehog: only appears in the definition of *Echinus*: “A hedgehog; a shell-fish set with prickles; the prickly head, cover of the seed, or top of any plant. In architecture, A member of ornament, resembling the prickly rind of a chestnut”; and *Echinate(d)*: “Bristled like an hedgehog.” (p. 236)

Johnson, Walker, & Jameson (1828)

Squirrel: “a tree-dwelling rodent with a long bushy tail and strong hind legs, that feeds chiefly on nuts and seeds” (p. 867)

Badger: “sturdy burrowing nocturnal mammals, widely distributed in the northern hemisphere, typically black or dark grey with white striped facial markings” (p. 57)

Hedgehog: “a small spine-covered mammal that eats insects and is active at night” (p. 409)

The Penguin English Dictionary (2002)

In Johnson’s (1768) dictionary there is a separate entry for *badger*, which defines the animal by its alternative name, “[a] brock” and the dictionary also contains the reverse entry: *brock*, “[a] badger”, along with *gray*, “[a] badger”. An entry that provides more information about the badger than the definition of badger itself is *badger-legged*: “[h]aving legs of an un-equal length, as the badger is supposed to

have". This definition draws on an earlier misconception about the anatomy of badgers written in Topsell's (1658) bestiary *The history of four-footed beasts and serpents*, which often made use of established information from earlier writers. In this 1768 dictionary, *hedgehog* is defined by its appearance and location and other senses include the Shakespearian (a form of reproach) and a plant which shares visual features with the animal. In Johnson, Walker, and Jameson's (1828) dictionary, the hedgehog is only mentioned in another definition with other things of similar appearance and the badger is defined by its actions. The squirrel does not have an entry in either the 1768 or 1828 dictionaries, demonstrating its relatively low significance compared with badgers and hedgehogs. An entry for squirrel does appear in the modern (2002) dictionary that I consulted, indicating its increased relevance over time. In this dictionary, one aspect shared by the definitions of all three animals is appearance; otherwise, badgers are defined by their actions, behaviours, and distribution; squirrels are defined by their habitation, physique, and diet; and hedgehogs are defined by their diet and patterns of activity.

3.5 Summary conclusion

In this chapter I have presented the methods by which I selected the focus animals under investigation for this study. The selected species are derived from a comprehensive list taken from the Wildlife Trusts (2011a). Each of the naming terms for the selected species was viable for use as a keyword search term in the *Times Digital Archive* (unlike others which caused optical character recognition (OCR) issues (see section 5.1) or had homonymous forms which diluted the search results). The chosen animals each feature prominently in the news, have

an adequate distribution of texts across the time period of interest, and are important news-text-externally (i.e. in the literature, UK legislation and for organisations with interests in animal welfare, conservation, gamekeeping, and animal control). Timing the processes involved with constructing a pilot corpus informed my decision to narrow the focus of the study to four species.

There are shared elements in the histories of all four species. All have been the focus of population control measures as pests and vermin at various times. Similarly, greater interest in animal welfare issues is identifiable over time, though this perspective is applied to each animal at different times and to different extents. The controversy surrounding culling of badgers and hedgehogs in recent years reflects the emergence of wider concern for animal welfare that comes with greater awareness of biodiversity and the consequences of human interference in ecosystems.

The (limited) literature available on the representations of these animals indicates that text external factors (socio-political relations, literary representations) are reflected in media and scientific discourse. The chapter gave examples of dictionary definitions, which place focus on the appearance, actions, behaviours, diet, and distributions of the animals. The cultural representations of the four species are dependent on external socio-political factors.

The initial questions guiding the research are as follows. Revised versions of these research questions appear in chapter 6 in light of the early analysis, which revealed key themes in the discourse about the focus animals.

1) What are the patterns of change and continuity in the language about the focus animals in The Times newspaper in the period between 1785 and 2005?

2) What are the key themes that emerge from an initial analysis of the corpus and what are the changes in the language about the focus animals in this corpus in relation to these themes?

3) To what extent are the patterns found consistent with (changing) human practices and attitudes?

Now that I have some indication concerning what framings reveal about human relationships with the focus animals, I consider in chapter 4 what a more thorough linguistic (CADS) approach can offer the present study.

4 Approaches to studying language about animals

4.1 Chapter introduction

I have now introduced the “focus animals” of the study alongside some of the influences on human-animal interactions over time. It is clear that as well as a number of key historical factors (such as industrialisation), representations and framings in art, literature, and the media have influenced perceptions of the focus animals. In this chapter, I establish how a linguistic approach can be used to reveal the discursive representations of the focus animals over time.

The literature has highlighted the complexities of defining the term “discourse”, which is used in several different ways. Given this, it is important that I acknowledge the different ways in which I use—and do not use—the term (see also definitions on page xx). Structural (formalist) definitions of discourse (e.g. “discourse is spoken or written connected language over one sentence in length that can be attributed to a single source” (Thornborrow & Wareing, 1998, p. 150)

or “the organisation of language above the sentence or above the clause” (Stubbs, 1983, p. 1)) are not useful for my purposes since some of the (complete) news texts collected as data for the present study (see chapter 5) are just one sentence in length.¹² I adhere to Stibbe’s (2012, p. 54) definition of discourse: “the characteristic ways of using language associated with particular institutions or groups”. Recognising that there is such a thing as a “discourse of news”, as I do, takes a socially interactive view of discourse (Carter, Goddard, Bowring, Reah, & Sanger, 2001, p. 280) but some overlap with a functionalist view (i.e. that it is language that has a purpose or function) is clear here as well (e.g. see Brown & Yule, 1983, p. 1, who define discourse as “language in use”). Discourse, then, is used to “enact activities, perspectives, and identities” (Gee, 1999, p. 4) and can be used to “influence the beliefs and behaviour of other people” (Partington et al., 2013, p. 5).

In light of previous research in the field, I discuss what critical approaches to discourse analysis have revealed about the representation of social actors and the theoretical implications this has on the study of animals in section 4.2. Here I also discuss existing research into how animals are represented in language. In section 4.3 I examine existing research into diachronic language change with particular focus on the fields of diachronic corpus linguistics and modern diachronic corpus-assisted discourse studies. Finally, section 4.4 is devoted to

¹² Others (see, for example, Carter, 2008, p. 39) use the term “discourse” synonymously with speech, which is not applicable to the present study. For discussion of alternative structural, functional and socially interactive definitions of discourse see Jaworski and Coupland (2006); Partington et al. (2013); Richardson (2007); and Tenorio (2011).

the topic of news both as an historical source and as a discourse genre. I end the chapter with close consideration of the history of *The Times* newspaper, the source of data for the present study.

4.2 Critical approaches to studying the discursive representation of social groups

4.2.1 Motivations for critical discourse analysis

Critical discourse analysis (CDA) “primarily studies the way social power, abuse, dominance and inequality are enacted, reproduced and resisted by text and talk in the social and political context” (van Dijk, 2003, p. 352). In this context, discourse is the means by which social identities and relationships are reproduced and transformed (Fairclough, 1993, p. 64) and it is possible to uncover evidence of ideological bias (Widdowson, 2007) and the exercise of various kinds of institutional power (power *to*, power *over*, power *behind*) (Fairclough, 2009) present in discourse through examining the linguistic choices made by a speaker or writer. Institutional power is manifested in control of the text genre, “the regulation of access to certain public spheres”, and in grammatical features of the language (Wodak, 2001, p. 89). Those in positions of influence, such as government officials, public representatives, and those in the media, have an advantaged opportunity to “spread the cognitive structures used within their group, including ideological metaphors, to the wider population” (Stibbe, 2012, p. 55). Through repetition and “resonance” (Fairclough, 2005), this can lead to specific cognitive structures taking hold in public consciousness (Fairclough & Wodak, 1997; KhosraviNik, 2008; Widdowson, 2007). As well as by other means such as money, knowledge and force, power is gained through

discursive control (van Dijk, 2003), which makes closely examining institutional discourses such as news particularly worthwhile.

4.2.2 Corpus-Assisted Critical Discourse Analysis

The present study combines corpus linguistic (CL) and CDA approaches to examine the diachronic representation of British wildlife in *The Times*. Corpus linguistics is “the systematic study of linguistic phenomena using (machine-readable) collections of authentic language use, i.e. corpora” (Hoffmann, Evert, Smith, Lee, & Berglund Prytz, 2008, p. 18). At its core, corpus linguistics is a quantitative method (Wodak & Meyer, 2009, p. 26), which uses statistical software for the analysis of “keywords” (words that are statistically significantly more frequent—or infrequent—in one (sub)corpus compared with a “reference” (sub)corpus) (Hoffmann et al., 2008, pp. 139, 204) and “collocation” (“the habitual co-occurrence of two (or more) words”), for example. Keyword analyses can provide corpus linguists with a sense of a corpus’ general “aboutness” (Baker, 2006). Similarly, examining a word’s “collocational tendencies” (i.e. whether it tends to collocate with mainly positive or negative concepts) can reveal its “semantic prosody”. To use an example from Hoffmann et al. (2008, p. 139), the word “commit” tends to co-occur with negative words (such as “offence”, “crime”, and “murder”), giving it negative semantic prosody.

Though CL largely features quantitative analyses such as those defined above, qualitative analysis does feature in a corpus approach as well. Once a pattern has been identified (quantitatively), corpus linguists often examine a subset more qualitatively to discover nuances in the way(s) in which a certain pattern or

feature of language is used (Hoffmann et al., 2008, p. 18). This can be done using a concordance analysis, which searches for a word (or string of words) in a corpus and shows each instance in context (i.e. with a number of words—often around 10—either side) (Stubbs, 1996, p. xviii). Concordances are a convenient way of identifying patterns in the use of a certain language feature but occasionally, more context is required for analysis of its use, in which case a corpus linguist would examine a wider extract, or even the whole text. I have used such a concordance analysis in the present study (see 6.2.6 and 6.4 for details).

Corpus-assisted discourse studies (CADS) combines CL methods and tools with analysis from (C)DA which “allows us to exploit the strengths of both quantitative and qualitative approaches, while compensating some of the reciprocal weaknesses” (Marchi, 2010). By adding a more systematic approach to traditional discourse analysis, much is done to combat the subjectivity of the approach, whilst at the same time allowing a qualitative close examination of the texts to be carried out—including any contextual information encoded into the corpus texts—thus avoiding the “cherry picking” criticism (Mautner, 2009). In corpus-assisted critical discourse analysis (CA-CDA), CL can identify less dominant representations of populations in research (see Baker et al. 2008, who discovered “positive” representations (or victimisation (KhosraviNik, 2008)) of immigrants against a dominantly negative representation in a wider CL analysis of their corpus), whereas non-corpus-assisted CDA is more likely to reveal the dominant representation in a small selected subset of texts.

4.2.3 The Discourse Historical Approach

According to Stubbs (1996, p. 34) “all texts are inherently historical” in that they are shaped by intertextual reference, assumptions about the audience, previous texts, repetition, and discursive convention. The importance of recognising cultural, political, and historical contexts (Richardson, 2007, p. 25) and their impacts on power relationships (van Dijk, 2003, p. 57) has been highlighted in the literature. The Discourse Historical Approach (DHA) is a framework for the critical analysis of language data which examines the context of discourse, the discursive strategies employed therein and how each of these are realised in language (van Leeuwen & Wodak, 1999, p. 91). Of particular interest in the DHA is the ways discourse changes over time (van Leeuwen & Wodak, 1999, p. 91). In addition to examining past language shifts and trends, historical language analysis has been employed to increase understanding of social phenomena, in particular the current perception of certain social groups, by looking at the development of the representation of the phenomena in question over time. In essence, investigating how certain issues have been represented in the past allows us to understand the position of these issues in contemporary society. For example, Baker (2014) and McEnery and Baker (2015), in a diachronic corpus study using the Early English Books Online (EEBO) corpus, have shown how negative attitudes towards poor people in the present day have developed from attitudes that emerged 400 years ago. In short, it was found that that changes in the meaning of naming terms for poor people developed in response to various extra-linguistic factors and have since become entrenched in cultural attitudes. This study is discussed in greater detail in section 4.3.1.

In addition to utilising text-external contextual knowledge, the DHA draws on interdisciplinary understanding to interpret “inconsistencies, self-contradictions, paradoxes and dilemmas in the text-internal or discourse-internal structures” (discourse-immanent critique) (Wodak, 2001, p. 88). It is in this way that the approach attempts to “[demystify] the – manifest or latent – persuasive or ‘manipulative’ character of discursive practices” (socio-diagnostic critique) (Wodak, 2001, p. 88). One way in which this approach has been used is in contextualising argumentative strategies involved in the development of Austrian racist discourse, and isolating the language that contributes to this (Wodak, 1996). Wodak found that an in-group and out-group were created through the use of “grammatically cohesive elements, such as personal pronouns, depersonalisation, generalisation, and equation of incommensurable phenomena; the use of vague characterisations; and the substantive definition of groups”, which contributed to the promotion of foreigners as different, deviant and a perceived threat to the in-group.

4.2.4 Human social actors in discourse

Critical approaches to discourse analysis are adopted to address a specific social problem (van Dijk, 2003). Those implementing these approaches tend to have a political motivation for researching social issues, which are invariably identified as a perceived inequality between particular social actors and other groups in various social practices. The subject matter investigated by CDA researchers has included (minority) ethnic and religious groups; for example, Muslims (Baker, Gabrielatos, & McEnery, 2012; Richardson, 2004); refugees, asylum seekers and immigrants (Gabrielatos, 2006; KhosraviNik, 2008, 2010b; van Leeuwen, 1996);

blacks and whites (Stubbs, 1996); and Jews (Partington, 2012; Reisigl & Wodak, 2001). Others have analysed the linguistic representation of other social actors including, but by no means limited to: transgender women (Gupta, 2015b); suffragettes (Gupta, 2015a); benefit claimants (Clarke, 2015); and teachers, headteachers and parents (van Leeuwen, 1993 as cited in van Leeuwen, 1996). In doing this kind of research, linguists—in particular corpus-assisted discourse analysts—have begun to challenge or question some of the taken-for-granted assumptions about social groups and actors that might be ingrained in dominant ideologies.

Control over how social actors are represented, and in what roles, is a large part of what constitutes social power in communicative acts¹³ (van Dijk, 2003). The representations of social actors can provide information about their roles in society, knowledge, situational and interpersonal contexts, as well as identities (van Leeuwen & Wodak, 1999). The ways in which information about social actors can be realised linguistically, as reported in the literature, are widely varied. Perhaps the most comprehensive guide to the variety of ways in which social actors can be represented in discourse is provided by van Leeuwen (1996). I do not have space here to elaborate on the full system network of social actor representations he proposes; however, I will discuss three categories defined by van Leeuwen—exclusion (deletion), assimilation, and interpersonalisation—with

¹³ The other parts are: control of the discourse context—time, setting etc.—and control over (not) imparting knowledge and the purpose or intended outcomes (social action) of the communicative event (Van Dijk, 2003).

reference either to his own work or representations of social actors found elsewhere in the literature.

One type of linguistic transformation that a social actor may undergo in a given discourse is exclusion (or deletion) from the discourse, which can take two forms: backgrounding and suppression (van Leeuwen, 1996); each of these may have particular ideological motivations. To a greater or lesser extent, both are capable of masking agency, thereby restricting responsibility for an action or hiding the beneficiary of a process. In backgrounding, the social actor is mentioned elsewhere in the text, but not in relation to particular actions, and exclusion is characterised as suppression when no mention of the social actor is made.

Where a social agent is present in the discourse (inclusion), they may be subject to transformations of substitution (van Leeuwen, 1996). Substitutions have their basis in the structure of nominals and are the largest category of van Leeuwen's social actor representations (containing 40 different types). I will mention two substitutions here: assimilation and impersonalisation. Assimilation refers to grouped social actors and is realised linguistically in plurals, mass nouns or using lexis denoting groups or statistics (e.g. "this nation", "Forty percent of Australians" (from van Leeuwen, 1996, p. 49)). Assimilation can serve an ideological function. For example, in van Leeuwen's (1996) analysis of *Our Race Odyssey*, an article from an Australian conservative newspaper, immigrants are

mostly¹⁴ represented as statistics, which legitimises fear of being overrun with large numbers of people. In contrast, experts are assimilated only in order to “signal agreement”, otherwise they are presented as individuals so that “title, credentials and institutional affiliations can be showcased” (p. 50). Impersonalisation is when a social actor is not referred to in semantically “human” terms. The actor(s) could be defined by an imposed social quality as in: “Australia is in danger of saddling itself up with a lot of unwanted problems” (from van Leeuwen 1996, p. 59, underline added). Alternatively, social actor substitutions might be made for places (e.g. “Australia” for “the people of Australia” in the above example), or utterances (e.g. “the report”, “surveys” (van Leeuwen, 1996, p. 60). Impersonalisation can indicate an intention to mask identity, officialise certain actions or activities, or supply “connotative meanings” (van Leeuwen, 1996, p. 60).

Both assimilation and impersonalisation are often features of racist discourse (though van Dijk does not explicitly identify instances as such, see his (1998) critical analysis of D’Souza’s *The End of Racism* for examples). Key to rationalising social inequality in discourse is positive-self (“Us” or “We”) and negative-other (“Them”) presentations, which may be (partly) achieved through the use of rhetorical devices such as hyperbole and metaphor identified in the lexis, comparisons, and statistics (van Dijk, 1998). Positive-self presentations can also be achieved through suppression of negative information. The two

¹⁴ In the whole text, only one immigrant—a public figure—is referenced as an individual.

conditions needed for oppression are that the oppressed party must be presented as different and inferior (Stibbe, 2012); as will become clear, the linguistic strategies recorded in discourse about animals certainly fulfil these requirements. As Molloy (2011, p. 9) puts it: “where animals are not discursively constructed as having any moral worth, they are treated accordingly as property, objects, machines and things” (see also “reification” (Trampe, 2018, p. 333) and animacy (Sealey, 2018)), consequences that, to some extent, parallel those of discourses about human social actors described here.

4.2.5 Discourse about animals

It is clear from the variety of topics investigated in the literature that CDA plays an important role in understanding language about social practices and the human actors involved in them. Language analysis, including CDA and CA-CDA, has also contributed to the research of animals in a variety of social practices in which humans involve them. Such research includes the study of pigs in factory farming environments (Stibbe, 2003, 2012); wild salmon fishing (Stibbe, 2006, 2012); animals in the animal products industry (Mitchell, 2009; Mitchell, Thompson, & Miles, 1997; Stibbe, 2001); the management and conservation of wolves (Lynn, 2010); pest species (Knight, 2000b); badgers (Cassidy, 2012); anthropomorphism and anthropocentrism (Heuberger, 2017; Sealey, 2018); and killing animals (Jepson, 2008). Despite the presence of animal-related linguistic or discourse analysis in the literature, the proposed objects of (C)DA in guides to the approach still do not mention animals; for examples, see Fairclough (2009), Widdowson (2007), Wodak (2001), Stubbs (1996), van Leeuwen (1996), and Van

Dijk (1993), whose accounts, by the omission of animals, make the assumption that animals cannot be social actors.

The reason for excluding animals as the objects of (C)DA analysis may have its basis in the theoretical foundation of the approach. To better understand this, it is necessary to consider that mainstream human-animal relationships place humans in an advantaged position over animals in line with “the great chain of being” philosophy that is entrenched in western thought (Lovejoy, 1990). In fact, the greater the degree of human dominance over a particular species, the more negatively the species is represented in general discourse, including non-literal idiomatic and metaphorical language (Stibbe, 2012). Though challenges to the so-called “speciesist” ideology motivating negative discourse have more recently been advanced by animals rights proponents¹⁵ (Dunayer, 2001; Singer, 2009; Kemmerer, 2006), the idea that animals are inferior to humans remains the standard in mainstream modern culture.

This, I believe, raises an important point about the motivations for studying discourse about animals, which, if it was in line with the analysis of human social actors, would identify (and seek to explain) social problems, power, prejudice, and abuse (see van Dijk, 2003 above). Some of the above-mentioned studies of animal discourse references do take this stance. Attempts to counter negative

¹⁵ Historical challenges to speciesist language use do exist; in 1880, Henry Salt, a humanitarian philosopher, argued for the abandonment of the words “brutes” and “beast” in reference to animals and argued for “who” to replace “which” as well as extending the use of “animal” in reference to humans (Boddice, 2008).

representations with “non-speciesist” language have included challenging discursive erasure (Fusari, 2018; Stibbe, 2012); promoting anthropomorphic and physiocentric (pathocentric, biocentric and holistic) language as alternatives to the standard anthropocentric and speciesist model (Heuberger, 2017); challenging the distancing effect of the neuter “it” by extending “he” and “she” to refer to animals (Dunayer, 2001, p. 150); and resisting the use of uncountable nouns (e.g. deer, game), which deny the individual (Dunayer, 2001, p. 59). Certain suggested changes to vocabulary have been met with derision by some members of society (Cook & Sealey, 2017; Stibbe, 2012).

To examine some of the more dominant representations of animals and related issues, this section discusses key studies from the literature. Using corpus analytical tools and metaphor analysis of media discourse with a focus on the 2001 foot-and-mouth crisis in the UK, Stibbe (2012) found an abundance of fire and war metaphors used to represent foot-and-mouth. For example, the virus was described as “the forest fire of diseases”; it was “raging out of control”; healthy animals were slaughtered in what was described as “pre-emptive strikes”; the Government were “fighting an enemy”; and farming families were the “innocent victims of war”. There is evidence of something akin to Van Leeuwen’s impersonalisation present in this discourse. As well as metaphorical language, Stibbe found that euphemistic verbs for killing were frequently used: animals were “taken out”, “removed”, and “eliminated”. Where transparent verbs for killing were used in the media, the animals were mainly excluded and replaced with metonymic references as a means to impersonalise the animal actors: it was *infections* that were slaughtered (“slaughtering the infection”), and

farms that were culled (“culling [a] farm”). These discursive strategies concealed the reality of culling six million animals that might have been inoculated against the disease if it was not for an export industry ban on vaccines; the discourse presented the virus as the villain, the farmers—not the animals—were the victims, and the Government become the heroes of war. This also justified the slaughtering of healthy animals and united the Government and the farming community against the disease, leading to the cull being carried out with very little opposition.

In intensive farming discourse, a study on the representations of pigs reveals how destructive discourse can influence industry practice. In this discourse, animals are “constructed” as machines, objects, and commodities, the consequences of which are animal suffering and environmental damage (Stibbe, 2003, 2012). Here, pigs are represented in terms of “performance”, “sow durability”, “sow breakdown”, as having “salvage value” and so on, drawing on the *pig-as-machine* metaphor (Stibbe, 2012, pp. 42-45). The health and wellbeing of pigs are discussed in terms of economic costs to humans (i.e. an animal is considered healthy if production and growth rates are maintained whether it is truly healthy or not). Animal individuals are frequently obscured in line with van Leeuwen’s “assimilation” (e.g. “herd health” (p. 41)) and deletion (e.g. “In a typical scenario, a bin is filled with three months death losses” (p.44)), allowing for a large percentage of individual deaths to be acceptable in maintaining the overall health of the group.

Conversely, Molloy (2011) found that narrative-style newspaper reports of livestock “escapes” from farms or transportation used intertextual references to

individually name animals (e.g. “Free Wooly” to name a sheep using a play on the film *Free Willy*; “Butch” and “Sundance” the Tamworth pigs; and a pig described as “babe like”). These animals were ultimately spared slaughter. Similarly, Phoenix the calf was not culled during the foot-and-mouth crisis as a result of a campaign run by the *Daily Mirror*. Unnamed groups of animals in similar situations (i.e. those that escaped en route to slaughter) were not saved from being killed and were referred to in food terms (“‘Traffic Ham: Porkers Close Motorway after Lorry Crash’ (Daily Mirror, 31 December 2009, p. 31)”). This is paralleled in dominant discourses surrounding meat production and consumption, which naturalise these activities by “keeping animals outside the category of beings who have social identity” (Moore, 2014, p. 70). It seems that where animals are named individuals in discourse they are likely to be spared but where they are unnamed they are killed, so assigning identities—or not—may have directly affected the destiny of these animals.

Non-literal references to animals in general English can impact on perception and treatment of them in society. “Zoomorphs” (Sommer & Sommer, 2011), animal metaphors used in reference to humans, are generally pejorative (Goatly, 2006) (e.g. referencing a chicken to mean a cowardly person) but even when these are positive they can have a diminishing effect (Heuberger, 2017, p. 342). Expressions such as “wolf down your food”; “thrown to the wolves”; “a wolf at the door”; “a wolf in sheep’s clothing” are pejorative expressions for an animal that has historically been targeted by humans because of perceived competition for resources (Corbett, 2006, pp. 183-184). Similes, idioms and metaphors containing “pig” were retrieved by Stibbe (2012) from The British National

Corpus (BNC), the majority of which were negative (e.g. *fat pig, greedy pig, filthy pig, as stubborn as a pig, pig ignorant*) and make a number of presuppositions about the nature of the animals themselves in that they are “ignorant, greedy, untidy, stubborn, selfish, badly behaved, and fat” (p. 378). Goatly (2006, p. 28) argues that such pejorative HUMAN IS ANIMAL metaphors “[reinforce] the ideology of human superiority and disdain for animals, making it very difficult for us to conceive of animals and humans as having equal rights to exist, or for animals to be worth our sympathy”. Parallels can be seen in Stibbe’s (2003) study between cultural models of pigs and those of racism and sexism in terms of negative-other discourse strategies, a sentiment which echoes animal liberation discourse (see Singer, 2009). Metonymy, nominalisation, jargon, and metaphor all contribute to the discourse providing a “barrier” between humans and pigs, which legitimises the act of killing these animals as well as their treatment in intensive farming conditions (Stibbe, 2003, p. 379).

Utilization of animals and associated language leads to a disrespect for animals’ intrinsic worth (Trampe, 2018, p. 333). In the discourse of ecological science, much as in intensive farming discourse, animals can be represented primarily in terms of their value or worth to humans. Through examination of grammatical patterning and agency in the report *Ecosystems and Human Well-Being* from the *2005 Millennium Ecosystem Assessment*—a typical example of ecological science discourse—Stibbe (2012) revealed that the report did not manage to overcome the constraints of “shallow ecology” in its discourse. The report implicitly argues that fish do not have intrinsic worth since it considers harm to fish only in terms of the impact it has on human life and the economy. Linguistic devices used to

achieve this include “fish” modifying noun-phrases (e.g. “fish stocks”, “fish populations”, “fish harvest”); fish embedded in noun-phrases (e.g. “commodities such as fish”, “demand for fish”, “the overharvest of fish”); and the death of the fish disguised through euphemistic verbs such as “removed” and “landed” (p. 91). The discursive strategies used here parallel those of pork industry discourse, despite the intended ecological objectives of the report. Euphemisms are also reported elsewhere to aid the process of utilising nature and “prevent ecological rethinking” (Heuberger, 2017, p. 343). Baker (2006) found the term “practices” was used in relation to fox hunting in pro-hunt parliamentary discourse; this euphemism for killing, he suggests, is used for its vagueness. Trampe (2018, p. 333) also identified the concealment and minimisation of animal suffering and killing in language through the avoidance of taboo words surrounding death and suffering. In his examination of the IUCN (International Union for Conservation of Nature) Red List, he found a number of “euphemizations” (nominalization/grammatical metaphors) for decline or extinction caused by humans (e.g. “the [dying out/disappearance/loss] of species”; “population decline”, p. 322), which, linguistically, suggest the events described take place independently of humans.

Language usually reserved for human-human relationships has been used to comment on the treatment of wildlife species in Britain and elsewhere. For example, anthropomorphic language has been highlighted in the discourse of human-wildlife conflict. In Japan, bears are described as “criminals” and are given the “death penalty” (Knight, 2000a); wolves are described as “thieves” by reindeer herders in Sweden (Lindquist, 2000); foxes are described as “assassins”

and “murderers” (Marvin, 2000); and British ruddy ducks described as “lager louts” in Europe (Milton, 2000). The language of human social prejudice also appears in the discourses of the animal protection movement. Opponents of animal control have described the culling of ruddy ducks as “ethnic cleansing, xenophobia, and genocide” (Milton, 2000, p. 242); and pestilence discourses surrounding pigeon shooting linked the act to anti-Semitic sentiment in America (Hoon Song, 2000).

Not all discourse about animals supports notions of human superiority by centring on the roles of animals in relation to humans or human issues surrounding animals. A CDA analysis of Carson’s *Silent Spring* (1962) discovered that fish are represented as having intrinsic value in this text (Stibbe, 2012). In *Silent Spring*, no euphemistic verbs are used for killing fish and little reference is made to the impacts of these deaths on humans. Fish are placed in the agent position in the roles of senser and actor, carrying out mental and material actions respectively, demonstrating purposeful decision-making and the presence of cognition. Despite such a positive example, the animals that play a major role in human society are largely found to be obscured by human-relevant factors (economic, physical health etc.), though they are not *explicitly* denied any inherent worth in the discourses examined. This, alongside the fact that animals are not mentioned in reference guides to CDA, raises a question about the extent to which animals can be considered to be social actors, and ultimately, about their place in society. Objects of natural science—for example, rocks (Sayer, 2001) or animals (Baker, 2001; Dupré, 2002)—are what they are regardless of how they are classified but animals are also part of society; they have a range of

roles and mean various things to humans but importantly, these roles are *imposed* by humans.

Identities are usually constructed “for and by individuals in interaction” (Moore, 2014, p. 68) but this is not the case for animals: their identities are assigned to them rather than being a product of reciprocity. Animals cannot self-identify as belonging to social groups (Ritvo, 1946, p. 5). As such, animals fall somewhere between social and physical science. Following the so-called “animal-turn” in social science, the recognition of animals has developed from the abstract to the physical: they are “symbols with a life of their own” (Daston & Mitman, 2009, p. 13). It is apparent from the above discussion that there is a clear relationship between the discursive representation of animals and the “material reality of animals’ lives” (Molloy, 2011, p. 9). Unlike human marginalised social actors, who may be encouraged through discourse practices to accept dominance (Van Dijk, 1993, p. 255) and even to act in favour of those with power (see Van Dijk, 1993, p. 263 discussion of “hegemony”), the enactment of dominance between humans and animals is not direct. Animals cannot accept dominance since they have no way to be active in discourse and in most cases do not act in the interests of the powerful of their own free will; instead, other humans, who might be unable or unwilling to be active in resisting dominance (resisting the limitation of animal freedoms) generally accept or are compliant in dominance over animals, in effect acting on their behalf. If “lack of power is also measured by its lack of active or controlled access to the discourse” (Van Dijk, 1993, p. 256) then it follows that for animals, lack of power is absolute. If, on the other hand, animals are afforded (a form of) agency in recognising, for example, certain acts

of resistance and cooperation in symbiotic relationships (see Despret, 2013) then their lack of power cannot be considered absolute. In either case, it is clear that language plays a central role in determining the lives and destinies of animals.

4.3 Studying language change over time

Now that I have discussed critical approaches to studying the discursive representation of social actors and the relationship between language and animal lives, I move on to consider approaches to studying language change over time, in line with the diachronic aim of the present study. The motivation for diachronic corpus research is most often to identify linguistic change (Gippert, 2014). Traditionally in diachronic CL, less focus has been placed on topic-based research than on investigating shifts in language. The types of language change that have been researched include morphosyntactic (e.g. Meurman-Solin, 1992); cross-cultural (e.g. Potts & Baker, 2012); and stylistic (e.g. Geisler, 2002).

Existing diachronic corpora vary greatly in terms of genre, which may be specialised (e.g. *The Corpus of English Newspaper Editorials (CENE)* (Westin, 2002); *Corpus of English Dialogues (CED)* (Kytö & Culpeper, 2006)) or general (e.g. *Helsinki* (Rissanen et al., 1991); *A Representative Corpus of Historical English Registers (ARCHER)* (Biber, Finnegan, & Atkinson, 1993)). The sizes of existing diachronic corpora vary from very small (e.g. *CENE*, 500,000 words; *The Lampeter Corpus of Early Modern English Tracts*, 1.1 million-words (Schmied, Claridge, & Siemund, 1998)) to very large (e.g. *EEBO*, 1.6 billion-words (Early English Books Online Text Creation Partnership, 2016)). Sampling methods can be continuous (census) (e.g. *Helsinki*) or parallel (sub-)corpora from two (or

more) distinct time periods (e.g. *Siena Bologna Modern Diachronic Corpus* (SiBol93/95) and the Brown family of corpora (British English components of which include B-LOB 1931 (Leech, Rayson, & Smith, 2006), LOB 1961 (Leech, Johansson, & Hofland, 1978), F-LOB 1991 (Mair & Leech, 1996), and BE06 (Baker, 2008))). Finally, existing corpora cover a range of historical periods and the time spans. Most diachronic corpora seem to span around 200 to 400 years (e.g. *ARCHER*, 399 years, modern period) but others cover relatively narrow (e.g. *CENE*, 93 years, 1900 to 1993) or wide (e.g. *Helsinki Corpus*, Old- to Early-Modern English) spans of time. No specialised, diachronic corpus of late-modern discourse about wildlife—or animals more generally—currently exists.

4.3.1 Relevant studies in diachronic CL

The diversity of the above examples reflects the wide variety of topics and research aims that can be investigated using a diachronic corpus approach. Space precludes an examination of more than selected studies that are of direct import to the present study; that is, those whose methodologies reflect the time period under investigation (i.e. late-modern period) and, most importantly, those which examine the relationship between culture and language, including the discursive representation of social groups. As Baker (2010a, p. 2) puts it: “[l]anguage change, perhaps particularly lexical change, has the potential to tell us much about societal change. Language does not develop in isolation but has a dialectical relationship with culture, both reflecting and spurring on changes in everyday life”. As well as CL, elements of sociolinguistics and historical linguistics are also employed in this kind of research (Baker, 2010a, p. 3).

There is a small body of research that focusses on vocabulary and semantic changes (Baker, 2010a). Baker (2010b) compared gender terms across four corpora of British English news texts (LOB, F-LOB, BLOB and BE06) and discovered that there has been a decrease in the marking of gender in terms of address (*Mr*, in particular). He also found that the suffix *-person* as in “spokesperson” has not been taken up as a replacement for *-man* (i.e. spokesman); instead, it was found to be more commonly replaced by *representative* and similarly, the gender neutral term *chair* is more popular than *chairperson*. In sum, trends towards gender equality were marked by an increase in gender-neutral labels and the increased use of terms relating to feminism; a male bias was present in language but was shown to decline over time. This study demonstrates that a diachronic CL approach can be used to identify links between language (in this case vocabulary and semantic changes) and societal trends.

Modern diachronic corpus-assisted discourse studies (MD-CADS), a sub-discipline of diachronic CL, can be used to “study changes in linguistic habits or in social, political and cultural perspectives over a brief period of contemporary time, as illustrated in a particular discourse type or set of discourse types” (Partington, 2010, p. 89). Though some low-level language development/change might factor in a MD-CADS analysis, examining this change is not the sole aim of the approach; the part of the approach that is of interest to the present study is the consideration of the text external (social, political, and cultural) factors

guiding linguistic choices¹⁶. To illustrate, MD-CADS has been used to explore issues surrounding social groups and how these are reflected in language over time. Partington et al. (2013) investigated reports of anti-Semitism in British newspapers. Analysis revealed references to historical anti-Semitic activity across the *SiBol/Port* corpora spanning 1993 and 2010. Despite this finding, and the similar frequencies of the terms *anti-Semitism* and *anti-Semitic* across the corpora, there were also noteworthy differences in the ways in which anti-Semitism was represented in later compared with earlier texts. The earlier reports represent anti-Semitic activity as both historically and spatially distant from the UK, whereas in later articles there was a clear rise in reports of anti-Semitic activity in close proximity to the UK, as well as being timely. This coincides with a resurgence of perceived anti-Semitism in Western Europe, which emerged as a theme in later texts. Ultimately, MD-CADS offers a partial solution to the “black box” effect (also known as the philologist’s dilemma (Rissanen, 1989)) by strongly advocating for researchers to familiarise themselves with the texts which make up a corpus. A combination of this approach and aspects of the DHA (i.e. researcher familiarity with extra linguistic contextual variables) forms the basis of the analysis of animals as a social group in the present study (see chapter 5).

One fine-grained diachronic study used a 140 million-word thematic corpus of British news dated 1996-2005 to explore the (changing) representations of

¹⁶ See section 5.2.1 for adaptations I have made for the present study to address the potential shortcomings of the approach.

refugees, asylum seekers, immigrants, and migrants in response to developing social and political factors (Baker et al., 2008; KhosraviNik, 2008). The researchers used a number of corpus analyses including: keyness, seasonal and consistent collocation, semantic preference, and semantic and discourse prosody, combined with considering contextual information (in line with the DHA) and close analysis of select texts. Evidence of positive-self and negative-other, topoi (including numbers, economic burden, threat, danger and law) and other referential strategies characteristic of racist discourse, such as othering and aggregation, were found in the discourse.

One particularly relevant study that I mentioned above (section 4.2.3) combined diachronic CL with methods from the DHA (though the author does not identify her methods as being DHA-based), investigating the representation of seventeenth-century poor people. Baker (2014) tracked the diachronic representation of four terms: *beggar*, *rogue*, *vagabond*, and *vagrant* in the *EEBO* corpus, drawing on historical (legislative and economic) factors to guide and interpret the findings. Collocational analysis highlighted changes in the semantic prosody for these labels across the period. For example, beggars went from being sympathetically represented by writers in the first half of the century to being portrayed as a lazy, thieving, and violent group in the second half. A shift from the collocation of “alms” to “relief” suggests that a change in charitable provisions for the poor to relief from authorities contributed to the change from a discourse of compassion to one of blame after the 1650s. Each of the terms developed distinct meanings over the course of the century. “Vagabonds” were associated with sexual immorality; “vagrants” were associated with criminality,

particularly thieving; and “rogues” became associated with untrustworthiness and lawlessness. These labels had a significant impact on the treatment of poor people at the time; those labelled “rogues”, “vagabonds” and “vagrants” were physically punished for their status, but those labelled “beggars”, though increasingly associated with the other groups over the century, were not subject to physical punishment. This demonstrates that real-life impact of historical representations of social actors is traceable using diachronic corpora and suggested approaches that I adapted for the present study.

Finally, McEnery and Baker (2017) combined CL and DHA approaches to investigate the discursive representation of 17th century “prostitutes” (sex workers). They examined the diachronic behaviour of collocates (see 6.3 for details of such an analysis applied to the present study) of the key terms “harlot”, “jilt”, “prostitute”, “strumpet”, and “whore”. As well as running themes such as the representation of empowerment and exploitation, they identified nuances in meanings, both between near synonyms and within individual terms, which reflected changes in attitudes. For example, collocates of “whore” relating to the semantic fields of age, disease, and pity emerged in the 1660s, indicating a shift in meaning from entirely negative to incorporate a compassionate element. Collocates denoting pity unexpectedly terminated in the 1680s at a time when historians argued that the general population became more compassionate towards sex workers. McEnery and Baker posit that “the moral reform movement” at this time suppressed sympathy for sex workers and gave way to a “a more forceful and fearful discourse concerning people who engaged in transgressive behaviour” (McEnery & Baker, 2017, pp. 187, 203). A 1690s

emerging collocates for “whore” associated with punishment (“carted”) supports this idea. Their results shed new light on existing understanding of this period and identified areas for further (historical) research.

Before I close this section, I must mention that although diachronic CL is usually interested in change, occasionally, such research might reveal what has remained constant in language use. For example, Baker (2010a) identified certain vocabulary remained stable across his period of interest (1931-2006)—that which related to themes of government, time, money, and life. Similarly, Westin (2002), for example, examined linguistic continuity alongside change in British newspaper editorials, finding that reporting and argumentative functions in news discourse did not change between 1900 and 1993 in the *Guardian*, the *Telegraph*, and *The Times*¹⁷. Others have reported a period of increased stylistic change towards the informal (Leech & Smith, 2005), particularly in written texts, due to rapid social change (technological developments) over the 20th century (Biber & Clark, 2002). With these findings in mind, I move on now to consider key changes in the history of news publishing—and *The Times* newspaper specifically—in order to establish potential influences on the language of news discourse over time.

¹⁷ Note that I identified some issues with the appropriateness of the statistical analysis applied in this study.

4.4 Newspapers

In this section, I discuss key aspects of news, evaluating its usefulness as an historical language source in 4.4.1 and relevant characteristics of news as a discourse genre in 4.4.2. I close the chapter with an account of events in the history of *The Times* newspaper that have been said to influence language and content (4.4.3) in advance of the analysis for this study.

4.4.1 News as an historical source

The relationship between a newspaper and its readers can be considered circular in that readership may influence the content of a news publication at the same time as the content may determine readership. Events are also documented in a timely way (typically daily or weekly). This makes newspapers a useful historical source through which to gauge the topics and events that were important in society at the time of publication. Since the time of the earliest prototype newspapers in the seventeenth century, there have been two main approaches to disseminating information: instruction or education on the one hand and entertainment on the other (Williams, 2010, p. 13). That said, utility and content were valued over ease of reading in Georgian and Victorian news texts, the form and style of which was very political. Brown (1985) found that Victorian news content did not reflect notable aspects of Victorian society¹⁸ well at all, arguing that it was less defined by its readership than by what was

¹⁸ Brown identifies Victorian interests as: the young population, travel (including emigration destinations), and religion.

convenient or accessible. This finding imposes limitations on the conclusions that might be drawn about historical human-animal relationships from the content of the earlier texts in the present study. A further relevant issue is that historically, Victorian newspapers might be considered serious publications (Williams, 2010) but certain content appearing to the modern reader to be serious news might have been thought of as entertainment in the Victorian times. Police court reports, for example, were considered entertainment pieces in Victorian newspapers (Brown, 1985, p. 96). It is important to be aware of such issues when attempting to draw inferences from news discourse—and indeed other language materials—that exist temporally and spatially outside of their original context (see also Tosh & Lang, 2006).

Two further issues when using news as an historical source are accuracy and reliability (Baumgartner, 1981), given the possibilities of human error in recalling events, political or personal bias, or efforts to sensationalise in order to maximise sales. These issues may be a hindrance to the historian researching historical events but are not necessarily a problem for the historical linguist researching language and culture. Even if the details in news texts are factually inaccurate, the pieces represent someone's opinion on the matter in question, which is relevant when examining the relationship between language and the cultural attitudes of the period.

4.4.2 News as a discourse genre

4.4.2.1 News as a public discourse genre

News is one type of discourse that has its own set of norms, including what is and is not acceptable in terms of language behaviours. In addition to the influence of advertising and editors (Molloy, 2011, p. 8), the language of news is also influenced by the attitudes, sympathies (Bednarek & Caple, 2012) and entertainment demands (Williams, 2010) of the (typical) target readership (Bednarek, 2006, p. 204).

Newspapers throughout history have sought to persuade and inform their readers using language (alongside the use of images (Baker, 2001)). The industry has a “vested interest in mediating ideas from particular perspectives”, which varies according to publication (Fowler, 1991, pp. 120-122). There is a two-way relationship between political and social change and news discourse, with each influencing and effecting change in the other (Conboy, 2010). Two forms of ideological influence that news discourse may have over its audience are understanding (controlling knowledge) and evaluation (controlling attitudes) (Rami, 2016; van Dijk, 1995). In certain contexts, patterns of ideologically-based repetition in public discourses—including the news—can lead to persuasive language being seen as “self-evidently true” rather than ideological, even if information seems to be objectively presented (van Dijk, 1995, p. 16). In cultural communication theory, the communicative function of representing and reinforcing views is to connect a community of readers (known as the ritual model) (Carey, 1989).

4.4.2.2 “Soft” news and “hard” news

The corpus gathered for the present study is inclusive of the range of available news genres in *The Times* since the focus animals feature prominently across different kinds of news text (see chapter 5 for details). Genres of news texts can broadly be defined as either “soft” or “hard” news and they serve different functions. Hard news describes news texts covering “events that are likely to have material impact on a person’s life” (Bednarek & Caple, 2012, p. 191). These are time-sensitive items, which often involve accidents, crime, announcements and other unscheduled events (Bell, 1991), as well as violence or conflict (Hartley, 1982, p. 38). Semino (2009) defines crimes, accidents, disasters, wars, political and diplomatic events, special topic news, sports, and business (usually in its own section) as hard news genres. As will become clear later in the thesis, when wildlife features in hard news the texts are often political and controversial in nature.

Soft text genres of news are less time-bound than hard news (Bell, 1991). Semino (2009) identifies feature articles, commentary, and analysis as soft news text genres. Such news items “serve to remind us of the prevailing moral values both within our own culture and to exemplify those of other cultures” (Bednarek & Caple, 2012, p. 189). They include human interest pieces, are often humorous, and are thought to appeal to women readers in particular (described as the “women’s angle”) (Hartley, 1982, p. 38). These categories are different in their discursive aims so the failure of news corpora to differentiate between hard and soft news, instead classing all news texts as the equivalent can cause problems in research (Bell, 1991). With this in mind, I have taken care to differentiate news

genres where I have drawn on key examples throughout the analysis, bearing in mind the varying functions that different news genres are said to serve.

4.4.2.3 Letters

The readers' letters pages in newspapers are "forums" (Wahl-Jorgensen, 2001) in which public "opinion, dialogue and debate" may be shared (Richardson, 2007, pp. 149-150). That said, there is a danger that readers' letters represent the values and opinions of a restricted few as they are selected and edited for publication guided by four factors: relevance, entertainment, brevity, and authority (i.e. that they are competently written) (Wahl Jorgensen, 2002). It is important, then, to bear in mind that the genre of readers' letters is not necessarily going to provide the CADS researcher with an "uncontaminated" indication of socially held values at the time of publication. In fact they serve an important argumentative function in that "they are designed to convince readers of the acceptability of a point of view and to provoke them into an immediate or future course of action" (Richardson, 2007, p. 150). Letters are a useful means by which to carry out *attribution* (see Partington et al., 2013, p. 285) as this section of the newspaper allows its editors to select, edit, and publish discourse in line with its own ideological opinion, whilst avoiding using its own voice to do so.

4.4.2.4 Structural and aesthetic features of news discourse

Though I was unable to carry out a thorough analysis of the structural and aesthetic features of news discourse in the present study (due to constraints of time and space), I believe it important to acknowledge that other studies have considered this aspect in depth and found it to be a fruitful area for analysis.

According to Bingham (2010, p. 230) “it is important to be aware of surrounding articles, pictures, headlines and advertisements, because this peripheral content also affects how the article in question is understood by the reader”. In fact, structural features of news discourse such as “the order of information, agenda setting, exaggeration, extensivisation/summarisation and space allocation in general, and quotation patterns in particular” were found to be relevant in the representation of refugees, migrants, and immigrants in one CADS study (KhosraviNik, 2008, p. 36). In addition, Gupta (2015a, pp. 110, 114) argues that “suggestive placement”—the practice of collating and arranging short texts within a larger article, as Figure 4.1 illustrates—“encourages a reader to make connections between texts”. She found that placement of texts positions the issues in the texts spatially within the newspaper and within the political, social, and cultural context in which it was printed.



Figure 4.1 Illustrative example of suggestive placement (Gupta, 2015, p. 114)

Much like Figure 4.1, many of the texts in the corpora for the present study are short, independent texts that were grouped with others within a wider piece but unfortunately, the scope of this study could only extend to that which was directly relevant to (language about) the focus animals. Given this, I have considered aspects of structure such as order of information (within texts), quotes, and image captions where I felt these aspects offered some insight into

animal representations in the analysis for the present study (see chapters 7, 8, and 9).

4.4.2.5 Language of news discourse

Bednarek and Caple (2012) provide a comprehensive account of all aspects of news discourse including the influence of writers, editors, readers and advertisers, features of various types of news text, and the language used. I highlight here aspects that I have identified as useful to the present study from this and related studies, particularly in relation to evaluative language.

Evaluative positioning

The positive or negative evaluative positioning of the writer (or writers' source) can be as simple as using vocabulary indicating general positive or negative evaluations (e.g. *good* and *bad*) (Bednarek & Caple, 2012, p. 144). In other cases, "emotivity", for example, can be found in vocabulary relating to evaluations of morality (e.g. *brutal*) and aesthetic evaluation (e.g. *unsightly*) (Bednarek & Caple, 2012). "Evaluations of reliability" maps onto what is otherwise known as epistemic modality and indicates probability ("reliability, certainty, confidence and likelihood") (Bednarek & Caple, 2012, p. 146). "The parameters of "im/possibility" (or "in/ability") and "un/necessity" on the other hand, can otherwise be called deontic modality, which indicates evaluations of how possible or necessary something is (Bednarek & Caple, 2012, p. 142); it is marked by modal verbs, nouns, adjectives, and adverbs, as well as vocabulary indicating possibility and or necessity (p. 143).

Disaster vocabulary is linked to evaluative language but it is not overtly clear that it relates to the writer's approval. Context, as usual, is everything: negative vocabulary (such as "*dead, killed, die*" in the context of the killing of Osama bin Laden) does not always indicate that a writer (or readers) would consider something to be a negative event (for writers or readers). Evaluative positioning is clearer when negative vocabulary is combined with negative evaluative language ("*the bastard, evil, coward*"). One more subtle indication of evaluative positioning is to consider who is given—and denied—voice in the texts and in what ways (i.e. through direct and indirect quotes, paraphrasing, and embedding speech) (Bednarek & Caple, 2012). This point is of key importance for the present topic, since animals themselves cannot have a voice (see 4.2.5) and so evaluative positioning in this study may be examined through who is given and who is denied a voice on their behalf.

Timeliness and proximity

Establishing the relevance of a reported event in terms of timeliness and proximity is achieved through the use of verb tense and aspect, adverbs, nominals, and prepositional phrases (Bednarek & Caple, 2012, pp. 52, 63). Future events, "running" or developing stories are newsworthy because they increase timeliness (Bednarek & Caple, 2012, p. 53) and can be planned for in advance (Jaworski, Fitzgerald, & Morris, 2003, p. 34). Jaworski et al. (2003) carried out a study of (un)certainty and prediction in news reports of the planned execution of Oklahoma City bomber, Timothy McVeigh. They found that uncertainty surrounding the event (due to legal appeals) led to speculation and prediction having greater news value than when certainty of the impending

event had been established. In addition, a “drive for immediacy” meant timeframes were manipulated to increase the timeliness of pre-reported news (p. 47). Varying levels of epistemic modality were achieved through hedging, modal verbs, adverbs of certainty, and presupposition. In the present study, I took account of indicators of timeliness and proximity by considering these features, as well as (seasonal repetition in) news cycles, and the proximal relevance of animal news to *The Times*’ readership.

Features and style

There have been some changes to news style over time that must be disentangled from changes in attitudes (towards animals) in a study of the present kind. Westin’s (2002) investigation of news discourse from *The Times*, *Telegraph* and *Guardian* from 1900 to 1993 revealed increasing informality, increasingly complex noun phrases, wider vocabulary, greater specialist language, greater certainty, and less vague language. The familiar editorial style of modern news only came into use towards the end of the nineteenth century (Westin, 2002, p. 11).

Verbs are said to occur more frequently in present tense than past tense (Bednarek, 2006; Biber & Conrad, 2009). Biber and Conrad (2009) also found that nouns and nouns premodifying nouns were much more frequent in news than in academic discourse; nominalisation, prepositional phrases following nouns, and attributive adjectives were common in news discourse; and personal pronouns were uncommon but still more frequent than in academic discourse. The language of a particular newspaper varies depending on its target readers

(audience design (Bell, 1991)). *The Times* newspaper contains more determiners than newspapers targeting working class audiences, for example (Jucker, 1992).

4.4.2.6 Animals in the news

Importantly for the present study, animal stories are popular with readers and financially profitable for newspapers (Rollin, 2003, p. xiii). Animal stories in newspapers are a substantial feature of soft news, which serve both to “act as an antidote to hard news” and to have “emotional appeal, to arouse our sympathies, curiosity or fascination” (Molloy, 2011, p. 2). Animal news stories are said to be more likely to be published on “slow news days” such as during the summer parliamentary recess (known as “silly season”) (Molloy, 2011, p. 6).

Not all animals gain equal news coverage. A study of US print and television news media found that compared to domestic or farm animals, wildlife is more likely to appear in environmental news (Corbett, 1995) and a study of British television news discovered that wildlife and related issues made up 20% of environmental news coverage (Cottle, 2014). Malamud (2011, p. 18) found that (perceived) threats to humans from animals, particularly in the context of animal diseases (e.g. swine and avian flus, AIDS and bovine spongiform encephalopathy (BSE)) are key topics in animal news and present animals as a “dangerous other”. Animals are also the feature of absurd or grotesque stories such as panda weddings or reports of bestiality (Malamud, 2011, p. 19).

Crucially, representations in the media “do not reflect the reality of animal lives but reconstruct animals within a set of discursive boundaries that delimit what can be said, visually and aurally, about them” (Molloy, 2011, p. 9). In this way,

the popular media “play[s] an essential role in shaping the limits and norms of public discourses on animals and animal issues” (Molloy, 2011, p. 1). As *The Times* is the source of data for the present study, events that might have influenced the role that this newspaper has played in shaping public discourses—in relation to animals—is of particular interest here.

4.4.3 *The Times* newspaper

Events reported in the news are not in themselves inherently newsworthy but their significance is determined through language (and image) (Bednarek & Caple, 2012, p. 44). There are said to be four broad influences on the content of a newspaper: its readership; political tradition (what information is to be made available and what is to be restricted); the cost of production; and its advertisers (Brown, 1985). There is a substantial literature on the history of *The Times*; notably, four volumes published by Morison (1952a, 1952b, 1952c, 1952d). For reasons of space, however, I discuss here only factors I have identified as influencing (the language of) news content in the history of *The Times*. I do this both with reference to news about animals and more generally, in order that I might separate general shifts in news style from results that are specific to animal news during the analysis.

The Times newspaper began as the *Daily Universal Register*, which was first published on 1st January 1785; it was renamed *The Times* on 1st January 1788 and it is the oldest daily newspaper in English still in print. It was claimed that *The Times* interpreted public opinion more accurately than competing publications (Howard, 1985). Walter, founder of the *Daily Universal Register* and Barnes,

editor of *The Times* from 1817 to 1841, emphasised the need to represent a range of public views (Walter, 1785; Williams, 2010). Despite this, and the similar intentions of two subsequent editors, catering for various interests in *The Times* was more restricted in reality. It represented the opinion of “the enlightened middle classes” (Boyce, Curran, & Wingate, 1978, p. 22) and ignored the interests of the working people (Williams, 2010, p. 85). A good indication of the kinds of readers *The Times* appealed to can be found in its *Letters to the Editor* pages¹⁹, which have been present in the paper since the earliest publications (Howard, 1985). Later, the 1949 Mass Observation project found that in terms of political leanings, two-fifths of *Times* readers were Conservatives, a quarter were Labour supporters, whilst the remaining readers were Liberal, undecided or did not support a political party (Mass Observation, 1949, p. 113). The literature contains conflicting information regarding the newspaper’s political leanings. Despite declaring to be politically independent (Boyce et al., 1978), material published in *The Times* (apart from editorials) is said by some (e.g. Westin, 2002) to have a right-wing bias. Critics of the press argued that *The Times* altered its politics in accordance with whatever would generate the most profits at the time (Asquith, 1978). If readership determines the content of news, as I discussed above, then this point is important.

As animal stories make up a significant portion of soft news (Molloy, 2011), I have identified factors that may have influenced its production. Overall, they

¹⁹ Formerly *Letters to the Conductor* and *Letters to the Printer*.

indicate that an increase in wildlife news might be seen in the second half of the 20th century. The first significant factor that has changed the content, layout, and politics—and therefore potentially the language content—of *The Times* throughout its history is the various people that have been involved in producing the newspaper. Three key figures featuring prominently in the literature as catalysts for change are Northcliffe, Thomson, and Murdoch. Northcliffe encouraged brevity in writing style and was responsible for the de-politicisation of his acquired newspapers, which meant a reduction in the publication of political news stories across his publications (Williams, 2010). When he took over *The Times* in 1908, Northcliffe demanded an increase in topical news, the use of short, concise sentences, fewer hard, political news pieces, as well as increasing soft news content (referred to as the “tabloidisation” of the quality press) (Williams, 2010, p. 141). Further structural changes were made to *The Times* by Thomson—who purchased the paper in 1966—including the introduction of bylines and the reshuffling of page orders and section layouts (Williams, 2010). When Murdoch bought *The Times* in 1981, news and editorial increased threefold from 1985 to 2006 (Williams, 2010). In addition to this, hard news was reduced and features, gossip, travel, and lifestyle pieces increased from the mid-1980s onwards. Importantly for the present study, the feature *Nature Notes* by Derwent May was introduced in July 1981 and has appeared in *The Times* every Monday since then (May, 1993). The 200-word pieces “were conceived as practical bulletins about what a reader could see if they went out into the country that morning” (May, 1993, preface).

Certain events hindered the production of *The Times* over its history. In 1926, Churchill produced a throwaway propagandist sheet called the *British Gazette*, which commandeered a quarter of *The Times'* newsprint, reducing the publication to just four pages (Woods & Bishop, 1983). Rationing during the Second World War (and beyond to 1956) created a similar shortage of newsprint; at its most severe, only a fifth of the newsprint that was previously available could be bought (Woods & Bishop, 1983, p. 324), which inevitably led to shorter newspapers being printed. It is not clear whether limited space for reporting during this period led to a corresponding reduction in soft news (about animals) because self- and government-imposed censorship on British newspapers was carried out during the First and Second World Wars in order to keep potentially useful information from the opposition (Lovelace, 1978). If certain topics were serious enough to be omitted from *The Times* during this period then it seems possible that there was a rise in soft news—and therefore potentially animal-related news—to counter this.

From the end of the Second World War until 1974, newspaper production grew more expensive and advertising revenue declined, triggering changes to content in order to increase sales (Williams, 2010). These included an increase in pages; a decrease in space assigned to hard news—specifically politics and current affairs; and less prominence given to public affairs stories between 1936 and 1976, coinciding with an increase in human interest pieces. To expand the circulation and readership, drastic changes were made to the format and content of *The Times* as the result of one enquiry carried out between November 1957 and February 1958 (Woods & Bishop, 1983, p. 341). The suggested changes

included: “a less ponderous style of writing; more emphasis on trade and industry; more, and shorter, news items; [...] increase in special features; changes to attract more young readers; and alterations in heading, form and layout to make the paper livelier” (Woods & Bishop, 1983, pp. 343-344). The changes reflected a desire to appeal to female readers, as well as to readers’ (perceived) shorter attention spans (Williams, 2010, p. 231). The above events in the history of *The Times* account for the increasing amount of texts published about the focus animals over time as detailed in chapter 5.

4.5 Summary conclusion

In this chapter, I have examined: (i) critical approaches to the study of human social groups and how these relate to the study of discourse about animals; (ii) the ways in which changes over time in language and discourse have been studied and how current understanding can benefit from historical contextualisation to better understand change; (iii) how news discourse can both spread ideologies and provide insight into historical cultural, social, and political circumstances; and (iv) the history of *The Times* newspaper, in order to identify key events in the newspaper’s past which might contribute to a change in content or language used in the topic under investigation.

It is clear that discourses about humans and animals share a number of similarities but the human-centric definitions in the discipline do not account for animals as social actors. Van Leeuwen’s “impersonalisation” category of social actor representation could, for example, be redefined in less human-centric terms to mean any being that is denied moral worth, since while “personhood”

status does not extend to many animals, moral worth or intrinsic value does (Molloy, 2011; Stibbe, 2012). Opposition to anthropocentric and speciesist linguistic representations of animals may, at present, be received by many people as controversial. People who advocate the killing of “pest” species or those who perceive certain species as a threat to their livelihoods, for example, would almost certainly reject attempts to oppose negative discourses surrounding such animals. That said, I think for those wishing to adhere to mainstream cultural values towards animals, it is still possible to take a critical approach to the analysis of animal discourse without necessarily wishing to *oppose* discourses that may be seen by some to promote inequality. Furthermore, given that proposals by animal rights advocates for counter-discourses have not been successful in the past, this seems a reasonable approach to take for those who wish to resist animal inequality in discourse by engaging with, but without necessarily subscribing to, the majority view.

Studies of the discursive representation of animals are, by definition, more about researching the position of humans in relation to animals in society than they are about the animals themselves. This distinction is subtle yet profoundly important because such research could never be strictly about animals when the language gathered is produced by humans and the analysis is carried out from a human perspective. This observation is reinforced by the linguistic representations of animals found in the literature discussed in this section. As Wodak (1996, p. 125) puts it, “[w]henever we speak about others, we at the same time also determine who we are”. What is found in the analysis, then, will

provide more insight into human orientations towards animals than it ever could about animals.

5 Methodology and data

5.1 Chapter introduction

I previously outlined that the broad focus of the study is the language of news discourse about British wildlife species in the late-modern period. Two key findings emerged from the literature I presented in chapters 2 and 4. First, this is a period of accelerated change in the ways that humans and animals have connected and interacted as a result of changes associated with factors such as industrialisation. And second, news discourse—that is, articles, editorials, and readers' letters—is a useful historical source, the timeliness of which means it can provide an insight into the events, opinions, and values at the time of publication. I have already presented the methods by which I have selected the animal foci for the present study in chapter 3. This chapter outlines the methods by which the data were selected, gathered, and processed alongside methodological considerations. Section 5.2 presents the design of the present study including how I applied the disciplines discussed in chapter 4. The

construction and composition of the corpora are presented in section 5.3; and section 5.4 provides a concise outline of the decisions I have made.

5.2 Design of the study

I take a corpus-assisted discourse analytical approach to investigating diachronic change in news discourse about wildlife in Britain. My approach made two major assumptions in advance of analysis, both of which are well accounted for in the literature. First, I assumed that text-external factors (such as industrialisation) do impact on human perception of wildlife (see, for example, Shoard (1980), Sands (2012), Pitt (2012), Morrison, Marcot, and Mannan (1992) and Ritvo (1987)). Second, I assumed that a change in perception, by any number or combination of factors, would be realised in the language used to write about wildlife in the news. I made this assumption on the grounds that ideology is realised in the linguistic choices that people make (Fowler, 1991) and news is a valuable medium for disseminating official rhetoric from public representatives and government officials.

My research into studying language about social groups highlighted two related theoretical frameworks; I combined MD-CADS (Partington, 2010), a sub-discipline of CADS, with elements from the DHA (Reisigl & Wodak, 2009) to position the project and establish an appropriate design for the study. This combined approach was flexible enough to accommodate the absence of clearly defined parameters at the outset of the study, allowing for them to evolve as I became more familiar with the data at each stage of analysis. In this section I explain how I have adapted each approach to best suit my specific aims and data.

5.2.1 MD-CADS

MD-CADS can be used to study changes in linguistic habits *or* changes in social, political, and cultural perspectives and the influence that these changes have on language. The approach has been used to investigate the impact of such factors on language variation over time but—to the best of my knowledge—it has not been applied to a thematic corpus from the late-modern period before. In line with this framework, I used corpus analysis tools and read and familiarised myself with the texts that constitute the data by working closely with them during corpus construction. Research based in MD-CADS traditionally uses temporally parallel corpora (e.g. the SiBol93, SiBol95 corpora) for diachronic language comparison (Duguid, 2010; Marchi, 2010; Partington, 2010, 2015; Taylor, 2010, 2011) to investigate language change. As such, the approach cannot reveal what *has not* changed in the discourse over the period of interest. Since most diachronic research is more often concerned with change than stasis, this is not generally considered to be a major drawback of the approach; however, I have remedied this issue by gathering a (relatively) continuous dataset and consulting external reference corpora throughout the analysis, where appropriate. I have accounted for this difference by adopting the waves, peaks, and troughs (WPT) analytical approach (Gabrielatos, McEnery, Diggie, & Baker, 2012) to segment my corpus data. The process by which this was carried out and my motivations for selecting this method are discussed in full in chapter 6.

5.2.2 The Discourse Historical Approach

The DHA was originally designed to study power and dominance in social prejudice and exclusion in anti-Semitic discourse. I have adapted the stages of the approach to accommodate my own, partially data-driven topic (species) selection. The design of the present study follows eight stages, which I have adapted from those proposed by the DHA (see Reisigl & Wodak, 2009, p. 96), adding quantitative corpus analysis stages.

1. **Topic selection:** build on previous personal knowledge of the topic by consulting relevant literature and other sources, including online discussion and publications from wildlife and conservation organisations with a good range of perspectives on relevant issues and legislation. Establish an appropriate source of historical language data and identify the time period for data collection, taking the literature and other sources into account.
2. **Data survey and collection:** consolidate information from sources identified in step one and available data to discover which animals were newsworthy *and* of interest to the various organisations I consulted. Carry out data collection based on findings.
3. **Prepare the data for quantitative analysis:** segment the corpora, identifying appropriate time periods for contrastive analysis. Identify salient peaks (and troughs, where applicable) in publication frequency for each animal and explore how far these may be attributed to external factors.

4. **Carry out quantitative analysis:** use corpus analysis tools (collocates, clusters, keywords, modifiers, and concordances) to identify common themes across the corpora.
5. **Select a small number of themes for focussed analysis** with reference to the literature, supplementing historical knowledge with further research where required.
6. **Carry out close corpus-based discourse analysis** of texts about topics of interest. Hand select key texts for close analysis on the basis that they are about a key topic, demonstrate a key linguistic pattern, or otherwise contain a contrast to what is typically found in the discourse.
7. **Formulation of critique:** interpretation of results from steps four through eight in light of contextual sources.
8. **Applications:** propose (a) potential application(s) of the findings.

The DHA complements one of the aims of MD-CADS; that is, it identifies social, cultural, and political influences on language by looking at language in context and attempting to attribute change to text-external factors. To achieve this, the DHA advocates contextualising the data by consulting sources outside of the language data itself; these include historical sources, previous research, and personal existing knowledge of the topic (Reisigl & Wodak, 2009). Employing an interdisciplinary approach to contextualising findings from the corpus analysis is helpful in identifying catalysts for changes in the linguistic representations of wildlife. As discussed in chapters 2 and 3, human-animal studies, social and

economic history, politics, sociology and anthropology can all make a valuable contribution to the contextualisation of findings from my diachronic wildlife corpus analysis. For this research, I have identified factors that are likely to have an impact on changing representations of animals in the news. Contextualising any observed changes in the language about animals aided my selection of a small number of themes for closer examination (see chapter 6). I would argue that the social, cultural, and political factors (which are known to have a bearing on human perception of (and actions towards) nature and wildlife species) work in combinatorial ways to impact on the language used to report about animals in the news.

- (i) **Social, cultural, and political text external factors** can be viewed as mainly political factors that guide social and cultural change in Britain during the period of interest. As discussed above, these include: war, the industrial revolution and technological advancement, human population increase, urbanisation, the agricultural revolution (mechanisation and the enclosure movement), disease in farm animals, legislation, conservation movement, climate change, and animal ethics.
- (ii) **Changes in news reporting styles** as a result of technological advances in printing, leading to increased news circulation figures and ultimately a wider readership. Partington (2010, p. 85) observed “that English quality newspapers have increased considerably in size over the period”, which is likely to affect the relative frequency of articles returned in a keyword search relating to the selected species.

(iii) **General language change:** I was prepared in advance of analysis to account for general lexical and semantic trends in language use such as changes in sentence length. I did not identify more fundamental shifts in grammatical use to be a major confound over the period of interest (late-modern period) but I was aware that some grammatical change might be identifiable (Leech et al., 2009).

In line with Leech and Smith (2005, pp. 84-85), I consulted external historical corpora of British English, each of which contain news discourse alongside other text genres so I could identify whether a shift relates to a change in news reporting, is a more general shift in language use, or is relevant to discourse about the animals under investigation. The diachronic corpora I used for this include the Lancaster 1931, Lancaster-Oslo-Bergen (LOB), the Freiburg-LOB (FLOB), the British English 2006 (BE06) corpora and the BNC.

5.2.3 Analytical tools

5.2.3.1 Software

I employed a multi-perspective analytical method comprising keywords, collocates, diachronic collocates, diachronic keywords, modifiers for words denoting animals, and cluster analyses to identify key topics and patterns in the corpora. The main software I used was AntConc 3.4.4 (Anthony, 2015), which I used to examine keywords and clusters in each of the corpora as well as explore concordance lines, and Sketch Engine version 2.35 (Kilgarriff et al., 2014,

www.sketchengine.co.uk) to gather collocates and modifiers of each of the species names. Full details of this process are provided in 6.3.

5.2.3.2 Language features

To supplement the findings from the corpus analysis, I drew on a range of analytical tools associated with CDA and the DHA (see Khosravini, 2010a; Tenorio, 2011; and Wodak, 2001) in a series of qualitative concordance- or extract-based analyses, as well in a short number of focused analyses of whole texts, to identify the following lexico-grammatical features and cognitive strategies in the discourse:

Social actor representation (referential strategies) (ethnonyms, xenonyms, metonymy, impersonalisation, aggregation, functionalisation, suppression, collectivisation);

Predicational strategies (associating referents with negative or positive consequences/traits/stereotypes/evaluations) including: positive-self and negative-other presentation (in-group and out-group; “us” and “them”); stereotyping; roles of actors and distancing of social actors from actions (e.g. through euphemism, omission, mediation, nominalisation, and embedding); topic specific language (anthropomorphism, anthropocentric values, and parallels and differences with discourse about human social actors); metaphor; semantic prosody;

Argumentation strategies (topoi for legitimisation) including othering; proximation; epistemic modality (as indicated through vocabulary, punctuation (e.g. quotes), and particular parts of speech); and other indicators of evaluative

positioning, including who is granted and denied a voice, as well as other grammatical features that reveal something about evaluative positioning (person, active and passive structures, form and tense of main verbs, including nominalised forms, and parallel structures and repetition).

5.2.3.3 Other analytical practices

Throughout, I have further categorised findings (for example in the different types of killing for chapter 9) in order to identify patterns of representation in the discourse.

I examined frequencies and diachronic distribution of texts relating to themes and associated patterns of language, identifying corresponding history (in terms of events, practices, actors). As well as the reference corpora I list above, I also consulted (historical) dictionaries, and other external sources, for example: legislation, campaign literature, archived records such as meeting minutes and annual reviews from the RSPCA, magazine and other news publications. In certain cases this research revealed alternative origins of texts and phrasing. Finally, I have considered news values and style of different genres of news text (soft and hard news).

5.3 The data for the present study

In this section I describe the method by which the news text data for the present study was gathered and processed (5.3.1). I close by describing challenges I encountered during data collection and their implications for both the main study and the wider representations of the focus animals (5.3.3). Descriptive

statistics for the gathered data, including news genre breakdown, are provided in section 5.3.2.

5.3.1 Method of gathering and processing the data

I used the keyword search terms “badger*”, “hedgehog*” and “squirrel*” to identify texts in the *Times Digital Archive* published between 1st January 1785 and 31st December 2005. The search terms retrieved singular and plural forms. My search for squirrel texts requires a word of explanation since more than one species of squirrel was of interest to me. The search term “squirrel*” ensured the capture of texts that (i) mention the red or grey species; (ii) include the word “squirrel” and make reference to “the grey” or “the red” later in the text; and (iii) it accounted for the possibility that the word “squirrel” had undergone a type of semantic narrowing from a general term for all varieties of its type to referring to the grey (most common) variety alone in later years. All texts gathered contain at least one mention of the focus animal(s).

The texts downloaded from the *Times Digital Archive* were in “image-only” PDF format. The clarity of the example text shown in Figure 5.1 is quite poor but it is not an unusually obscure example or an extreme case.

BADGERS.

TO THE EDITOR OF THE TIMES.

Sir,—Many of your readers are grateful to you for urging the plea for protecting our interesting "old inhabitant" the badger. He is not quite so scarce as is generally believed. A few live on in the Vale of White Horse and they are not uncommon in the Down country of Berkshire. But I was rather surprised to find when I moved from the rural western end of this county to this more residential neighbourhood within 25 miles of Hyde Park Corner that I could reckon badgers among the residents. In fact they are more numerous here than in the Devon country, and not long ago some of them made themselves such a nuisance by raiding the gardens of two of the large houses close by that war was declared on them and three were killed. But as there are two strong colonies not far away where they do no damage and are left undisturbed, this loss to their numbers is likely soon to be replaced. They are fairly numerous in South Devon and are generally left in peace there also.

I am yours faithfully,

J. G. CORNISH.

Figure 5.1 Original news text from 1913

As is apparent, the quality made conversion to searchable text files difficult. Free online use OCR readers resulted in a large number of output errors and *VARD* software was inadequate for correcting them. Voice recognition software (*Dragon v.12*) proved time-consuming and unreliable. I converted all files to editable text using *Abby Finereader 12*, following Joulain (2017), who found *Abby Finereader* to be the most accurate in her comparison of OCR software. Each file was saved in text format encoded in UTF-8. I manually corrected OCR

errors; all texts required some form of post-conversion correction and for some texts these corrections proved to be extensive. I used Regular Expressions (RegEx) to finalise the texts, cleaning up white spaces, as well as stray and erroneous punctuation. Each text has been assigned an ID number containing publication date with the format YYYYMMDD000A (YEAR-MONTH-DAY followed by a three-digit identifier and a letter to identify the corpus: “S”, “B”, and “H” for the squirrel, badger, and hedgehog corpora respectively).

Although each text was saved as a plain text file, I have adopted some of the de-facto standards (or conventions) to create a custom simple mark-up language for metatextual and structural mark-up based on the eXtensible Mark-up Language (XML) framework outlined by Hardie (2014). This style of mark-up is also recommended by Hoffmann et al. (2008) for representing various metatextual categories. The metatextual mark-up information in the header portion of each text includes the following information²⁰: corpus name (squirrel, badger, hedgehog), news genre (news, editorial and commentary), genre subsection (feature articles/opinion, news in brief, letters to the editor, law, politics and parliament, news), author (if available), date of publication, page number, original archive ID, and archive issue number. This information makes it possible to perform a search in specific parts of my texts, such as isolating all the articles contained within a certain section of the newspaper, for example. I retrospectively added segment information after I decided how the corpus would

²⁰ News genre and genre subsection are as given by the *Times Digital Archive*.

be segmented for diachronic analysis (see 6.2). For the structural mark-up of each text, I added information pertaining to its unique text ID, header, headline, main body, and original paragraph boundaries. Where applicable, some texts contain mark-up for a byline, footer section (letter sign-offs), pull quotes, subheadings, italic formatted font, bold font, and photo credits.

5.3.2 Corpus composition

The data comprises three corpora containing texts published in *The Times* newspaper between 1785 and 2005 in any of the following sections: *News*, *News in Brief*, *Law*, *Politics and Parliament*, *Court and Social*, *Editorials/Leaders*, *Feature Articles (aka Opinion)* (henceforth ‘feature articles’), and *Letters to the Editor*.

The data has been organised in the following way: 1) **squirrel corpus**, containing texts about red squirrels and grey squirrels; 2) **badger corpus**, contain texts relating to the European badger; and 3) the **hedgehog corpus**, containing texts relating to the European hedgehog. That the corpora are of similar sizes aids comparability, although to some extent difference in size can be accounted for statistically (see logDice discussion in chapter 6). The diachronic distribution of texts across corpora also follows roughly similar patterns in that a sparse distribution of texts in the early portion of the corpus gives way to a heavier distribution in the more recent portion of the corpus. The total number of texts gathered is 1,865, which accounts for 997,603 tokens (37,312 types); Table 5.1 details this information for each of the three corpora.

Table 5.1 Texts, type, and token breakdown for each corpus

	Texts	Tokens	Types
Squirrel corpus	696	328,915	21,898
Badger corpus	714	372,172	24,072
Hedgehog corpus	455	296,516	22,262

The frequency distributions of texts by year of publication in each of the corpora are presented in Figures 6.4 through 6.6 in chapter 6 as part of the waves, peaks, and troughs analysis.

5.3.2.1 Breakdown of news genres

The proportions of texts belonging to the various sections of the newspaper are presented in figures 5.2, 5.3, and 5.4 below to provide a breakdown of the news genres in which the focus animals have been published for the entire period of interest.

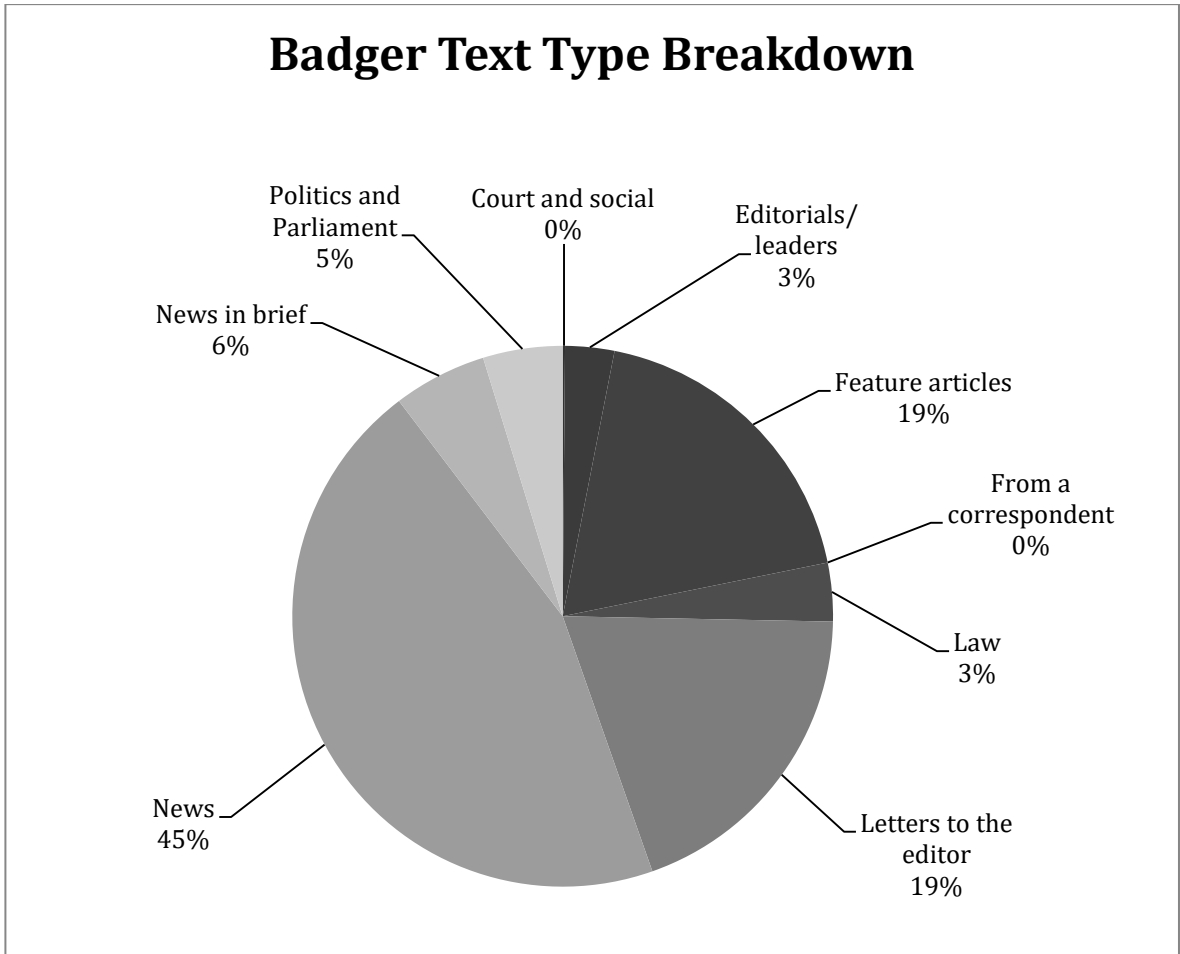


Figure 5.2 Proportions of text genres present in the badger corpus

Hedgehog Text Type Breakdown

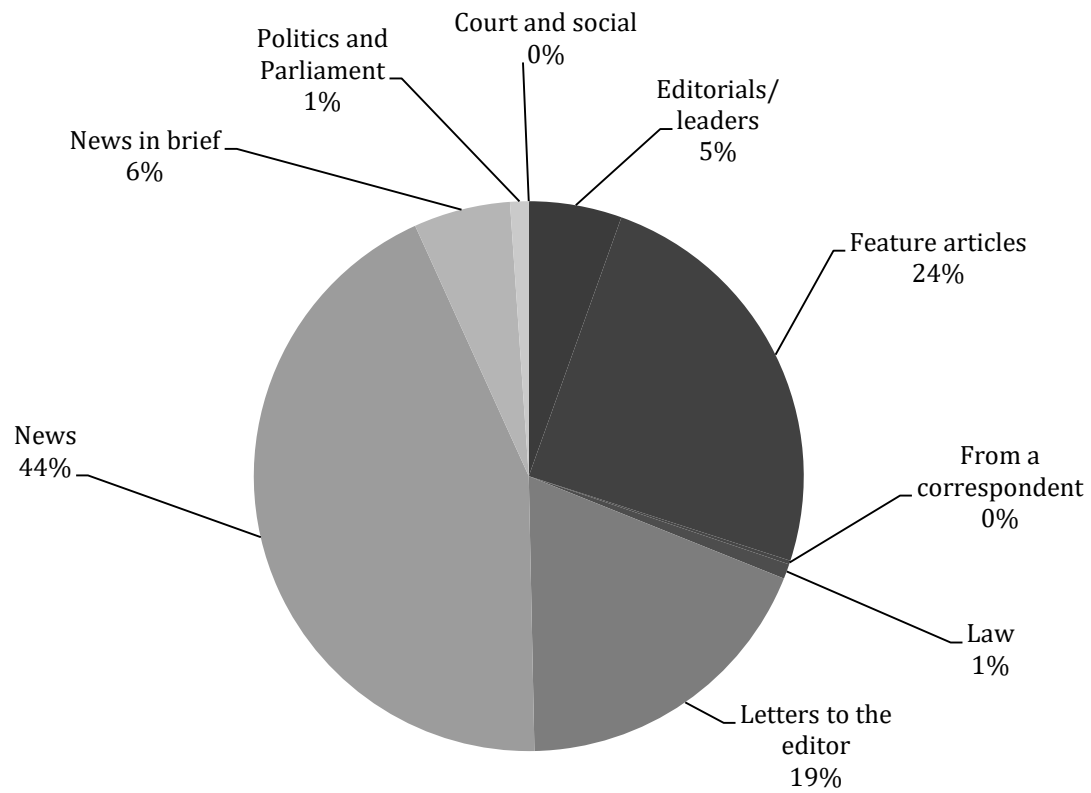


Figure 5.3 Proportions of text genres present in the hedgehog corpus

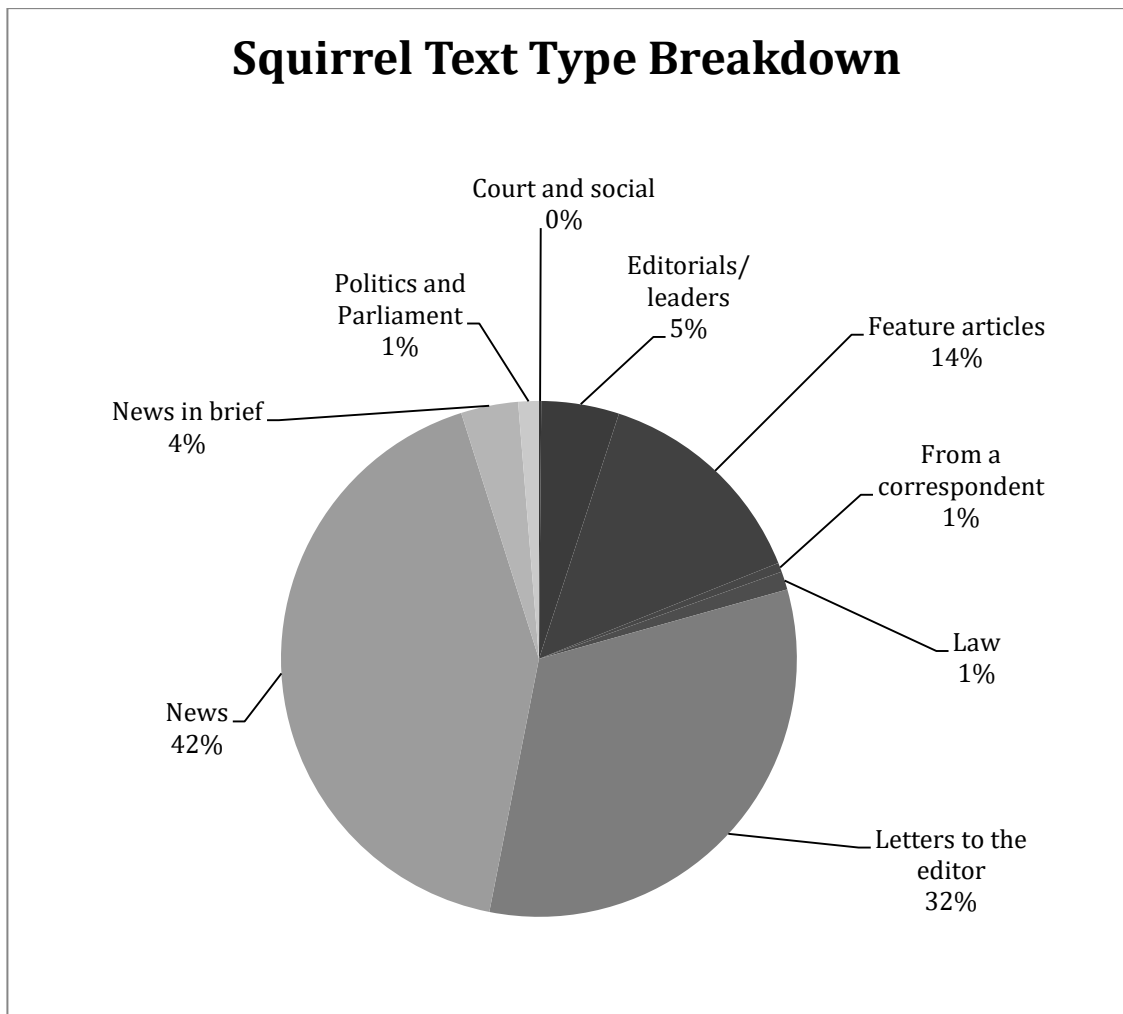


Figure 5.4 Proportions of text genres present in the squirrel corpus

The News category accounts for the highest proportion of texts in the badger corpus, followed by Feature Articles (19%) and Letters to the Editor (19%). News and Feature articles account for the highest proportion of texts in the hedgehog corpus, closely followed by Letters to the Editor. News and Letters to the Editor account for the highest proportion of texts in the squirrel corpus. There is a higher proportion of letters to the editor written about squirrels than about the hedgehog, though the proportion of news stories present in all three corpora is fairly even. This indicated early on that squirrels generated more reader discussion than the other animals.

As there are important differences in the time sensitiveness of various news genres, it is helpful to consider the breakdown of the news genres to which texts in each of the corpora belong. With Semino’s (2009) breakdown of hard and soft news genres in mind (see section 4.4.2), the following Table 5.2 shows how I have broken down the *Times Digital Archive*’s predefined news sections into hard and soft news. I understand that some of these categorisations—such as classifying editorials as soft news—may be contentious but I have used my knowledge of the data to classify the texts as accurately as possible.

Table 5.2 Text counts and percentage comparison of text types across corpora

	Sections	Badger	Hedgehog	Squirrel
Hard news	Court and social	1 (0%)	0 (0%)	1 (0%)
	Law	25 (3%)	4 (1%)	8 (1%)
	News	322 (45%)	199 (44%)	293 (42%)
	Politics and Parliament	24 (5%)	5 (1%)	9 (1%)
	From A Correspondent	0 (0%)	1 (0%)	4 (1%)
	News in brief	40 (6%)	26 (6%)	25 (4%)
	Total count (percentage)	412 (59%)	235 (52%)	340 (49%)
Soft news	Editorials/Leaders	21 (3%)	25 (5%)	34 (5%)
	Feature articles	134 (19%)	112 (24%)	97 (14%)
	Letters to the editor	138 (19%)	85 (19%)	226 (32%)
	Total count (percentage)	293 (41%)	222 (48%)	357 (51%)

As the proportion breakdowns of the news genres included in each of the corpora show (Figures 5.2, 5.3, and 5.4), “timeliness” may not always be important in the case of the news gathered for this study. Some pieces are seasonal (e.g. hibernation habits of the animals) and others relate to current legislation and therefore are more urgent, whereas other articles serve the function of filler pieces or mention the animal in question in the context of a

separate topic, the immediacy of which may or may not be an issue depending on the theme. It is nevertheless still useful to take the text frequency into consideration for corpus division because a) it means that each segment contains a statistically viable number of texts/proportionate word counts; and b) it avoids the issue of skewing the analysis by using a predetermined feature of the language (for instance) to segment the data (see chapter 6).

The proportions of texts in the squirrel and hedgehog corpora belonging to letters, feature articles or general interest stories show that hedgehogs and squirrels can be considered to be soft news, which is not as time sensitive as hard news, around half the time they feature in the newspaper. The proportions of texts in the badger corpus belonging to the hard and soft news categories show that badgers appear in hard news categories in over half the texts written about them. The texts written about them will be more time sensitive than those written about hedgehogs and squirrels.

5.3.3 False positives

During data collection, I was only interested in gathering texts that referred to the living animals rather than a product of the animal or some metaphorical use of the word. In some texts, instances of the words “squirrel”, “badger”, or “hedgehog” did not refer to the living animals (false positives) and manual text selection enabled me to exclude these from the corpus. I did include any text containing at least one instance of the word if it referred to the living animal, even if other mentions may be metaphorical or refer to a product. I did not

include texts, for example, about grey squirrel fur (mainly advertisements) if the text did not also make reference to the grey squirrel itself.

The false positive hits for the animals under investigation in this study are worth further inspection as they can reveal something about the ways in which the animals themselves are considered (see Chilton, 1985; and Iwamoto, 2005 for similar examples). As already indicated, the products of animals often feature alone, without reference to the animals themselves. For example, “squirrel meat” and “grey squirrel trim” were referred to in the texts without mentioning the living animal from which these products are derived.

The words *badger*, *hedgehog*, or *squirrel* and their derivatives were occasionally found to be used symbolically. Such usages relate to the aspects of the animal’s character or other behaviours such as speed, size, temperament, or similar quality, in line with Corbett’s (2006) discussion of the use of animals’ physical and emotional characteristics in human cultural symbolism. Examples include parallels between the speed of animals and machines; the frigate HMS Squirrel; the motorcycles the Scott Squirrel, Super Squirrel and Flying Squirrel, and the Squirrel helicopter were named after squirrels for this reason. Animal behaviours also make their way into general language use. For example, “to squirrel something away” is used to describe hoarding practices and relates to the squirrel’s habit of storing food for the winter period. Similarly, “Badger” is the name of a destroyer, possibly relating to the animal’s robust size, and perceived resilience. Some senses derive from the visual appearance of the animals. The squirrel’s foot fern, the squirrel fish, the squirrel monkey, the hedgehog military defensive formation based on the visual appearance of the

hedgehog's spikes, as well as the chess formation with the same name, all illustrate this.

I also found the animals were used comparatively. In the search for squirrel I found "as busy as a squirrel", "squirrel-like" and "squirrel-sized"; and "like a hedgehog" in the hedgehog query. It seems that the familiarity of these animals makes them ideal candidates for drawing comparisons with less commonplace animals and objects, or for unusual or remarkable features. Other senses derive from historical practices. The etymology of "badgered" is not a reflection of badger behaviour but rather human behaviour towards badgers. According to Justice (2015, p. 146) "quite literally, to be badgered is to be immobilized, brutalized and overwhelmed by ferocious opponents (generally trained dogs) until mutilated and/or killed. The term has largely lost its historical specificity and switched the order of the aggressor". It seems that animal naming terms when used in alternative contexts are often based on the way humans perceive animals using their own senses (i.e. visually and aurally), as well as in terms of what people perceive to be their salient qualities and characteristics.

5.4 Chapter summary

In this chapter I have introduced the theoretical framework of the study, analytical tools, and details of the corpus software I have employed. I described the corpus construction method and the descriptive statistics for each of the corpora. Finally, I discussed the issue of false positives and what these reveal about the use of animal imagery in language.

I believe that the analytical approach I describe here will allow me to overcome some of the criticisms of CDA, including “cherry-picking” (Mautner, 2009) and that it is unsystematic and does not take co-textual and contextual aspects of discourse into account (Widdowson, 2004). The objectives of the present study differ from those of many other studies. The research is about humans’ positioning of wildlife in culture and society, the impact this has on the language choices people make to discuss them, and the consequences of this. I did not take for granted that a traditional critical discourse analytical lens would be appropriate; the dominant view is that animals are inferior to humans and this is not generally believed to be a social problem. This is in contrast to many human social groups investigated in the field (e.g. women and minority ethnic groups), overt discrimination against whom is more generally unacceptable and even legislated against in the UK. CDA sheds light on the way language subtly undermines the equality and rights of individuals in such groups. I have already established that language contributes to the limitation of animal freedoms (see 4.2.5) and I have sought examples of how language reflects, and contributes to, any change (positive or negative) in the discursive representation of the selected animals. Though I cannot argue that language is always used in a deliberate and/or overtly harmful way in the data for the present study, examples of prejudices held by humans about wildlife in the language used to discuss it are present in this data, as will become clear in later chapters.

The discussion of false positives revealed something about what aspects or features of the animals are considered important and the breakdown of the corpus revealed similarities and differences in the kinds of news genres that

feature the focus animals. In the next chapter I present the analytical methods by which I began to explore the language of the corpora. They reveal the newsworthiness of the animals over time and the news topics in which the animals are likely to feature. In line with the analytical procedure I adapted from the DHA and presented here, what follows marks the beginning of an iterative analytical process, where I started with an understanding of the content and context before moving on to consider the language features and returning to the context to interpret the findings.

6 Methods of analysis

6.1 Chapter introduction

This chapter describes the first stage of the analysis of the data gathered for this study. In section 6.2 I describe how I have prepared the badger, hedgehog, and squirrel corpora for diachronic analysis, using a statistical method to aid segmentation of the data. I follow this with discussion of the process by which major themes in the discourse were identified and selected for focussed analysis (from section 6.3 onwards). The chapter closes in 6.5 with a summary of the findings and the refinement of the research questions in light of this primary analysis.

6.2 Preparing the data for diachronic analysis

This section first describes the diachronic distribution of texts in each of the corpora and identifies potential trigger events for peaks and troughs in text distributions. This is followed by an account of the method by which I carried out the waves, peaks and troughs (WPT) analysis to aid diachronic segmentation

of the data for contrastive corpus analysis. Lastly, the resulting segmentation of each corpus is presented in turn: the squirrel corpus (in section 6.2.5); the badger corpus (6.2.6); and the hedgehog corpus (6.2.7).

6.2.1 Visual inspection of the frequency distribution

Prior to carrying out the statistical analysis, I plotted the raw frequency distribution of texts in each of the three corpora and visually identified calendar years which appear to show a marked increase in reporting on the animal in question relative to their neighbouring years. These are indicated in black on the following distributions (Figures 6.1, 6.2, and 6.3). Tables 6.1, 6.2, and 6.3 provide potential trigger events for the observed fluctuations in text distribution.

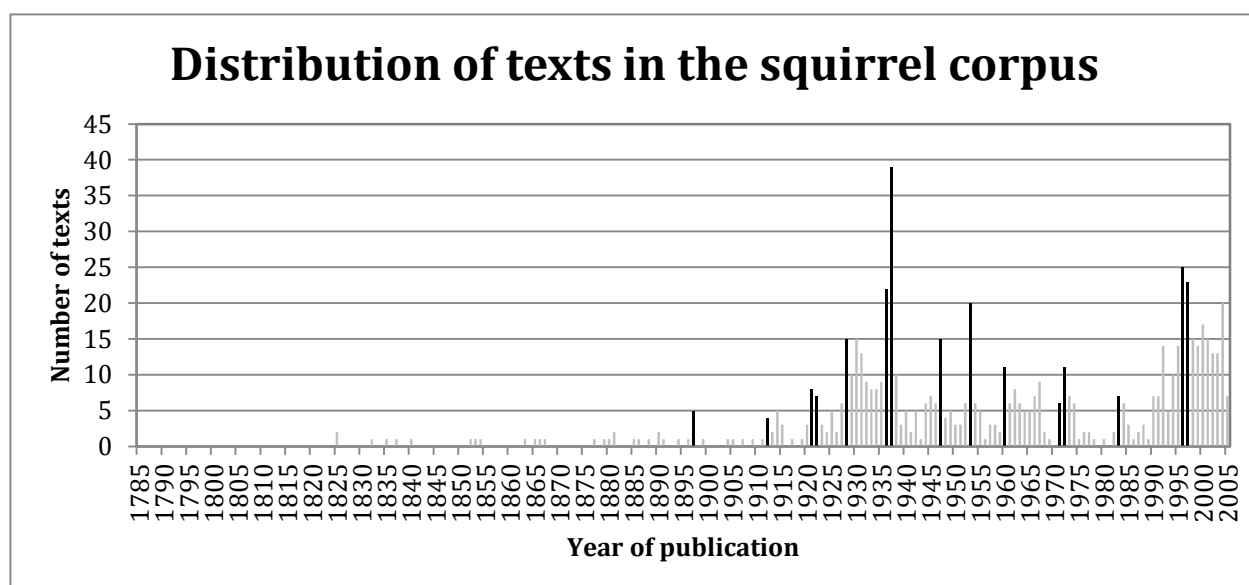


Figure 6.1 Frequency distribution of texts in squirrel corpus

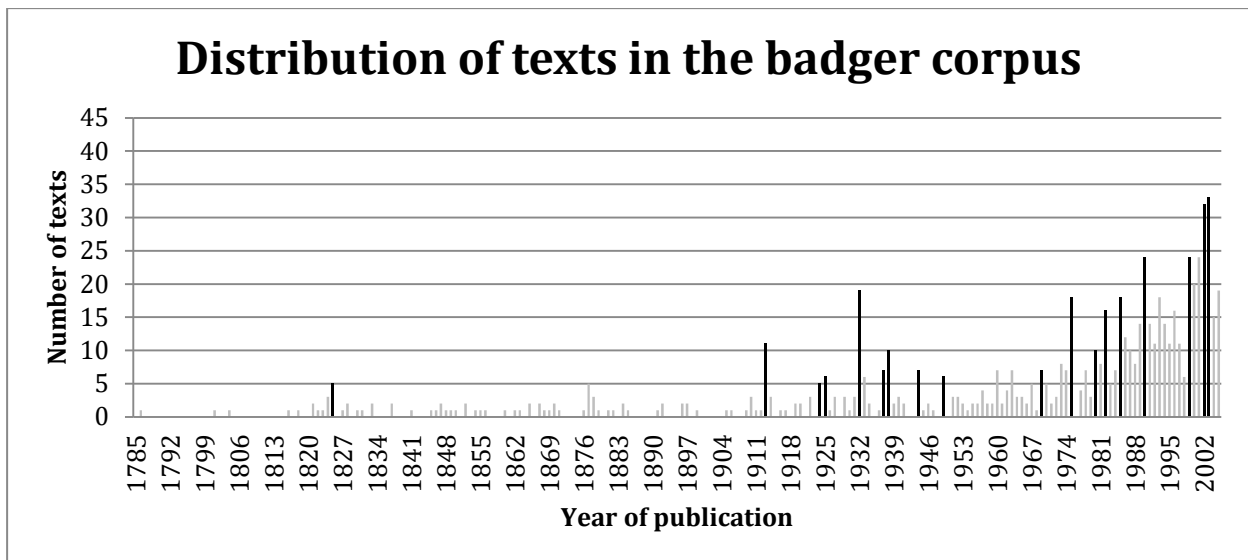


Figure 6.2 Frequency distribution of texts in the badger corpus

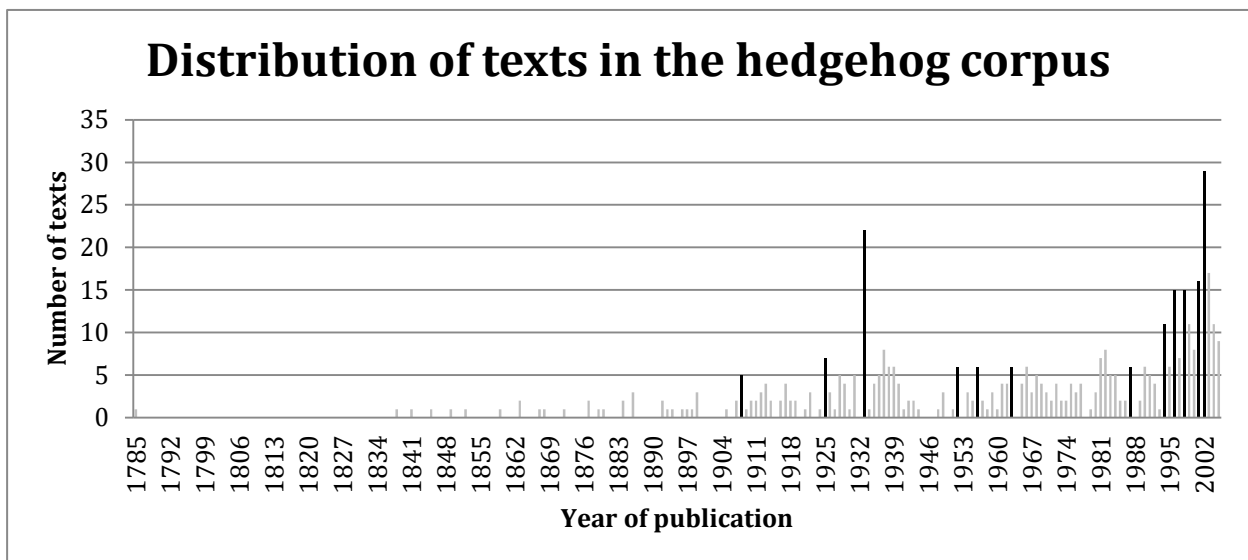


Figure 6.3 Frequency distribution of texts in the hedgehog corpus

Each distribution graph shows an increase in reporting about the animals over time. I attempted to connect the observed fluctuations in reporting with social, cultural, and political factors that may have contributed to the rise in reporting figures in those calendar years. As well as reading the texts themselves, I consulted a variety of sources to do this, including: legislation identified through legislation.gov.uk; a Google search for the animal and the year in question;

material gathered from the library at the Game and Wildlife Conservation Trust; various animal organisations, including the Mammal Society, the Badger Trust, and the People's Trust for Endangered Species; my reading on the histories of squirrels, badgers, and hedgehogs (see 3.3); and finally, I also considered factors relating to the history of *The Times* newspaper (discussed in 4.4.3).

Table 6.1 Trigger events for fluctuations in texts in the squirrel corpus

Year(s)	(Potential) trigger event(s)
1897	A letter about destruction of pine woods by squirrels triggered a number of response letters
1912	No trigger identified
1921/22	The successful establishment of the grey squirrel (introduced in 1876)
1928	London parks feature in the texts as a theme but no single trigger event for this can be identified other than growing populations of the grey squirrel. It is possible that the increase is linked to the “abbreviation of journalism” and the rise in soft news and content that would appeal to female readers in the quality papers in the 1920s and 1930s, although a good level of serious news was maintained in <i>The Times</i> (see 4.4 for discussion).
1936	Ministry of Agriculture issues press release encouraging destruction of the grey squirrel. National Anti-Grey Squirrel Campaign (launched in 1931) actively campaigns for the destruction of the grey squirrel; in 1936 L. W. Swainson of the National Anti-Grey Squirrel Campaign releases report on the pest status of the grey squirrel.
1937	The Grey Squirrels (Prohibition of Importation and Keeping) Order, 1937. Sir Alfred Pease writes a sympathetic letter to <i>The Times</i> about the grey squirrel (many readers write negative responses to this).
1947	L. W. Swainson retires and closes the National Anti-Grey Squirrel Campaign.
1953	Introduction of a bounty of 1 shilling per tail paid for the culling of the grey squirrel. Tufty Fluffytail, the Royal Society for the Prevention of Accidents’ red squirrel mascot introduced.
1960	No trigger identified.
1971/72	Lord Bradford writes to <i>The Times</i> advocating the poisoning of grey squirrels which invites further discussion in readers’ letters Grey Squirrels Warfarin Order, 1973.
1983	The Forestry Commission warns against explosion in grey squirrel population following woodland surveys in 1983. One letter to <i>The Times</i> claims that the grey squirrel was declared vermin in 1983 (I cannot find any indication of this in the legislation).
1996/97	Renewed conservation efforts to cull grey squirrel and reintroduce reds into parts of Britain.
2004	European Squirrel Initiative established. Renewed conservation plans for re-establishment of the red squirrel and culling of the grey in Britain. Nature Conservation (Scotland) Act, 2004.

Table 6.2 Trigger events for fluctuations in texts in the badger corpus

Year(s)	(Potential) trigger event(s)
1825	R. Martin discusses badger baiting (along with bear baiting, bull baiting, and dog fighting) in Parliament.
1913	Negative letter about the badger published on 9 th October 1913 provokes response letters and general interest pieces.
1924	Two texts relate to the purchase of Ken Wood; otherwise no single trigger event can be identified.
1925	No trigger identified.
1932	Mostly readers' letters discussing habits of the badger; no trigger identified for this.
1937	No trigger identified.
1938	Lieutenant-Colonel Kettlewell writes a letter about the cry of the badger provoking lots of responses.
1944	Another wave of readers' letters; no major trigger identified.
1949	Protection of Animals (Hunting and Coursing Prohibition) Bill, 1949. Dr Earnest Neal (badger expert) publishes, <i>The Badger</i> in 1948 (his work is mentioned in the corpus but not in this year (1949)).
1969	The year of Eric Heffer's unsuccessful Private Member's Bill banning blood sports including badger digging. Committee for National Wild Life Control and Preservation formed for control, management, and protection of British wildlife. Bishop of Southwark writes to <i>The Times</i> to condemn bloodsports as "contrary to Christian teaching" prompting response letters from others.
1973	Badgers Act, 1973 (providing protection against badger digging). Discussion of link between badgers and bTB from Ministry of Agriculture, Fisheries and Food.
1975	Parliamentary debate leading to the Agriculture (Miscellaneous Provisions) Bill, 1976. Ministry of Agriculture begins cyanide gassing campaign against badgers to curb the spread of bovine TB. Peter Hardy (sponsor of the Badgers Act, 1973) publishes his book <i>A Lifetime of Badgers</i> . Numerous prosecutions concerning cruelty to badgers.
1980	Badger population increased by 85% from 1980 as reported by the National Badger Survey. Badgers protected by Wildlife and Countryside Act, 1981.

Year(s)	(Potential) trigger event(s)
1982	<p>The Ministry of Agriculture carried out study into bovine TB.</p> <p>Researchers from the Ministry of Agriculture, Fisheries and Food (Cheeseman et al.) publish a paper in the <i>Journal of Applied Ecology</i>.</p> <p><i>The Times</i> erroneously reports that the paper casts doubt on link between badgers and bovine TB originally proposed in research carried out in late 1970s (evidence which had been used to justify the gassing of badgers); in fact, the paper does not appear to reach this conclusion.</p> <p>The British Veterinary Association supports Ministry of Agriculture's gassing policy.</p> <p>More prosecutions under the Badgers Act, 1973.</p>
1985	<p>The Wildlife and the Countryside (Amendment) Bill, 1985 (further protection for badgers and sites of special scientific interest (SSSIs)).</p> <p>League Against Cruel Sports is active in campaigning and prosecuting against cruelty to badgers.</p>
1990	<p>Private Member's Bill sponsored by Mr Alan Meale, Labour MP for Mansfield, and Mr Andrew Mitchell, Conservative MP for Gedling calling for increased penalties for badger baiters (confiscation of dogs, jail sentences and fines of up to £2,000).</p> <p>Tony Bank's Protection of Badger Setts Bill blocked by MPs not wishing to prevent sett blocking in fox hunting. Re-proposed in the same year by Roy Hughes, it was set to be debated early 1991.</p>
1999	<p>Independent Scientific Group on Cattle TB formed in 1998 (by Labour government).</p> <p>More culls carried out.</p>
2002	<p>Serious outbreak of tuberculosis.</p> <p>Disappearance of Holly Wells and Jessica Chapman. Badger setts were mistakenly identified as 'shallow graves' before the girls' bodies were found elsewhere.</p> <p>Fox hunting banned in Scotland and a ban discussed in England.</p>
2003	<p>Culling badgers is found to spread tuberculosis; culling is halted.</p> <p>Numerous accounts of "rogue" badgers bothering families, ruining lawns, and killing dogs.</p>

Table 6.3 Trigger events for fluctuations in texts in the hedgehog corpus

Year(s)	(Potential) trigger event(s)
1908	No single trigger event identified
1925	No single trigger event identified
1933	D. Clayton writes a letter to <i>The Times</i> about a pet hedgehog inviting several response letters
1952	No single trigger event identified
1956	No single trigger event identified
1963	No single trigger event identified
1987	No single trigger event identified
1994	No single trigger event identified
1996	Wild Mammals (Protection) Act, 1996. British Hedgehog Preservation Society campaign for hedgehog protection
1998	First mentions of Hebridean hedgehogs but more mentions of hedgehog rehabilitation in wildlife centres.
2001	Mammals on Roads survey begins. Discussion of hedgehog decline.
2002	Uist Wader Project begins hedgehog culling at the same time as hedgehogs are being relocated by conservation groups. Discussion of the story behind Phillip Larkin's poem <i>The Mower</i> . Reports on the findings from the Mammals on Roads survey.

The potential trigger events I identified in the squirrel corpus (Table 6.1) largely relate to the grey squirrel, suggesting that reporting on the grey species may be the stimulus for many of the mentions of the red squirrel in the corpus. In the corpus, red squirrels are frequently mentioned in relation to grey squirrels but rarely on their own, whereas greys are often discussed without reference to red squirrels. For three peaks—1912, 1928, and 1960—I was unable to identify potential trigger events. Troughs in reporting about wildlife are more difficult to attribute to external events unless there is an obvious national or international event. For example, reporting figures for the deer are high at all times except during the Second World War and there is no obvious motivation for this change. The troughs and absences in the squirrel text distribution before the 1920s may

be attributed to the grey squirrel population not being well enough established to be newsworthy.

For the badger corpus (Table 6.2), no potential trigger events were identified for the years 1924, 1925, 1932, 1937, and 1944, whilst other peaks in news reporting that I might have expected to find were missing. For example, badger baiting was banned in the Cruelty to Animals Act of 1835, yet this is not reflected in the badger text distribution, where no articles were published between 1934 and 1936. Similarly, in 1992—the year of the Protection of Badgers Act, which consolidated previous badger protection legislation—the number of articles dropped compared with the previous two years. One other visually salient peak in reporting I would have expected to find is 1991—the year of the Badgers Act and the Badgers Further Protection Act (both now repealed).

The striking observation in the hedgehog corpus (Table 6.3) is that, unlike the other animals, mentions of the hedgehog in the news cannot usually be attributed to any single trigger event. Through examining the corpus texts from each of the visually identified peaks I have observed that many texts mentioning hedgehogs are actually about other topics and refer to hedgehogs in passing or to “set the scene”. Whilst the same is true of some of the early texts in the other two corpora, these kinds of mentions are common throughout the hedgehog corpus. Where focussed discussion of hedgehogs is present, the texts generally contain anecdotal information about known individuals or captive hedgehogs.

The general increase in reporting about the focus animals over time could reflect an overall rise in the interest of animal and wildlife issues, an increase in the

range of topics published in the news media over time, and/or factors specific to the animals under investigation. For the badger corpus specifically, an increase in reporting could be related to the more recent desire for control of tuberculosis in badger populations; for the hedgehog, the recent interest in hedgehog conservation specifically; and for the squirrel, this might be recent concern over the management of increasing grey squirrel populations and interest in red squirrel conservation.

6.2.2 Statistical analysis of the distribution

In order to confirm or refute my initial impressions about the peaks in frequency distribution, I carried out the WPT analysis. To prepare the data for analysis, I first calculated the number of texts per year of publication across each corpus from the earliest text to the latest text before calculating the frequency difference between articles published in each year compared with the preceding year. For example, if in one year, 11 texts were published about the animal in question and in the following year 16 were published, I recorded a frequency difference of 5 for those years. For each of the three corpora, I excluded the earliest texts from the analysis because they were too sparsely distributed for statistical analysis. These texts were still considered for qualitative analysis. For the squirrel corpus, I excluded all texts published before 1910; for the badger corpus, I excluded texts published before 1905; and for the hedgehog corpus, I excluded all texts published before 1906.

I carried out the WPT analysis using Brezina's (2014-2015) change over time tool from the statistics in corpus linguistics toolbox provided by CASS at Lancaster

University. Each of the figures below (6.4, 6.5, and 6.6) shows the frequency difference in distribution by year with the regression model and 95% and 99% confidence intervals (CIs) fitted. Years representing peaks and troughs in frequency difference values falling outside the 95% and 99% CIs are labelled. Data points which touch the boundary of the 99% CIs were disregarded. For the squirrel data, I took the raw frequency difference values from 1910 to 2005 and ran the WPT analysis, applying a “data fit parameter” of 21 with no transformation (see Figure 6.4). For the badger data, I took the raw frequency difference values for the years 1905 to 2005, applying a data fit parameter of 30 with no transformation (Figure 6.5). And finally, for the hedgehog data I took the raw frequency difference values for the years 1906 to 2005, applying a data fit parameter of 20, again with no transformation (see Figure 6.6). Table 6.4 shows the statistically identified peaks and troughs for each corpus emerging from this WPT analysis.

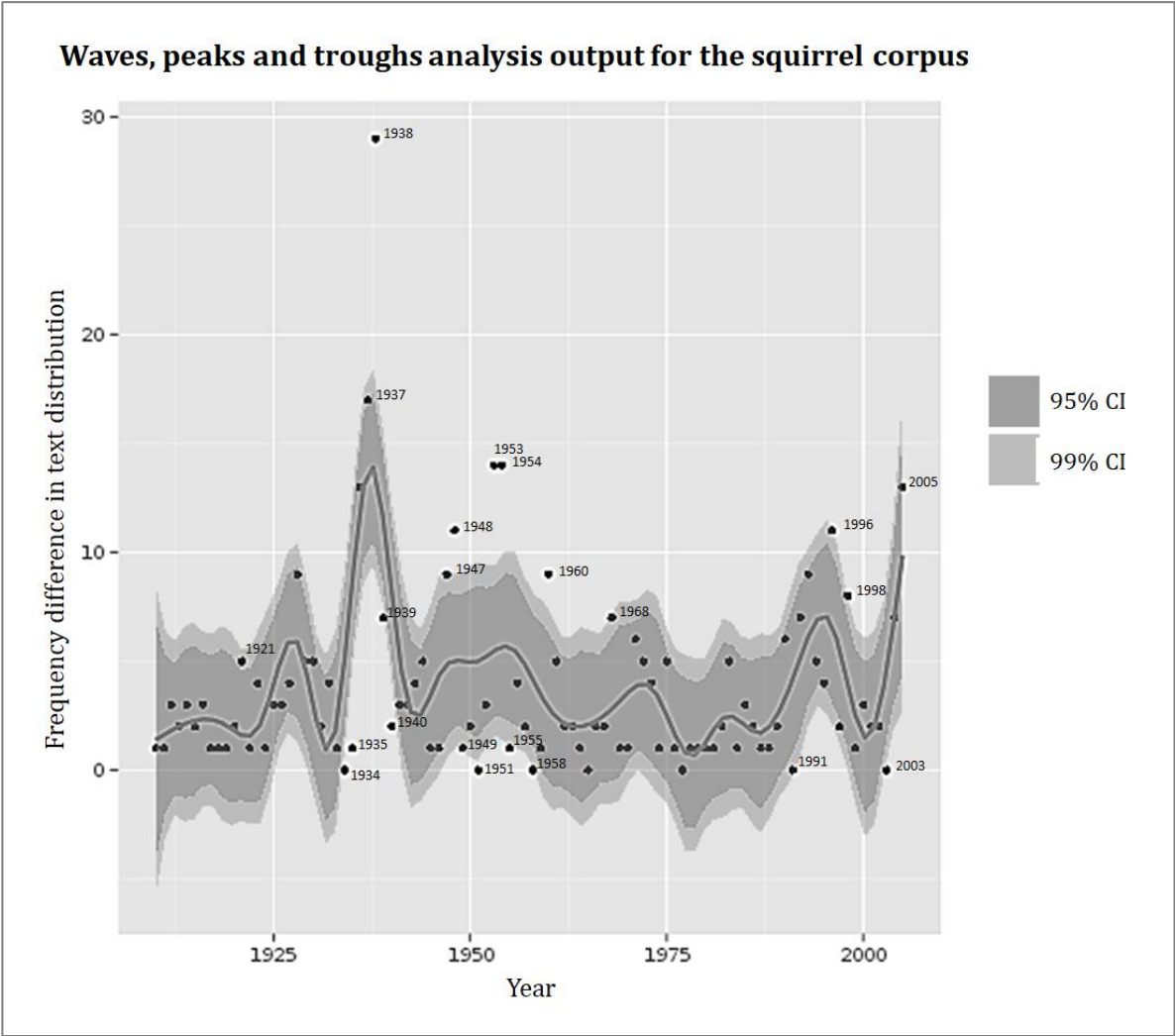


Figure 6.4 Waves, peaks, and troughs analysis output for the squirrel corpus

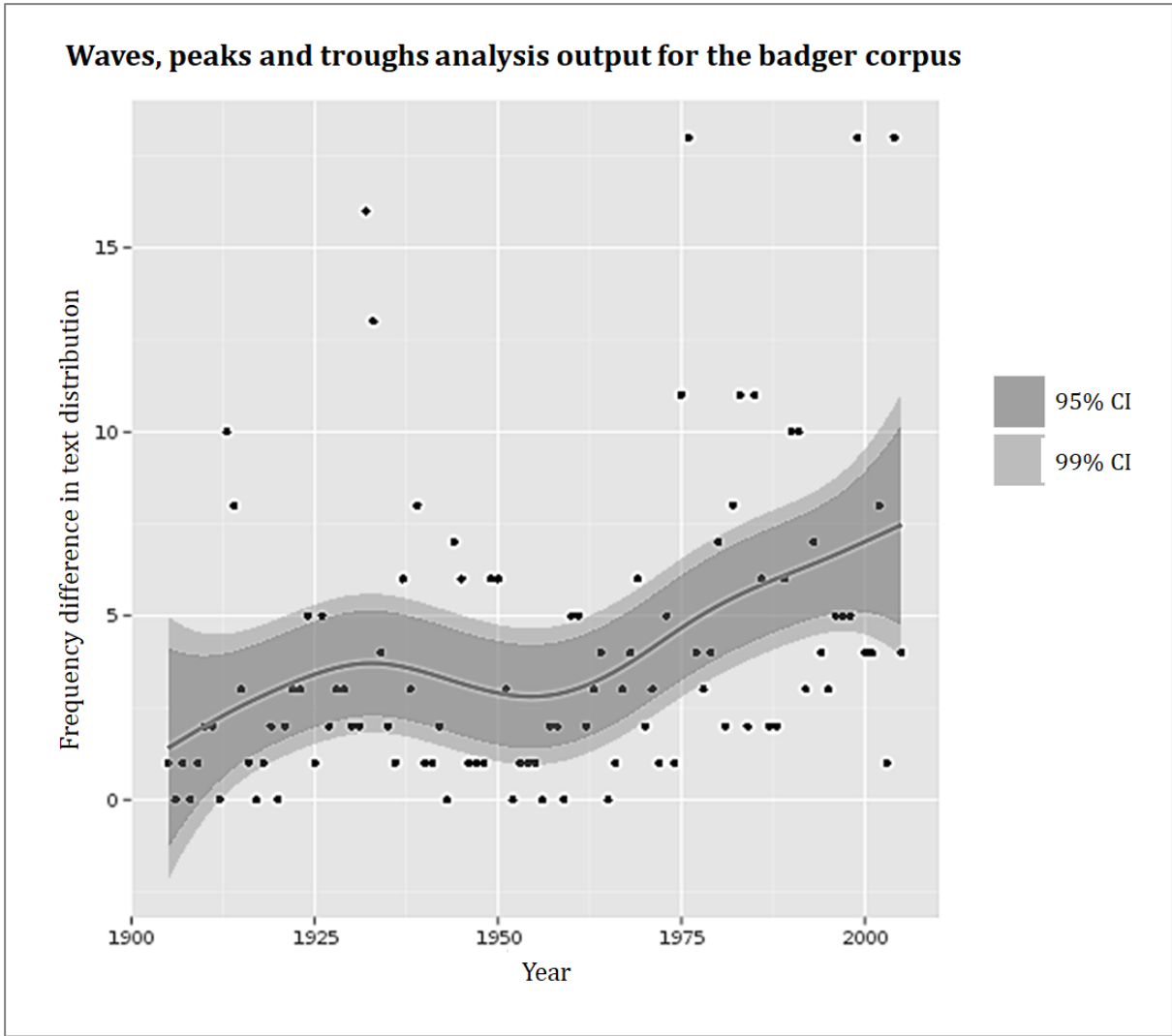


Figure 6.5 Waves, peaks, and troughs analysis output for the badger corpus

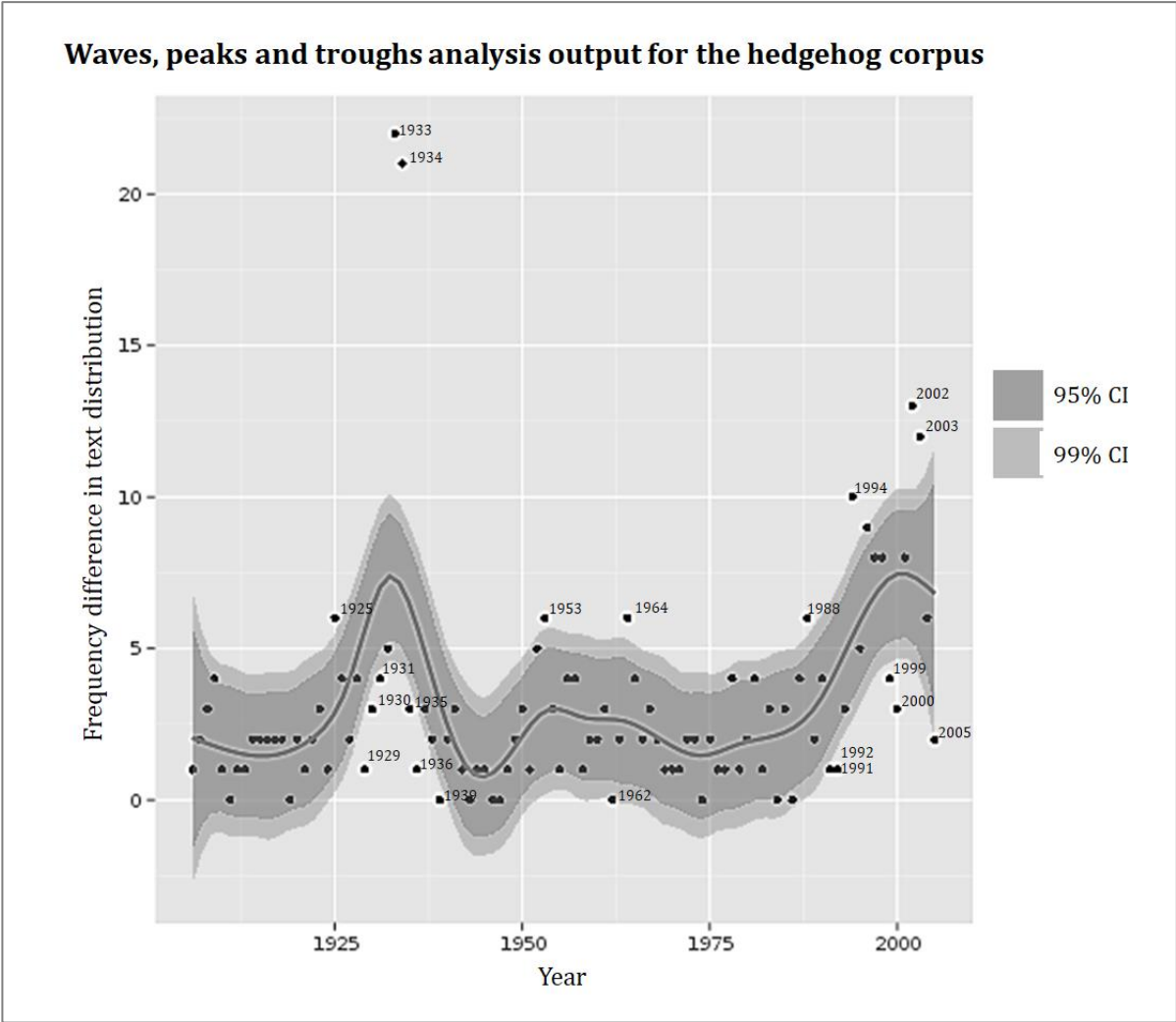


Figure 6.6 Waves, peaks, and troughs analysis output for the hedgehog corpus

Table 6.4 Peaks and troughs in the three corpora identified by the WPT analysis

Corpus	Peaks/Troughs	Years
Squirrel	Peaks	1928, 1937, 1938, 1947, 1948, 1953, 1954, 1960, 1996
	Troughs	1934, 1935, 1939, 1940, 1951, 2003
Badger	Peaks	1913, 1914, 1932, 1933, 1937, 1939, 1944, 1945, 1949, 1950, 1960, 1969, 1975, 1976, 1982, 1983, 1985, 1990, 1991, 1999, 2004
	Troughs	1917, 1920, 1925, 1936, 1940, 1941, 1943, 1946, 1947, 1952, 1956, 1959, 1965, 1966, 1972, 1974, 1981, 1984, 1987, 1988, 1992, 1994, 1995, 2000, 2001, 2003
Hedgehog	Peaks	1925, 1933, 1934, 1953, 1964, 1988, 1994, 2002, 2003
	Troughs	1929, 1930, 1935, 1936, 1939, 1992, 1999, 2000, 2005

The squirrel output (Figure 6.4) shows that nine data points (shown as dots in the figure) fall outside of the upper 99% CI (peaks) and six fall below the lower 99% CI (troughs). The output for the hedgehog corpus (Figure 6.6) shows that six major peaks in reporting are salient above the upper 99% confidence interval; this is made up of nine individual data points. Nine data points constituting troughs can also be seen in the hedgehog analysis. In contrast, there are a very high number of statistically salient peaks and troughs (21 peaks identified and 26 troughs) shown in the analysis of the badger data (Figure 6.5). This high number of peaks and troughs is due to the differences between the text frequencies between years rising and falling often within relatively short periods of time. This is in contrast to the data gathered for the hedgehog and squirrel datasets, which share similarities in their patterns of differences in frequency distributions. That the badger data behaves so differently was an interesting observation in itself. It raised questions concerning what it is about the badger that makes patterns of reporting about this animal so different to those about other British wildlife. This may be because it is tied into political matters in a more direct, less abstract way than the squirrel or the hedgehog, in that issues

surrounding the badger are of more direct concern to voters. One possible interpretation is that the pattern follows the general election cycle because it does seem that peaks are tied to the years of and immediately after general elections in the latter part of the corpus.

6.2.3 Comparing trigger events with statistically significant peaks

A number of events may have been important in causing an increase in reporting figures for squirrels, and therefore a change in the frequency differences of published texts between years. These include legislation prohibiting further importation or keeping of grey squirrels in 1937; the conclusion of the National Anti-Grey Squirrel Campaign in 1947; the introduction of a bounty paid for the culling of the grey squirrel as well as, potentially, the introduction of the Royal Society for the Prevention of Accidents red squirrel mascot in 1953; and conservation schemes in 1996 to restore the red squirrel and cull grey squirrels in parts of Britain.

The results of the WPT analysis for the badger corpus demonstrate that the approach is not suitable for all data and in cases such as these, the researcher can only use the output as a guide and must instead use a more pragmatic approach to segmenting the data based on the highest peaks and lowest troughs, as well as the trigger events matched with the visually identified peaks in the earlier part of the analysis process. Trigger events that coincide with large spikes in reporting about badgers include culling programmes in 1975; The Wildlife and Countryside (Amendment) Bill in 1985 offering protection to badgers; and the formation of

the Independent Scientific Group on Cattle TB in 1998 and subsequent badger culls in 1999.

The uppermost peak in the hedgehog distribution, 1933, was largely influenced by the publication of one reader's letter, which elicited a number of response letters from other readers. This differs from some of the statistically significant peaks in the other corpora which coincide with external events (whether the rise in text frequency is triggered by these events or not). One might conclude from this observation that hedgehogs are not as tightly bound to cultural, social, and political shifts as badgers and squirrels, which makes the case of the hedgehog an interesting contrast. Despite protective legislation and the hedgehog's reputation as an iconic British mammal, the frequency of mentions over time is relatively stable in comparison to the frequency distributions for the other animals, though a general increase in texts can be mapped across time in line with an increase in soft news, as reported in the history of news publishing (section 4.4).

6.2.4 Using the analysis to segment the corpus

From the results of the WPT analysis on the squirrel and hedgehog corpora, I was able to gauge a number of suitable segmentation points to divide the corpus for the purpose of identifying diachronic change. For the badger corpus I supplemented the results of the WPT analysis with my knowledge of the history of badgers in Britain, since suitable segmentation points were not as clearly defined for this data. I outline the segmentation of each of the three corpora in turn in sections 6.2.5, 6.2.6, and 6.2.7. The segmentation of each corpus is shown

on the original text frequency distribution graphs (Figures 6.7, 6.8 and 6.9) with each portion labelled accordingly. Descriptive information for each segment of the three corpora is provided in Appendix A.

6.2.5 Squirrel corpus segmentation

First, the period 1825 to 1876 (S1) captures the group of thinly distributed texts from the first article published about squirrels; the quantity of texts in this period is too sparse for quantitative analysis and is more suited to close analysis. Second, the period 1877 to 1909 (S2) captures a more evenly distributed collection of texts that might be suitable for more quantitative analysis but it was more likely that a qualitative approach would be better here also. The next period, 1910 to 1932 (S3), captures the peak in frequency differences of published texts in 1928. The period 1933 to 1958 (S4) captures the statistically salient peaks in 1936, 1937, 1947 1948, 1953, and 1954, as well as the troughs in 1934, 1935, 1940, and 1951; this is the period containing the most fluctuations in reporting figures across the distribution. The period 1959 to 1987 (S5) captures the statistically significant peak in 1960 and no troughs. Finally, the period 1988 to 2005 (S6) captures the peak in 1996, as well as the statistically significant trough in 2003.

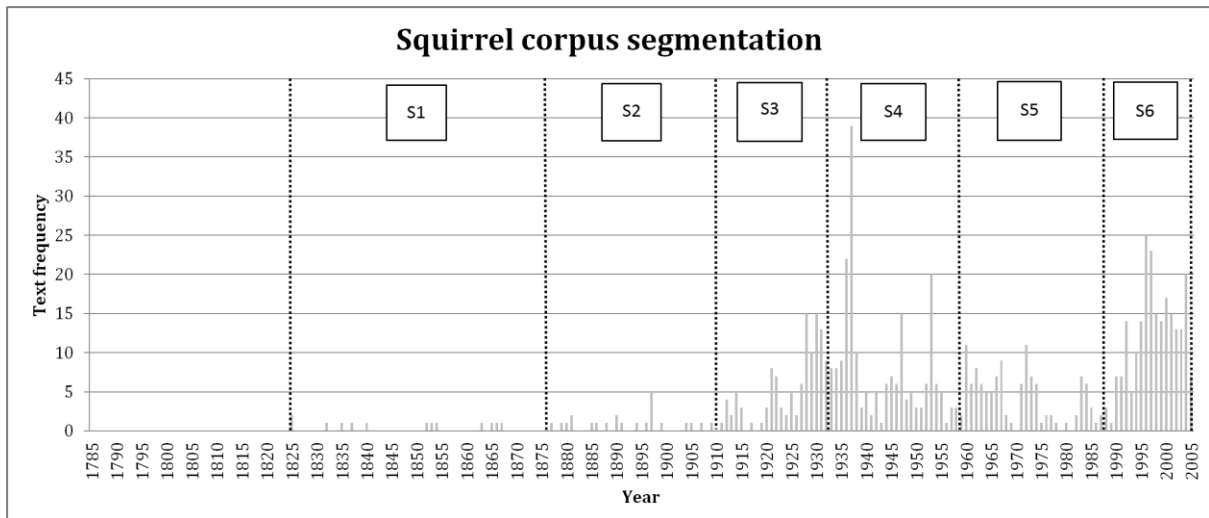


Figure 6.7 Squirrel corpus segmentation shown on text frequency distribution graph

6.2.6 Badger corpus segmentation

Using the trigger events identified in section 6.2.3 and the WPT analysis as a guide, I identified a number of suitable segmentation points to divide the badger corpus for diachronic comparisons. First, the period 1786 to 1815 (B1) captures the thinly distributed texts from the first article in the badger corpus; this segment contains just three texts. The second period 1816 to 1904 (B2), is more evenly distributed than the previous segment but like B1, would be better suited to a qualitative than quantitative analysis. Third, the period 1905 to 1956 (B3) captures ten statistically significant peaks from the WPT analysis. The fourth segment (B4) covers the period 1957 to 1987, capturing seven peaks. Because a single final segment capturing the period 1988 to 2005 with four statistically significant peaks would be very large (178,930 tokens) in comparison to B3 and B4, I made the decision to split this section into two using the formation of the Independent Scientific Group on Cattle TB in 1998 as a segmentation point,

rather than any peak or trough identified in this analysis; the fifth segment (B5) captures the period 1988 to 1997 and two statistically significant peaks, and the final sixth portion (B6) captures the period 1998 to 2005 along with the final two statistically significant peaks.

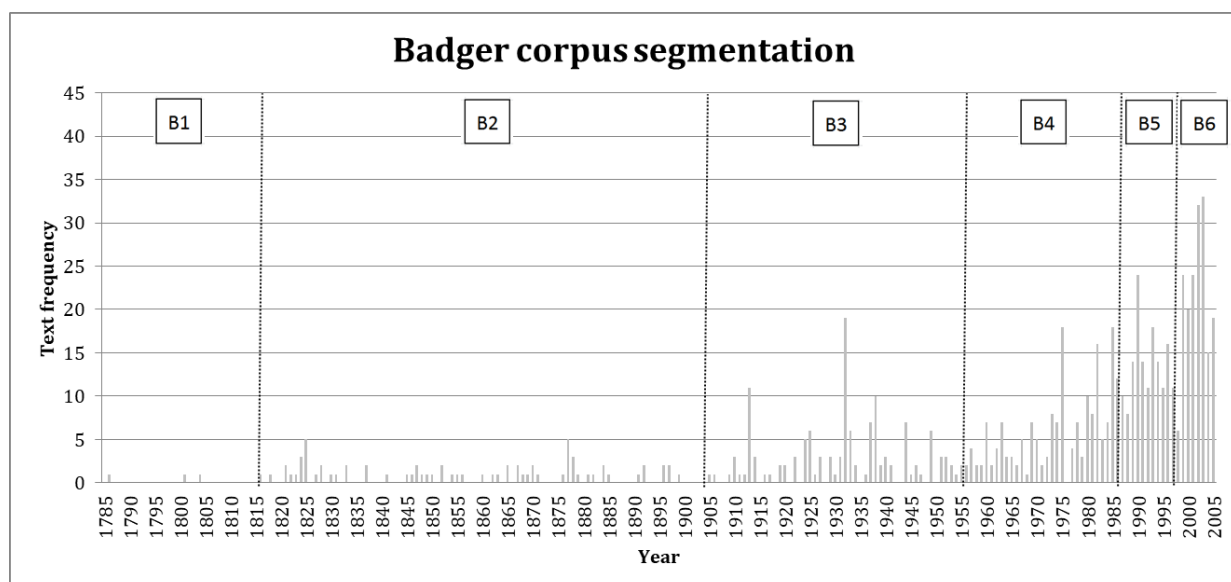


Figure 6.8 Badger corpus segmentation shown on text frequency distribution graph

6.2.7 Hedgehog corpus segmentation

The first period of the hedgehog corpus (H1) comprises all texts published between 1838 and 1905; as with the first period of the other corpora the texts in this period are sparsely distributed compared with those of later periods, making H1 more suited to qualitative analysis. The second period (H2) covers 1906 to 1946, capturing the statistically significant peaks in 1925, 1933 and 1934, as well as a number of troughs (1929, 1930, 1935, 1936, and 1939). The third period (H3) captures the period 1947 to 1986 and contains two troughs, 1953 and 1964; for most years in the period H3 fewer than five texts were published about

the hedgehog. The fourth and final period (H4) covers the years 1987 to 2005. This final segment contains four peaks, 1988, 1994, 2002, and 2003, as well as four troughs, 1992, 1999, 2000, and 2005, making it the most unstable period of distribution in the corpus.

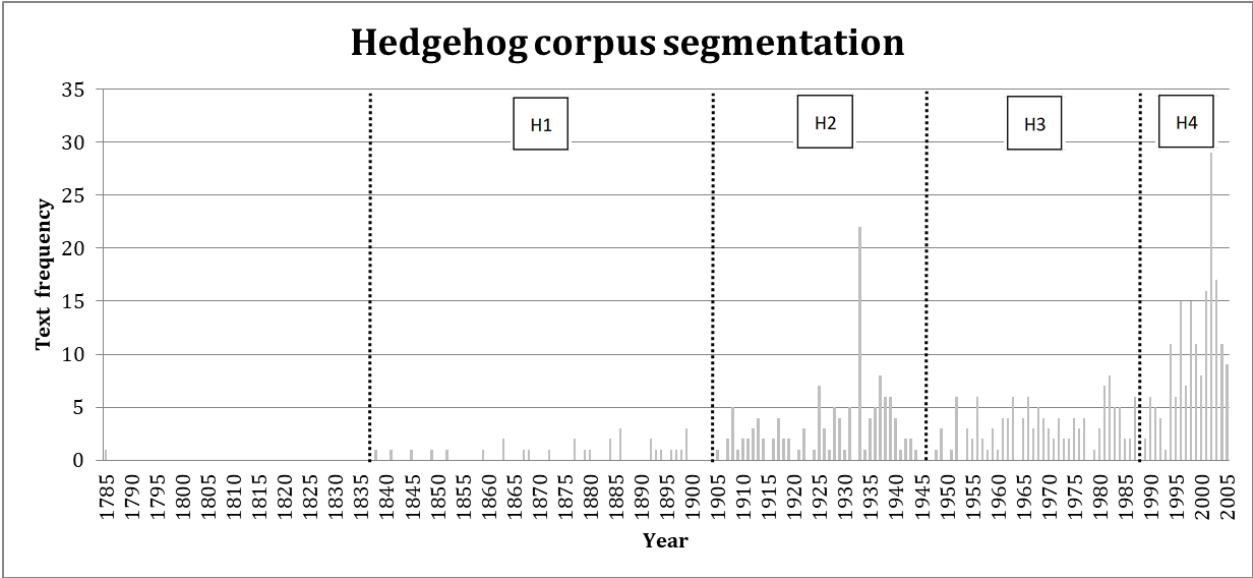


Figure 6.9 Hedgehog corpus segmentation shown on text frequency distribution graph

6.3 Multi-perspective analytical method

I used a multi-perspective analytical method to draw out main themes from the three corpora. This involved gathering six sets of corpus analysis findings using AntConc (version 3.4.4w) and Sketch Engine (version 2.35). A keywords by corpus analysis (section 6.3.1), compared each of the animal corpora with the remaining two. The other five analyses explored the diachronic aspect of the discourse by comparing segments of the individual corpora, as determined by the WPT method described above. For ease of reference, Table 6.5 below contains an outline of the time periods captured by the segmentation of each of the corpora.

Table 6.5 Corpora segmentation

Corpus	Segment name	Year
Squirrel	S1	1825 – 1876
	S2	1877 – 1910
	S3	1911 – 1932
	S4	1933 – 1958
	S5	1959 – 1987
	S6	1988 – 2005
Badger	B1	1786 – 1815
	B2	1816 – 1904
	B3	1905 – 1956
	B4	1957 – 1987
	B5	1988 – 1997
	B6	1998 – 2005
Hedgehog	H1	1838 – 1905
	H2	1906 – 1946
	H3	1947 – 1986
	H4	1987 – 2005

The analyses presented in this chapter that make use of these diachronic divisions are: diachronic keywords (section 6.3.2); diachronic collocates (section 6.3.3); animal modifiers (section 6.3.4); and the diachronic analysis of concordance lines containing two clusters, which are present in all three corpora (section 6.3.5): BE clusters (section 6.3.5.2), and OF clusters (section 6.3.5.1). Section 6.3.6 describes how I explored the findings from these six analyses using concordance analysis. I classified findings from my diachronic collocates analysis in line with the four diachronic categories outlined by McEnery and Baker (2015): *initiating*, *transient*, *consistent*, or *terminating*. *Consistent* collocates are those that appear across all periods; *initiating* collocates are those that are not present early on but appear in one of the later periods and remain collocates throughout; *transient* collocates are those that appear intermittently across the corpus segments; and finally, *terminating* collocates are those that are present in

early periods but disappear later on. This method was devised to look specifically at collocates, but because of my interest in the diachronic aspect, I also applied these categories to two other diachronic analyses (animal modifiers and diachronic keywords).

I describe below the purpose and method for each of the six corpus analyses. Some limited examples of the discourse in the source texts are provided throughout in order to illustrate some of the issues, themes, and sub-topics that were identified during these analyses. All the analytical procedures 6.3.1 through 6.3.5 are assigned abbreviations that I use from this chapter onwards. A full list of abbreviations can also be found in the preliminary material for this thesis.

6.3.1 Keywords by corpus analysis

I carried out a keywords by corpus (i.e. across squirrel, badger, and hedgehog datasets) analysis (“KC”) with the purpose of isolating words which appear statistically more frequently in each “target” corpus compared with a “reference” dataset. By doing this I was able to identify the major characteristics of the discourse in each corpus or in other words, to discover a general “aboutness” (see e.g. Baker, 2006) of each target set. Three sets of keywords were gathered, from which I isolated the top 20 sorted by “keyness” value (measured using

log-likelihood²¹) for each set. The breakdowns of each analysis are provided in Table 6.6; the “target corpus” is that for which the keywords are produced and the “reference dataset” is the combined data from the remaining two corpora. The top 20 keywords from each of the three corpora along with full details of frequency and keyness values for each of the keywords can be found in Appendix B.

Table 6.6 Breakdown of keywords by corpus analyses

Target corpus	Reference dataset components
Badger corpus	Hedgehog and squirrel corpora
Hedgehog corpus	Badger and squirrel corpora
Squirrel corpus	Badger and hedgehog corpora

The analysis revealed keywords that are specific to the discourse about each animal compared with that of the other two, and certain themes are present across all three corpora, though the keywords themselves differ. For example—and as might be expected—keywords that I categorised as “animal naming terms” are present across all queries. Although keywords in this category mainly relate to the target species in question (i.e. badgers, hedgehogs and squirrels), the presence of other animal naming terms indicates the kinds of creatures that are associated with the target species (and by extension not associated with the other species under investigation) in the discourse. For example, “cattle” and “bovine” are keywords in the badger corpus relating to the debate about the spread of bTB by badgers. The keywords in the badger corpus mainly relate to

²¹ Log-likelihood measures the degree of confidence that there is a difference between two words. It prioritises cases of high frequency words over potentially stronger differences involving low frequency words, unlike other approaches (e.g. %diff or log ratio).

debates about harm and killing in terms of both recreational and controlled killing of badgers and disease (tuberculosis). The hedgehog corpus yielded keywords relating to hedgehog behaviours (i.e. hibernation) and hedgehog habitats. Finally, several of the keywords from the squirrel corpus refer to squirrel habitats and areas damaged by squirrels (especially trees and plant life), as well as the organisation that advises on how to deal with this (the Forestry Commission). Contrasts made between the red and grey squirrel are evident also here in terms of their country or place of origin (“native”, “alien”, and “American”).

6.3.2 Diachronic keywords analysis

To gather a general sense of the characteristics of each corpus from a diachronic perspective, I carried out a diachronic keywords analysis (“DK”) using the corpus divisions determined by the WPT analysis. Keywords were gathered for every period of each of the three corpora using the remaining periods in the respective corpora as a reference for the target dataset. In total, 16 sets of keywords were gathered. Again, I isolated the top twenty sorted by keyness value using the log-likelihood measure for each set. The breakdowns of the data analysed, and the data making up the reference corpus for each analysis, are provided in Table 6.7. Details of frequency and keyness values for each of the keywords in this analysis can be found in Appendix C. The earliest periods of each of the three corpora yielded a number of keywords which had a frequency of one, confirming that the early segments were not suitable for quantitative analysis. In response, I disregarded these segments for the subsequent quantitative analyses described in this chapter (6.3.3, 6.3.4, and 6.3.5).

Table 6.7 Breakdown of diachronic keywords analysis

Corpus	Target dataset	Reference dataset components
Badger corpus by segment	B1	B2, B3, B4, B5 and B6
	B2	B1, B3, B4, B5 and B6
	B3	B1, B2, B4, B5 and B6
	B4	B1, B2, B3, B5 and B6
	B5	B1, B2, B3, B4 and B6
	B6	B1, B2, B3, B4 and B5
Hedgehog corpus by segment	H1	H2, H3 and H4
	H2	H1, H3 and H4
	H3	H1, H2 and H4
	H4	H1, H2 and H3
Squirrel corpus by segment	S1	S2, S3, S4, S5 and S6
	S2	S1, S3, S4, S5 and S6
	S3	S1, S2, S4, S5 and S6
	S4	S1, S2, S3, S5 and S6
	S5	S1, S2, S3, S4 and S6
	S6	S1, S2, S3, S4 and S5

The analysis revealed keywords specific to the discourse about each animal in each period compared with that of the other periods collectively. Certain keywords are attributable to general shifts in language use, and/or are indicative of stylistic and thematic changes in news discourse over time. For example, there is a shift from human naming terms referring exclusively to males (often political figures) in early portions of the corpus to the emergence of feminine pronouns in later periods. The contractions “s” and “t”, abbreviations, and first and second person pronouns appear as keywords in the very latest texts in each of the three corpora; I infer that this is a result of the informalisation of the language of news discourse, as reported in the literature (see section 4.4).

Badger death is a prominent theme across many segments of the badger corpus, albeit in different circumstances, which range from country pursuits in B2 (“baiting” and “digging”), to disease control in B4 (“gassing”), to badgers as road

casualties in B5 (“traffic”, “Newbury”, “bypass”) to disease control again in B6 (“cull” and “culling”). As might be expected from this, keywords in the period 1957 to 1987 (B4) mainly relate to the issue of tuberculosis in badgers; this theme re-emerges in the period 1996 to 2005 (B6), after its absence in B5²². In contrast, I found that many of the keywords I identified in the KC analysis for the squirrel corpus were actually *consistent* over time.

I found that hedgehogs were often not a central topic in texts belonging to the hedgehog corpus; this appears to be an issue in all periods (H3 in particular), as indicated by the poor distribution of keywords across texts. Hedgehogs become a more central focus in texts in the latest period—1897 to 2005 (H4)—which is characterised by stories relating to the controversial hedgehog cull in the Hebridean islands. Here, I found spatially-themed keywords (“Uist”, “Hebrides”, “islands”), one that I categorised as killing/harm-themed (“cull”), and also one protection-themed keyword (“rescue”).

6.3.3 Diachronic collocates analysis

A diachronic collocates analysis (“DC”) allowed me to ascertain the words with which the labels for each of the animals frequently co-occur and to assess their behaviour over time. In this analysis it was possible to identify commonalities in collocates shared across corpora and time periods. The analysis was applied to selected segments of each of the three corpora. For the squirrel corpus, this

²² No official culling schemes ran at this time.

applies to segments S3 through S6; for the hedgehog corpus, H2 through H4; and for the badger corpus, B3 through B6.

The queries for each of the corpora are as follows:

Squirrel Corpus

Three individual queries were entered for the squirrel data:

(i) "**squirrel***" performed a search for singular, plural and compound forms of *squirrel* and will henceforth be referred to as the "squirrel query";

(ii) "**grey|"greys|"grey squirrel|"grey squirrels"** performed a search for singular and plural *grey* and *grey squirrel*; henceforth the "grey query"; and

(iii) "**red|"reds|"red squirrel|"red squirrels"** performed a search for singular and plural *red* and *red squirrel*; henceforth the "red query".

Badger Corpus

"**badger***" performed a search for singular, plural and compound forms of *badger*; henceforth the "badger query".

Hedgehog Corpus

"**hedgehog***" performed a search for singular, plural and compound forms of *hedgehog*; henceforth the "hedgehog query".

I isolated the top ten most frequent lexical collocates for each of the five queries. The searches were case insensitive and restricted to five words either side of the node word. The software I used to carry out these analyses is Sketch Engine (version as above) because, unlike AntConc, it offers the option to determine collocational behaviour based on the logDice association score. This statistic compares the relative frequency of two words occurring together with that of the words occurring alone (Rychlý, 2008). Collocates were then sorted according to their diachronic type.

I picked out collocates in all three corpora that form part of an NP (usually modifiers of an NP, the head of which is the species name) referring to the animals under investigation. A higher number of these were present in the squirrel corpus (examples include: “native” and “American”, “red” and “grey”) than in the badger (examples include: “rogue” and “population”) or hedgehog (examples include: “British”, “friendly” and “young”) corpora. Although these collocates could each have legitimately been categorised under the category “animal naming terms”, they also represent human evaluations of character, geographical locations, and visual attributes, and were classified in these ways, as appropriate.

6.3.4 Animal modifiers analysis

In order to gain a further sense of how the animals under investigation are described, I identified adjectival [animal] modifiers (“AM”) for the lexemes SQUIRREL, BADGER, and HEDGEHOG²³ in the respective corpora. I used the same corpus segments as for the diachronic collocates analysis above (squirrel corpus—S3 through S6; badger corpus—B3 through B6; and hedgehog corpus—H2 through H4) by carrying out a word sketch in Sketch Engine (version as above) and restricting the search to return modifiers only. I applied the categories from the diachronic collocates analysis to assess how the modifiers behave over time. Frequency and statistical information for this analysis can be found in Appendix D and again, I mention here noteworthy results from this analysis for each of the corpora.

For the squirrel query, modifiers relating to visual attributes are most common in S3, where the modifiers “white”, “brown”, “albino”, “pretty”, and “beautiful” are present. Like the diachronic collocates analysis, some of the words returned relate to origin and nationality of red and grey squirrels; “native” and “American” are consistent over time but other modifiers linked to this theme develop over time; these include: “British” in S3 and S6, “English” in S3, and “indigenous” in S3 and S4.

²³ Word Sketches for the modifiers of the lemmas GREY and RED are either unusable due to small numbers (e.g. frequencies of 1) or unavailable due to “insufficient data”.

A high number of modifiers returned in the hedgehog query had a frequency of just 1, which I removed from analysis leaving the majority of remaining modifiers in period H4. Here, various hedgehog states were represented, relating to life-cycle (“young”, “dead”, baby”) and disadvantage (“hungry”, “poor” and “thin”), alongside judgements of character (“friendly”, “curious”, and “humble”).

Some modifiers for the badger relate to disease from B4 onwards (i.e. “healthy”, “diseased”, and “infected”). Others modifiers of note include “rogue”; as well as those denoting size (“large”, “full grown”, and “small”) and age (“old” and “young”).

6.3.5 Clusters

As an exploratory analysis, I looked at clusters between three and seven words long with a minimum frequency of three (see Kopaczyk, 2012, who recommends that 3-grams are suitable for corpora of the size gathered for the present study) and a minimum range (number of texts the cluster appears across) of three for each of the queries ii and iii (red and grey queries) outlined in 6.3.3 across S3 to S6 of the squirrel corpus; for the badger query across B3 to B6 of the badger corpus; and for the hedgehog query across H2 to H4 of the hedgehog corpus. Two main clusters were present in various forms across all queries: *of (the) [species name]*—henceforth, “OF clusters” or “CO”; and *species name + BE*—henceforth, “BE clusters” or “CB”.

6.3.5.1 OF clusters analysis

Analysing the OF clusters (CO) enabled me to investigate animal attributes and characteristics (i.e. what is said to “belong” to each of the species under investigation). I gathered concordance lines for the following corpus queries:

Squirrel Corpus

(i) of (the) grey(s) (squirrel(s))

(ii) of (the) red(s) (squirrel(s))

Hedgehog Corpus

(iii) of (the) hedgehog(s)

Badger Corpus

(iv) of (the) badger(s)

Range and frequency information for the OF clusters for each of the three corpora is available in Appendix E.

Many of the findings in this analysis further supported those from previous analyses. For example, the concordance lines give a sense of opposition between the two squirrel species and there is a pattern of grey squirrel advantage and red squirrel disadvantage present throughout. That said, since this analysis allowed for the examination of larger elements of the discourse, I was able to make early observations that were not apparent from the previous analyses. For instance, I found that where the killing of badgers is mentioned in these clusters, the human actor is often left implicit (e.g. “a nationwide eradication of badgers”); though the

structure lends itself to such a formulation, I might have expected more evidence of agency appearing in 'by'-phrases.

The number of concordance lines returned for the CO query in the hedgehog corpus was too low for the identification of general patterns if the results are considered in isolation but I was able to identify a number of themes that had already been identified from previous analyses (e.g. "seasonal behaviours" and "hedgehog habitats"), which I believe highlights the value of this amalgamated approach.

6.3.5.2 BE clusters analysis

As each species name followed by various forms of the verb BE was present in the initial cluster analysis I carried out (CB), I examined concordance lines for the following corpus queries²⁴:

Squirrel Corpus

- grey squirrel **is**/grey **is**
- grey squirrel **was**/grey **was**
- grey squirrels **are**/greys **are**
- grey squirrels **were**/greys **were**
- red squirrel **is**/red **is**

²⁴ Not all variations of the BE cluster were returned in results for every corpus segment. For example, there is an absence of past tense "was" and "were" in S3 for both red and grey queries. Even though the texts in S3 are not the earliest texts in the corpus and there are previous issues which might have been referred to at this point, the clusters returned for each query did not reflect this.

- red squirrel was/red was
- red squirrels are/reds are
- red squirrels were/reds were

Badger Corpus

- badger is
- badger was
- badgers are
- badgers were

Hedgehog Corpus

- hedgehog is
- hedgehog was
- hedgehogs are
- hedgehogs were

The CB queries above allowed me to pull out clusters containing BE as a main verb with subject (noun) (e.g. “hedgehogs are our friends”, 09/10/1968); adjectival (e.g. “badgers are most attractive and appealing creatures”, 31/10/1980); prepositional (e.g. “grey squirrels are often on the ground”, 26/10/1948); and adverbial complements (e.g. “the grey squirrel is everywhere”, 29/12/1938). The queries also highlighted clusters containing BE as an auxiliary, which included both active (e.g. “the red squirrel is making a comeback”, 15/11/2000); and passive (e.g. “badgers are mutilated”, 19/09/1983) structures. It was not my intention to probe the grammar in great

depth, though I necessarily had to recognise that there are functional differences in the different kinds of results gathered in the BC analysis²⁵. It was more important to the present study to look at the semantic information these clusters offered in terms of evaluating the (changing) representations of the focus animals. By this I mean they provided information about the focus animals: their qualities and attributes (supplementing the animal modifiers analysis (6.3.4)), their distribution and places they are said to inhabit (or not), and features of their appearance and character. The BE clusters also revealed the kinds of actions the animals are said to carry out, and, in cases where they are the subject of passive structures, where another (usually human) agent appears in a by-phrase or is left implicit. Frequency information for each of the different senses is provided in Table 6.8 and details of the frequency and distribution of the concordance lines assigned to each thematic category for this analysis across all three corpora are provided in Appendix F.

Table 6.8 Different structures in the BC analysis

Corpus query	Total BE clusters	Main BE	Auxiliary BE	of which are passive	% passive in auxiliary BE clusters
Hedgehog	101	57	44	32	72.73%
Badger	226	109	117	99	84.62%
Red squirrel	46	24	22	16	72.73%
Grey squirrel	108	72	36	24	66.67%

²⁵ Besides which, a grammatical analysis would be incomplete since the BE clusters returned in the initial analysis did not account for future or present perfect tenses (either progressive or passive).

There are relatively fewer auxiliary BE clusters for the grey squirrel compared with the other focus animals (for which the frequencies of auxiliary BE and main BE are about half and half). This is mainly because there are more “evaluative” things written about grey squirrels (e.g. “the grey squirrel is a pest”, 10/10/1938); “Here, the grey squirrels are a perfect plague”, 07/07/1937) compared with the other animals. A higher proportion of the auxiliary BE clusters are passives for the badger than the other animals due to reporting of killing badgers in relation to disease. Though over half of all the auxiliary BE clusters are passives for all the focus animals, the grey squirrel has the lowest proportion because relatively, the animal appears more in relation to material actions that it carries out (e.g. “grey squirrels are pushing back the reds”, 09/09/1992).

6.3.6 Concordance analysis

Following the analyses outlined above (6.3.1 through 6.3.5), I used AntConc to gather concordance lines for closer analysis of the surrounding context of the keywords, collocates, modifiers and clusters I identified. For example, “American” is one collocate for words denoting the grey squirrel so I gathered every instance of the word “American” in the squirrel corpus, with ten words either side for context. For the two clusters analyses, every occurrence of the BE and OF clusters were gathered for analysis. For the remaining four analyses, concordance lines were examined closely for selected findings (see section 6.4 for selection rationale). I did not carry out any further sampling. Where I have explored the use of a particular word, I have examined every instance of it, reporting those results that were of interest when contrasted with results

relating to the other species (i.e. either they were part of a shared pattern or they provided (unexpected) contrasts). This part of the analysis enabled me to make broad observations about diachronic language use before carrying out closer, qualitative analysis (CDA).

I organised the concordance lines in an Excel spreadsheet, discarding any irrelevant (false) hits, which were relatively few given the specialised nature of the corpora, before separating results by time period (e.g. S2, S3, S4 and so on) for the five diachronic analyses. As I was interested in diachronic change (and stability) I further organised concordance lines in each period by date of publication. I categorised results by the themes that emerged from the analysis, colour coding the concordance lines so I could easily spot trends in topic both diachronically and by corpus. As well as date of publication, I noted additional information about the content of the concordance lines in some analyses. These included parts of speech (noun, verb, adjective etc.) in my exploration of disease words, killing words, and the complements of BE clusters and the presence or absence of actors, as well as the kinds of actors involved in killing in my analysis of killing words (see chapters 7, 8 and 9 for details). This allowed me to sort and filter the data to isolate specific results as necessary.

Where the contextual use of any keyword, collocate, modifier, or cluster was unclear from the concordance lines, I referred back to the data using AntConc to gather a wider extract. Sometimes I re-examined whole texts to ascertain a writer's stance on the topic under discussion. Though it was necessary to examine expanded extracts for certain results from all six analyses, I found keywords and BE clusters required significant further study. I examined wider

extracts for many of the keywords because their relevance to the animals under investigation was not immediately clear, even with the additional context provided in the concordance lines. For example, the diachronic keywords analysis returned “ken”, “wood” and “kenwood” (a London stately home with badgers on its grounds) in B3; “roberson” (an individual involved in an act of cruelty to horses) in H3; and “burnham” and “beeches” (a woodland in Buckinghamshire where squirrels are present) in S3. Concordance lines for these keywords in context often did not contain any mention of the focus animals (e.g. “[...] a distant height, it would be difficult to realize that Ken Wood is only four miles away from Charing Cross. There is [...]” (*news*, 1924)). The BE clusters, particularly for the squirrel corpus, also required closer attention. Here, I found sentences containing the cluster were usually incomplete given the confines of my ten word restriction for concordance lines. Additionally, as the language in the squirrel corpus often contained comparisons between the red and grey species, wider extracts were needed to explore this.

6.4 The thematic categories

It was clear at the end of this process that no matter which analytical lens I approached this data through (i.e. the six corpus analyses), the same themes come up each time. I categorised findings from each of these analyses in terms of their semantic senses. I experimented with the USAS semantic tagger (via Wmatrix) to assign semantic categories to results gathered for these analyses but the tagger did not generate relevant semantic groups for these thematic corpora. For example, for the word “grey(s)”, the tagger returned the emotional sense (“happy/sad”) whereas in the data gathered for this study, the word almost

always refers to living things, defined by their colour (cf. Sealey & Pak, 2018). In light of this, I was obliged to devise semantic categories myself, using my knowledge of the topics and themes that run through the corpora and the related literature.

Although recurring patterns were of particular interest to me when categorising themes, I also considered less frequent patterns that my background research had highlighted as relevant. This was important since the data collection, having been so necessarily restrictive, had resulted in a relatively small sample of language compared with the larger corpus studies mentioned in chapter 4. The more infrequent patterns examined here might have been more evident had the corpus been much larger and/or contained a wider variety of discourse types. During this process, I was especially mindful of the external social, political, and cultural issues explored in chapters 2 and 3, which may have contributed to any change in the linguistic representation of the animals that I observed. I found, for example, that themes of conservation and protection are only present in the most recent segments of the three corpora, which coincides with the period of increased public interest in these issues (from 1980s onwards) that I have identified in the literature. Keeping external influences on the language in mind during analysis was not always helpful, however; there is no mention of the red squirrel as a pest in the results gathered for these analyses, despite its historical classification and subsequent control. The themes identified in this chapter were determined by a process of classification and reclassification. The keywords by corpus analysis revealed the main topics in each corpus but the diachronic analyses allowed me to identify less frequent patterns of representation, as well

as periods of fluctuation in the interest of the broader topics identified in the keywords by corpus analysis. With each additional analysis I reassessed the categories in light of the amalgamated findings from each of the analyses that came before, condensing and splitting thematic categories as necessary as new results were added. Where more contextual information was needed to assign a keyword, collocate, modifier or cluster to a semantic category, I examined a larger excerpt of the text. Despite the specialised nature of the data, it was sometimes the case that results were false hits; these were removed from the analysis during categorisation.

Through this process, I identified the four main following themes:

- 1) Qualities, states and attributes (of animals)
- 2) Actions, pursuits and behaviours (animals and humans)
- 3) Geographical and spatial concerns
- 4) Overtly human concerns

Each of these four broad thematic categories contained a number of sub-themes, breakdowns of which appear below. The first is “animal qualities, states and attributes” (Figure 6.10) containing animal naming terms; the comparisons between, and the shared relationships animals have with other animals; human evaluations of animals; and other states relating to life-cycle and health. The second is “actions, pursuits and behaviours” (Figure 6.11) containing themes of human actions and pursuits carried out on or towards animals (including country sports) and animal-specific actions and behaviours (including both

biological functions and also actions which are supposed to be more deliberate). The third is “geographical and spatial concerns” (Figure 6.12) containing patterns relating to the distribution of animals, their origin and/or nationality, the places where humans experience animals, and mentions of natural spaces. The final broad thematic category—“overtly human concerns” (Figure 6.13) contains elements of language change that can be attributed to general linguistic shifts, changes in news style, patterns relating to politics, parliament, and law, and lastly, human naming terms. The title of this final category needs a word of clarification since, by definition, all news discourse contains topics that are of concern to humans in some way otherwise they would not have been written about. The description of this category is not intended to suggest that the other categories are not of human concern; rather, this one contains themes that relate explicitly to humans and human society and less directly to the focus animals. The themes contained in the other three categories are often of concern to humans in a more implicit, or abstract way.

These categories are not mutually exclusive and certain elements of the discourse might easily be included under more than one sub-theme. In these cases, I have grouped them under what I considered to be the most appropriate category during the revision and reassessment process. For example, the sub-theme “animal naming terms” might have included modifiers relating to origin and nationality, which form part of NPs describing the animals under investigation (e.g. “American”) but I felt these modifiers were better placed in “geographical and spatial concerns”, along with other elements of the discourse relating to the origin and nationality of the animals under investigation.

Finally, these sub-themes have been ordered in terms of their hierarchical relationships with one another. No consideration of the distribution of themes across animal corpora is accounted for in the following figures, neither is the diachronic dimension represented here. These aspects of the data are considered more fully in chapter(s) 7, 8, 9, and 10.

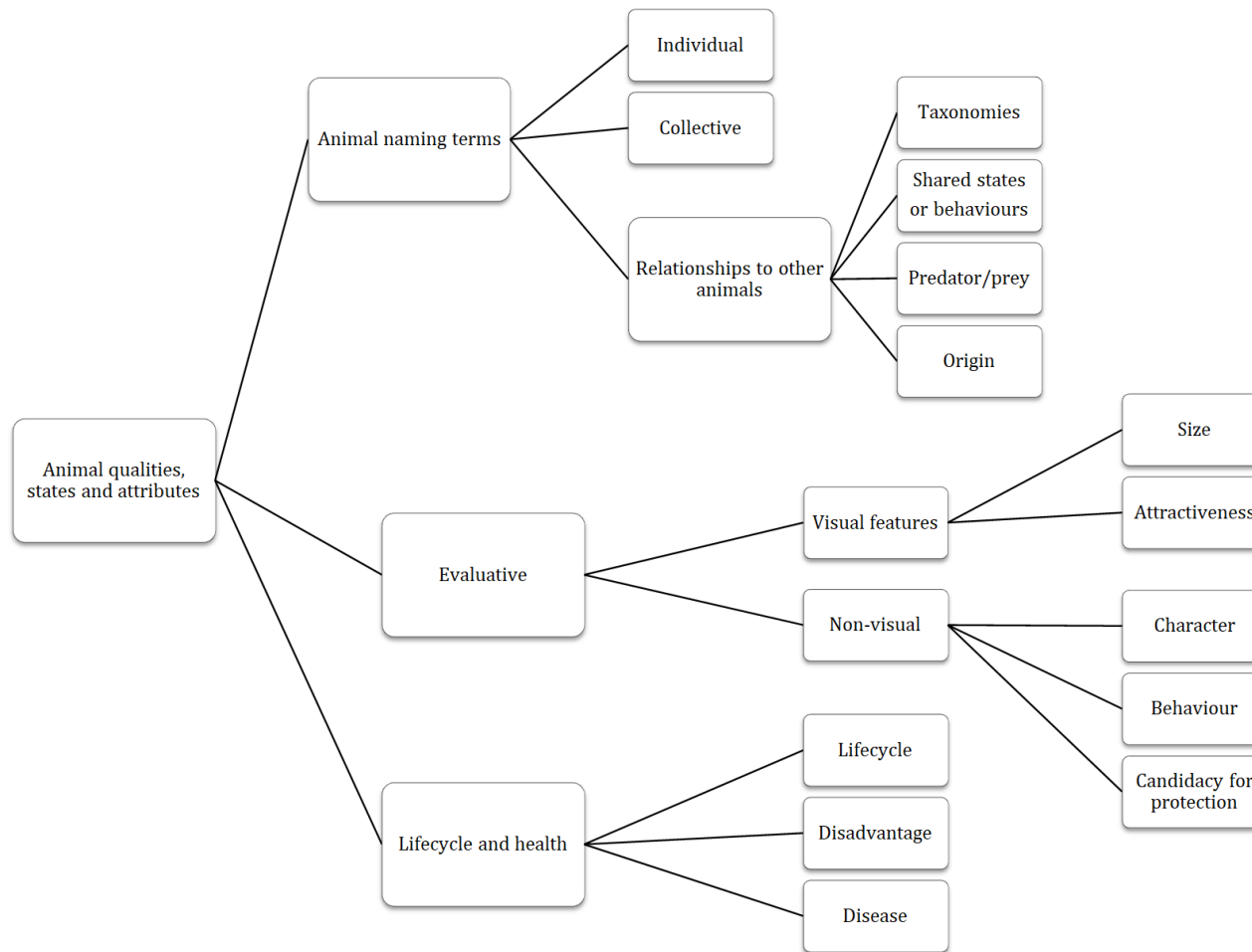


Figure 6.10 Themes contained within the category of “animal qualities, states, and attributes”



Figure 6.11 Themes contained within the category of “actions, pursuits, and behaviours”



Figure 6.12 Themes contained within the category of “geographical and spatial concerns”



Figure 6.13 Themes contained within the category of “overtly human concerns”

6.5 Chapter summary and refined research questions

In section 6.2, I examined the diachronic distribution of texts in each of the three corpora and reported the results of the WPT analysis on the frequency differences in distribution between calendar years of publication. For two of the corpora—squirrel and hedgehog—this method was effective in highlighting a small number of statistically significant peaks, some of which I did not visually identify prior to the analysis. For the badger corpus, I was obliged to supplement the results of the WPT analysis with my understanding of significant events in the history of the badger. This was due to the fluctuating nature of frequency differences in text distribution recorded over time, which highlighted a greater number of statistically salient peaks and troughs than for the other two corpora. I presented the segmentation of both the badger and squirrel corpora into six portions and the hedgehog corpus into four portions.

The results of the WPT analysis highlighted that the nature of the early data makes it unsuitable for quantitative corpus analysis. I therefore carried out an in-depth corpus analysis of the discourse from 1905/10 onwards. This means that the bulk of the subsequent findings relate to change over 100 (or so) years. The earlier data is negligible and often animals did not form the central focus of the texts but are rather mentioned as an aside in extended texts reporting verbatim the parliamentary proceedings of the day, for example.

In the remainder of the chapter I discussed the CL tools I used to identify the four broad themes present in the discourse of the corpora gathered for this project. All but one of the six corpus analyses presented in this chapter made use of the

segmentation from the WPT analysis. For each of the six corpus analyses, I described the purpose and method of the respective data collections and highlighted some notable findings and patterns of distribution. The findings from each successive analysis supplemented the previous findings and whilst new (sub-) themes did emerge throughout, I found a number of recurring themes across several analyses. Finally, I presented an amalgamated set of themes that are found in the news discourse gathered for this study, which reflects the data as a whole (i.e. all texts contained within all three corpora).

With this first-stage analysis I had to some extent answered the broad research questions 1 and 2 presented in chapter 3 in that through close examination of the results from an analysis of keywords, collocates, modifiers, and clusters I identified themes in the representation of the focus animals and the aspects of change and continuity that were apparent in relation to these themes.

The strength of this multi-perspective analysis is that the same themes were apparent across datasets, in relation to all four focus animals, and across the analytical approaches. The grounds on which I have selected three (sub-) themes to explore in greater detail are both theoretical and practical. My research into wildlife and specific animal histories factored in the theme selection process. I chose themes that emerged across the various analytical approaches in relation to all three corpora. Other practical motivations for selecting and ruling out certain themes were that it was both necessary that there was enough data to examine for each theme across the three corpora and that this data was suited to diachronic analysis. In addition, limitations on space precluded the examination of more themes. As they are less directly relevant to the focus animals, I did not

follow up on themes relating to overtly human concerns (language relating to news discourse, and parliamentary interaction) or natural spaces (including nature as a metaphorical space).

The themes I chose to focus on for closer, more intensive analysis are:

- (i) “Origin, nationality, and spatial distribution” from the “Geography, places, and spaces” category;
- (ii) “Life-cycle and health” from the “Animal qualities, states and attributes” category; and
- (iii) “Human actions and pursuits (towards animals)” from the “Actions, pursuits, and behaviours” category.

Each of the selected themes can be found across all three corpora, albeit to differing extents, and they can be seen to change over time (ostensibly) in response to text external factors. I was then able to formulate more specific research questions based on these findings. The revised research questions are as follows:

1) What are the patterns of change and continuity in the language about the focus animals in The Times newspaper 1785-2005 in relation to the themes of:

- (i) origin, nationality and spatial distribution;*
- (ii) life-cycle and health; and*
- (iii) human actions and pursuits?*

2) To what extent are the patterns found consistent with (changing) human practices and attitudes?

With this revision in mind, I moved on to the analysis of the three selected themes in order to answer these more specific questions. I dedicate a chapter each to research questions 1(i), 1(ii), and 1(iii), and discuss my findings with regard to human practices and attitudes alongside the analysis and further in chapter 10. Through this multi-perspective analysis I gained a sense of the evaluative positioning in the discourse, whether it was through the backgrounding of human agency in the passive structures (CB analysis) or the evaluation of the appearance and behaviours of the animals themselves, for example. I draw out in the subsequent analysis chapters (7, 8, and 9) some of the more subtle ways in which evaluative stance is present in the representations of the focus animals.

7 Origin, nationality, and distribution

7.1 Chapter introduction

I established in chapters 2 and 3 that physical and abstract spaces are historically an important part of human-wildlife relationships. The boundaries between spaces that are considered appropriate and inappropriate for animals—as well as the abstract spaces to which animals are assigned as a result of their occupation of certain physical spaces (e.g. “pests”)—have become increasingly important in determining human-animal relationships since the industrial revolution. The corpus analytical methods presented in chapter 6 demonstrate that different aspects of space and geography form a large—and fairly constant—theme in news discourse about the four focus animals. With reference to RQ1(i), this chapter explores the representation of these animals in relation to the theme *origin, nationality, and distribution*, guided by the words, phrases, and thematic patterns identified. I discuss what this representation reveals about human

attitudes towards the focus animals and, where possible, the implications it has had for people's perception and treatment of them (e.g. harm and care).

I begin by presenting some findings relating to animal habitats in section 7.2, discussing the contexts in which animal habitats feature in the news. Following this, I discuss the emphasis on human spaces in the discourse in 7.3, with a focus on gardens, where I demonstrate that how welcome or unwelcome animals are in this part-domestic, part-wild space is anthropocentrically motivated.

National identity is one of the principle means by which the focus animals—particularly squirrels—are defined in the news. I have devoted the largest portion of this chapter to analysis of this aspect of their representation. In section 7.4, I explore the national pride associated with native animals and contrast the discourses surrounding “out-of-place” native British animals (hedgehogs on the Hebridean Islands) and non-native animals (grey squirrels in Britain). The final part of this section discusses the attribution of blame towards non-native animals and parallels between this discourse and the language of human social issues. The analysis presented in this chapter highlights the (discursive) relationship between animals' occupation of physical and abstract spaces and how these are manifested in inclusionary and exclusionary (discursive) practices; I conclude in section 7.5 by outlining these aspects.

The findings I discuss here were brought to light by the analytical methods explained in chapter 6: *keywords by corpus*, *diachronic keywords*, *diachronic collocates*, *animal modifiers*, and both *BE* and *OF* clusters. In relation to this spatial theme, more words and phrases for grey squirrels than for badgers or

hedgehogs emerged from these analyses, so more material is dedicated to squirrels than to the other animals in this chapter.

7.2 Animal habitats

References to animal homes and habitats were present in all three corpora but they appear far less than references to “human” spaces, indicating that although an animal-centric (or zoocentric) orientation towards wildlife is accounted for in the discourse, it occupies a secondary position to human interests. In fact, closer examination of the contexts in which animal spaces occur revealed that even these often have human-centric underpinnings; most feature in the context of environmental concerns, nature watching and education, and (for the badger) disease. The fact that animal spaces are secondary to human spaces in news is not surprising given that the news texts are not always about the focus animals centrally; rather, animals are backgrounded in news about other topics. This is both a symptom of the methodology (i.e. I gathered all texts with at least one mention of the focus animals) and animals being used to contextualise or to entertain in news discourse.

I identified changing fashions in lexical choice when describing animal habitats. Keywords and collocates analyses returned several words relating to badger habitats, owing to variations in spelling and lexical changes (Table 7.1). Close corpus analysis revealed several more infrequent words denoting animal habits, as these examples show; readers’ letters in particular contain corrections to previous letters and alternatives.

The **grey squirrels** nest, or "drey," has a variety of uses [...] it may be bedroom, breeding chamber, or day nursery, and at other times is the fortress, or "castle," to which the grey squirrel retires, chattering with fear or anger, when pursued.

News from a correspondent, 30/12/1943

The chief harm they [**badgers**] do is in the construction of enormous setts (not earths), with great heaps of excavated soil outside them.

Letters to the editor, 02/05/1944

For this analysis, I have considered only references to animal habitats associated with the focus animals. I did not, for example, include references to birds' nests.

Table 7.1 Lexical and diachronic variation in animal habitat name

Corpus	Word	Frequency	Analysis	Distribution
Badger	<i>earth(s)</i>	52	DK (B3) & qualitative	1786–2002
Badger	<i>set(s)</i>	162	KC, DC (B5, B6), & qualitative	1913–2005
Badger	<i>sett(s)</i>	254	KC, DC (B5, B6) & qualitative	1933–2005
Badger	<i>earth(s)</i>	52	DK (B3) & qualitative	1786–2002
Badger	<i>holt(s)</i>	4	Qualitative	1932–1949
Badger	<i>den(s)</i> ²⁶	2	Qualitative	1818–2002
Badger	<i>burrow(s)</i>	13	Qualitative	1977–2004
Hedgehog	<i>nest(s)</i>	24	DC (H3) & qualitative	1899–2004
Hedgehog	<i>home(s)</i>	26	CO (H3) & qualitative	1899–2004
Squirrel	<i>nest(s)</i>	47	CO (S4) & qualitative	1835–2004
Squirrel	<i>drey(s)</i>	22	Qualitative	1940–2004

On the whole, mention of animal habitats increases over time in line with the general increase in news about animals. Aggregated results for all mentions of animal habitats are shown in the diachronic distribution below (Figure 7.1),

²⁶ No plural was present in results.

sorted by animal. Separate individual graphs for hedgehogs, badgers, and squirrels, showing trends in lexical change follow in figures Figure 7.2, Figure 7.3, and Figure 7.4, respectively. For badgers, they show that instances of “earth(s)” decline over time, an increase for “set(t)(s)”, “holts” is very rare, “den(s)” has fallen out of use and “burrows(s)” is infrequent but fairly consistent. For squirrels, usage of “nest(s)” peaks in 1937 in line with the increased discussion of the squirrel at this time and then decreases over time, whereas “drey(s)” increases slightly over time. For hedgehogs, “nest(s)” peaks in 1965.

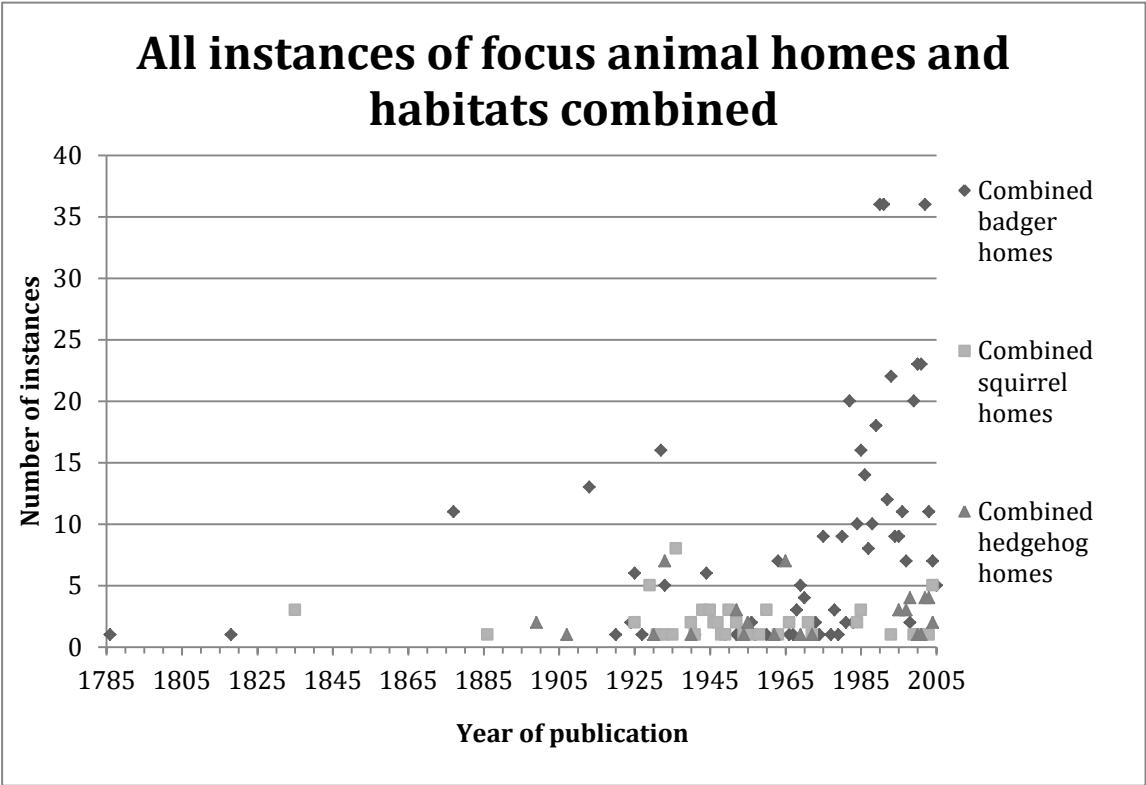


Figure 7.1 Diachronic distribution of squirrel, badger, and hedgehog homes

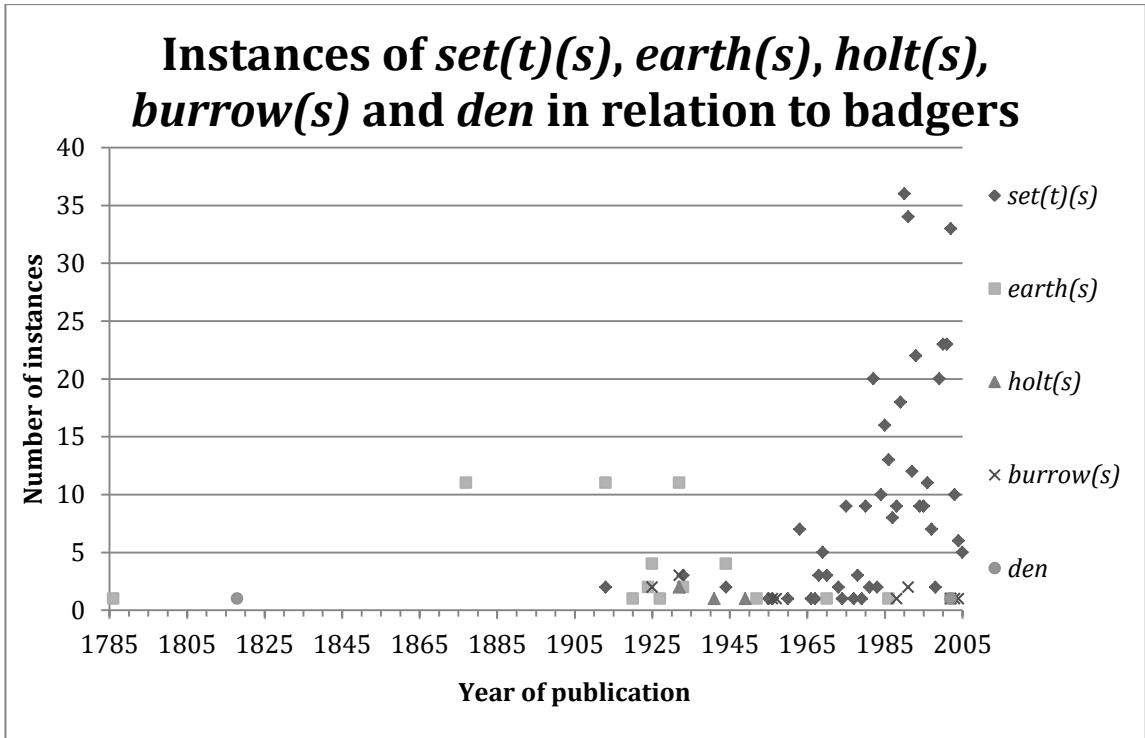


Figure 7.2 Diachronic distribution of *set(t)(s)*, *earth(s)*, *holt(s)*, *burrow(s)* and *den* in the badger corpus

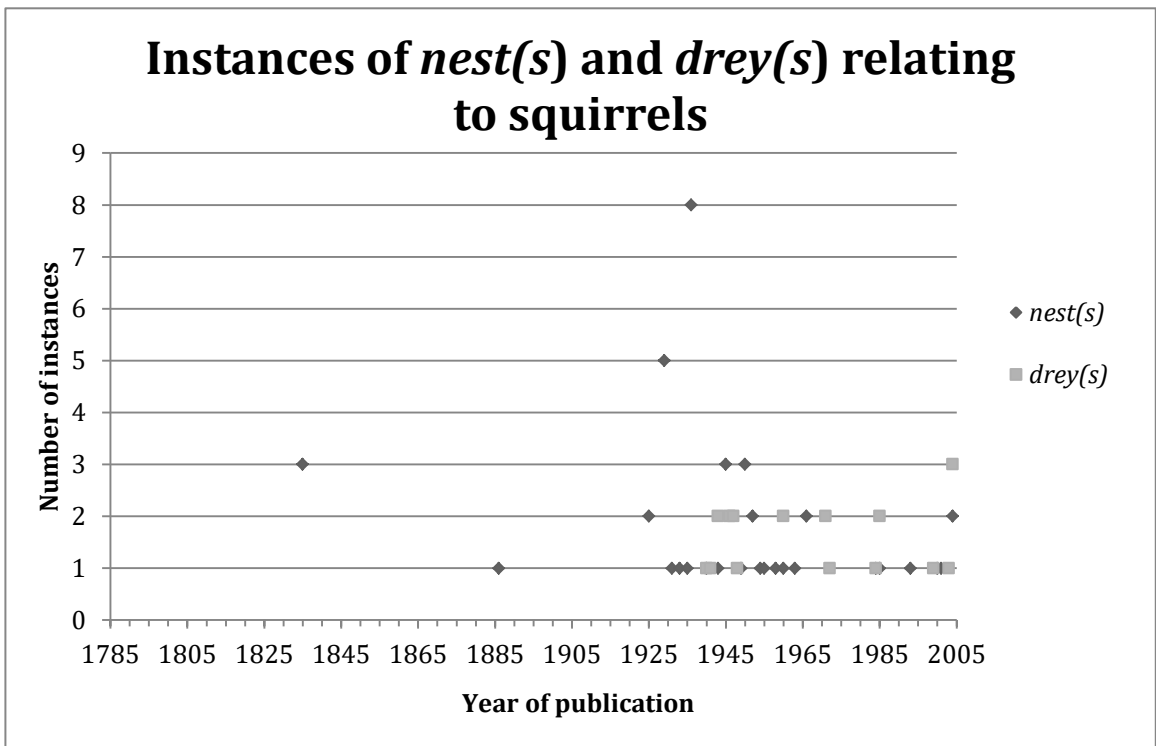


Figure 7.3 Diachronic distribution of *nest(s)* and *drey(s)* in the squirrel corpus

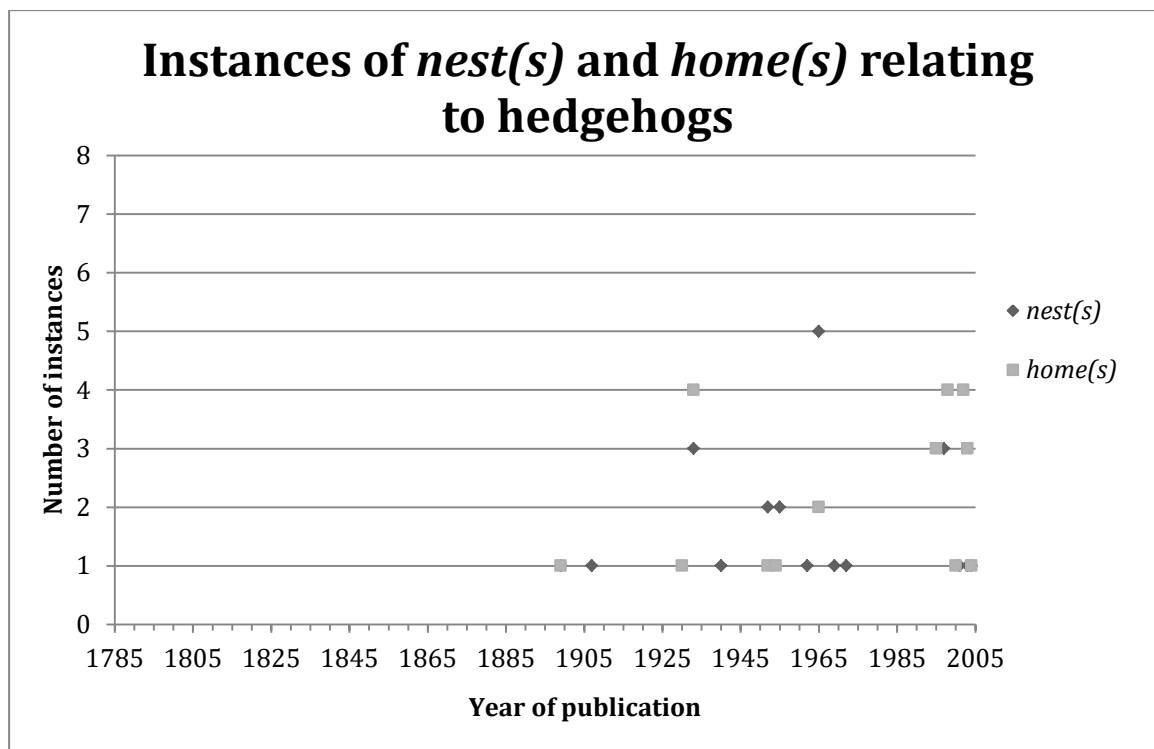


Figure 7.4 Diachronic distribution of *nest(s)* in the hedgehog corpus

Table 7.2 contains extracts from the three corpora demonstrating key patterns and observations relating to human-animal conflict from a close analysis of all the concordance lines for animal habitats. The focus animal is highlighted in bold in each extract.

Table 7.2 Corpus extracts showing animal habitats in context

Ref	Corpus	Section	Extract	Date
1	Squirrel	Letters to the editor	A few years ago my two elder sons saw a grey squirrel leave a red squirrel's nest in a tree close by our house Iridge Place, near Etchingham, in Sussex. One climbed up and found in the nest a dead red squirrel, warm and bleeding.	07/02/1929
2	Squirrel	Letters to the editor	The method recommended is to shoot the squirrels after coaxing them from their dreys with three lengths of bamboo lashed together or to shoot them inside dreys which are known to be occupied.	16/01/1946
3	Badger	News—The Course of Nature	Badgers cling tenaciously to their old sets (a famous one in Richmond Park which I have known for 30 years is still going strong, weekend crowds notwithstanding) and some are now completely surrounded by estates in London.	30/09/1969
4	Badger	Law	It was there that Mr Ken James said he found Mr Whaley in shirtsleeves, his red hunting coat on the ground, digging in the hole. Mr James, of Hodle, Hants, a member of the Badger Protection Society, claimed the hole was a "sacred" badger sett.	13/11/1982
5	Badger	News	The League Against Cruel Sports said yesterday that it would support an extension of the licensing system, which allows the controlled destruction of sets that pose a genuine threat to farming, such as when badgers can be shown to be responsible for the spread of bovine tuberculosis (although that is still disputed), or where they are an insuperable hindrance to development.	25/09/1990
6	Badger	Feature articles	The phrase 'creature of habit' could have been invented to describe the badger. These distinctive black and white faced creatures, British residents for more than a quarter of a million years, are so reluctant to change their ways that families may live for hundreds of years in the same spot. Their home - or set, as the maze of underground passages is called — may have as many as 60 entrances.	17/11/1990
7	Badger	News—by a correspondent	The council could only carry out temporary work to shore up the road while experts studied the problem. Eventually, it was decided to build an artificial sett near by, but with wire mesh lining the underground perimeter to prevent the badgers burrowing back under the road. Their new home will have nine nesting chambers and connecting tunnels finished in wood and plastic. The repair work, consultant's fees, construction of the artificial sett and rehousing the badger family adds up to £30,000	30/03/2001
8	Badger	Feature articles	badgers really are ancient. The earliest British fossil remains date back 250,000 years and one Derbyshire den is recorded in the Domesday Book. A badger's home, or sett, can last for hundreds of years.	18/05/2002

The contexts in which animal homes appear in the data vary between animal. The badger corpus contains far more references to their habitats than was the case for the hedgehog and squirrel corpora. Badger habitats appear in the most diverse contexts of all the focus animals, in relation to the topics of: conflict, when the badger's presence is a hindrance on farmland (5); admiration of their ties to ancestral setts (3, 6, and 8); and damage to setts tied in with reports of harm and killing (4). The badgers' sett maintenance, often described in terms of home-making, is discussed in chapter 8. Squirrels' nests are the sites of killing

for control and of grey squirrel attacks on red squirrels. Hedgehogs' nests appear in the least diverse contexts with nearly all references relating to educational soft news. These texts are less political and do not contain the same kinds of argumentation as other texts, serving instead as soft news entertainment pieces from *The Times' Course of Nature*, *Nature Notes* (see 4.4.3) and *Environment* features. A number of letters to the editor describe the homes of squirrels as ideal sites for grey squirrel control (either by destroying their homes or killing them inside their homes) (e.g. line 2) and as places where grey squirrels attack and harm red squirrels (1), which is part of a wider pattern of red squirrel vulnerability.

References to animal homes on human property in the early years treat the presence of animals as a novelty in some cases as the following extract shows.

they found underneath one of them a **hedgehog** hibernating in a nest partly composed of the covers of fives' balls, which the hedgehog had evidently collected. [...] The discovery of such a creature within the four miles radius is surely worth recording.

News, 30/11/1899

In many cases, animals are not welcome in the places they have built their homes. Human-wildlife conflict did exist in the early years of the period under investigation (as I discussed in chapter 2) but it is not often found in *The Times*. Later on there is much more evidence of conflict in discussion of animal homes on human property (as the extract from 1944 above—"The chief harm they [badgers] do is in the construction of enormous setts"—shows); this mainly

relates to badgers and comes from a range of stakeholders, including—surprisingly—the League Against Cruel Sports.

Badgers become unacceptable when humans wish to build on or otherwise use the land on which their habitat is situated; invariably artificial setts are made in such cases. In the wider context of extract 7, their new artificial sett—described as “their new home”, “£30,000 home”, and “the badger family’s des res”—becomes a financial burden on the council (see Appendix G for full text). Relocation is described as “elaborate and expensive” and the council “is left with very little option” and “no alternative” given the legal protection of badgers. The financial cost to the public as well as the implications of that cost (“we are having to close public toilets”; “the money could be better spent on roads”) are made clear. In this discussion of financial burden, the animals are described in anthropomorphised terms (home and family). Such language is common in the corpora in relation to spatial concerns, as the following emphasised text shows. Gendered pronouns also anthropomorphise the animal (assuming the writer does not know whether the badger in question is male or female).

Sir, It is all very well for Sir Christopher Lever (December 5) to want to extend the Badgers Act 1973 to prohibit disturbing or destroying their setts, but those of us who have put up with a **resident (rent-free)** member of **Mr Brock's family** feel strongly that, the Act goes quite far enough.

My badger has made **himself** extremely comfortable in a dry sandy bank, seriously undermining the garden wall, which is a listed building. The most recent **extension of his dwelling** involves pulling out some bricks in the direction of the house, and not a cricket pitch's distance from my back door, emerging inside one of the outbuildings.

Before **he moves into** my house, I intend to **serve notice on him** in no uncertain terms. Any suggestions from your readers as to the most effective, and at the same time duly courteous, method of so doing would be much appreciated.

Letters to the editor, 13/12/1986

These examples indicate a blurring of the boundaries between what might be considered animal space and human space in contexts where the presence of animal homes is inconvenient or has led to human-animal conflict. Considering the situation in human terms provides readers with a familiar frame of reference to make sense of the situation and it gives the animal more agency and responsibility. This is the opposite pattern from that which has been noted in the discourse of marginalised human groups, which animalises humans in order to make them lesser concerns (e.g. Jews as “rats” in Nazi Germany (Musolff, 2013) (see also Goatly, 2006, p. 29 for other examples)). The anthropomorphic language here ultimately indicates that the badgers’ presence is more unacceptable given it appears to be deliberate. The real-life implications are that badgers must be managed or deterred. Alternatively, in the case of the council spokesperson, it is acceptable to resent the cost of (legally required) relocation.

7.3 Sharing “human” spaces: the garden as a liminal space

The heavily emphasised “human” spaces in the corpora are any natural—or semi-natural (i.e. managed or designed)—spaces reserved for human use; that is, recreation, occupation, or industry. They include forests, farms, gardens, and public parks and more constructed places such as houses, roads, and towns. Overall, there are clear anthropocentric perceptions that influence the degree to which animals are welcome in human spaces; the language focuses mainly on the benefits and drawbacks of an animal’s presence for humans, based on their actions (e.g. eating pests, damaging property) and/or their physical qualities, which either please humans or cause offence. The focus of this section is gardens; other spaces that I have considered are forests and trees (from the squirrel corpus) and “rogue” badgers on farmland. I do not have space to expand on these and other statistically salient spaces that I identified in the discourse, beyond a broad discussion of the ways in which the language surrounding these spaces supports or contrasts with the findings in texts about gardens.

There are 91 instances of *garden(s)* relating directly to the presence of squirrels, 39 instances relating to badgers, and 107 relating directly to hedgehogs in their respective corpora. Both physically and abstractly, gardens can be considered liminal spaces; they have been “viewed philosophically as the balancing point between human control on one hand and wild nature on the other” (Francis & Hester, 1990, p. 2) and are “perhaps the classic ‘hybrid’ landscape within geographic and anthropological thought” (Head & Muir, 2006, p. 508). As the word *garden(s)* features in all three corpora, it offers an ideal opportunity to

understand how different wildlife species are represented when they are present in this important liminal space between wild and domestic.

I found that contrasting anthropocentric values are activated in the discourses surrounding the focus species. The cluster analysis results containing *garden(s)* revealed that when hedgehogs are associated with this space, they are welcome and valued as a form of pest control (“hedgehogs are snuffling about in the garden looking for beetles and slugs”; “garden favourite”; and “Britain's favourite garden creature” (all CB, H4)). These results also indicated that grey squirrels are discussed in this context when they cause some “problem” (“grey squirrels are a problem in gardens” (CB, S6)). Figure 7.5 shows the diachronic distribution of *garden(s)* in the three corpora²⁷ and Tables 7.3, 7.4, 7.5, 7.6, and 7.7 show extracts demonstrating the main ways in which gardens feature in the discourse in association with the focus animals. The extracts provided in these tables were all identified through a qualitative analysis of concordance lines containing *garden(s)*.

²⁷ The graph only includes instances of *garden(s)* when it relates to the presence of the focus animals in gardens.

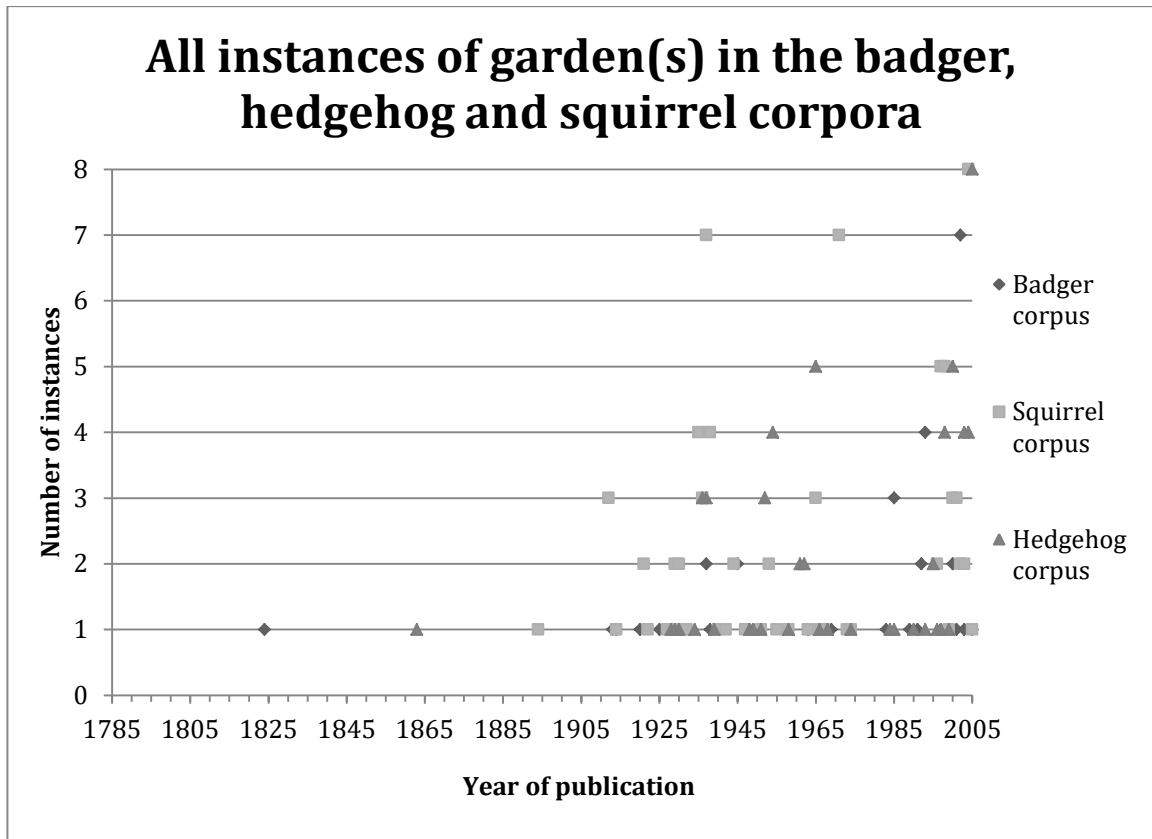


Figure 7.5 *garden(s)* in the hedgehog, badger, and squirrel corpora

The distribution shows that the association between gardens and the focus animals has increased over time, in line with the general increase in reporting about animals. There are noticeably high peaks in the hedgehog data in 1933, 2001, and 2002 and a trough in association between the focus animals and gardens in the late 1970s. These coincide with trends in the frequency of hedgehog reporting generally.

7.3.1 Aesthetically pleasing

The enjoyment people get from watching the focus animals is part of the reason they are said to be welcome in gardens, particularly in readers' letters.

Table 7.3 Extracts illustrating aesthetic value of animals in gardens

Ref	Corpus	Section	Extract	Date
9	Badger	Feature articles	Steve and Dee Wingrove of the Buckinghamshire Badger Group began watching badgers in their back garden eight years ago and now take an active part in badger protection	25/05/1925
10	Hedgehog	Letters to the editor	Mr. White may like to know that we once had a very friendly hedgehog . When the door to the garden was open he came up two small steps and ran about the room	31/01/1933
11	Squirrel	Letters to the editor	A red squirrel this morning in our garden, within sight of St. Paul's, seen whilst picking wild blackberries. There must be some hope for London still!	17/09/1965
12	Badger	News—from a correspondent	There are people in London suburbs who are on even friendlier relations with the adult animal. Badgers have been fed on kitchen scraps in a garden at Harold wood, and badger-feeding housewives in a south London borough had a system of telephoning friends so that they could come and watch the animals feeding on the garden path.	30/09/1969
13	Squirrel	Feature articles	The UK's most acrobatic garden animal, the grey squirrel , may strip your bark and gobble your rosebuds, but there are gardeners prepared to forgive its bad habits for its entertainment value.	06/09/1997
14	Hedgehog	Feature articles	NO, I don't hate dumb animals; just idiotic animal lovers. One wee timorous beastie I like to see in my garden is the hedgehog .	13/07/2002
15	Hedgehog	Feature articles	[Hedgehogs] are fun to watch in summer as they shuffle through the garden at dusk on food patrol.	07/10/2005

When the red squirrel is said to be present in gardens, it is a novelty (e.g. line 11).

There are just four texts reporting that red squirrels are present in gardens; they are all readers' letters published between 1953 and 2004, indicating the rarity of their presence relative to the other animals at this time (in line with the declining population), and—possibly—human disinterest in the species before the population had declined.

Perhaps surprisingly, entertainment value is sometimes prioritised over material factors such as property damage when an animal is enjoyable to watch (13). Where the presence of badgers is accepted and encouraged it is because people enjoy watching them (see lines 12 and 9). For grey squirrels this echoes the

reason for introducing them in the 1700s. The hedgehog here is described as “friendly” (10), which is part of a wider pattern of representation concerning hedgehogs performing useful actions. People experience animals visually but to judge an animal on how enjoyable it is to witness them—even placing entertainment value above concerns such as property damage—is strongly anthropocentric.

7.3.2 Domestic qualities

Often it is an animal’s domestic qualities or tameness that allows for it to be observed. This is also the reason for them to be welcome in gardens, and in certain cases, in houses.

Table 7.4 Extracts illustrating value of animal tameness in gardens

Ref	Corpus	Section	Extract	Date
16	Squirrel	News	years a female [grey] squirrel came almost daily into my garden, and if the study window was open ate nuts	30/04/1912
17	Squirrel	Feature articles	you may find the little rodents [grey squirrels] have become almost garden-trained.	06/09/1997

One of the very few contexts in which grey squirrels are welcome in gardens is when they interact with humans. In other words they are welcome when they display qualities of tameness (16), or are “garden trained” (17). In these extracts, and to some extent, those above, animals have crossed over to the (abstract) liminal space between wild and domestic for some people, making them more welcome in the garden. Importantly, these examples are all from 1912 onwards and exclude badgers, which are more “wild” in that they fulfill fewer of Galton’s (1865) conditions for domestication (section 2.3.1) and therefore are less easily observed than the other creatures.

7.3.3 Performing useful actions

The popularity and inclusion of animals that perform useful actions is the largest pattern of representation for hedgehogs. This is because hedgehogs predate on garden pests, though this is not always stated explicitly in the texts. The extracts below show that the hedgehog has been fairly consistently welcome in gardens since the mid-1900s. This is often a more subtle representation than the others; the ways that hedgehogs' pest-eating is mentioned is not usually as direct as: "I want to encourage hedgehogs into my garden *because* they eat pests", (though this is present, as line 24 shows). Hedgehogs are referred to in the corpus as "popular with gardeners" (23), or "friendly" or "friends" with gardeners (e.g. lines 21, 19, and 10). Evidence that this becomes an established way of describing hedgehogs is found in extract 21 where they are said to be "**known as the gardener's friend**" (emphasis added). This pattern also appears in external discourse such as in one guide to garden pests (Chinery, 2010, p. 15). The wider implication of this representation is that animals that do not provide any benefit to humans are not welcome.

Table 7.5 Extracts illustrating value of pest predation performed by animals in gardens

Ref	Corpus	Section	Focus	Extract	Date
18	Hedgehog	Letters to the editor	Predation (negative)	low down in a laurel bush she saw their [a pair of robins] nest full of eggs, and underneath was the cause of their distress – a large hedgehog . At once she picked up the intruder with her thick gardening gloves and deposited him over the fence at some distance into an adjoining field	28/08/1928
19	Hedgehog	Letters to the editor	Implied predation (positive)	May I please ask your readers before setting fire to any heap of garden rubbish accumulated from last year to examine it [...]? I appeal to garden-lovers as well as animal-lovers, as hedgehogs are invaluable friends to the garden	24/04/1954
20	Hedgehog	Letters to the editor	Predation (positive)	Our [an association of amateur gardener experimenters] work with hedgehogs show that these deserve the status of “honorary birds” destroying pests without any bitten buds and damaged fruit on the other side of the ledger.	22/07/1965
21	Hedgehog	News	Predation (positive)	The hedgehog , known as the gardener’s friend, eats mainly slugs, earthworms and beetles but will tackle snails, mushy fruit and the occasional vegetation	07/07/2001
22	Hedgehog	Feature articles	Predation (positive)	When does wildlife become unwelcome, and finally intolerable? Voles, fieldmice, rare dormice (if you are lucky enough to have them), frogs, toads, newts, grass-snakes and hedgehogs are all OK with me, and can help to keep down pests.	13/04/2002
23	Hedgehog	News	Predation (positive)	More than ever they [hedgehogs] are forced to scavenge for food in urban gardens. This makes them more popular with gardeners, delighted by their voracious appetite for pests such as bugs, slugs and snails.	20/06/2005
24	Hedgehog	Feature articles	Predation and enjoyable to watch (positive)	It is well worth providing winter lodgings for hedgehogs because they devour slugs and are fun to watch in summer as they shuffle through the garden at dusk on food patrol.	07/10/2005

This representation imposes a human relationship status onto hedgehogs and suggests that natural behaviours are carried out by hedgehogs deliberately in order to benefit humans. Hedgehog predation is not always considered positive, however. There are very few accounts of hedgehogs in gardens from the early texts in the hedgehog corpus (in line with the generally sparse distribution of texts at this time) but where they are mentioned, their reception is mixed. In the extract from 1928 (18), a hedgehog is described as an “intruder” in a garden and

it is removed for predated on robins' eggs. It seems that the motivation for this action is that robins are a preferred species over hedgehogs. Though there are few instances in the early years of the corpus that can provide an insight into the perception of hedgehogs at this time, later texts report the historically negative hedgehog reputation that I identified in the literature ("stealing the milk"; "considered verminous"; "spreading fleas" (*editorials/leaders*, 10/07/2002)).

7.3.4 Attacking humans

In a contrast to the friendly status of hedgehogs, both badgers and grey squirrels are associated with attacking humans and this takes place in gardens, as well as wider neighbourhoods (27). Badger and squirrel attacks on people in their gardens feature three times in the data.

Table 7.6 Extracts illustrating animal attacks on humans in gardens

Ref	Corpus	Section	Extract	Date
25	Squirrel	News	Mrs. Rose Hutchinson, of Victoria Gardens, near Beachy Head, had to be given a anti-tetanus injection today after a squirrel had attacked her while she was hanging out washing in her garden. It tore her apron and bit and scratched her arms. Mrs. Hutchinson was treated in hospital.	26/03/1963
26	Badger	News in brief	A milkman, Sidney Cooper, of Addlestone, when calling at a house in Eastworth-road, Chertsey, early yesterday morning, was attacked by a badger in the garden. Cooper picked up an iron bar and killed the animal with a blow on the head.	28/01/1989
27	Squirrel	News	Children have been assaulted and grown men chased round their gardens - by a squirrel . "Terrified" residents hide indoors for safety; their children are banned from playing outside.	07/11/2002

Though infrequent, animal attacks are part of a wider pattern of threat from badgers and grey squirrels in other contexts in the second half of the twentieth century, as will become clear in later sections.

7.3.5 Causing damage

The second largest pattern of representation in the context of gardens is the exclusion of animals that cause damage and the inclusion of animals that do not. Discussion of animals in this context is restricted to badgers and grey squirrels and again forms a contrast to the contribution of the hedgehog.

Table 7.7 Extracts discussing damage (not) caused by animals in gardens

Ref	Corpus	Section	Focus	Extract	Date
28	Squirrel	Letters to the editor	Welcome (not causing damage)	The grey squirrels in these gardens are much loved and do no harm, and feed on the lawns, &c., with the birds. Oliver Goldsmith mentions the various varieties, and says none are carnivorous and all deserve our protection.	19/02/1935
29	Squirrel	Letters to the editor	Welcome (not causing damage)	I never saw them [grey squirrels] attack birds, or found they did any damage in the garden.	30/04/1936
30	Squirrel	Letters to the editor	Welcome (not causing damage)	We have had grey squirrels here for many years, and considering the evil reputation they have earned elsewhere, I hardly dare say a word in their favour; and yet I have not met a single person who has actually seen them do one of the awful things laid to their charge. I do not molest them; they frequent our garden and plantations, I and I have never known them interfere with birds, nests, or fruit or do any damage.	14/08/1937
31	Badger	News	Unwelcome (causing damage)	The townspeople of Castle Cary in Somerset are to hold a second public meeting to decide what they can do about dozens of badgers that have set up home in the area, invading and damaging gardens and, it is feared, undermining the foundations of buildings.	23/08/1997
32	Squirrel	Feature articles	Unwelcome (causing damage)	Our garden squirrel population does, indeed, resemble a guerrilla militia: they know the terrain better than us, make ruthless, lightning raids on strategic targets (ie, ripe figs, newly-planted bulbs) then disappear into the landscape.	03/01/2004
33	Squirrel	Feature articles	Welcome (not causing damage)	Providing a constant supply of nuts over 15 years, I never have more than three or four [grey squirrels] at a time in my garden. Our trees, plants and birds flourish.	20/04/2004

Badgers are said to damage lawns and property in gardens (e.g. extract from readers' letter discussed in section 7.2 and line 31 in Table 7.7) and where grey

squirrels are said to damage gardens, the writer makes several clear references to war (32); this is a frequent feature of the grey squirrel discourse, which is discussed in 7.4.2.1).

Although the grey squirrel is generally unwelcome in gardens, there is more evidence of readers defending grey squirrels in this context than in any other. People who engage with grey squirrels in their gardens are prepared to write to the newspaper to report their experiences (e.g. lines 28, 29, 30, and 33). Whilst some readers explicitly mention grey squirrel destruction in gardens, this is unusual in the garden texts; rather, the letters indicate a general feeling that the grey squirrel is destructive. Where it is present, the representation appears to echo what is often published in *The Times* about the presence of grey squirrels in forests; the use of *destruct** is a major pattern in those texts. The extracts above imply that they would not be welcome if they did cause damage, though this is not always true when they are forgiven for being aesthetically pleasing.

Overall there is no obvious change over time for badgers and grey squirrels in terms of number of texts or trends in reasons for being (un)welcome in gardens. In the case of hedgehogs, their predatory behaviour is a constant feature of the discourse, bringing them in and out of favour over time. It is perhaps significant that hedgehogs become more welcome in human spaces as they decline in number.

The focus animals are welcome in gardens when they perform useful actions, when they display domestic qualities, or when they are aesthetically pleasing or enjoyable to watch; they are unwelcome in gardens when they cause damage,

when they are responsible for predation of favoured animals, or when they attack humans. Though some of the focus animals are more welcome in gardens than others, the underlying motivations for inclusion and exclusion are shared: it is a matter of what each species offers and what they cost humans that determines how welcome they are. It seems that a combination of anthropocentric values and the desire for order is responsible for differences; animals that contribute to order in a space that is a cross between human control and wild nature are welcome, whilst those who hinder human control are not.

In environmental management, animals are often described as belonging to neat dualisms such as “wild” versus “domestic” (Head & Muir, 2006)²⁸. When an animal does not fit neatly into ordered categories (e.g. when a dualism is ruptured) they fall into a liminal space. In this data, I have identified that this happens both in a physical sense (when animals enter gardens and other human spaces) and in an abstract sense (when a wild animal displays tame or domestic qualities). I found that in gardens, which can be considered a hybrid—part wild, part domestic—space, focus animals that exhibit tame behaviours are welcome. If liminal space is considered as a scale rather than a third order sitting centrally between two extremes, some of the focus animals occupy a position closer to tameness than other more “wild” animals; and some help to achieve order in gardens whilst others disrupt order. In contexts when animals are often

²⁸ Head and Muir are concerned with separationist environmental approaches to boundary marking and bounding processes with plans but I think this can be extended into public discourses (about animals) because this is what I have found in my data.

presented as wilder and/or more disruptive, there are a greater number of counter views represented in the discourse. It may be that liminality produces polarised views in order to restore order (i.e. a return to the idealistic dualisms and neat categorisations that are favoured). Some people feel the animal belongs on one side, whilst others believe that it belongs on the other. The focus animals can be seen to belong to different parts of the scale with the hedgehog as a tame, helpful animal causing low levels of conflict, and the badger a wilder, destructive animal causing higher levels of conflict, for instance.

7.4 National identity

7.4.1 Pride and symbolism

There are a variety of ways in which origin and national identity are represented in the corpora: through consistent and changing descriptors, ethnonyms, and xenonyms; through analogy with other animals; and more indirectly, through descriptions of actions and attributes associated with humans of the same nationality, which at times extends to stereotyping.

National identity is the largest pattern of representation in the squirrel corpus. Three of the top 20 lexical keywords in the KC analysis (“native”, “alien”, and “American”) show that these descriptors are a substantial part of the data *as a whole* (i.e. the complete, unsegmented corpus). The diachronic analyses of the segmented corpus revealed that words denoting origin and nationality are also a stable part of the way squirrels are represented in the discourse *over time*, from

periods S3 through S6²⁹. Figure 7.6 shows the diachronic distribution of words denoting origin and national identity in the squirrel corpus. No words denoting the national identity of squirrels appear before 1914 (*american*). Though it is a native British species, it is thought that the red squirrel is associated with “Englishness rather than Britishness” (Bestwick, 2013, p. 177). As I demonstrate below, it is assigned both British and English identities in news discourse, which is often contrasted against the grey squirrels’ identity as a non-native American species.

²⁹ Red squirrels: “native” (DC, red query and AM and CO, squirrel query²⁹); “our [own]” (AM, S3 and S4 red query); “indigenous” (AM S3 and S4, and DC, S4); “Britain” and “England” (DC initiating S6 squirrel and red queries). There are 98 instances of *native* referring to the red squirrel in the squirrel corpus (first highlighted in CB, DC, AM, and CO corpus analysis).

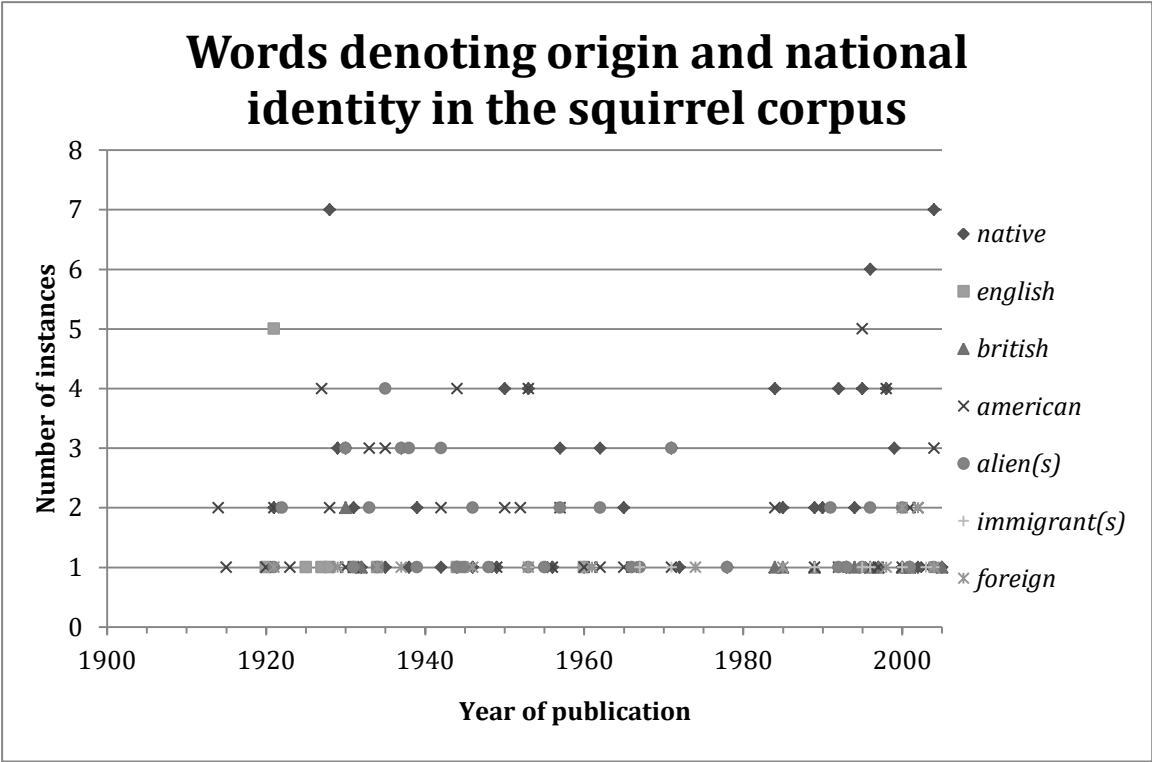


Figure 7.6 Words denoting origin and national identity in the squirrel corpus

This pattern of national identity was also found in the corpus results for the other animals. The hedgehog is described as “one of the most popular native animals” (CB H4, 07/07/2001) in a quote from an academic in the context of discussing hedgehog decline and conservation. Elsewhere, the diachronic collocate, “British” (DC initiating H4) is part of the organisation name *British Hedgehog Preservation Society*. With its ancient ties to the land, the badger is admired for being a native species; it is described as “a British animal” (CB B3); and “one of Britain’s best-loved mammals” (CB B6). The badger’s identity as a British animal appears in a more minor way than for the other animals, and has a wider diachronic distribution than that of the red squirrel and hedgehog.

An examination of the ethnonyms and xenonyms returned in the corpus analysis results revealed that the red was referred to as “indigenous” and “native” less frequently after periods S3 and S4, and greys were referred to using the xenonyms “alien” (AM S4, CB S6), “foreign” (CB, S6), and “immigrants” (CB S6) more in later periods of the corpus. I also found that a sense of national pride and of belonging to Britain and British people was attached to the badger and red squirrel in news texts, which in some instances extends to their symbolising the country or aspects of the country’s past. Table 7.8 provides extracts of texts from the *British* and *English* concordance lines that highlight a sense of national pride or patriotism; the hedgehog texts, in contrast, did not reveal any explicit sense of pride or emblemism.

Table 7.8 Extracts demonstrating symbolic status of British wildlife species

Ref	Corpus	Section	Extract	Date
34	Squirrel	Editorials/ leaders	They [the Classics] deserve as much respect as such threatened natural symbols of British identity as the red squirrel , the Tube and Parliament.	17/04/2000
35	Squirrel	Feature articles	The red squirrel stands for a kind of lost England: Edwardian summers, village cricket, real pubs, honey still for tea.	15/11/2000
36	Squirrel	Feature articles	the red squirrel has become an emblem of decline: something good and precious that is being destroyed by the crassness of the modern world	15/11/2000
37	Squirrel	Editorials/ leaders	a much-loved beast [the red squirrel] which, perhaps more than any other furry creature, triggers British nostalgia for a fading rural past	15/11/2000
38	Badger	Letters to the editor	If we can be granted a crest, what could we have better than a badger ? The badger is a British animal, it is home-loving and quiet and peaceful when not molested but when interfered with or attacked there is no animal in the world that shows greater tenacity and courage. It never gives in while life endures. The badger, like the Home Guards, patrols the countryside by night, and, if we are to have colours, why not the badger's black and white?	03/08/1940
39	Badger	Politics and Parliament	He [the badger] has long ago taken out full British nationality. He has been here longer than we have by a century	16/02/1972
40	Badger	Feature articles	OF ALL Britain's creatures, few are as British as the badger	18/05/2002
41	Badger	Feature articles	"The most ancient Briton of English beasts" is how the early 20th-century poet Edward Thomas described a badger in his poem The Combe. And badgers really are ancient.	18/05/2002

Notably, these appear fairly late in the corpus, with the earliest instance from 1940. All red squirrel extracts were published in the 2000s. In these texts, red squirrels are presented as a romantic symbol of Englishness and, as such, become something which must be protected despite the fact that if red squirrel populations recovered to past levels, they too would have to be culled as a forest pest, as was the case historically. Red squirrels are described as one of a number of “threatened natural symbols of British identity” (34); it is the “unBritish” (*editorials/leaders*, 09/09/1999) grey squirrels that are a threat to them and, by implication, to British identity.

The fact that some of these representations border on the symbolic (34, 35, 36, and 37), demonstrates again that the line between physical and abstract space is unclear in the representation of these animals. Nationality can be considered a key “space” that is realised both through the animals’ occupation of physical space (i.e. their origin and presence in Britain) and their assignment to abstract space (i.e. native or non-native classifications and their associated status as icons and symbols).

7.4.2 Parallels between the representation of squirrels and hedgehogs and the language of human social issues

I identified parallels between the representation of squirrels and hedgehogs and the language of human social issues, particularly the discourse surrounding the issue of immigration. In the squirrel corpus, these parallels centre round values of inclusion and exclusion. Specific discursive strategies employed here include the use of common immigration metaphors, stereotyping, and positive-self,

negative-other presentation. Each of these strategies is illustrated in more detail below.

There are a number of other parallels with human social issues that I identified, which, owing to space, cannot be explored in greater detail here. One is the othering of non-native species by analogy with similar “others” at times of increased conflict surrounding non-native species. In this case, the grey squirrel is frequently discussed in context with other “invasive” species such as the muskrat, little owl, rhododendron, and American mink. References appear most often between 1920 and 1950 (between the late-1990s and early 2000s for American mink). This representation draws on pre-established knowledge of problematic non-native species to better understand how a new species might fit in a non-native context.

7.4.2.1 Common metaphors paralleled with immigration discourse

I found that metaphors that have been identified in discourse about human immigration (e.g. see Anderson, 2017; Hart, 2010; Salahshour, 2016)—namely, WAR, WATER, INSECTS—are also present in news discourse about wildlife. Of these, military and war words form a prominent and consistent pattern in the squirrel corpus. This metaphor is present in the corpus analysis results for grey and red squirrels from the perspective of attack and defence respectively, as shown in Table 7.9.

Table 7.9 War language in the squirrel corpus

Ref	Section	Focus	Extract	Analysis	Date
42	Letters to the editor	Grey squirrel attack	I feel sure that all true naturalists will deplore the invasion of the grey species	CO, grey query, S3	17/12/1921
43	Letters to the editor	Balanced combative relationship	several instances of actual combat between the [red and grey] species have, however, been recorded	Qualitative analysis	16/03/1929
44	News	Grey squirrel attack	The latest survey of Mr. A. D. Middleton, at University Museum, Oxford, reveals that grey squirrels are invading new territory both to the East and West.	CB, grey query, S4	07/04/1936
45	News	Red squirrel defence	If not recaptured, it [a pet red squirrel] could easily have found its way to Sydenham Hill, which memory recalls as a last outpost of the red squirrel in the London area.	CO, red query, S5	30/09/1965
46	News	Grey squirrel attack	I cannot remember ever seeing a grey squirrel in my uncle's garden, though the American invader was by then established almost everywhere else within a 50-mile radius.	Qualitative analysis	30/09/1965
47	Letters to the editor	Grey squirrel attack	This alien invader [the grey squirrel] has also eliminated over most of the country that far more attractive native mammal, the red squirrel.	Qualitative analysis	11/10/1971
48	Feature articles	Red squirrel defence	Brownsea Island is one of the last footholds of the red squirrel in Britain.	CB, red query, S6	30/03/1990
49	Editorials/ leaders	Grey squirrel attack	The Forestry Commission's sophisticated new trap [...] should be concentrated in the vulnerable border areas where grey squirrels are pushing back the reds ³⁰	CB, grey query, S6	09/09/1992
50	Letters to the editor	Red squirrel defence	Here in Northumberland, almost the last refuge of the red squirrel in England, we still have a very high population of reds. [...] The only real threat to the red is the grey, advancing north	CO, red query, S6	29/09/1992
51	News	Grey squirrel attack	AMERICAN grey squirrels have invaded one of the last bastions in England of the native red	Qualitative analysis	16/11/1995
52	News	Red squirrel defence	Scotland is the main red stronghold with 120,000, England having only 30,000 and Wales 10,000	CB, red query, S6	16/11/1995
53	Feature articles	Red squirrel defence	Northumberland and north Cumbria are regarded as the last great bastions of the red squirrel in England.	CB, red query, S6	16/12/1995
54	News	Red squirrel defence	Scotland with 120,000 [red squirrels] is the main bastion of the red squirrel.	CB, red query, S6	06/02/1996
55	News	Red squirrel defence	The Isle of Wight is their [red squirrels] last stronghold in the south	CB, red query, S6	21/03/1996
56	News	Red squirrel defence	The native red squirrel is being pressed north into ever smaller pockets by its grey cousin	CB, red query, S6	06/07/1999
57	Feature articles	Grey squirrel attack	The pattern has been inexorable: when the greys move in , the reds die out	Qualitative analysis	15/11/2000

³⁰ Macmillan, Merriam Webster, Longman, and Oxford Dictionaries give the military sense of push (back).

Examples of greys in the position of attacker appear in lines 42, 44, 46, 47, 49, 51, and 57 and examples of reds defending their remaining habitat or territory can be found in lines 45, 48, 50, 52, 53, 54, 55, and 56. Insect metaphors (e.g. “where grey squirrels swarm dormice still exist” (*news*, 19/08/1946); “the pest may swarm over the surrounding woods and fields” (*editorials/leaders*, 03/07/1937) and water metaphors (e.g. “they swept all before them” (*feature articles*, 05/12/1989) are not as common as war metaphors in the squirrel corpus but they are present and form part of this wider pattern of representation. In recent texts, a combination of immigration metaphors is sometimes present in the vocabulary (e.g. WAR and WATER in “We are waging a campaign to stem this alien tide” (*letters to the editor*, 29/09/1992)). Diachronically, grey squirrels are established in the role of invader around the 1930s and then, when this role is fully established, the defence discourse surrounding the red squirrel evolves as if in response. Slightly before this time, there is evidence of a more balanced combative relationship between the two species (43), though it is not typical.

Human motivations and actions are attributed to squirrels here. It is taken for granted that territory should be fought over and defended from attackers but these are “human” motivations that presuppose will or desire to act—or react—in the same way as humans in the same situation. This representation goes further than attributing anthropomorphic values and desires, however. Close qualitative analysis revealed that humans involve themselves once a combative relationship between red and grey squirrels has been established. Table 7.10 below shows extracts from the squirrel corpus that contain language relating to war and military actions taken by humans against grey squirrels both on behalf

of the red squirrel and for the forestry industry. These extracts were identified in a qualitative analysis of the squirrel corpus.

Table 7.10 Extracts illustrating human involvement in a “war” against greys

Ref	Section	Focus	Extract	Date
58	News	Destructive habits	It was not yet possible to form any definite conclusion as to the results of the voluntary campaign to control grey squirrels	24/12/1938
59	Letters to the editor Quoted two days later in News	Destructive habits	Unless a determined and comprehensive effort is made to combat the grey squirrel menace it is impossible to "estimate the return on capital invested" in forestry. [Swainson, National Anti-Grey Squirrel Campaign] ... "A determined and comprehensive effort to combat the grey squirrel menace" is called for in the correspondence columns of <i>The Times</i> [Swainson quoted by news correspondent]	04/09/1945 06/09/1945
60	Feature articles	Red squirrels	We're drawing up the battle lines . We don't want greys in the North East. There is a pride here in red squirrels	16/12/1995
61	Feature articles	Red squirrels	With the red squirrel almost routed, should we cull sentimentality and declare all-out war on the grey?	12/04/2004

The extracts in line 59 show the influence that Swainson of the National Anti-Grey Squirrel Campaign had on the representation of the grey squirrel. He was a prolific letter-writer in the 1930s and his views on grey squirrels were often repeated in the columns of *The Times*, both with and without attribution.

The alignment of humans with red squirrels in this battle for territory might be expected considering the symbolic representation of the red squirrel as an icon of Britishness. It may be that decline of red squirrel populations is more relevant to ordinary people than forestry damage so it is conflated with the underlying issue of loss of industry to inspire public cooperation in grey squirrel control. This possibility is reflected in the following extracts.

It was to be hoped that the propaganda undertaken would succeed in convincing every member of the public that, while our native red squirrel could be encouraged without any fear of damage to agriculture or horticulture, the alien grey squirrel belied its appearance and was a pest for which there was no room in this country.

News, 24/12/1938

Could it be that the forestry industry, which traditionally has preferred squirrels dead, regardless of colour, has now identified conservation of the native red as a good public relations wheeze, providing cover for bulk killing of the far commoner greys?

Letters to the editor, 08/03/1996

7.4.2.2 Positive self- and negative other- presentation

Opposition, contrast, and competition between red and grey squirrels are key features of their representation as native and non-native animals. I found evidence of British animal superiority over non-native species, which is demonstrated in particular by the consistent comparison and juxtaposition of red and grey squirrels. These animals often appear in the same sentence or in parallel structures in the same text as shown in the following example, which contrasts the two species' Latin names, appearance, character, and actions.

The native red squirrel, *Sciurus vulgaris*, has tufted ears, a chocolate coat in winter and a chestnut red coat in summer and eats pine cones. It has a shy, retiring nature, and prefers coniferous forests, where it spends most of its time up the trees. The grey, *Sciurus carolinensis*, weighs twice as much, is grey in winter and yellow-brown in summer, favours broadleaved woodland and dines a la carte on anything from acorns to birds' eggs and the contents of dustbins. It strips the young bark off trees in spring because, like all rodents, it has to gnaw and relieve its aggression after the winter. It is prolific, unBritish and a serious pest.

Editorials/leaders, 09/09/1992

Thus, opposition between the species is created where it may not exist in nature (see 3.4.1 for evidence that grey and red squirrels can cohabit harmoniously). I identified patterns of competition vocabulary and red squirrels' vulnerability to grey squirrels, both of which deepen this sense of opposition, and the further vilification of the grey squirrel as a criminal element. Table 7.11 provides illustrative examples from the squirrel corpus identified through CB and qualitative analysis; further extracts are provided in Appendix H.

Table 7.11 Extracts from the squirrel corpus analysis demonstrating opposition between red and grey squirrels

Ref	Details	Focus	Extract	Date
62	Letters to the editor	Grey squirrel criminality	[the grey squirrel] kills the red squirrel and by robbing wild birds' nests of their eggs may exterminate not only its rival, but our singing and other birds.	16/12/1921
63	Letters to the editor	Red squirrel superiority	they [grey squirrels] have none of the endearing qualities of our native, fascinating little rodent	17/12/1921
64	Letters to the editor	Grey squirrel criminality	[grey squirrels] are engaged in the damage of trees and plants and in robbing birds' nests of the eggs.	20/12/1921
65	Letters to the editor	Grey squirrel criminality	It [the grey squirrel] is very active on the ground, and, in addition to robbing gardens of their fruit, it nips off the tips of the shoots of nut and apple trees, and barks all kinds of trees.	22/08/1927
66	Letters to the editor	Grey squirrel criminality	Sir Alfred Pease states that he has never met a single person who had actually witnessed a grey squirrel committing a crime . Will he accept my written declaration that I saw a grey squirrel climb up a thorn tree and descend with a young bird in its mouth?	18/08/1937
67	News	Grey squirrel criminality	the American grey squirrels are hustlers	01/10/1942
68	News	Grey squirrel criminality	So, in other winters, have I seen grey squirrels loitering with, it seemed to me, evil intentions among a crowd of chaffinches	04/03/1947
69	News	Red squirrel superiority—better pets	Squirrels, although he entered a <i>caveat</i> about the grey squirrel, could be delightful pets	02/01/1951
70	News	Squirrel competition/ red squirrel vulnerability	the commission's concern was not with the activities of the native species, the red squirrel, which was struggling for existence against fierce competition from its American relative	11/03/1953
71	Letters to the editor	Red squirrel superiority—more attractive	This alien invader [the grey squirrel] has also eliminated over most of the country that far more attractive native mammal, the red squirrel.	11/10/1971
72	Letters to the editor	Red squirrel vulnerable	from America has now ousted the smaller , native red squirrel from most parts of the kingdom	29/09/1984
73	News	Squirrel competition	red squirrels could be competing unsuccessfully with the grey squirrels for resources and living space	16/02/1985
74	Feature articles	Squirrel competition	Competition for resources is believed to be the major factor in the war of the squirrels	05/12/1989

Ref	Details	Focus	Extract	Date
75	Feature articles	Red squirrel vulnerable	Since then it [the grey squirrel] has spread throughout much of England, Wales and the lowlands of Scotland, driving out the native red squirrel, <i>Sciurus vulgaris</i> , which is now rare	05/12/1989
76	News	Grey squirrel criminality	In North America, where it does not show the same hooligan tendencies, the grey squirrel is a delicacy	21/08/1990
77	Feature articles	Red squirrel vulnerable	Canada geese are not natives. Like the rhododendron, the grey squirrel and the foreign wife, they are an import that has flourished in competition with apparently weaker native species.	16/04/1994
78	Feature articles	Squirrel competition/ red squirrels vulnerable	So red squirrels are left with an unhealthy diet of acorns in many broadleaf forests, whereas the greys have an abundance of food sources where both compete .	08/05/1995
79	News	Squirrel competition/ red squirrels vulnerable	Research has indicated that grey squirrels are beating red squirrels in the battle for food, leaving the reds with poor diets.	21/03/1996
80	Feature articles	Squirrel competition/ red squirrels vulnerable	Other mammals such as the red squirrel find it hard to compete for the same food against the bolder and bigger North American grey squirrel that arrived in Britain 100 years ago.	06/04/2001
81	News	Squirrel competition/ red squirrels vulnerable	Red squirrels have been wiped out in most areas since the 1940s by their larger grey cousins, which were imported from America and are better able to compete for food	21/06/2001
82	News	Squirrel competition/ red squirrel vulnerable	The red squirrel is considered threatened because of competition from the introduced American grey squirrel	09/10/2002
83	Feature articles	Grey squirrel inferior	the greys even then, with their fierce, rat-like physiognomy, were bad news	12/04/2004
84	Feature articles	Red squirrel vulnerable	a red would have no chance against the larger grey in a battle over territory	12/04/2004
85	Feature articles	Grey squirrel criminality	IN THE 1950s the grey squirrel flourished in the grounds of the offices where I worked, to the delight of the secretarial staff, who fed them, and to the extreme distaste of others, who regarded them as immigrant mobster tree-rats with bushy tails.	20/04/2004
86	News	Red squirrel vulnerable	2. 5 million greys in Britain, outnumbering the native red by 66 to one.	14/05/2005

The extracts show that native red squirrels are represented as better or superior to grey squirrels in ways ranging from their qualities (63), through to their greater physical attractiveness (71) and desirability as pets (69). This representation declines over time. The lack of visual appeal in grey squirrels invokes the topos of disadvantage, which is highlighted in descriptions of its ear shape, colour, size, and likeness to rats (83). It is advanced by discussion of the grey squirrel being of no cultural or (more frequently) economic value; in fact, the grey squirrel is often described as costing money.

The pattern of grey squirrel criminality is most prominent in the 1920s but is present up to the latest texts in the corpus. Greys are described as “mobster” (85), “hooligan” (76), and “hustlers” (67). Their “crimes” include preying on birds (66), “robbing” eggs (64, and 62) and fruit (65), and “loitering [with] evil intentions” (68).

There is also a consistent pattern of vulnerability and victimization of red squirrels caused by grey squirrels in the most clear-cut instances, or as a consequence of grey squirrels’ presence in Britain in the more subtle cases. Here, red squirrels are portrayed as small and vulnerable animals, (72 and 77) that are “struggling for existence” (70), outnumbered (86), “ousted” (72) and driven out (75) by “larger” greys squirrels in defence of their territory (84). These representations increase over time.

Direct references to squirrel competition appear in the 1950s, seemingly as an extension of the pattern of red squirrel vulnerability that was established before (82, 81, 80, 73, 74, 79, and 78); they represent red squirrels as the underdog

against a grey bully. Combined with the sentimentality attached to the red squirrel’s symbolic representation of Britishness or Englishness and as part of pastoral rural England, this generates considerable public sympathy for its plight. The other side of this is that the grey squirrel is thrust into the role of villain, which not only becomes established in the discourse, but has implications for its subsequent treatment. In other words, if the red squirrel—and by extension, the ideals it symbolises—is under threat, the logical solution is that the threat must be removed. First grey squirrels became the object of culls to curb the population in the same way as red squirrels were culled before. Second, new legislation was created for the protection of reds and destruction of greys. Furthermore, it becomes very difficult to discuss “negative” aspects of the red squirrel’s character and behaviours, even where they align with those criticised in connection with the grey squirrel (such as plant damage). Evidence of this is found only very infrequently in the corpus (owing to the rare occurrence of red squirrel criticism). Table 7.12 below highlights some examples identified through qualitative analysis of the squirrel corpus.

Table 7.12 Red squirrel criticism

Ref	Section	Extract	Date
87	Editorials/ leaders	the truth is that the red squirrel is a little villain, too, but so handsome that most people are glad to see him	25/05/1953
88	News	The grey squirrel is both wasteful and untidy when dealing, for instance, with the hazel nuts now ripening in English woodland, showering them down half-eaten and not bothering, afterwards, to "clean up" below. Our own red squirrel is untidy, too, especially with fir cones, but it is difficult to see how these could be dealt with without making a mess on the pinewood floor. The red squirrel is in this respect much less untidy than the crossbills.	13/08/1957
89	News	In a one-time standard work of reference, published long before the grey squirrel's introduction, there is the regretful admission that red squirrels devour both young birds and eggs	01/02/1962
90	Letters to the editor	Sir, Your report about squirrels (early editions, February 29) shows that the myth of the native red [squirrel's decline] is well established — so much so that to refer to the facts begins to feel impolite.	08/03/1996

Negative aspects of the red squirrel's presence are qualified here. Allowances appear to be made for red squirrels because they have greater visual appeal (87) and because their task is difficult but they are less untidy than other animals (88); any admission of red squirrel fault is "regretful" (89). Extract 90 offers some explanation as to why these instances are so few: the responsibility of the grey squirrel for the decline of the red is so well recognised that it became difficult to discuss the control, decline, and extinction (in Ireland and Scotland) of red squirrels that took place before grey squirrels were introduced. To consider that the red squirrel population is responsible for damage historically and that the grey squirrel may not be (entirely) responsible for their continued decline would be to deny a well-established myth. The discourse becomes so saturated with oppositional language that tree damage in the forestry industry—something that is important early on—becomes a secondary issue or even completely overlooked in favour of this narrative.

7.4.2.3 Asylum seekers and immigrants

Direct parallels with human immigration are also present in the hedgehog corpus when these animals are discussed in non-native contexts, as the following instances show. Researchers examining the representation of refugees, asylum seekers and immigrants (see Gabrielatos, 2009 for details) have shown that differing referential strategies in (im)migration discourse have real-life consequences for human social groups. This also seems to be reflected in the differences in discourses surrounding the non-native classifications of the grey squirrel and the hedgehog. For example, in a close reading of one key text "Reds VS Greys" from September 1992, I found that grey squirrels are discussed in

direct reference to one human migrant group. The NP “the grey peril” here probably alludes to the anti-Chinese moral panic “yellow peril” dating back to the late 1800s and early 1900s³¹.

A few new roles for some old refugees

As many of the Hebridean refugees as can be persuaded into traps should be given asylum on the mainland

Hedgehog corpus, *Editorials/leaders*, 10th July 2002

The grey peril is out of control according to a survey published yesterday.

Squirrel corpus, *Editorials/leaders*, 9th September 1992

In similar terms, the journey of a fictional hedgehog, Spike, is described in a satirical report about the hedgehog relocation scheme that moved hedgehogs from the Hebridean Islands to mainland Britain (text dated 9th April 2003, Appendix I). This text relies on the readers’ pre-established understanding of a successful human migrant journey and the actors and systems involved.

Spike is one victim fleeing a “war” (or the “culling fields”!³²) in the north to start a new life in England; his family—four named brothers—are left behind. Spike is described as “immigrant labour”, “a victim who sought asylum”, and an “asylum

³¹ From 1900 to the Second World War there were actually only a few hundred Chinese immigrants in Britain and the moral panic that ensued was disproportionate to the issue (Adrian, 1997).

³² A play on the Cambodian “Killing Fields”, which is in reference to burial sites of 1 million people during the mass killings of the Khmer Rouge Empire.

seeker” and many of the roles of other social actors in this text resemble those played by humans in an immigration narrative: “the ferret patrols”, “the guards”, “a notorious mammal smuggler and racketeer”. Other familiar aspects of immigration are the methods of travel (“some hedgehogs tried to do it by seaplane”; “slip onto the ferry at night”; “the right southbound lorry”; “another boat ride”); locations associated with immigration (“detention centre”; “cell”); and media mistruths (“They wrote lies about us in the Daily Snipe”; “Hebridean hedgehogs fell victim to prejudice and hysteria”; “They spread scare stories”). Perhaps ironically, this piece is more sympathetic than news texts of the period about human immigration (“The world seems to have forgotten about Uist”).

Describing grey squirrels as immigrants and hedgehogs as asylum seekers and refugees has implications for the way they are perceived and it demonstrates that the hedgehogs are afforded a good deal more sympathy than the squirrels. Though these representations are established at different times (grey squirrels in the 1930s and hedgehogs in the 2000s), I do not think that time is the main factor influencing the level of sympathy; both the literature and the squirrel corpus demonstrate that immigration features negatively in modern news about humans and animals. Rather I think it is the “nativeness” of the animals in question that ultimately influences this. The hedgehog is not reported in negative immigration terms on mainland Britain since it is native there.

This representation has implications for human immigrant groups, also, considering grey squirrels are negatively represented in human immigrant terms (i.e. it is an insult to the species to describe it in these terms). It suggests that

certain human (im)migrant groups are less popular than native British wildlife species.

7.4.2.4 National identity of American squirrels

The modifier *American* is a stable part of the discourse surrounding grey squirrels (AM and CO grey queries³³) appearing in all analysis periods S3 through S6. It is also the highest frequency collocate of *grey*³⁴ that is not a function word (with the exceptions of *red*, *squirrel* and *squirrels*). This observation is significant because although there are four separate species that the term “grey squirrel” may refer to, they are all indigenous to America. Additionally, it is not necessary to differentiate between the imported grey squirrel and the native British species since their colour identifiers (grey and red) already achieve this. It seems more likely that the label *American* serves some ideological purpose. Though it is possible that the early instances could still be interpreted as informative, the first instance of *American grey* appears in January 1914, many years after the introduction of grey squirrels; this and the earliest instances are from seemingly neutral texts about the grey squirrel, which is not the case for later instances where the representation of the grey squirrel in the corpus is largely negative³⁵. The negative American stereotype put forward by the early travel writers (see 3.4.1) can be seen in the representation of the grey squirrel in my data; Table

³³ In the “squirrel query” for the CO analysis “American” appears in S3, S4 and S6 and “American” also appears in S3, S4 and S6 of the “squirrel query” for the DC analysis.

³⁴ with a frequency of 48 (ranked 29th) (5L and 5R)

³⁵ A query for *grey squirrel* + VERB* returned 461 concordance lines, of which only 31 were found to be overtly positive and some of those contain a qualifying “but” or “though” clause which follows up with something negative.

7.13 below shows a selection from a corpus query for “American” and “grey” and other qualitative analysis. The American origin of grey squirrels is mentioned in the wider context of nearly all these illustrative examples from the squirrel corpus.

Table 7.13 American stereotyping in the representation of the grey squirrel

Ref	Section	Focus	Extract	Date
91	News	Greed	There was no doubt at all that the grey squirrel would and did suck the eggs of any and every bird wherever he found them.	27/03/1922
92	News	Greed	general one, because, if all grey squirrels were as eager eaters of eggs	27/10/1930
93	Letters to the editor	Vulgar speech	have these coarse-headed "squirrel-rats" killed all the really harmless and pretty red squirrels	16/05/1936
94	News	Vulgar speech	[two grey squirrels] took turns to curse and swear , halting, with twitching tails, to shout rude things at one another .	04/01/1944
95	News	Manner	Over-abundance and a brazen impudence have made the grey squirrel a menace	06/09/1945
96	Editorials/leaders	Greed	Like greedy boys they take more than they can eat . They will collect strawberries in neat heaps, and then forget them	20/11/2950
97	News	Interloper (cf. Banks, 1908)	It is good that the native species [...] has been chosen for this purpose [a poster campaign], and not the American interloper now more familiar over much of England.	13/08/1957
98	News	Actions—untidy	The grey squirrel is both wasteful and untidy when dealing, for instance, with the hazel nuts [...] showering them down half-eaten and not bothering, afterwards, to "clean up" below.	13/08/1957
99	News	Manner	As the red squirrel declines, its larger and more assertive grey cousin , introduced from North America a century ago, is moving northwards, colonising red territory.	09/09/1992
100	Feature articles	Actions	At the same time the Grey are depriving the reds of hazelnuts	08/05/1995
101	News	Actions (cf. Banks, 1908)	AMERICAN grey squirrels have invaded one of the last bastions in England of the native red, which has been in decline for much of this century.	16/11/1995
102	Feature articles	Greed (forgiven)	The UK's most acrobatic garden animal, the grey squirrel, may strip your bark and gobble your rosebuds, but there are gardeners prepared to forgive its bad habits for its entertainment value.	06/09/1997
103	Feature articles	Actions—untidy	Maybe it is because [grey] squirrels are such wasteful feeders that they are so hated.	14/02/1998
104	Feature articles	Greed	the gourmet Grey will happily scoff its berries with a few birds	14/02/1998
105	Feature articles	Manner	the bolder and bigger North American grey squirrel that arrived in Britain 100 years ago.	06/04/2001
106	Feature articles	Greed	The greys need a lot of food .	29/03/2003
107	Feature articles	Manner	While the American grey is pleasing to see, their [grey squirrels'] introduction has led to the dwindling numbers of reds which are unable to compete with their bigger and brasher American cousins.	12/04/2004
108	Feature articles	Greed	when [grey] squirrels devour whole nestfuls of newly hatched great tits just outside our door.	16/07/2005

Grey squirrels are portrayed as bold (105), brash (107), vulgar (93, 94), brazen (95), and assertive (99) in their manner. In their actions they are said to be wasteful (98), untidy (97, 103), greedy (91, 92, 96, 102, 104, 106, 108), and self-serving, depriving the native species of resources (100). Elsewhere in the corpus, grey squirrels are said to have “abused the hospitality freely given” (*editorials/leaders*, 12/06/1935). The term “interlopers” (97) is used by Elizabeth Banks to describe American tourists that “invaded” Victorian London in the summer months (see chapter 3); INVADE is a frequent pattern in the squirrel corpus (e.g. “foreign invaders” (*letters to the editor*, 01/01/1929); “alien invaders” (*news*, 12/06/1935); “grey invasion of Britain” (*editorials/leaders*, 15/11/2000) and others as above). As the dates for these examples show, this representation is fairly stable over time once grey squirrels were firmly established in Britain. Limited evidence of the grey squirrel being accepted as belonging to the UK is present later in the corpus; extract 102 from 1997 praises the animal for its entertainment value, while maintaining greed as one of its characteristics. American stereotypes are absent in period S5 (1959 – 1987); the distribution of texts published about the squirrel and the other focus animals during this period is more sparse than at these other times, however.

Xenonyms, ethnonyms, and other parallels with human immigration discourse used in wildlife news realise the spatial practices of inclusion and exclusion (in line with Philo, 1998, p. 53). Specifically, the use of *American* (along with *alien* and *immigrant*) to refer to grey squirrels realises the referential strategy of de-spatialisation (Reisigl & Wodak, 2001), which presents the animals as social actors from a different place and by implication, as members of an out-group.

Conversely, the modifiers, *native*, *English*, *our* and *indigenous*, present red squirrels as belonging to the same group as the (majority of) readers of *The Times*: the in-group.

The combination of animals as symbols of a nation and national pride, attributing stereotypical characteristics, and the othering of non-native animals in the same way as humans can lead to using discussion of animals to provide comment on other human social groups. This may be related to zoomorphy (the metaphorical attribution of (often negative) animal features and characteristics to humans; e.g. “fat pig” and “mutton dressed as lamb”). That said, it is a less direct means of commenting on human social groups than describing humans in animal terms. Rather, the animals (and the contexts in which they appear in discourse) are mediums through which social comment may be made. The writers of these texts are not claiming that American people have the characteristics of squirrels but rather in discussing squirrels they imply that the reason that they have particular qualities is *because* they are American. This might allow for frustrations with America to be vented without explicit comment.

The appearance and presence of certain representations at key periods in time is a key factor in identifying this feature. There is some indication that the representation of the grey squirrel may be sensitive to historical periods of tension and harmony between Britain and America and as such, the grey squirrel may have served metaphorically as an outlet for anti-American sentiment held in Britain in the 1800s and 1900s. Spikes in the publication of anti-grey squirrel news that coincide with strained Anglo-American relations appear in 1936 and 1937 (the time of the US “Neutrality Acts” during the Second World War); and

1983 (coinciding with the US invasion of Grenada, a Commonwealth country. Other, smaller parallels can be found in 1942, coinciding with the US congress' "Quit India" movement, which promoted Indian independence from Britain's colonial rule. At this time the colonizing behaviours of grey squirrels are discussed in the news ("year by year the interloper spreads farther west and north. The story of the American grey squirrel in England is one of rapid and amazingly successful colonization" (*news*, 08/01/1942)).

From the opposite perspective there is a peak in the representation of red squirrel vulnerability in the early 1920s that coincides with a period of debt owed to the US and diminished Royal Naval power. Perhaps most notably, there is an absence of anti-grey squirrel texts in 1917, the year the USA joined the First World War—though there are limited anti-grey squirrel texts before this time—and there are no anti-grey squirrel texts in 1940, the year that the US granted the UK "all aid short of war". There is just one anti-grey squirrel text in 1941—a reader's letter that is comparatively mild in tone compared to earlier texts ("It may interest your readers to learn that grey squirrels, a pest from which it is admittedly desirable to rid this country, are not merely edible but provide an agreeable food" (19/02/1941)). This year was one of major cooperation with the US following the bombing of Pearl Harbor. Though I cannot definitively claim that these socio-political factors had a direct influence on representations of squirrels in the discourse, the parallels are interesting and supported by evidence elsewhere in the corpus ("get stuck into a [grey] squirrel – it's your patriotic duty", "eating grey squirrel is an anti-Bush gesture" *news*, 14/05/2005). The idea of projecting human identities onto animals in the context of animal

sports and political issues has been reported in the literature in relation to the Edwardian period and beyond (Anderson, 1998; Fudge, 2002; Hunt, 2017; Philo, 1998; Ritvo, 1946). The findings presented here do appear to support such literature.

7.4.2.5 Blame and responsibility for the presence of “non-native” animals

Humans are responsible for the introduction of grey squirrels to Britain and hedgehogs to the Hebridean Islands. Despite this, the attribution of blame or claiming of responsibility for the presence of the animals in these places varies both diachronically and according to species.

Table 7.14 shows results from the squirrel corpus highlighting the depiction of both human and non-human responsibility for the presence of non-native squirrel populations in Britain. A shift from squirrel to human responsibility is identifiable over time in these results. In texts from the mid-1930s, at the height of anti-grey squirrel sentiment, the responsibility is very much on the grey squirrel for its presence in Britain. Here, forms of “arrive” and “migrate” imply that the squirrels made a choice to live in Britain. Later texts place the responsibility with (past) humans with variations of “import”. Even so, these nominalisations (verb-to-noun transformations) often suppress the humans involved (“The island is one of the last few havens for the red squirrel, decimated over the past century by the import of the grey species”, (*news in brief*, 10/08/1994); “the number of reds was diminishing long before the first successful importations of greys”, (*letters to the editor*, 29/06/1995)). The same is true of “introduction”, which I found in periods S3, S4, and S6. For period S3

and S4 all of these results are nouns as part of the cluster “_____ of the [grey squirrel]” but verb forms emerge in S6 as part of other analyses. This indicates that a greater level of human responsibility is accepted at this time, though, again, passivisation allows human actors to be suppressed in the texts (e.g. “Grey squirrels were introduced from America 150 years ago” (*feature articles*, 14/02/1998)).

Quite expectedly, grey squirrels appear in subject position in extracts where they are said to arrive in Britain, which, in line with White (2006), contributes to higher attribution of blame. For example, “a few years ago, the grey horrors began to arrive: they are now a multitude” (*Letters to the editor*, 30/08/1937) and “when the greys arrived, they swept all before them” (*feature articles*, 05/12/1989). Further evidence of these patterns relating to the grammatical positioning of participants can be found in Appendix J. The motivation for attributing the presence of the grey squirrel in Britain to the animal itself may be a strategy to remove human responsibility for its presence, which could both serve as a means to shift blame onto the animals for living in Britain and limit any unease humans may feel for killing grey squirrels.

Table 7.14 Corpus analysis results indicating blame or responsibility for the presence of grey squirrels in Britain

	S3 1910 – 1932	S4 1933 – 1958	S5 1959 – 1987	S6 1988 – 2005
Results indicating human responsibility	"introduction" (CO)	"introduction" (CO)		"introduction" (CO)
				"introduced" (CB)
				"introduced" (DC)
				"import" (CO)
Results indicating non-human responsibility				"importations" (CO)
		"the arrival" (CO)		
		"the advent" (CO)		
		"centres of migration" (CO)		
			"comparatively recent arrival" (CB)	

Although there are fewer results indicating non-human blame, their timing is of interest. Figure 7.7 shows comparative diachronic distributions of the lexemes ARRIVE (v) (*arrive, arrived, arrives*), ARRIVE (n) (*arrival*), INTRODUCE (v) (*introduce, introducing, introduced*), and INTRODUCE (n) (*introduction, introductions*). The points plotted here are restricted to instances referring to the presence of grey squirrels in Britain (68 of a total 234 hits for *introduc** and 16 of 93 total hits for *arriv**).

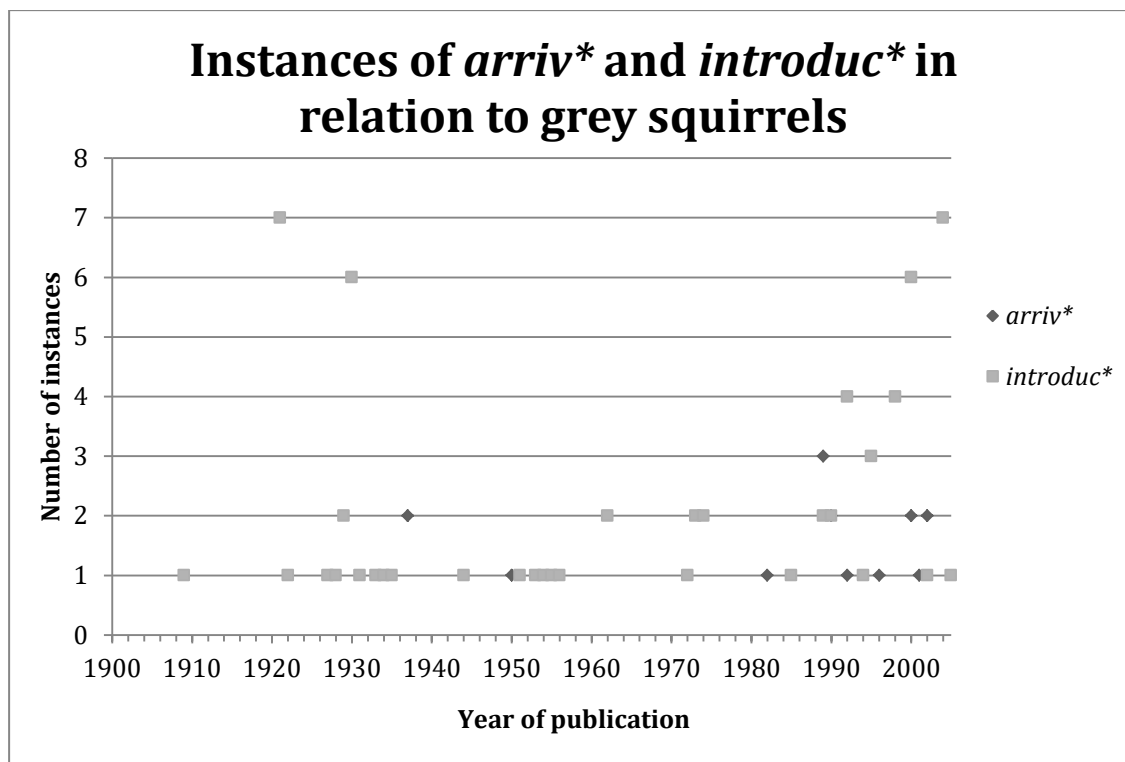


Figure 7.7 The diachronic distribution of *arriv and *introduc** by year of publication**

Though results of the corpus analyses show a shift away from animal arrival towards human introduction in period S6, Figure 7.7 shows that *arriv** and *introduc** have very similar patterns of distribution. There are two spikes in reporting about grey squirrels in 1930 and 2004; these instances are from the same texts. In 1937 the last deliberate introduction of the grey squirrel was made to Britain. It also became illegal to import or release grey squirrels in this year. There are no cases of *arriv** before 1937 and there is only one from the period S5 (1982), reflecting the drop in squirrel-related news texts published at this time. This indicates that the form, tense and grammatical positioning of participants in the salient results are more ideologically relevant here than lexical choice.

In contrast, there is no indication of animal blame in the corpus analysis results for the hedgehog; human responsibility for hedgehog presence in the Hebrides is entirely acknowledged. Their non-native status is a more recent issue than is the case for grey squirrels so diachronic comparison across corpus segments cannot be made. In terms of time, then, there is no indication of non-human blame or responsibility for the presence of non-native animals in the corpus analysis results for the most recent texts (periods S6 and H4). Table 7.15 shows all relevant corpus analysis results for the hedgehog and Table 7.16 provides *introduc** extracts from the hedgehog corpus.

Table 7.15 Corpus analysis results indicating blame or responsibility for the presence of hedgehogs in the Hebrides

	H2 1906 – 1946	H3 1947 -1986	H4 1987 - 2005
Results indicating human responsibility			"the introduction" (CO)
			"released on Jersey" (CB)
			"introduced to the island(s)" (x3) (CB)

Table 7.16 Extracts containing *introduc in the hedgehog corpus**

Ref	Section	Extract	Date
109	News	Introduced more than 20 years ago, the hedgehogs have developed a taste for the eggs of ground-nesting birds	02/01/1998
110	News	WHO could have imagined that seven hedgehogs introduced to the Outer Hebrides between 1974 and 1975 to control voracious slugs and snails in a local man's garden would thrive and multiply to more than 5,000 today?	10/07/2002
111	Editorials/ leaders	Two pairs introduced to the Hebrides almost 20 years ago have gone forth from the garden from which they were meant to eat slugs and multiplied on the machairs where wild birds breed.	10/07/2002
112	Feature articles	HUMAN beings disrupted the ecological balance of the Uists in the first place by introducing hedgehogs to the islands (report, July 10). Advocates for Animals believes that human beings, therefore, now have a responsibility to all the islands' inhabitants to find an effective, respectful and non-lethal solution to the present situation.	12/07/2002
113	Feature articles	Apparently the hedgehogs introduced to eat slugs on some Scottish island have decided that they prefer rare bird eggs.	13/07/2002
114	News	The difficulties began when four hedgehogs from Glasgow were introduced to the Uists in 1974 to control slugs and snails in a local man's garden	18/12/2002
115	Letters to the editor	Sir, Mr Yorke compares the introduction of the hedgehog on the Outer Hebrides with the return of the great bustard. However, the hedgehog does not naturally occur on the Outer Hebrides and was an alien introduction , whereas the great bustard is a re-introduction to its old haunts.	02/02/2004
116	News	Hedgehogs were introduced to the islands in the 1970s to control slugs in a garden and bred to their current number of about 5, 000.	29/03/2004
117	News	Hedgehogs are not native to the islands and their numbers have grown to around 4,000 since they were introduced by a resident in the 1970s who wanted to control garden slugs.	07/05/2005
118	News	Hedgehogs were introduced to the island by a keen gardener anxious to control slugs in his garden	20/06/2005
119	News	Hedgehogs were introduced to the islands in 1974 by a gardener with a slug problem.	19/08/2005

These extracts show that when the hedgehog is non-native, human responsibility is acknowledged to a greater extent than is the case for grey squirrels but this responsibility is still limited in a number of key ways. Almost all instances of *introduc** appear in passive constructions (109, 110, 111, 113, 114, 116, 117, 118, and 119), nearly half of which are agentless passives (109, 110, 111, 113, and 114). It is also achieved through a nominalisation (115) and some blame is attributed to the hedgehog in extract 111 for not doing solely what humans intended it to do. Fine-grained diachronic change is identifiable here: agents are present in the very latest instances (117, 118, and 119) when public sympathy for hedgehog welfare during culls had been established (see chapter 9). These extracts mention that the people/person who introduced hedgehogs had worthy

intentions (i.e. for pest control in gardens). Finally, one extract representing a pro-animal welfare perspective (from the organisation Advocates for Animals) contains humans in agentive position.

There appears to be some positive bias towards hedgehogs, which is further evidenced by comparisons made between hedgehogs and other animals in the Hebridean islands texts. These comparisons suggest that the hedgehog is an exceptional case and that other animals are not, or would not be, treated with the same leniency and tolerance. The reason for this may be utilitarian. In fact, in eight of 11 instances utilitarian motivations are mentioned (slug control) (110, 111, 113, 114, 116, 117, 118, and 119). Additionally, it may be related to hedgehogs' increasingly endangered status.

Plans to cull them — or deport them to do forced labour in the slug-fields of England — have been fiercely resisted by hedgehog rights' activists. But what about the rights of the slugs? Where is the League for the Defence of Shell-less Gastropod Molluscs?

Feature articles, 13/07/2002

If we were talking about a rat or any other vermin there would be no debate.

News, 18/12/2002

As these results show, factors influencing attribution of blame for the presence of non-native animals appear to be time, quantity and distribution, place of origin, and usefulness to humans.

7.5 Chapter summary

In this chapter, I have shown that when the focus animals occupy physical spaces, their presence is considered variously acceptable or unacceptable to humans. It is what the animals' presence means to humans (in terms of what it offers and the issues it causes) as well as the distribution/population status of the species that determines: (i) whether the focus animals are considered to be "out of place" in "human spaces" (e.g. houses, gardens) or places humans do not want them to be (e.g. in Britain or areas of Britain); and (ii) how the animals are represented when they are deemed to be "out of place". The main topics I have identified here feature differentially in the discourse according to the species being discussed. Being out of place, for example, is generally portrayed as the fault of grey squirrels when they become a "pest", but human responsibility is more accepted for the presence of the hedgehog on the Hebridean islands. In this instance, it seems that numbers and distribution may be key factors in determining the pest status of animals at the time of publication. For example, as the hedgehog is threatened, its potential pest status is largely forgiven and cruelty towards it is regarded as very serious. (Discussion of the severity of cruelty to hedgehogs can be found in chapter 9.)

Topics relating to spatial concerns are fairly constant in this discourse (one of the conditions for selecting it as an analysis theme) but different aspects of spatial concerns are activated in the discourse at different times and for different animals. This chapter also draws out the implications of the representation of these focus animals for other species. In line with Baker et al. (2008), what is not said here is as important as what is said.

There is a clear interaction between the two aspects of space identified in the literature: physical and abstract space (in line with Philo & Wilbert, 2000). The assignment of animals to abstract spaces is realised through their occupation of physical space and their actions whilst in these places. All of the abstract spaces identified (e.g. the roles of “pest” and “friend”) have (human demarcated) boundaries in the same way as physical spaces. Crucially, such boundaries do not usually map onto physical animal boundaries (i.e. territory) (see also chapter 8). Occasionally, these do overlap (or are said to overlap), as is the case when the grey squirrel is said to be deliberately taking over territory; in this case, it is convenient for scapegoating purposes.

The anthropocentric values that humans attach to wildlife remain a constant in this theme. However, the ways in which the discourse is anthropocentric does change. Some of the focus animals fall in and out of favour, but ultimately, they are still below humans in hierarchical ordering of living things (see 2.4.1) and their lives are still subject to management and control by humans. For instance, although some of the focus animals are more welcome in gardens than others, the underlying motivation for their inclusion or exclusion are shared by all the focus animals: it is a matter of what each species offers and what they cost humans that determines how welcome they are at any particular time. There is also a rise in welfare and environmental concerns identifiable in the data but even these seemingly zoocentric stances have anthropocentric foundations. This is demonstrated by the aesthetic value attached to the animals becoming more important over time (e.g. as marked by increased mention of the attractiveness of the red squirrel), the usefulness of the hedgehog, and by applying established

understanding of the human world to animals rather than seeking to understand them for their own sake.

With the above findings in mind, I explore the fluctuating interest in animal habits and the animals' (historical) ties to the land, as well as the discourse surrounding one particular aspect of being out of place in the following chapter.

8 Life-cycle and health

8.1 Chapter introduction

It is clear from the analysis in chapter 7 that the relationship between nature and nation is a special one. According to Whitehouse (2017), writing about the seasonal behaviours of non-human animals, “powerful links can be made between nature and nation. In Britain these links emerge in distinctive ways for two reasons: its status as an island nation and the relative similarity of wildlife and weather throughout much of the country” (p.179). The corpus analytical methods presented in chapter 6 indicated that different aspects of life-cycle and health form a large—and fairly constant—part of news discourse about the four focus animals. In this chapter, I examine the patterns of change and continuity in the discourse about this theme to address research question 1(ii). As before, I also begin to consider—in relation to research question 2—what the findings reveal about human attitudes towards the focus animals in society and, where possible, the implications this has had for perception and treatment (e.g. harm and care) of them.

I found some evidence that a growing distance between humans and animals—a move from “being with” to “being alongside” (see below and 2.4.2.2)—is reflected in wildlife representations in news discourse. I argue below that discursive attempts to counter this growing distance are interrupted in modern times by the topic of disease and the way it features in the news. As one aspect of natural life shared by all the focus animals, disease is often the cause of human-animal conflict and, in such cases, intervention is considered necessary. Language relating to the animals’ cycles of life (*live, dead*, and words relating to age such as *young, old* etc.) is also present in the discourse but cannot be discussed more here owing to space.

Section 8.2 is concerned with how the focus animals are represented in relation to seasons. The section opens with an examination of the distribution of references to seasons (8.2.1) and the news values (8.2.2) surrounding the topic. I then discuss the ways in which three aspects of news about seasons (human-animal encounters in section 8.2.3, weather in 8.2.4, and animal actions in 8.2.5) provide evidence of the “being with” and “being alongside” dichotomy in news discourse about the focus animals. In 8.3, I examine the discourse surrounding disease, with a particular focus on badgers, where I demonstrate that the already familiar representations of blame are activated here in different ways that act as legitimisation strategies. I conclude in section 8.4 by outlining the roles of animals, and the language features characterising these, that I identified in relation to these themes.

The findings I discuss here were brought to light by the analyses: *keywords by corpus, diachronic keywords, diachronic collocates, animal modifiers*, and both *BE*

and *OF clusters*, the methods for which are explained in chapter 6. More words and phrases relating to life-cycle and health emerged from these analyses for badgers than for hedgehogs and squirrels; the following analysis is weighted accordingly.

8.2 Seasons

Seasons are important to humans historically, both practically and in terms of the symbolic meaning (religious and cultural) attached to them. In the past in Britain (and presently in some non-industrialised societies), humans lived “with” animals; in short, both were responsive to the same cycles and seasonal change (Whitehouse, 2017, see 2.4.2.2). With the exception of certain groups such as farmers and naturalists, whose professions require them to take cues from seasonal behaviours of animals in more important/significant ways than others in society, most humans in modern-day Britain live more “alongside” animals, taking pleasure from engaging with animal “seasonalities”. (Re-)engaging with animals in this way provides various benefits for humans (Williams, 2017). Unlike more topical news, seasons are constantly relevant, meaning diachronic patterns associated with the theme of seasons in the news are of particular interest. The corpus analysis results indicated that seasons and seasonal behaviours (or “seasonalities” to adopt Whitehouse’s (2017) term) are a significant, longstanding, and fairly consistent part of news discourse. As humans place a lot of significance on seasons in their own activities, lives, and rituals and as they are also a noteworthy part of the way that the focus animals are represented, seasons are worth exploring in more detail.

The corpus analysis results for badgers and hedgehogs reveal that language relating to seasons is a statistically significant part of the discourse,³⁶ while qualitative analysis of the squirrel corpus revealed that seasons also featured in this discourse, though not in a statistically significant way. Similarly, not all words for seasons were statistically significant in the other corpora; for example, *spring*, *summer* and *winter* are accounted for in the badger corpus analysis results, but “autumn” did not appear here. Corpus queries for “spring”, “summer”, “autumn” and “winter” in each of the three corpora were carried out to gather concordance lines for qualitative analysis. Only the instances directly relating to the focus animals were retained for this analysis. This section opens with an examination of the diachronic distribution of seasonal references in each of the corpora, alongside a consideration of the news values associated with this topic in *The Times*. Following this I present the four main ways in which seasons feature in the discourse, discussing how seasons-related language behaves over time, illustrated by extracts from the analysis.

³⁶ For example, “the winter sleep of the badger” (CO, B3) and “badgers are benefiting from wetter and milder winters” (CB, B6).

8.2.1 Diachronic distribution of seasonal references

Figure 8.1 shows that winter is the most frequently mentioned season in all corpora combined, whilst autumn is the least-featured season.

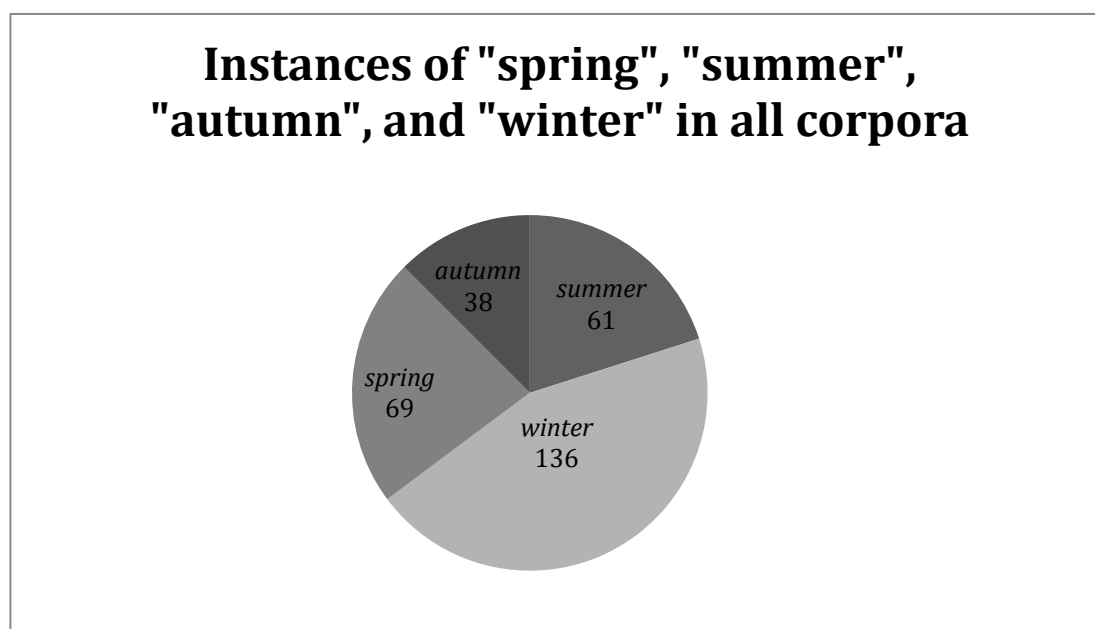
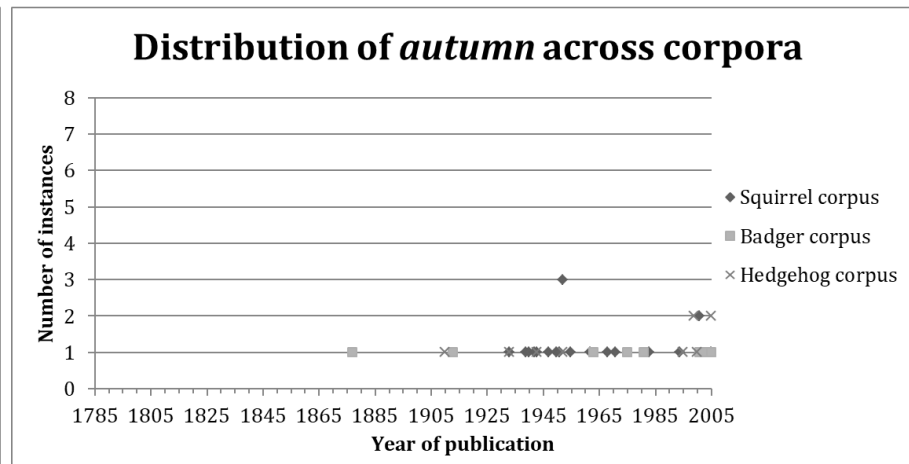
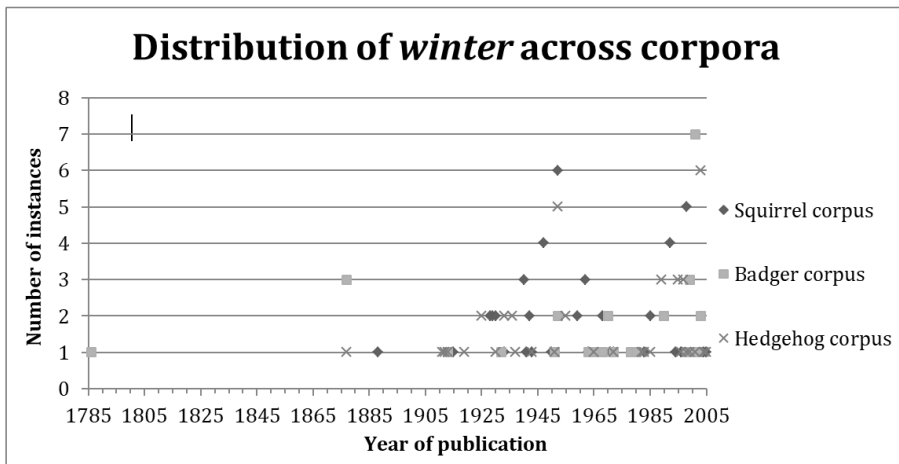
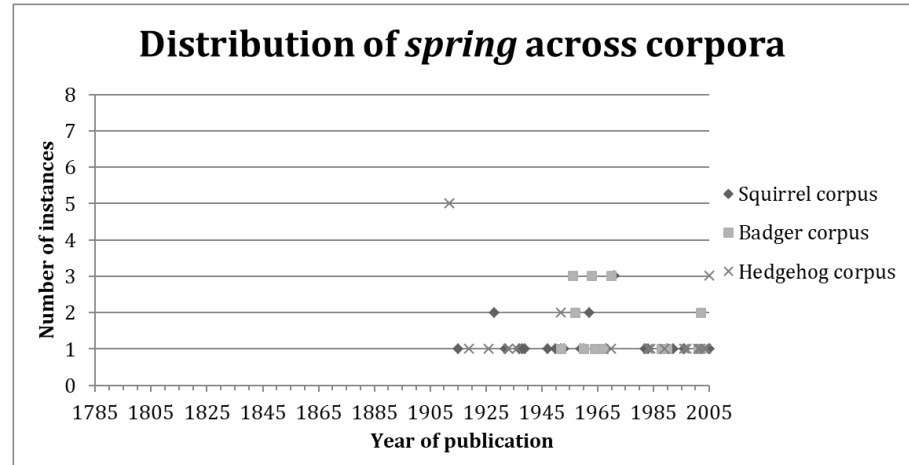
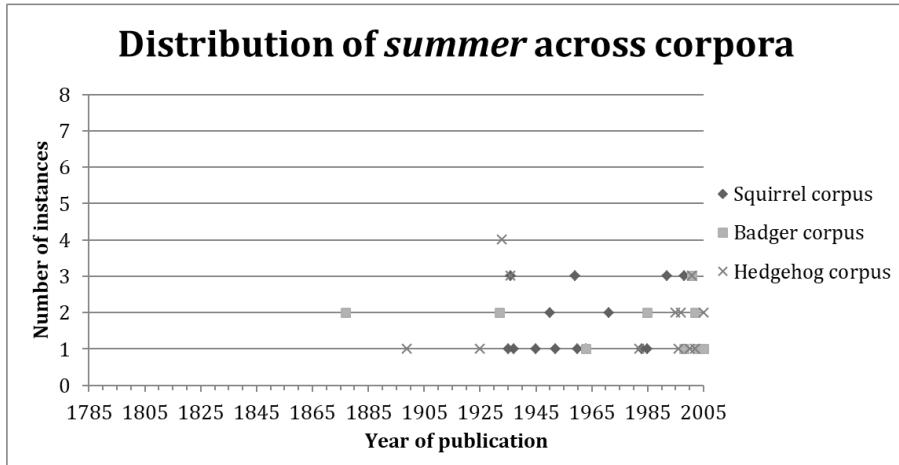


Figure 8.1 Breakdown of seasonal references in all corpora combined

I have examined this material through the lenses of (i) the differences and similarities between the representation of each of the seasons (all corpora) and (ii) the main aspects of seasonal discourse in each of the corpora (all seasons).

Figure 8.2 and Figure 8.3 show these different views of the same data; first, Figure 8.2 shows the distribution of the four seasons across each of the corpora and Figure 8.3 shows the distribution of all seasons in each of the corpora in turn, as well as in the corpora combined.



oFigure 8.2 Frequency of seasonal references across corpora

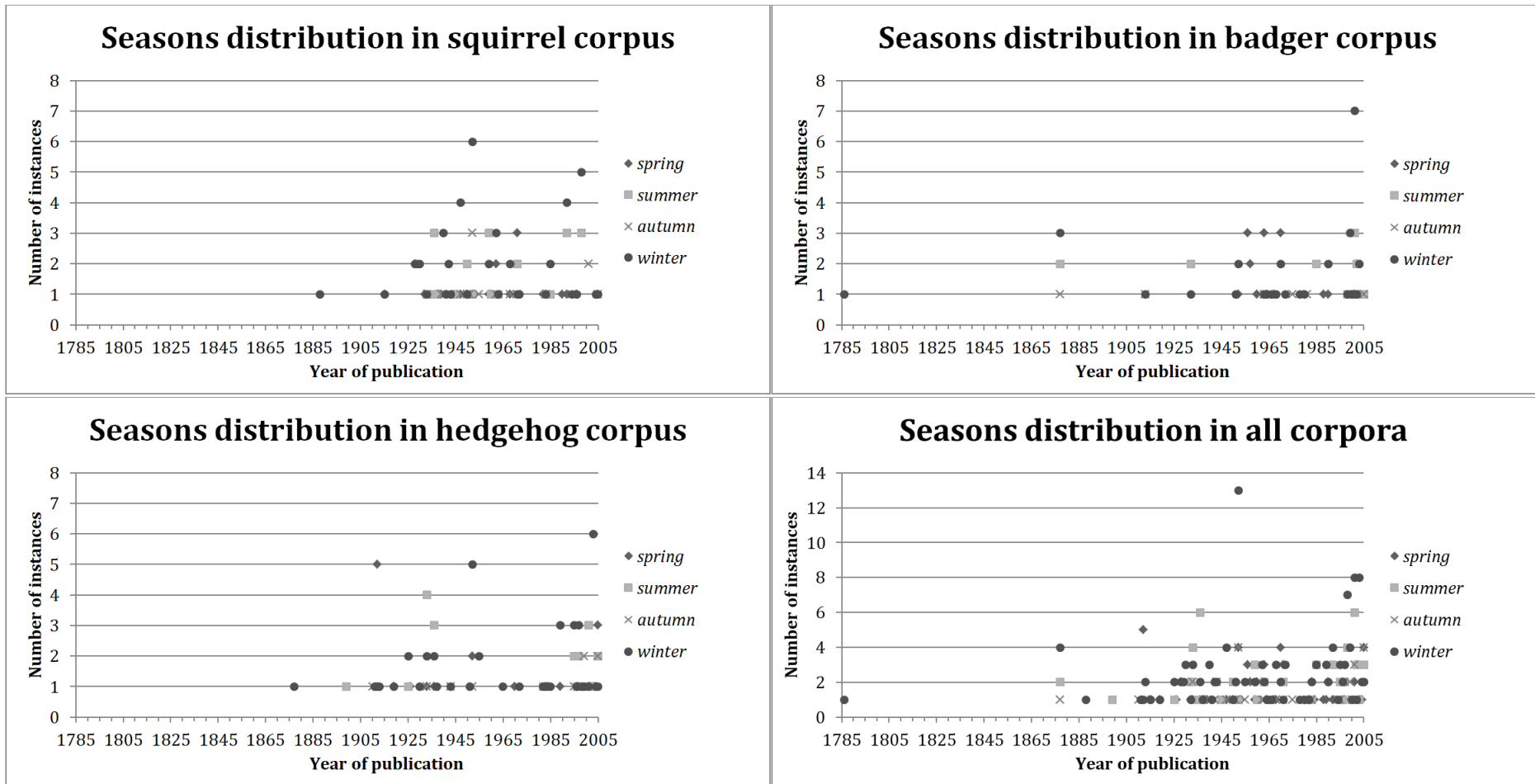


Figure 8.3 Frequency of references to seasons by corpus

Apart from a few scattered earlier instances, seasons mainly feature in the corpora from the early to mid-1900s. Instances of *winter* increase over time, *autumn* is hardly present at all, and *spring* and *summer* are generally consistent except for a mid-1970s trough, which is present in every corpus. Different seasons feature in the corpora to varying extents; *winter* is associated with squirrels and hedgehogs to a greater extent than the other seasons. *Spring* and *winter* feature in the badger corpus to similar extents. The peaks in instances of *winter* in the squirrel corpus (1947, 1952, and 1998) are attributable to single (extended) texts, as is a 2001 peak in instances of *winter* in the badger corpus and the *spring* 1912 peak in the hedgehog corpus. Peaks in the distribution of seasons that are not attributable to a single text all appear in the hedgehog corpus; they are peaks in instances of *winter* in 1952 and 2003, and *summer* in 1933. Table 8.1 shows my main observations concerning the context in which seasons feature in each of the three corpora. The number of results (concordance lines) categorised as belonging to each observation is shown in brackets.

Table 8.1 Contexts identified in the representation of seasons in each corpus

	Badger (76) 1952 - 2002	Hedgehog (104) 1912 - 2005	Squirrel (122) 1915 - 2005
Spring (68)	<ul style="list-style-type: none"> i. spring cleaning (14) ii. badger cubs and badger watching – human interaction (3) iii. preparations and productivity (2) <p style="text-align: right;">Total 19</p>	<ul style="list-style-type: none"> i. hibernation and related (14) ii. eating (4) iii. human nurture/rescue (3) iv. control (not same kind of text) (2) v. encounter (1) <p style="text-align: right;">Total 24</p>	<ul style="list-style-type: none"> i. squirrel activities: travelling (1), breeding (4), storing food (2), eating and damaging plant life (8) ii. human activities: control and utilising greys for meat (4) iii. human encounters with red squirrel (2) iv. competition between red and grey squirrels (2) v. changes in visual appearance (2) <p style="text-align: right;">Total 25</p>
Summer (61)	<ul style="list-style-type: none"> i. badger activities (mating, digging, preparing, destroying wasps' nests) (6) ii. human interaction (meet, see) (4) iii. disadvantage: vulnerability to food shortages (3) iv. advantage: increased plant cover (1) v. badger activities as signs/signals to humans (forecasting weather) (1) <p style="text-align: right;">Total 15</p>	<ul style="list-style-type: none"> i. human animal encounters (7) ii. seasonal disadvantage (drought and fleas) (5) iii. human actions: rescue/nurture (4), control (2) iv. hedgehog survey (2) v. animal actions: preparing for winter (1), nocturnal activities (1) <p style="text-align: right;">Total 22</p>	<ul style="list-style-type: none"> i. human actions: control (2), reintroduction (1) ii. animal actions: plant damage (8), breeding and fighting (1), breeding (2) iii. changes in appearance (2 red, 3 grey) iv. seasonal advantage for greys (weather) (1) v. absence of squirrels (3) vi. nest query (red) (1) <p style="text-align: right;">Total 25</p>
Autumn (38)	<ul style="list-style-type: none"> i. badger activities: digging, gaining weight, gathering leaves, mating (6) ii. human-badger interaction: badger watching, poisoning (2) <p style="text-align: right;">Total 8</p>	<ul style="list-style-type: none"> i. animal actions: hibernation and non-hibernation (4), breeding (1) ii. human-animal encounters (1) iii. human actions: control (2), feeding (1), concern (1) <p style="text-align: right;">Total 10</p>	<ul style="list-style-type: none"> i. squirrel actions: preparing for hibernation/storing food (7), increasing body weight (1); building houses (1), moving (1), breeding (1), increasing (1) ii. human actions: reintroduction/release of red squirrels (2), control (1) iii. advantage: food (3), red fur camouflage (1) iv. human encounter (with red squirrel) (1) <p style="text-align: right;">Total 20</p>
Winter (135)	<ul style="list-style-type: none"> i. badger activities: cleaning, replacing bedding, eating (19) ii. badger activities as signs/signals: forecasting weather (3) iii. human-badger interaction: culling, watching, hearing (6) iv. disadvantage: effects of unseasonable weather on badger population (1) v. advantages of unseasonable weather (4) vi. winter numbers (1) <p style="text-align: right;">Total 34</p>	<ul style="list-style-type: none"> i. hibernation (31) ii. seasonal disadvantage (7) iii. human nurture of (and provisions for) hedgehogs in winter (1950s - 2000s) (5) iv. animal actions: storing fat (1), nesting in bonfires (2), winter activity (1) v. human animal encounters (1) <p style="text-align: right;">Total 48</p>	<ul style="list-style-type: none"> i. animal actions: storing food (12), hibernation habits (9), nests (3), competition/predation grey squirrels and red squirrels or birds (3), movement/travelling (2), feeding habits (red squirrels) (1), stripping bark (1) ii. human actions: control by restricting food (4), greys culled, reds released (1), control by squirrel clubs (grey squirrels) (2), hope for red survival (1), utilising for fur/meat (3) iii. advantages of unseasonable weather (2), disadvantage (6), no effect (1), fur colour (2) <p style="text-align: right;">Total 53</p>

Nearly all of the contexts identified in the concordance lines can be categorised in one of four ways, typical examples of which are provided in Table 8.2. First, the most common context to feature in seasonal discourse is the seasonal actions and behaviours of animals (120). These are mainly associated with winter, then with spring, and their presence is fairly stable over time. Within this context, discussion of one specific behaviour, hibernation and its associated activities (122) decreases slightly over time. Next, human-animal encounters (124) decrease over time; they are primarily associated with summer and feature most often in the 1930s. The third context I identified was human actions towards animals (126), which increases over time and is associated mainly with winter. Killing is the most common human action (see chapter 9) but nurture or preservation are also present, particularly in the hedgehog corpus (121); in this example, people insert themselves into the hedgehog's seasonal cycle by providing food in a hedgehog "hospital" to animals born "late" in the season. Finally, I found evidence of seasons affecting animals in some way (123). Space precludes more discussion of this context other than to say there is evidence of wildlife hardship, vulnerability and disadvantage being discussed, interest in which increases over time from 1950s onwards.

Table 8.2 Extracts from seasons analysis

Ref	Corpus	Section	Focus	Extract	Date
120	Squirrel	Letters to the editor	Animal actions	In spring they [grey squirrels] systematically bite off the new growth	01/09/1937
121	Hedgehog	Feature Articles	Human actions	British Hedgehog Preservation Society was concerned about all the young hedgehogs born late this autumn, which are unlikely to survive the winter unless they are fattened up first.	11/12/1999
122	Hedgehog	Feature Articles	Animal actions (hibernation)	Once the temperature rises, hedgehogs start emerging from their winter hibernation torpor, scrambling free of thickets of insulating vegetation	10/03/2001
123	Badger	News	Seasons affecting animals	Badgers are most vulnerable to food shortages during extended summer droughts	09/06/2001
124	Badger	Feature Articles	Human-animal encounters	Early summer is the best time to watch [badger] cubs	18/05/2002
125	Badger	Feature Articles	Human actions	In springtime, we must kill a badger	18/05/2002
126	Hedgehog	News	Human actions	the autumn [hedgehog] cull will run from September 26 to October 28	19/08/2005

8.2.2 News values and seasons

The language surrounding animals' physical presence in their own habitats often has a different tone compared with other kinds of news texts. These texts are usually less political than other wildlife news (cf. Molloy, 2011) and can have a literary quality, as the following example shows. The text contains a number of poetic devices such as consonance ("nights"/"insects", "trance"/"spring", "fortify"/"himself", "cannot"/"discoveries", "chance"/"discoveries"); alliteration ("wakes"/"winter"); imperfect/near-rhyme at the end of the final two clauses ("dream"/"spring"); personification of the hedgehog; and the syllable pattern over clauses, which follows an A-B-B-A-C (8, 10, 10, 8, 13) structure.

The hedgehog fattens quickly in the September nights; and although his sleep in England is not always unbroken, he cannot rely on chance discoveries of slugs or insects if he wakes in his winter dream, but must fortify himself for the long trance till spring.

News, 07/09/1912

Though less political, these texts demonstrate an important way in which animals feature in *The Times*. These are entertainment pieces and, as they are a feature of news from 1786 (a time when *The Times* primarily reported political news), they could be considered some of the earliest examples of “soft news”. That these kinds of texts remain a feature of *The Times* up to today is a comment on the continued importance of maintaining human connection with nature through sharing information about animal seasonalities. The nostalgic quality of the language used to describe animals in the *Course of Nature* and *Nature Notes* features, and the timelessness of this kind of news, are perhaps comforting to readers at a time of increasing distance from nature and seasonalities. This observation is reinforced by the *On this day...* and *From the Times...* features in *The Times*, in which texts are re-published on the anniversary or centenary of original publication respectively. In addition to allowing for reflection on societal changes in human-animal relationships (e.g. the changes in badger baiting tradition and animal protection laws), these texts show the continued relevance of educational natural history-style texts through the verbatim repetition of past animal news. One example of this can be seen in section 8.2.5.

Figure 8.4 shows the number of seasonal references across each season of publication (x-axis). *Pub Spring* contains references to seasons published in March, April and May; *Pub Summer* contains references to seasons published in June, July and August; *Pub Autumn* contains references to seasons published in September, October and November; and *Pub Winter* contains references to seasons published in December, January and February.

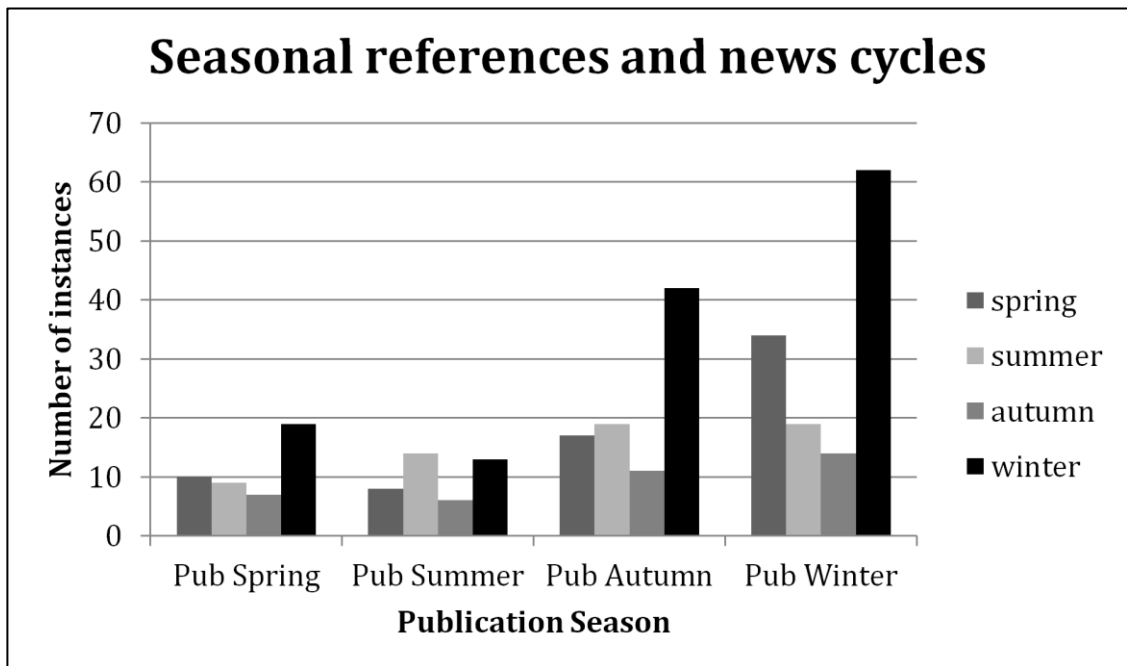


Figure 8.4 Seasonal references and their seasons of publication

The figure (8.4) shows that seasonal news does not reflect the reported increase in soft news in the later summer months when Parliament is in recess (known as “silly season”). In fact, I found that there were fewer instances of seasons terms in summer months than at any other time. Mentions of *spring*, *summer*, and *winter* were published most during their respective season (i.e. *winter* featured mostly in texts published in the winter and so on). This was not the case for

autumn, which was the least frequently mentioned season of all those published in autumn months.

8.2.3 Human-animal encounters

Reports of encounters between humans and animals in one of the main contexts in which seasons terms featured in the news. Unlike the other seasonal topics I identified, the distribution of references to human-animal encounters decreases over time in the squirrel and hedgehog corpora and remains stable, though under-represented, in the badger corpus. A decrease in human-animal encounters over time is possibly to be expected as people become more distanced from nature, though this is perhaps not the large decrease that one might expect given the known effects of urbanisation on human-wildlife encounters (see 2.4.1). The presence of references to human-animal encounters is higher in relation to summer than to any other season. This is probably because humans have a greater opportunity to encounter animals in the summer when more time is spent outdoors and animals are more active than they are in winter due to hibernation and related patterns of activity (the hedgehog hibernates fully whilst squirrels and badgers only partially hibernate).

Such a distribution indicates an anthropocentric viewpoint; animals are newsworthy when they are encountered by humans (seen, heard etc.). This is particularly evident in the badger corpus where encounters relating to badger-watching activities account for a good portion of the findings from the spring, summer, and autumn analyses (e.g. “I haven't been out watching badgers since the autumn”, *news*, 27/03/1975; and “badger fans can also hear—though not

see—activity during winter days”, *feature articles*, 17/11/1990). Table 8.3 contains key examples of the way human-animal encounters feature in relation to seasons in the corpora.

Table 8.3 Human-animal seasonal encounters

Ref	Corpus	Section	Focus	Extract	Date
127	Badger	Letters to the editor	Engaged encounter	now the nights are getting longer we see but little of our amusing and curious neighbours [badgers], and shall probably not renew their acquaintance until the early summer of another year	24/10/1877
128	Hedgehog	News	Passively encountered	now and again you meet one that seems almost tame. I remember one [hedgehog] that in the middle of winter found its way somehow into the house, and concealed itself under a writing-table	18/12/1930
129	Badger	Letters to the editor	Passively encountered	it forms an unusual entertainment for our guests to show them the badgers on a summer's evening, and children can sit within a few feet of the holes to watch the baby badgers play	02/09/1932
130	Hedgehog	Letters to the editor	Engaged encounter	HEDGEHOGS During a long springtime, in Florence, one of the "spinoso" family happened to come into my ownership, and was an unfailing source of amusement. Like "Mrs Winifred Price," he was eminently "tidy and clean" — kept the courtyard of his habiting free from vermin, great and small; and took lively interest in all surroundings. He was much inclined to sociability with mankind and womankind	26/01/1933
131	Hedgehog	Letters to the editor	Engaged encounter	if his [a hedgehog] milk was not put out he would stand up, holding a finger of a hand, till it was. He came for only one summer.	31/01/1933
132	Hedgehog	Letters to the editor	Engaged encounter	We began, two summers ago, with a visiting pair of hedgehogs, this summer increased to three. We believe and hope that these are father, mother, and son.	19/12/1936
133	Hedgehog	Letters to the editor	Engaged encounter	During the summer and autumn the trio [of hedgehogs] came along regularly just about dusk, arriving earlier as the daylight became shorter.	19/12/1936
134	Squirrel	Letters to the editor	Engaged encounter	On the warm, spring-like morning of Friday, December 16, he [a red squirrel] suddenly came scampering through the still blossoming roses and sat on the window-ledge eating nuts.	27/12/1938
135	Badger	News	Passively encountered	I haven't been out watching badgers since the autumn", he admitted ruefully." But I hope to do a bit of it in the recess.	27/03/1975
136	Badger	Feature articles	Passively encountered	Mostly, these badger watches are held in spring.	17/11/1990
137	Badger	Feature articles	Passively encountered	Early summer is the best time to watch [badger] cubs.	18/05/2002
138	Hedgehog	Feature articles	Passively encountered	It is well worth providing winter lodgings for hedgehogs because they devour slugs and are fun to watch in summer as they shuffle through the garden at dusk on food patrol.	07/10/2005

Two main differences are observable here (as marked in the “focus” column).

First, badgers are said to be less active in engaging with humans than hedgehogs.

Second, there is also a diachronic shift, where earlier publications feature animals actively engaged in their encounters with humans (“arriving”, “visiting”,

“renew[ing] their acquaintance” etc., see lines 127, 130, 131, 132, 133, and 134) and later publications detail animals being passively encountered by humans (being watched and shown to others) (128, 129, 135, 136, 137, and 138). Badger-watching references start to appear in 1975 and become increasingly common demonstrating that (re-)connecting with nature is depicted in *The Times* as an attractive pastime.

8.2.4 Weather

From the seasons terms analysis in the badger and squirrel corpora I identified evidence that animals are indicators of weather. This is not a major pattern but it warrants some consideration in the context of this wider pattern of representation involving seasons and connection with nature. In the badger corpus, four seasons extracts in the 1970s and 1980s (two from the same text) relate to weather forecasting and I identified a single instance from 1938 in the seasons analysis of the squirrel corpus (Table 8.4).

Table 8.4 Weather forecasting extracts

Ref	Corpus	Section	Extract	Date
139	Squirrel	Letters to the editor	This unexpected cold spell was confidently expected by myself owing to information received from a red squirrel. [...] All day he stuffed himself, except when working at high pressure to bury them [nuts] in the rosebeds.	27/12/1938
140	Badger	News	COURSE OF NATURE BADGERS PREPARE FOR SPRING WINTER FORECASTS The weather on Candlemas Day (February 2) will have determined the length of the winter	09/02/1970
141	Badger	News	the weather this year how not been propitious, but if "The half o' winter was gane at Youl", the badgers may look forward to fine nights later on when they are bringing in their clean dry bedding	09/02/1970
142	Badger	News	In Germany they say the badger wakes up from his winter sleep and comes out to look about on February 2. If he sees his own shadow he goes back to sleep for six weeks. [...] We may have a "false spring" — that is, lovely and unseasonably warm weather, and then sharp swings of temperature which do plants no good. So I think we should be suspicious of the forthcoming spring and not take chances — putting plants from a warm greenhouse into a cold frame, or from a frame into the open too early.	12/02/1972
143	Badger	News	badgers and other inhabitants closely in touch with nature, are forecasting [sic] a glorious Indian summer. Farmers say that badgers in East Anglia have been gathering wet leaves and taking them down to their sets. This, they say, is a sure sign of hot weather to come for it is believed, in those parts, that this is the badger answer to air conditioning. The damp leaves keep their homes cool.	25/08/1985

Though technological measures of weather and climate were in use at the times of publication, the extracts demonstrate that people—domestic gardeners (139 and 142) and farmers (143) in particular—continue to consider and take cues in relation to climate and weather change from established patterns of animal behaviour. This co-ordinated/supporting relationship is not mutually beneficial and humans engage with animals here without animal co-operation.

At the times these extracts were published, then, taking seasonal cues from animals was not necessary but publishing these accounts gives a sense of accord with nature. Weather forecasting through observing animal seasonalities has traditional, even nostalgic significance. Badger behaviours are tied to the Christian calendar (Candlemas Day) in these extracts (140, 141, and 142). It is said that the weather on this day determines the end of winter and is reflected in

the behaviour of the badger. If it is snowing when the badger emerges from its sett on Candlemas Day, the badger knows winter is almost over and, if the sun is shining, the badger will return to sleep for six weeks as it forecasts a return to winter weather. The folklore surrounding badgers on Candlemas Day actually appears much earlier in the corpus. Its first appearance is in a reader's letter in 1867 (see Appendix K). Even in this early text, employing seasonal animal cues as a forecasting tool are considered by its writer to be something of a novelty (though they do suggest the practice is more useful in other countries "where the seasons are more regular than in England" (*letters to the editor*, 16/03/1867)).

8.2.5 Animal actions

The topic of animal actions is the most featured of the four that I identified in the seasons extracts (59 extracts in the hedgehog corpus; 70 in the squirrel corpus; and 52 in the badger corpus). These references peak at different times in the three corpora³⁷. Of particular note is a shared single year peak in 1952 across the three corpora combined and an extended trough from early-1970s to early-1980s (hedgehog trough 1973 to 1981; squirrel trough 1972 to 1982; and badger trough 1973 to 1984).

³⁷ There is a general increase over time in the badger corpus with a peak between 1952 and 1970 before a sharp decrease and another peak from 2001 to 2003. There is also an isolated peak in 1877 in the badger data. In the squirrel corpus, the topic peaks from 1940 to 1971 before dropping; and in the hedgehog data I identified isolated peaks in 1912 and 1952, as well as an extended peak from 1982 to 2004.

The kinds of seasonal behaviours that are considered newsworthy in relation to the focus animals are: (i), those that draw parallels with humans and (ii), those that set the animals apart from humans. A diachronic pattern of change from (i) to (ii) is identifiable in the findings for the badger but for not for the other focus animals.

I found that parallels were drawn between uniquely human rituals and badger behaviours. These mainly relate to preparations and productivity in the spring and their appearance marks a change in tone in news discourse about badgers. In total, 14 of 19 *spring* references are about the badgers' spring cleaning rituals and 11 of these appear in a cluster of 14 between 1952 and 1970 (see Table 8.5 for extracts).

Table 8.5 Seasonal animal actions: spring cleaning in the badger corpus

Ref	Section	Extract	Date
144	Feature articles	No doubt the badgers were in a hurry to get on with their spring cleaning , and were not going to be put off by a fall of snow.	07/02/1952
145	News: the course of nature	The badger's tracks in the February snow were, if not a sign of spring, at least a sign of spring cleaning . Old discarded bedding had been brought out and deposited near the entrance, and clean new bedding had been taken in	02/02/1956
146	News: the course of nature	The badger, with nursery time in view, is in as much haste to begin spring cleaning as any housewife.	02/02/1956
147	News: the course of nature	The badger is a cleanly animal, as one may tell by the piles of discarded bedding brought out of the burrows during spring-cleaning operations. Apart from this the badger makes no mess about the home.	13/08/1957
148	News: the course of nature	The writer has seen badger tracks in February snow, and evidence, moreover, that spring cleaning is carried out under such conditions. But, truth to tell, so it is when February is mild, the badger being as keen as any housewife to get on with the work in hand.	15/02/1960
149	News: the course of nature	THE COURSE OF NATURE BADGER STARTS HIS SPRING CLEANING TRAILS IN THE SNOW	16/02/1963
150	News: the course of nature	February is the time for the badgers' spring cleaning , when the old, soiled bedding is brought out of the sett, and fresh supplies of dean, dry grass are carried in. Wintry weather may sometimes hold up these preparations for the coming family, but badgers cannot afford to wait long.	16/02/1963
151	News: the course of nature	No doubt the badgers would prefer fair weather for their spring cleaning , but the snow makes sleuthing easier.	16/02/1963
152	News: the course of nature	What keeps the badgers busy in February is spring-cleaning . The old soiled bedding has been carried out of the holes, and fresh supplies of grass and leaves must be brought in, in readiness for the coming family.	01/02/1964
153	News: the course of nature	Badgers everywhere are busy with spring cleaning , bringing in dry grass and leaves as warm bedding for the coming family.	18/03/1967
154	News: the course of nature	The badger is no sun-lover, being a nocturnal animal but neither has it any desire for snow in February when spring-cleaning takes place in preparation for the coming family. Piles of discarded bedding are thrown out and supplies of clean dry grass brought in as soon as conditions allow.	09/02/1970
155	News: the course of nature	Candlemas Day seems early to begin spring cleaning and the weather this year has not been propitious, but if "The half o' winter was gane at Youl", the badgers may look forward to fine nights later on when they are bringing in their clean dry bedding.	09/02/1970
156	Feature articles	Just recently large quantities of grass and leaves had been hauled into the pit by the badgers." No doubt the badgers were in a hurry to get on with their spring cleaning , and were not going to be put off by a fall of snow.	07/02/2002
157	Feature articles	Nature Notes BADGERS are spring-cleaning their burrows or "sets". In the autumn, they took in bracken or fallen leaves to make a warm steamy chamber for the winter, but now they are pushing it out with their black and white snouts.	28/02/2002

Looking at the date of publication for the above extracts, 12 of 14 were published in the month of February meaning that publishing soft news filler pieces about this ritual behaviour becomes something of a convention, particularly in the 1950s to 1970. Here the same information is repeated in news that has a timeless quality to it. I discovered that extract 151 comes from a verbatim republication of the text in line 144 without being identified as such (i.e. it is not

part of an *On this day...* feature). The original text was published in 1952 as part of the *Course of Nature* feature (under news from a correspondent) and was republished in 2002 as a *feature article* opinion piece with no indication that the piece originated much earlier. Part of this text, a quote from the naturalist Arthur Beadell, also appears in the wider context of extracts 149, 150, and 151 published in February 1963.

The parallels drawn between traditional human rituals in preparation for spring and badger activity are so strong that animal behaviours here are often anthropomorphised (“housewife” (146 and 149) “home” (147), and “family” (152, 153, and 150). Likening animals’ seasonal behaviours to those of humans may serve as a way to demonstrate a greater human connection with the natural world. It is possible that this is another example of romanticising the past, similar to the nostalgia reflected in connecting with nature through badger-watching above. According to Whitehouse (2017) animal seasonalities are “widely noticed but in ways that emphasise common, shared experiences” (p. 179). This is clearly true for the instances I describe here.

As one aspect of animal behaviour that is different from human seasonalities, hibernation is a prominent feature of the hedgehog corpus (I have categorised 47 seasons hits as relating to hedgehog hibernation; e.g. “the winter sleep of the hedgehog”, *news*, 28/15/1925) and is less frequent, though still present in the squirrel and badger corpora (with eight and four seasons hits, respectively). Figure 8.5 shows the distribution of hibernation-related results in the seasons analysis and Table 8.6 shows selected extracts mentioning hibernation in the news.

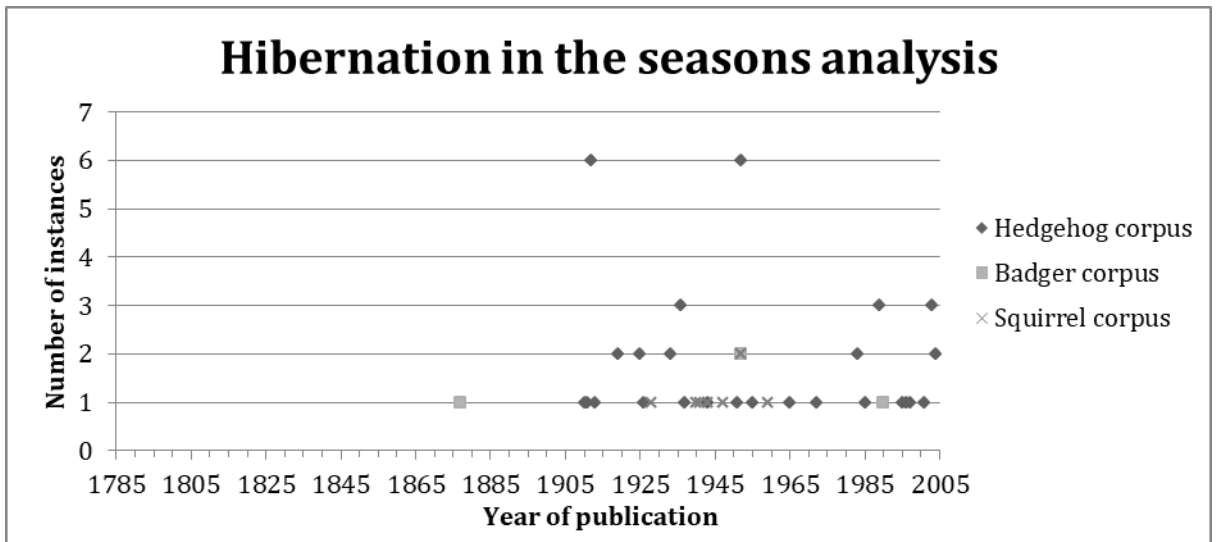


Figure 8.5 Distribution of hibernation in the seasons analysis by corpus

Table 8.6 Hibernation extracts from the seasons analysis

Ref	Corpus	Info	Focus	Extract	Date
158	Hedgehog	Letters to the editor	Hibernation: encounter with hibernating hedgehog	One day late in October we met in the woodshed. Curled up in his winter's nest, he [a hedgehog] was too sleepy to be unfriendly.	28/01/1933
159	Hedgehog	News—from a correspondent	Hibernation: known individual	With an occasional appearance at a matinee, as it were, Jemima's [one hedgehog] daily life went on till one evening the milk remained untouched. By this and other signs we knew that Jemima had retired for the winter.	15/12/1936
160	Hedgehog	Letters to the editor	Hibernation - known individuals	We found also that the father and mother [hedgehog] returned to their winter quarters some weeks ago, but the son came along quite recently, missing, however, the colder nights.	19/12/1936
161	Squirrel	News—from a correspondent	Hibernation: differences in geographical location	Whether it [the grey squirrel] spends much time asleep indoors during the day depends, no doubt, upon the weather, but it is unlikely that, in the south of England at all events, it ever goes through the winter in a state of coma.	30/12/1943
162	Badger	News—the course of nature	Hibernation: differences in geographical location	the winter sleep of the badger —in the extreme north only, I think—is no more akin to the death-like coma of hibernation than are the "long night" slumbers of the Eskimo.	22/01/1952
163	Hedgehog	News—the course of nature	Hibernation: encounter with hibernating animal	Hedgehogs are frequently about in the winter (their tracks have been observed in snow), but one will often come upon a hedgehog fast asleep, like a prickly football covered with dead leaves, and not necessarily in hard weather.	22/01/1952
164	Hedgehog	News—the course of nature	Hibernation: not hibernating	Three times by accident I have suddenly been made aware of its [the hedgehog's] close presence — once when he appeared on the doorstep in a mild mid-winter's night (so much for hibernation)	11/12/1965
165	Hedgehog	Feature articles	Hibernation: not hibernating	This could be a big year for hedgehogs . The weird non-winter meant that they did not hibernate and they are now moving into the height of their breeding season	30/05/1989

Examination of hibernation across the three corpora indicated that it is often when animals (hedgehogs) are not doing what is expected that they are newsworthy. This is perhaps predictable considering that, generally speaking, news is only worth publishing if it is in some way remarkable (even in the case of “soft” news pieces). It seems that hibernation is of interest to humans both because it differs from their own behaviour (e.g. lines 158 and 163) and because it affects when they might have opportunities to engage with these animals. These texts often report behaviours that are out of the ordinary for hibernating

animals or that in some way affect humans. For example, several readers' letters report the hibernation of known—even named—individuals (e.g. lines 159 and 160) as an indication that humans will no longer interact with or encounter them. Similarly, the non-hibernation of hedgehogs is noteworthy because humans can encounter them (164) or because it signifies something about the mildness of the winter (165). I also found evidence of geographical differences in hibernation patterns being discussed (161, 162). In this way, although the animals' seasonal behaviours are not shared by humans, the experience is shared insofar as the animal is living it and humans observe it. The act of writing about and publishing it in the news for an audience is a way of extending these experiences beyond the context of the original encounter.

In order to ensure survival of both the individual and the wider species, the biological functions of (non-domestic) animals are directed by seasonal cycles to a greater extent than humans, whose lives are more removed from the restrictions of seasonal patterns. The examples discussed here indicate that humans apply their knowledge and understanding of the world to their interpretations of animal behaviours. Emerging in later years, anthropomorphism through parallels drawn in actions seems to compensate for increased separation from seasonalities. This fits with the literature but one would expect such representations to be stronger (i.e. applied to more animal seasonalities) and to continue to increase over time. Instead there is no indication of this pattern of representation appearing between 1970 and 2001 but as will become clear below, disease likely plays a disruptive role in this change.

8.3 Disease

The topics of seasonal habits and disease feature in the news in very different ways. Animals' diseases are often written about in a more openly anthropocentric way than their associations with seasons; it is the ways in which disease impacts directly on human lives that is often foregrounded in "hard news" texts about animal disease. The theme is of particular interest because it is common to all of the focus animals—albeit to varying extents—and discussion of disease generates a range of different and contradictory responses according to the animals involved.

In the badger data, language about disease largely relates to tuberculosis; for the squirrel, squirrel pox; and for the hedgehog, foot-and-mouth. All the focus animals are known to transmit and contract these diseases to and from other species. This section begins with a look at the distribution of disease names and labels identified in each of the corpora (8.3.1) followed by one key difference in terminology used to describe bTB (the lemmas INFECT and DISEASE) (8.3.2) and I end the chapter with a case study of badgers, with particular focus on the language surrounding blame in bTB discourse (8.3.3). The hedgehog and squirrel data either supports or provides a contrast with these findings at intervals. I have reserved discussion of results relating to human intervention as a result of disease for Chapter 9, as a part of the discourse surrounding harm and killing.

The analysis in this section revealed that there is little change in the language of disease identifiable over time, even where it may be expected as a result of new scientific understanding. In addition, the animals' capacity to suffer and whether

they are said to contract or transmit disease from other species may be occluded in the discourse. Both appear to be influenced by human investment in the other species involved.

8.3.1 Diachronic distribution of disease names and labels

Diachronic distribution of terms for the main diseases associated with the focus animals—*bTB*, *foot and mouth* and *squirrel pox*—show that, as a news topic, disease is more prevalent in the badger corpus. In fact, the badger KC analysis returned “disease”, demonstrating the relative prominence of this theme in discourse about badgers compared to that about hedgehogs and squirrels combined. Periods of interest across all three corpora can be seen in the following Figure 8.6.

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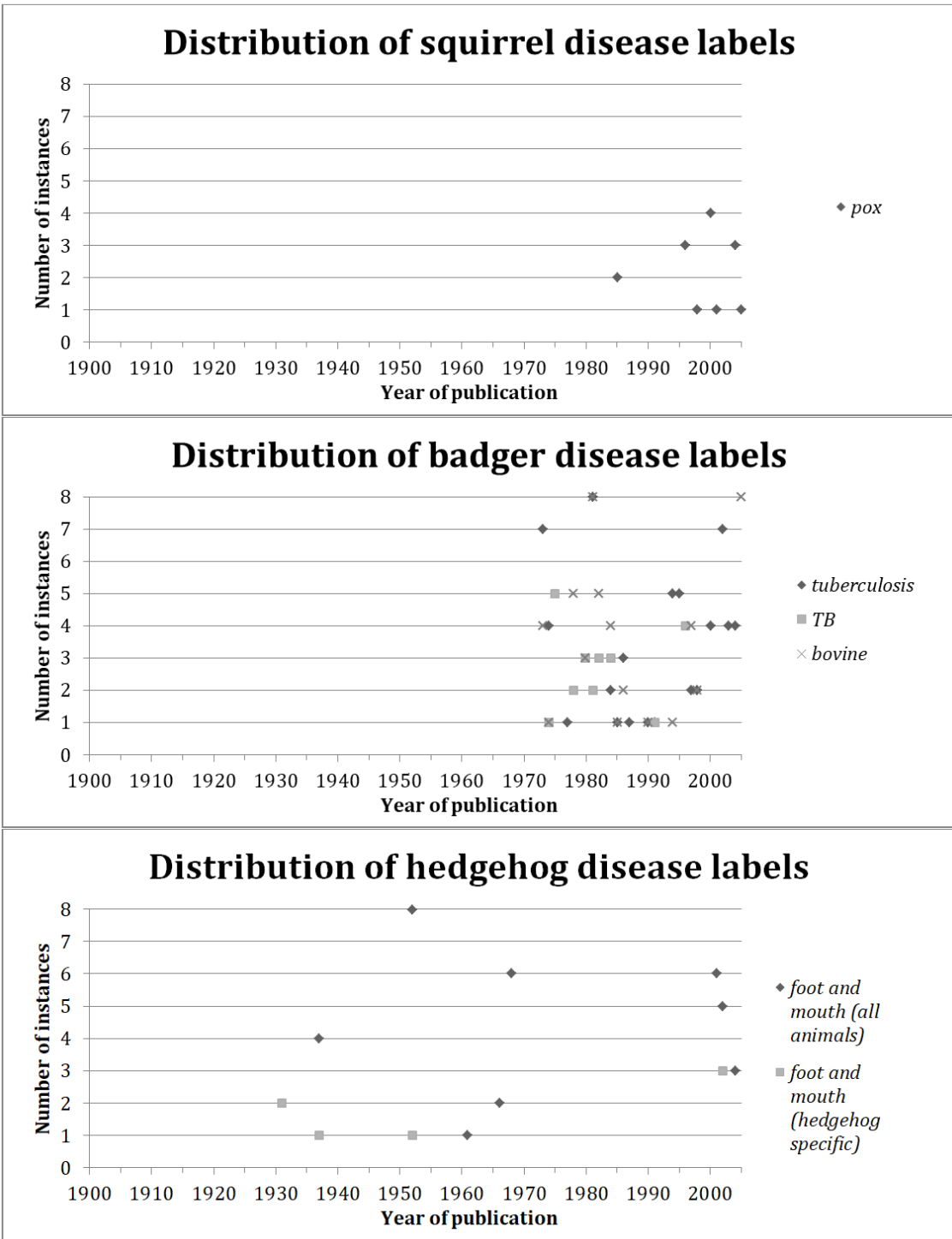


Figure 8.6 Distribution of disease labels in the respective corpora

Overall, the words denoting the main diseases associated with the focus animals do not appear until late in the corpora. The distributions indicate that disease is conceptualised differently in early periods; the absence of this topic in the news

indicates lack of knowledge in this case (bTB was not linked to badgers until the 1970s). Distemper in dogs is discussed at length in *The Times'* Parliamentary reporting, indicating that disease is somewhat important in early times.

Squirrel pox does not feature in the squirrel corpus until the mid-1980s and was not returned in the statistically significant corpus analysis results but rather was highlighted during qualitative corpus analysis. In the hedgehog corpus, foot-and-mouth appears both in direct reference to hedgehogs and more generally (though all texts do contain at least one reference to hedgehogs), so there is a distance created between the focus animals and disease here that sets the hedgehog discourse apart from that of the other animals. That said, I found mentions of foot-and-mouth transmission in all three corpus segments (H2, H3, and H4) for the CB analysis.

Disease references were returned in all the badger corpus analyses but the diachronic analyses revealed no indication of language relating to disease appearing before period B4 (1957-1987). It is the largest theme of all in the badger corpus, which is remarkable as it only appears from the early-1970s onwards (around the last 30 years of this 220-year corpus). The badger disease distribution shows that there are two distinct periods during which disease is a large part of the discourse in the badger corpus: from 1973 (the year of the Badgers Act) until the mid-1980s, and from the early 1990s until 2005. These periods approximately fit with changes in the badger's situation in Britain over this period. Gassing of badgers was carried out by the Ministry of Agriculture, Fisheries and Food (MAFF) from 1975 until 1982 (with a break between October 1979 and October 1981 for a strategy review). Gassing was replaced by live

trapping in 1982, which coincides with the start of a period of quiet on the issue of badgers and bTB in *The Times* from 1983 to 1993. In 1994 the MAFF began a blood test trial for detecting bTB in badger populations, and this corresponds with the beginning of the second spike in mentions of disease. The absence of language relating to disease in B5 in the salient results—despite population control for bTB reasons being carried out during this period—is interesting and prompted further questions as to the reasons behind this, which I explore below.

8.3.2 DISEASE and INFECT

Variations and derivatives of the lemmas DISEASE and INFECT appear in the results of the badger corpus analyses (e.g. “severe infection” (CO, B4); “diseased” (AM B4, B6); and “infected” (AM B4, B5 and B6)). Overall in the corpus, the search term “diseas*” returned 218 hits (nouns and adjectives) relating to bTB; 67 refer to diseases other than TB (mainly myxomatosis but other animal and human diseases are also mentioned). There are 190 hits for “infect*” (nouns, adjectives, and verbs) that relate to bTB and 15 that refer to other diseases, such as rabies and myxomatosis, or are not illness-related (e.g. “badger-watching much be infectious because my son has also caught the complaint”, *news*, 06/06/1957). Figure 8.7 shows the distribution of the terms *infect** and *diseas** in the badger corpus when the occurrences are restricted to those appearing in the context of bTB but not restricted to association with badgers only. The graph highlights six years where the number of instances of *diseas** is markedly higher than that for *infect**: 1980, 1981, 1982, 2003, 2004 and 2005; and three years where the number of instances of *infect** is markedly higher than that for *diseas**: 1978, 1995, 1999.

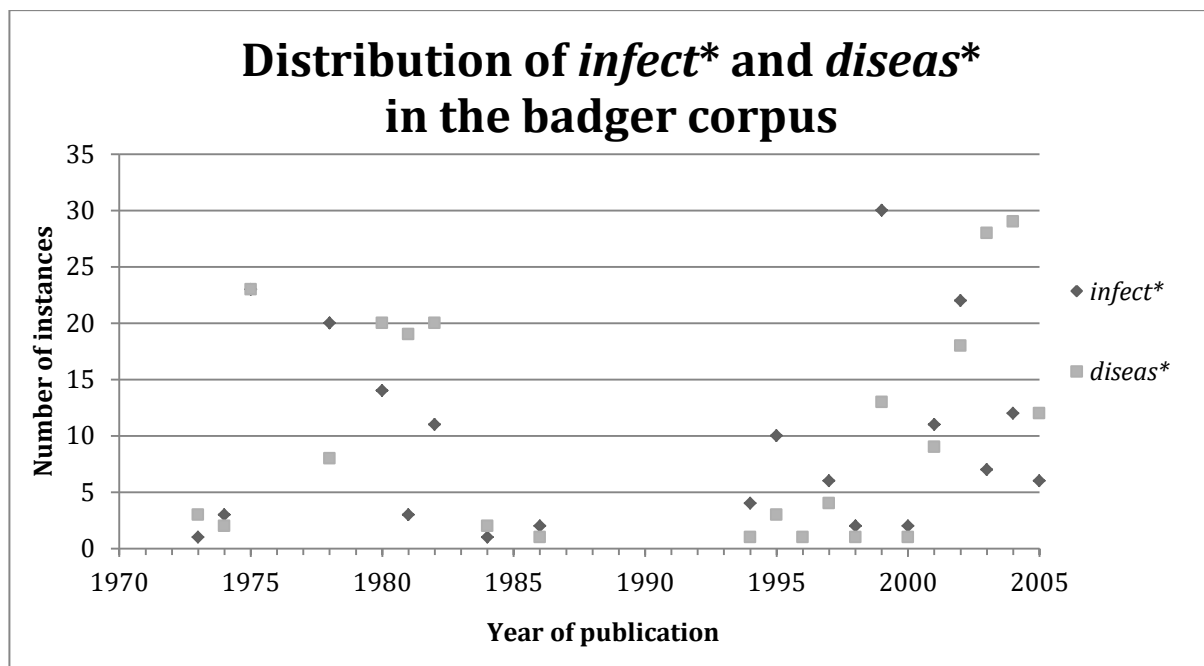


Figure 8.7 Occurrences of *infect and *diseases** by year of publication, 1973–2005**

Reference corpora confirmed that in general usage, *infect** is used consistently less frequently than *diseases** over time. Diachronic distributions indicated that the trends I identified in the badger data are largely independent from general use (see Appendix L for breakdown). I categorised each of the remaining 190 hits for *infect** and the 218 hits for *diseases** according to the contexts in which they were used. For example, in the case of modifiers and nouns, I categorised the instance as belonging to the “infected” species or the species with the “infection” (etc.). If one species is said to have “infected” another I usually categorised the instance

(i.e. the bTB) as belonging to both species³⁸. Examples of extracts assigned to each category (see “focus” column) are provided in Table 8.7.

Table 8.7 Extracts illustrating instances of *diseas and *infect** assigned to each contextual category**

Ref	Section	Focus	Extract	Date
166	News	<i>diseas*</i> and cows and other animals	Soviet researchers have demonstrated that such infection remains viable and can cause disease in cattle and other animals for up to one year	13/03/1978
167	News	<i>diseas*</i> and other animals	The only other animals with the disease were two moles and five rats	15/09/1981
168	News	<i>diseas*</i> and places/areas	vets are worried by the spread of the disease to counties, such as Staffordshire, outside the main area of infection in the South West	06/05/1997
169	News	<i>diseas*</i> and intervention	"Until a more effective way of controlling the disease can be found, extended and rigorous culling of badgers in new areas offers the best available control," the BVA said.	06/05/1997
170	Editorials/leaders	<i>diseas*</i> and cows	So there is cause for concern that, in the past decade, cases of this disease in cattle have soared.	05/05/1999
171	Feature articles	<i>diseas*</i> and humans/human interests	Pain and her family had to be tested for tuberculosis — the bovine strain of the disease can pass to humans.	06/02/1999
172	News	Standalone <i>diseas*</i>	We are pretty concerned that the disease is not coming under control and, given the delay in the scientific trials, there should be an interim measure.	10/04/2003
173	News	<i>diseas*</i> and badgers and cows	He accepted that there was a disease link between badgers and cattle but said he needed the conclusive evidence from the rest of the trials to prove it	05/11/2003
174	News	<i>diseas*</i> and badgers	One farmer has admitted anonymously that he kills diseased badgers.	05/07/2005
175	News	<i>infect*</i> and cows and badgers	The ministry said the relationship between the tuberculosis infection in badgers and cattle was not yet resolved	11/07/1973
176	News	<i>infect*</i> and cows	More than 1,500 infected cattle are slaughtered each year at a cost to the state of £290, 000 in compensation to farmers.	25/09/1975
177	Letters to the editor	<i>infect*</i> and badgers	The level of infection in badgers in Cornwall and Devon has, in fact, been far higher than Dr Littler indicated.	04/04/1978
178	News	<i>infect*</i> and place/area	Mr Jonas added that a similar project was under way in 40 square miles around Thornbury, Avon, and there were other "fire brigade" projects in areas of bad infection	06/01/1978
179	Feature articles	<i>infect*</i> and humans/human interests	there is a real possibility of infection among our farming families	06/02/1999
180	Feature articles	<i>infect*</i> and animal feed	One mouthful of grass can supply an infective dose.	06/02/1999
181	Letters to the editor	Stand-alone <i>infect*</i>	No government or group has the right to cull any species without establishing beyond reasonable doubt the natural history of the infection that they wish to control.	10/05/1999
182	News	<i>infect*</i> and another animals (deer)	Six of the infected red deer were from Exmoor.	26/06/2004

³⁸ Of 13 instances of *infect** in verb form that relate to badgers and cows, two refer to two-way transmission; the others describe a badger-to-cow transmission.

Figure 8.8 compares the frequency of hits for *diseas** and *infect** assigned to each contextual category I identified. Language denoting **places**, **badgers**, and **cows** are the most commonly associated with *infect**, whilst language denoting **badgers**, **badgers and cows**, and **cows** are most commonly associated with *diseas**.

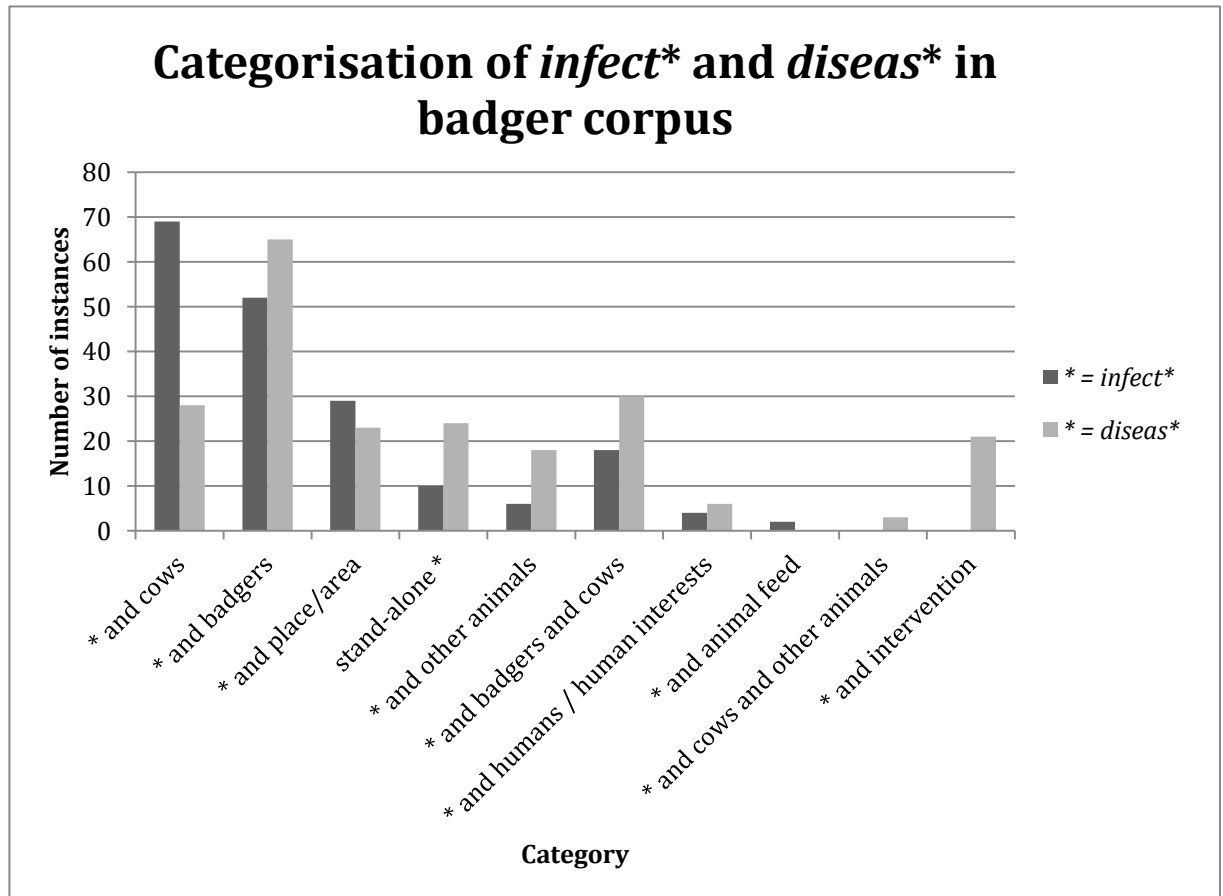


Figure 8.8 Frequency of *infect and *diseas** assigned to contextual categories**

The most significant findings in terms of the implications it has for the animals involved is that intervention is associated with *diseas** only; there is no evidence of intervention being discussed in relation to *infect** in this data. When it is connected with badgers, bTB is more frequently associated with *diseas** than

*infect** and on the other hand, when it is connected with cows, bTB is much more frequently associated with *infect** than *diseas**. Disease is caused by infection with either bacteria or a virus (Mycobacterium bovis in the case of bTB). If disease is the end result of infection, then it follows that by associating cows more with *infect** and badgers more with *diseas** (in reference to the *same* illness), in addition to associating intervention with *diseas** only, such texts perpetuate the idea that bTB in badgers is more serious and/or more advanced than in cows.

A random selection of 50 concordance lines each for the queries *adjective + infect* (noun)* and *adjective + diseas* (noun)*³⁹ in the BNC revealed that disease is often modified by transmission words (e.g. “transmitted disease” and “communicable disease”) and by more negative modifiers (e.g. “nasty disease”, “fatal disease”, “disgusting disease” and “terrible disease”) than infection, the modifiers for which are often less definite (e.g. “alleged infection”, “ordinary infection”, “possible infection”). It might be suggested then, that INFECT is less harmful; something that is suffered rather than transmitted, especially since the majority of texts blame the badger for the presence and/or transmission of bTB to cows and farms. It also suggests that there is greater need and justification for disease intervention in the case of badgers. It is unclear whether (i) the scientific development of disease and infection is known to the writers and/or (ii) it is understood through general usage of the two terms (i.e. it is likely given the

³⁹ Search terms: *{*/ADJ} {diseas*/N}* and *{*/ADJ} {infect*/N}*

above that *diseas** has greater negative semantic prosody than *infect**). Here, badgers are presented as having the disease that infects cows in contrast to the scientific reality that *M. bovis* is transmitted both ways between cows and badgers.

Figure 8.9 and Figure 8.10 show the distributions of *diseas** and *infect** for the “badgers”, “cows”, and “badgers and cows” categories.

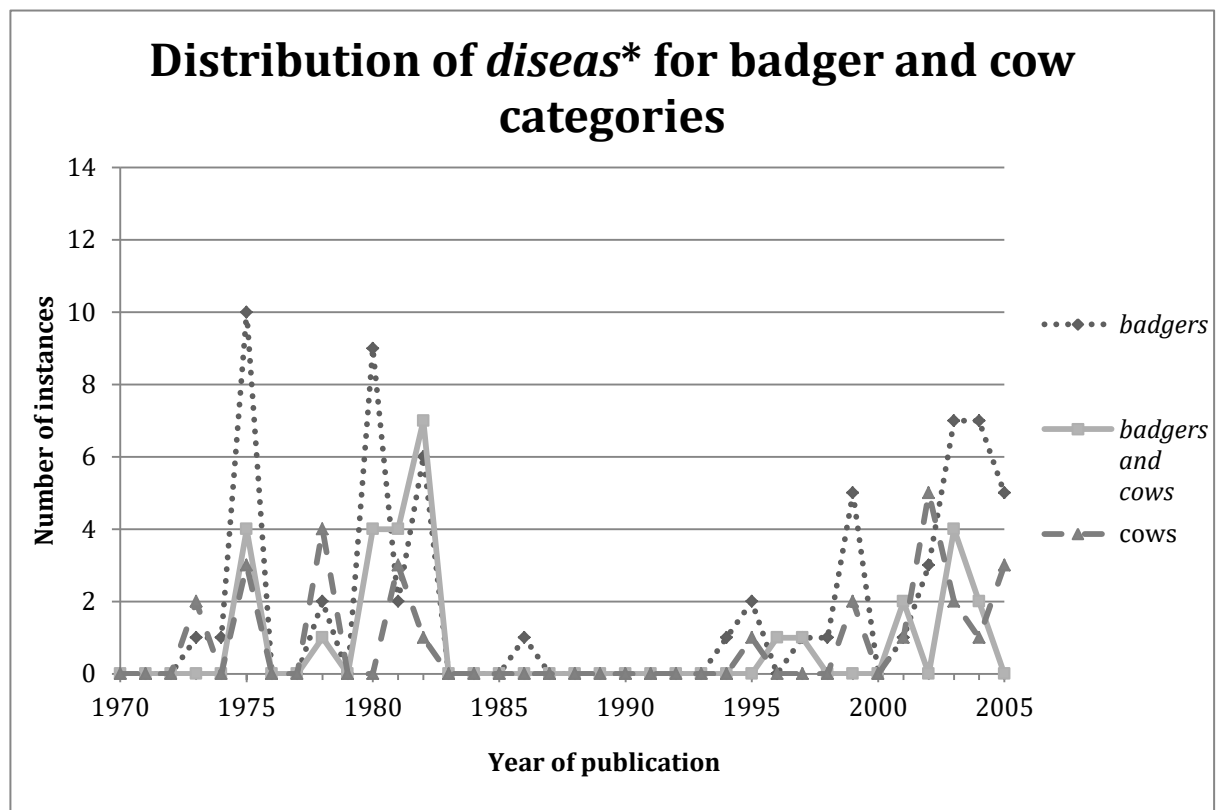


Figure 8.9 Distribution of *diseas** for language denoting badgers and cows

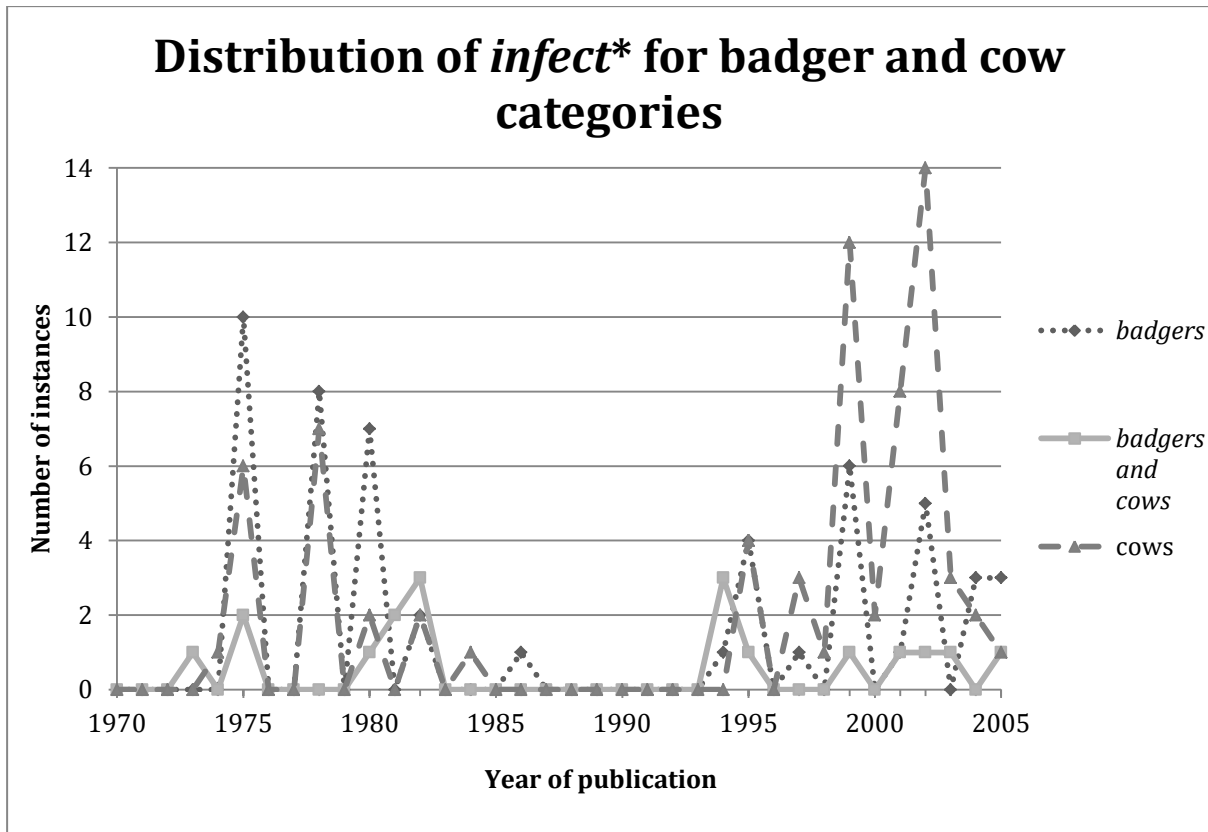


Figure 8.10 Distribution of *infect** for language denoting badgers and cows

Language denoting badgers is associated with *infect** more often in the 1970s and 1980s than the 1990s and 2000s, with the reverse pattern being true of language denoting cows. On the other hand, *diseas** is most often associated with (language denoting) badgers over time. Given what I have argued above about the implications of associating badgers and cows with each of these terms (and their derivatives), it appears that responsibility for bTB might increase for the badger and decrease for cows over time. This warranted further investigation.

8.3.3 Blame and responsibility

Language invoking blame and responsibility for bTB in cows is present in all periods of the badger corpus from B4 to B6 but, as I indicate above, the strength of blame fluctuates over time. As there is no single or set of keyword(s) identifiable in these results, this portion of the analysis is qualitative, although the findings were derived from an analysis of all *of badger(s)* and *badger(s) + BE* clusters concordance lines. The diachronic distribution of clusters attributing the varying levels of blame to badgers is shown in Figure 8.11 and illustrative extracts from each category are provided in Table 8.8, with discussion to follow. Full details of all the blame clusters results can be found in Appendix M.

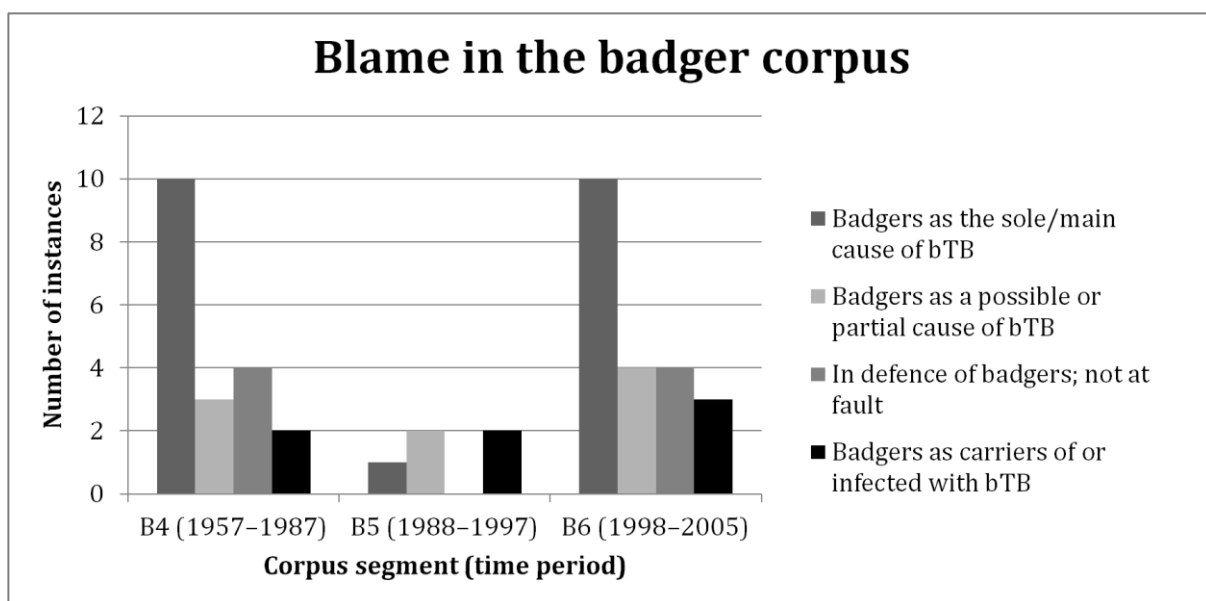


Figure 8.11 Diachronic distribution of bTB blame clusters in the badger corpus

Table 8.8 Badger responsibility for bTB identified in the CO and CB analyses categorised by strength of blame

Ref	Section	Focus	Extract/result	Date
183	News	Badgers as the sole/main cause of bTB	The [ministry veterinary] staff claimed that the badger was by far the main source among wild and stray animals for passing bovine tuberculosis to cattle.	10/01/1978
184	News	Badgers as the sole/main cause of bTB	The gassing of badgers was resumed on government orders almost a year ago after Lord Zuckerman, president of the Zoological Society of London, had reported to ministers that the badger was the main cause of the disease in cattle.	15/09/1981
185	News	Badgers as the sole/main cause of bTB	badgers are being blamed for a new case of bovine TB	05/01/2002
186	News	Badgers as a possible or partial cause of bTB	Work by government researchers shows that there are still uncertainties about the disease which badgers are <i>thought</i> to pass on to cattle [emphasis added]	11/02/1982
187	News	Badgers as a possible or partial cause of bTB	The work convinced the Government that badgers were <i>a</i> source of disease [emphasis added]	15/12/1982
188	News	Badgers as a possible or partial cause of bTB	We are convinced that badgers are implicated in the spread of the disease, which causes severe financial loss.	25/10/1995
189	News	Badgers as a possible or partial cause of bTB	We are convinced that badgers are implicated in the spread of TB, which costs farmers about £4 million a year.	26/01/1996
190	Politics and Parliament	Badgers as carriers of or infected with bTB	Learned people had become almost certain that the cause of this repeated infection was that a certain strain of badger was a carrier and infected cattle	25/01/1975
191	Feature articles	Badgers as carriers of or infected with bTB	Since badgers are known carriers and their numbers have soared, farmers naturally put two and two together	21/05/2004
192	News	In defence of badgers; not at fault	There was still doubt whether the badger was the culprit and it would be better to test live badgers before instead of after killing the animals.	06/02/1978
193	Politics and Parliament	In defence of badgers; not at fault	The badger was seen as a threat to livestock, he [Lord Melchett] said, but this was unjustified.	04/02/1981
194	News	In defence of badgers; not at fault	Mr Walker ordered resumption of gassing after almost a year's suspension so that Lord Zuckerman could investigate complaints from naturalists that the badger was being blamed unjustly for infecting cattle.	23/04/1981
195	New	In defence of badgers; not at fault	As far as we [wildlife activists] are concerned, there is already ample scientific proof that badgers are not the cause of TB in cattle	05/05/1999
196	News	In defence of badgers; not at fault	Badgers 'are not to blame' for bovine TB	03/08/2001

8.3.3.1 Badgers as the sole/main cause of bTB

Badgers are most commonly presented as the sole or main cause of bTB in cows with half the CO and CB results (26 in total) attributing the blame and responsibility for bTB transmission entirely to the badger. This is mainly achieved through the use of *badger(s)+BE+cause/source/responsible* as shown in

extract 184. Repeatedly describing badgers as the “cause” and “source” implies that they are responsible for the *existence* of the disease and ignores the two-way spread of infection between badgers and cows. In period B4, they are most often cited as the “source” of bTB. In example 183, the badger belongs to a set of wild and stray animals with all the connotations this entails (i.e. that they are potentially dangerous and in need of control) (see 2.2 for discussion).

After a period of moderate blame attributed to badgers in B5, the strength of blame increases substantially in B6 to the same level as found in B4. There are more instances of badgers being described as the “cause” and “source”, as well as “responsible” here but there are also more covert ways in which blame is attributed in this period. For example, an agentless passive appears in this period as a photo caption (185). A dairy farmer—Nick Adames—is the only person in the text cited as blaming badgers for bTB on his farm but the article also mentions Dick Sibley at the British Cattle Veterinary Society, the NFU, DEFRA, and the Animal Health Minister Elliot Morley in the main body of the article above the caption. The agentless construction suggests this is the official or generally accepted opinion when in fact badgers were not mentioned by any of these individuals or organisations in this text.

I found pro-cull texts drawing on the evidence and claims of experts and authority figures to be a common feature of the disease discourse elsewhere in the analysis. The badger corpus DK analysis returned several noun phrases denoting human actors in the context of disease (see Table 8.9). These actors include members of the farming community who are affected by the presence of disease on their farms and experts involved in strategy and decision-making.

Most references to humans in this context are metonymic; organisations stand for people here, such as the MAFF (197 and 198) and the Veterinary Association (199). The exceptions to this are references to authority figures Lord Zuckerman (former chief scientific advisor to the government) (200) and the Chief Veterinary Officer (201).

Table 8.9 Results relating to human actors in disease context

Ref	Focus	Extract/result	Date
197	organisations-for-people metonymy	ministry [of] agriculture [and] fisheries	B4
198	organisations-for-people metonymy	maff	B6
199	organisations-for-people metonymy	veterinary	B4
200	Authority figures	Zuckerman	B4
201	Authority figures	veterinary	B4

These findings are significant since it is through the impersonal authority of organisations and expert advisors that the epistemic modality of the discourse surrounding badger disease is increased, as the following extracts demonstrate.

(a) "The human risk is enormously important", Lord Zuckerman said at a press conference in London yesterday. He knew of no case in which the disease had been transferred from a badger to man. "But without doubt it could happen. Any creature that gets tuberculosis the way the badger gets it could cross-infect a human being"

(b) Last year it was suspended for Lord Zuckerman to decide whether the campaigners were right in claiming that badgers had not been shown to be the source of the disease in cattle.

(c) He said in his report that badgers were definitely the source and defended ministry staff in the west of England who have been criticized in recent years by animal welfare groups.

(d) One in four badgers in some areas in the South-west had the disease. If diseased animals were not eliminated the entire British badger population, hundreds of thousands of animals, could become extinct.

News, 31/10/1980

The extracts above (full text available in Appendix N) are taken from a text announcing the resumption of badger culls following a suspension pending the Zuckerman report. At a time when the government had been heavily criticised for killing badgers, this text arguing a pro-cull position adds extra dimensions to the case against (TB-carrying) badgers where, in addition to being a threat to cows, they are: (i) a direct threat to humans, and (ii) a threat to the entire British badger population.

First, the threat to humans is emphasised through quotes from a ranked expert with institutional and organisational affiliations ("Lord Zuckerman, OM, FRS, the former chief scientific adviser to the government, who is president of the Zoological Society of London"). The threat is also emphasised through the AP "enormously **important**" (emphasis added) (c.f. certain/relevant) and partial

suppression of non-supporting information through grammatical embedding (“[He knew of no case in which [the disease had been transferred from a badger to man]]” (brackets added)). Also note here the lack of quotation marks in this inconvenient information; information directly supporting the pro-cull message is provided in the form of a quote from Lord Zuckerman. The writer increases the modality of the argument through expressions of certainty (“without doubt it could happen”) and unsupported statements of fact (“[a]ny creature that gets tuberculosis the way the badger gets it could cross-infect a human being”) to support a modal verb that only indicates possibility (“could”). Second, the threat to the British badger population is emphasised through statistical information (“one in four”, “hundreds of thousands”); omission of key information to support the statistical details (“**some** areas in the South-west” (emphasis added)) and through the use of a conditional (if x then y) (“If diseased animals were not eliminated the entire British badger [...] could become extinct”). Crucially, no anti-cull stakeholder is given a direct voice in this text; they are not named by organisation or individual rank; their views are partially represented as a “claim” and they appear embedded inside a “whether” clause and a “by”- phrase, diminishing their importance.

8.3.3.2 Badgers as a possible or partial cause of bTB

The second most frequent level of badger blame presents badgers as a partial or possible source of bTB. Here, they are usually described as one possible source of disease, often without mentioning other potential sources (187 and 188), or they are “thought” (186) to transmit disease.

8.3.3.3 Badgers as carriers of bTB

Another more subtle indication of blame is demonstrated by clusters that present badgers as carriers of the disease. In this fairly consistent representation (B4 through B6), badgers are described by the adjectival phrase “(known) carriers”, for example (191). The language in this category can imply transmission but is not as strong as explicitly loading responsibility onto the badger for the spread of bTB. For instance, one result in this category describes the badger itself as a strain (190); I identified this as a likely disease metaphor through comparison with general usage of *strain* in the BNC (details are provided in Appendix O).

I also found support for this idea in the squirrel data where disease metaphors are applied in the representation of the grey squirrel (“prevent [grey squirrels] from spreading into other districts”, *news*, 14/02/1936; and “grey squirrels are a perfect plague”, *letters to the editor*, 09/07/1937). These presuppose that grey squirrels are the cause of the disease in a pattern of advantage and disadvantage where red squirrels are the “victims of disease” (*news*, 25/05/1956).

8.3.3.4 In defence of badgers; not at fault

It will come as no surprise at this stage that alternative views are often occluded in the results. Defending badgers against claims of disease transmission is the least frequent representation I identified in the discourse. In terms of diachronic distribution, one result defending badgers is present in B4 and three are present in B6. In B6, the results are not well distributed; two are from a single letter and the other is from a report about animal welfare campaigners planning to sabotage the cull. Given the strength of scientific research into understanding

bTB transmission and perturbation (see 3.3.3), one might expect more language in B6 dedicated to the defence of badgers. Writers in *The Times* do not challenge the established representation and so the narrative of badger blame is maintained despite issues with accuracy.

Where alternative views are represented, the language associated with blame is reproduced in the counter argument (192, 194, 195, and 196). In some cases this is perhaps understandable (e.g. “not to blame”) where hypothetical alternatives (cf. *innocent*, *blameless*, *guiltless*) are limited and not necessarily more suitable. In other cases, the language used in these defence extracts is avoidably harmful. In one extract, the animal is even assigned a criminal persona (192), whilst in another it is the badgers themselves, and not the disease, that are seen as a threat to livestock (193). Note how the threat is to “livestock” here and not to cows; it is the cost to the produce of a human industry that is of interest and not to cows for their own sakes.

Even when it is present in badgers, the popular and scientific names for the disease (*bovine tuberculosis* and *Mycobacterium bovis*, respectively) place emphasis on cows and, by implication, on human interests. As is clear from the above, language denoting cows features frequently in the discourse and was returned in the corpus analyses for the periods B4 and B6 as shown in Table 8.10. Despite the presence of bTB on British farms and ongoing badger trapping during period B5, there is an absence of labels for cows from these analyses at this time.

Table 8.10 Animal naming terms in a disease context in the badger corpus

Ref	Section	Focus	Extract/result	Analysis	Date
202	-	Cows	cattle	KC, badger corpus	N/A
203	-	Cows	cattle	DC, badger corpus	B4
204	-	Cows	livestock	CB, badger corpus	B4
205	-	Cows	cattle	DK, badger corpus	B6
206	-	Cows	cattle	DC, badger corpus	B6
207	Politics and Parliament	Cows obscured as commodities	eliminate disease in farm livestock	Badger qualitative disease analysis	02/12/1975
208	News	Cows obscured as places	the disease is one of the most persistent on farms	Badger qualitative disease analysis	23/04/1981
209	Editorials/ Leaders	Cows in collectivities	cases of this disease in cattle have soared	Badger qualitative disease analysis	05/05/1999
210	Letters to the editor	Cows obscured as products of industry	beef industry is threatened by infectious disease	Badger qualitative disease analysis	10/05/1999
211	News	Cows in collectivities	a diseased herd poses huge problems	Badger qualitative disease analysis	05/10/2002
212	News	Cows obscured as places	Mr Rowe, [...] who has had the disease on his farm for more than two years	Badger qualitative disease analysis	10/04/2003

Qualitative analysis of the concordance lines for *diseas** revealed that cows were obscured in the context of TB as places (e.g. lines 208 and 212); as the products of industry (e.g. line 210); as commodities (e.g. line 207); and as collectivities, predominantly “cattle” (e.g. line 209) and occasionally “herd(s)” (e.g. line 211). This suggests that the reason that they are more important is because of the impact that the disease has on humans in terms of finance, industry, and produce. The fact that cows feature so strongly is indicative of why disease is so much more important in the badger news than is the case for the other focus animals. Cows are rarely, if ever, discussed in terms of suffering; it is the impact that their infection has on human actors involved (costs to farmers and the economy etc.) that is foregrounded here.

Even in an unusual case where “cows” (not “cattle”) do feature in these terms, the farmers are central. The extract below describing the removal of cows from one farm is taken from the beginning of a feature article (full text in Appendix P). The extract describes the emotional cost for the farmers on losing their investment in the herd. The description of fear in the named individuals removed from the farm serves to elicit an emotional response in the reader to strengthen the case for badger culling that is made later in the text. The article was published at a time when controversy surrounding the badger cull is particularly high.

It was on a wet and horrible Friday last month that the slaughter happened. "The worst day I can remember," says Sarah Pain. "The family had spent 40 years building up that herd. Those 40 years were wiped out when the cows were killed." Tim and Sarah Pain, who farm in Gloucestershire, lost their entire herd of around 80 dairy cows on January 8, slaughtered because they were infected with tuberculosis. "The worst bit was seeing our favourite two, Gingernut and Hornblower, going up the ramp into the lorry," says Pain. "You could see the fear in their eyes. They knew what was going on; they could smell it."

Feature articles, 06/02/1999

Despite being linked to another farming disease, hedgehogs do not receive the same treatment as badgers. They are usually represented as the victims of disease (e.g. “highly susceptible to foot-and-mouth”, *editorials/leaders* 10/05/1937 (CB, H2); and “peculiarly susceptible to the disease”, *news*, 26/10/1931 (CB, H2)) and are blamed more lightly than badgers (e.g. “recorded to have spread the virus”, *news* 14/05/1968 (CB, H3); "potential virus carriers", *feature articles* 03/03/2002 (CB, H4)). When the hedgehog is said to transmit foot-and-mouth disease to other animals in early texts (H3), foot-and-mouth is described as a “virus” (unlike bTB, foot-and-mouth is caused by a viral infection

rather than a bacterial one) but in H2 and H4, where the hedgehog is described as a carrier, foot-and-mouth is referred to as a “disease”. A reference corpus (BNC) confirmed that the word “disease” has more harmful connotations than the word “virus”⁴⁰, indicating that blame towards hedgehogs for transmitting foot and mouth is milder than is the case for badgers transmitting bTB.

The results from the clusters analyses described above mainly relate to badgers transmitting bTB to cattle. Badgers are rarely discussed in terms of the fact that they are sufferers of disease themselves or that the transmission process is two-way. Of 13 instances of *infect** in verb form that relate to bTB in badgers and cows, just two refer to two-way transmission; the others describe a badger-to-cow transmission. The following additional examples of two-way transmission between cows and badgers have been identified as a minor part of the discourse through working closely with the texts.

⁴⁰ I looked at 50 random concordance lines from the BNC for the queries *adjective +disease/virus: (_{A})+virus* and *(_{A})+disease*; 12/50 of the *adjective +disease* hits were deemed to be overtly negative in terms of severity or negative judgements (e.g. "terrible disease", "nasty disease", "vile disease", "some disgusting disease"); 3/50 *adjective +virus* hits were deemed to be overtly negative in terms of severity or negative judgements ("virulent virus", "bad", "corrupting"). (I disregarded the names of specific viruses and diseases such as "polio type II virus", "auto-immune joint disease".)

(a) It is still unclear whether badgers originate TB or contract it from cattle

News, 30th December 1998

(b) Veterinary opinion accepts that badgers can and do contract bovine tuberculosis which they can transmit to cattle

Feature articles, 6th February 1999

(c) The deer are thought to have contracted TB from cattle or badgers

News, 26th June 2004

These examples emerge in the latest years of the corpus and they do not present a strong case for cattle-to-badger bTB transmission in that extract *a* is “unclear”; extract *b* does not explicitly name cows as the source of bTB in badgers (though it might be assumed from “bovine” in “bovine tuberculosis”); and in extract *c*, the concern is for deer and the source of their disease is given as cows or badgers.

To summarise, there is a period of discursive quiet in the news about bTB and badgers in B5 (1988–1997) including in terms of blame, which recommences with the same strength as before, relying on the same representations and discursive practices.

8.4 Chapter summary and implications

In this chapter, I identified that animals feature variously as: different from humans, similar to humans, scapegoats, and occasionally victims in discourse surrounding the topic of life-cycle and health. Analysis of news about the focus

animals and seasons revealed four ways in which seasons are reflected in the discourse—in animal actions and behaviours, human-animal encounters, human actions towards animals, and seasonal influences on animals. Common (human-animal) shared experiences are prominent in discourse but these are not always physically shared behaviours. Whilst early human-animal encounters show animals being more active in encounters, later descriptions of human-animal encounters show animals being more passively involved—being observed (see Berger, 2009 and section 2.4.2.2). The increase of reports about animal watching demonstrate that people are (re-)engaging with nature in an active way in later years. There are also examples of people who are more dependent on weather (gardeners and farmers) taking cues from animal behaviours. To this extent, seasonal discourse about animals has a timeless quality to it.

For most people, seasonalities are no longer shared experiences so drawing parallels between animal and human actions—anthropomorphism—compensates for increased separation to some extent. One might expect the earliest texts to be about actual shared patterns of behaviour but this is not the case. There are two potential reasons for this: the first is that—as I have reported—non-political news is not a substantial feature of early news discourse; it may also be that the earliest texts in the corpus are not early enough for this representation to be present (i.e. change took place before the late-1700s – early-1800s).

Anthropomorphic representations are only present to any great extent in the badger corpus; the remainder of the discourse about the focus animals emphasises the impact that animal seasonalities have on humans, or reports

unexpected behaviours. The publication of texts about people's understanding and experience of animals, through educational natural history-style texts and readers' letters, enables people to share these aspects of seasonalities with others, who may have a less material connection to the natural world.

The interest in disease as a topic in the news is based on the impact that it has on humans. I found that the same disease is either played down or emphasised in the lexis depending on the animal highlighted in each case. Some animals are blamed more than others and some in more obvious ways than others. Badgers are more explicitly blamed than other animals, whereas blame is attributed to grey squirrels in more metaphorical ways. Patterns of blame seem to be based on speciesism guided by human interests. In the language of blame, I found that counter-discourses were extremely under-represented and where these are present, they often (presumably inadvertently) use language that subtly implies blame.

There is a contrast to be found here between harmonious living in seasons discourse (developing from "being with" to "being alongside" over time) and conflict between humans and animals in disease discourse (developing over time from a topic that is disregarded, to something that requires intervention). In more modern news texts, sharing aspects of animals' natural lives is something of a novelty (e.g. badger watching) or is abstract for most, featuring in the discourse anecdotally in the form of shared stories. I have shown that these representations are disrupted in the discourse by disease. As an ideologically strong aspect of the news discourse, it is easy to see how the topic of disease eclipses the abstract or trivial way that animals sometimes feature in human

lives and thus in discourse about them. Disease impacts on people's lives in a more immediate way than seasons and seasonalities (e.g. through financial and industrial loss or in posing a threat to preferred species or to human health). The result of human-animal conflict is often killing, but as I show in chapter 9, this killing does not always take the form of organised culling (i.e. killing for population management). This aspect of human-animal relationships is also sometimes reflected in recreational killing, cruel acts, and accidental killing.

9 Human actions and pursuits

9.1 Chapter introduction

Often the result of the kinds of conflict highlighted in chapters 7 and 8, language relating to the harm and killing of the focus animals is a prominent feature of all three corpora. The human-animal connection in this chapter is very vivid and contrasts with the more abstract representations I have examined in earlier chapters. Unlike previous topics, there is a rich literature on the narratives surrounding killing and harming animals (see for example, DeMello, 2012; McKay, 2006) so there is some precedent to guide expectations; however, as I discover in this chapter, not all kinds of killing are accounted for in the literature and there are subtle influences that the animals' involvement in certain kinds of killing have on reports of that for different killing types. I found the attribution of agency in the killing of all four focus animals over time to vary according to animal, the type of killing described, and the other contexts in which a focus animal is (or has been) killed.

I open the chapter in section 9.2 with an explanation of the reasons why I have focussed on the lemma KILL. In terms of the type of killing, I identified four major domains: recreational killing, population control, acts of cruelty, and non-intentional deaths. Descriptions of the kinds of killing I assigned to each of these four domains are provided in section 9.3 and section 9.4 presents the diachronic distributions of KILL. In each of the four domains, I have analysed the actors, the form of the word, and the construction of the syntax and the lexis, revealing differences in language according to animal, domain and time period. I outline the major features of agency in the four KILL domains in 9.5. These are: obscured agency (9.5.1), obscured patients (9.5.2), and emphasised agency (9.5.3). I end the chapter in 9.6 with a series of fine-grained analyses that focus on i) justifying killing of grey squirrels; ii) the language of historical badger sports; and iii) the case for *not* killing hedgehogs. I demonstrate the ways and contexts in which agents of killing are emphasised or obscured in the discourse and how conventional approaches to discussing certain kinds of killing are challenged in certain contexts (e.g. justification of cruelty to pest species compared with cruelty to other animals).

I have adopted a more qualitative approach to analysis in this chapter, which includes examining atypical patterns and one-of-a-kind texts. The findings I discuss here were brought to light by the *keywords by corpus*, *diachronic keywords*, *diachronic collocates*, *animal modifiers* and both *BE* and *OF clusters*, the methods for which are described in chapter 6. The theme “human actions and pursuits” contains two contrasting sub-themes: “killing and harm” and “defence and protection” of the focus animals. I do not have space here to examine the

topic of defence and protection other than to say that it is vastly under-represented in the discourse compared to killing and harm. More words and phrases relating to killing and harm emerged from these analyses for badgers than for hedgehogs and squirrels.

9.2 Killing words

A number of results relating to killing and harming were returned in the corpus analyses reported in chapter 6 (see Appendix Q for full list of findings). The verb KILL is the most versatile of all words meaning “to cause death”. As well as direct human agency, it allows for euphemistic, inanimate agents (e.g. “**Cars** [and not people driving them] kill 50,000 badgers a year”, *feature articles*, 16/05/2001 emphasis added) in a way that other verbs for harm and killing do not. Its non-specificity makes it a worthy candidate for analysis; it has allowed me to examine trends in the domains and reasons for killing each animal over time, as well as to track finer details such as form, syntactic construction, agency, and context of reporting.

Every instance of the lemma KILL in each of the three corpora was gathered for focussed analysis, except for instances not directly relating to the focus animals and those where the action was not carried out by human agency (whether explicitly or implied)⁴¹. This means that, in addition to verb forms, nominalisations referring to a human agent (e.g. “Badger killers fined £3,400”,

⁴¹ I did not gather instances relating to the killing of the focus animals by other animals, disease, or nature.

news, 27/01/1983) and (implicit) animal patient (e.g. “drop in kills”, *news*, 06/12/1955) were also retained for analysis. In total, five separate lexemes were identified (KILL (v) (*kill, kills, killing, killed*); KILL (n) (*kill, kills*); KILLER (n) (*killer, killers*); KILLING (n) (*killing, killings*); and ROADKILL (n) (*roadkills*)).

9.3 The four domains of killing

The first major kind of killing identifiable in the corpora is **non-intentional killing**. In this domain, squirrels, badgers, and hedgehogs are linked to road deaths and badgers are also involved in train deaths. Occasionally, hedgehogs are reported to have been killed by lawnmowers and by non-mechanical garden instruments such as forks.

A contrast between what might be considered necessary and unnecessary killing exists in the other three domains. **Killing for control** of the focus animals is carried out for the purposes of: (i) containing disease—as is the case for badgers and grey squirrels; (ii) protecting industry—as is the case for grey squirrels (forestry industry) and badgers (beef and dairy industries); and (iii) for the conservation of another species—as is the case for controlling grey squirrels to promote red squirrels and controlling hedgehogs to promote Scottish wading birds.

Finally, killing that I have identified as forms of entertainment has two aspects; the first is what might be termed **recreational killing** or bloodsports (that is, baiting, hunting, shooting and activities of similar kinds); the other is **acts of cruelty**, insofar as animal cruelty can be considered entertainment for the people involved. W. E. H. Lecky described two distinct kinds of cruelty, remarking that

“[t]here is the cruelty which springs from callousness and brutality, and there is the cruelty of vindictiveness” (Lecky, 1890, p. 134). Contemporary definitions of cruelty consider its social aspect. Ascione (1998, p. 85) defines cruelty as “socially unacceptable behaviour that intentionally causes unnecessary pain, suffering, or distress to and/or death of an animal”. DeMello (2012, p. 242) terms this “deviant violence”; in other words, “if [an act of violence] is deemed socially acceptable, or necessary, it is not considered to be cruelty”.

I allowed text-internal representations of each act of killing to guide whether I assigned it to the domain of cruelty. If the act was presented as socially unnecessary or deviant by the writer (i.e. that which Lecky would define as vindictive), then I considered it a clear example of cruelty. The other aspect of Lecky’s definition of cruelty is one of “indifference” (Thomas, 1991, p. 148) and this is reflected in the clear overlap between bloodsports and acts of cruelty. Both are unnecessary acts and some people hold the view that animal sports are cruel—a sentiment that is well-represented in the data—but killing for recreation differs from animal to animal in terms of how legitimate the act is and how far it is deemed socially acceptable at various times. For this reason, I have kept the two domains separate.

Differences in how recreational killing is perceived and written about depend on the animal, as well as the means and location of killing. There is no indication of recreational killing of hedgehogs in this data. Recreational killing for the badger comes in the forms of baiting and digging. Accounts and discussion of badger sports make up a very large portion of the corpus, and unsurprisingly, these appear often in the same context as KILL. Most reports of badger sports are

presented in the context of cruelty, though as I show in this chapter, early exceptions do exist. There is an overlap with cruelty in this domain as badger sports were outlawed in 1935 under the Cruelty to Animals Act and baiting was made explicitly illegal under the Protection of Animals Act of 1911; thus baiting crosses a boundary during the period in the study, to become a socially unacceptable act.

Usually, killing for control is considered (or presented as) necessary in a way that recreational killing and acts of cruelty are not, though this dichotomy is not always clearly defined. Some interesting examples emerge, where these boundaries are blurred. For the squirrel, killing for sport is discussed as a means of population control and there are also a small number of texts which discuss cruelty in the context of squirrel control.

9.4 Diachronic distribution of KILL

In total, there are 196 instances of KILL in the badger corpus; 90 in the squirrel corpus; and 48 in the hedgehog corpus. Figure 9.1 plots all instances of KILL across time for all three corpora and Figure 9.2 plots all instances of KILL in any form across time for the four main kinds of killing I identified⁴². In Figure 9.2, the

⁴² I have omitted from these distributions 10 instances of KILL in the badger corpus and one in the hedgehog corpus that either do not fit into one of the four main domains or where the agent or context is not clear (e.g. "Thinking that the mother [hedgehog] had been killed and that the widower was seeking sustenance for his orphaned babes and the weather being frosty, my sister collected the little family and installed them on a bed of straw in the conservatory" *letters to the editor*, 23/12/1936).

number of instances of kill assigned to each of the four domains appears in brackets next to the respective corpus name.

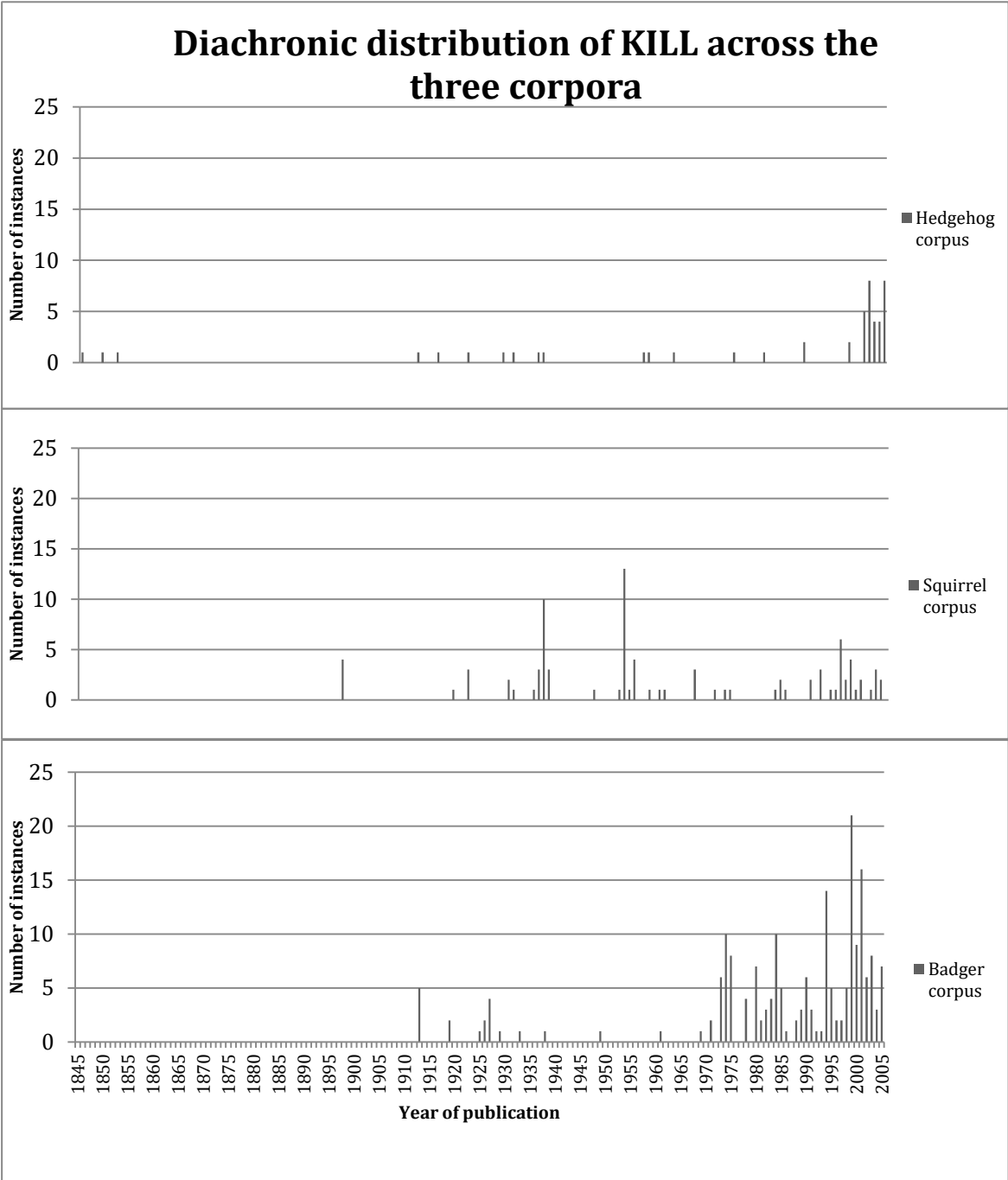


Figure 9.1 Diachronic distribution of KILL across the three corpora

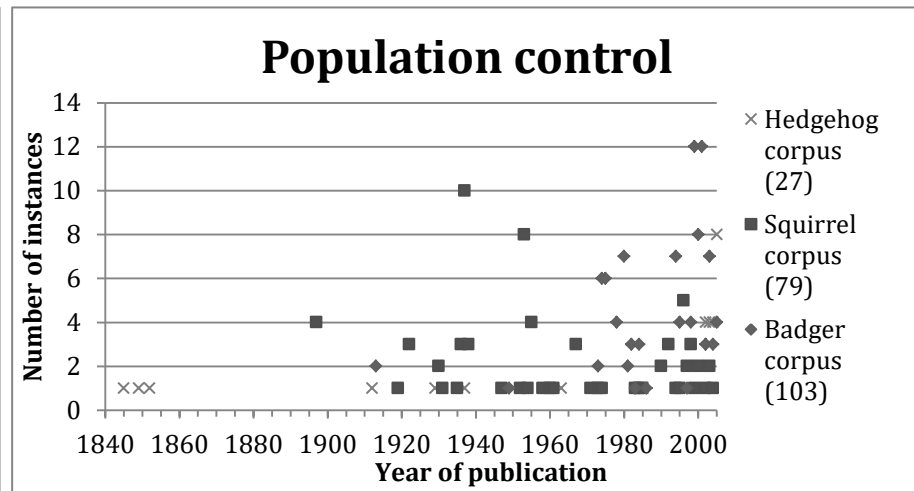
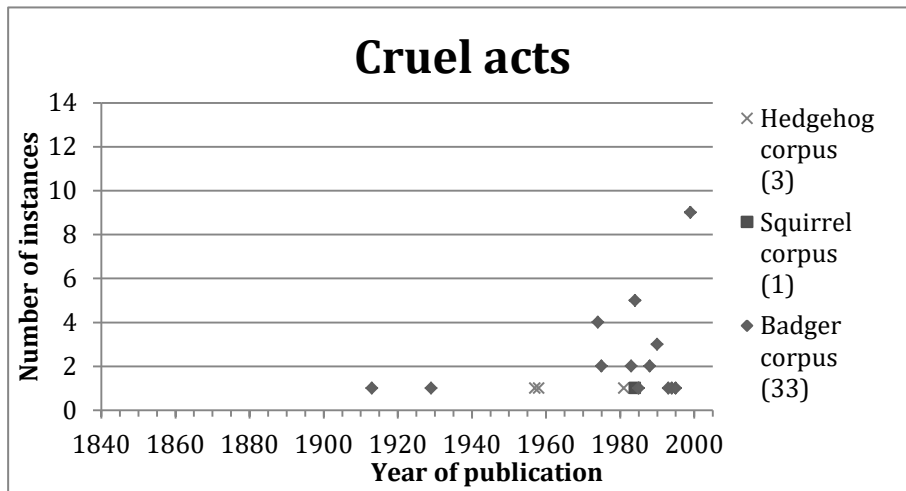
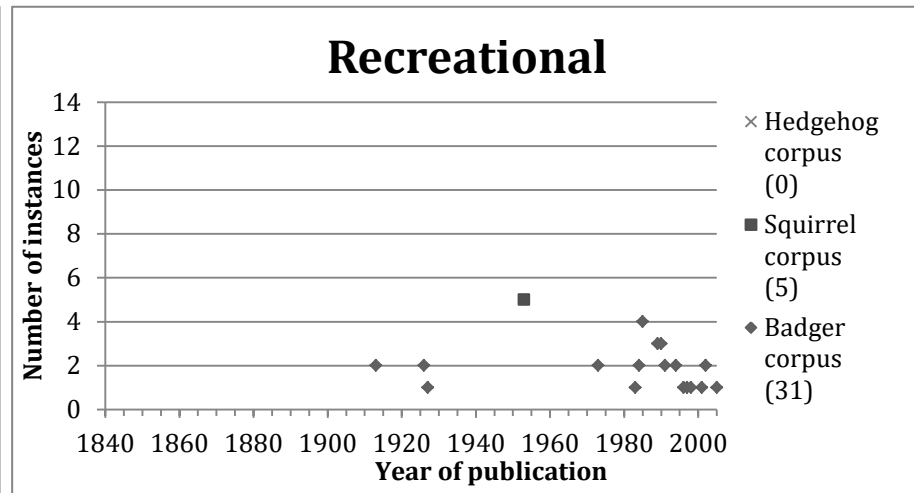
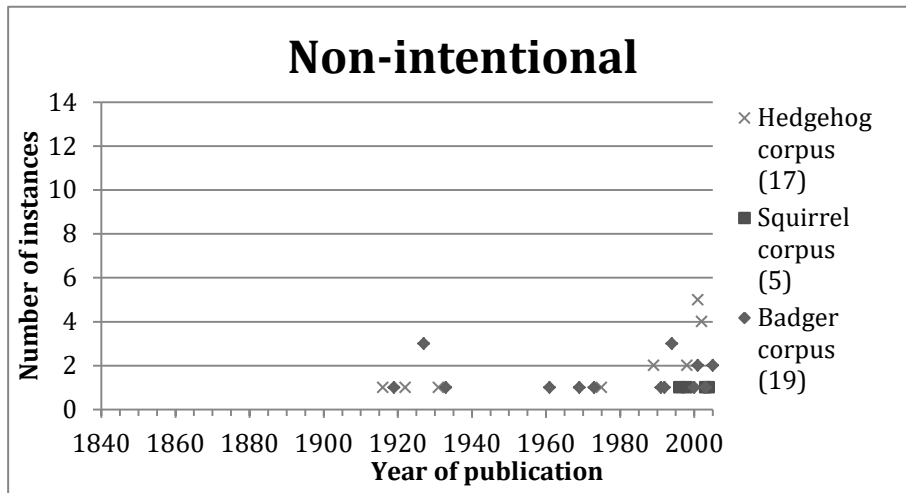


Figure 9.2 Diachronic distribution of KILL across the four domains by corpus

There are no shared peaks in the distribution of KILL across all three corpora suggesting that reports of animal killing are largely independent across focus animal. The hedgehog and badger distributions show an increase in instances of KILL over time, whereas the squirrel distribution shows highest levels of reporting in the 1930s and 1950s.

In terms of the domains of killing, there are a number of important observations to be highlighted here. Tellingly, the domain most often written about in all three corpora is population control (209 total) suggesting that animal killing is most newsworthy when humans feel animals need to be controlled. The distribution of KILL in this domain shows peaks in the corpora during the animals' respective cull periods, which is to be expected. Non-intentional killing is associated more often with the badger and hedgehog than squirrels, and cruel acts and recreational killing are markedly more often associated with badgers than the other animals.

The distribution of non-intentional KILL instances in the hedgehog corpus is interesting; there is an almost complete absence of mentions of vehicle-related death after reports of the Hebridean cull begin to be published (just one instance appears two months after the first cull reference in the KILL concordance lines). This is paralleled in the badger corpus where non-intentional killing appears at various points between 1919 and 2005 but most were published before the 1970s and the commencement of culling for bTB. Badgers and hedgehogs were presumably still being killed on roads during cull periods so the absence of reports of road deaths is worthy of note. It could be that the news is so saturated with reports of these animals in the context of control that it was not deemed

necessary to publish additional badger- or hedgehog-related pieces—or it could be a way of limiting sympathy for these animals. Vehicle-related deaths are reported in the badger corpus at times when they are absent in the hedgehog corpus and vice-versa. This indicates both that reduced interest in road deaths is not responsible for the fluctuations in the diachronic distribution of KILL in this context and that the animals undergo a shift in representation from victims to pests.

9.5 Features of the language surrounding killing in the news

In this section, I demonstrate some of the main patterns in the representation of agency, the representation of the animals that are killed, and how they combine with other language features in qualitative analysis of selected texts.

9.5.1 Patterns of obscured agency

It is much more common for human agents to be obscured or concealed than emphasised in the discourse. I found evidence of agent concealment or obscuring in: non-intentional badger, hedgehog, and red squirrel killing; badger cruelty during control for bTB; and badger and hedgehog control.

9.5.1.1 Metonymy and functionalisation

I found a pattern of metonymised and functionalised agency in the descriptions of killing in badger and hedgehog control and badger cruelty. Two kinds of hedgehog control are discussed: culling for conservation and control in gamekeeping. Coverage of the recent hedgehog cull tends to use an organisation-for-members metonymy (*Scottish National Heritage* and *SNH*); in fact, all but one

of the agents relating to hedgehog killing for control in conservation that I identified through the KILL lines are organisations and unnamed individuals that cannot be identified from the texts, some examples of which are provided in Table 9.1. I did find named individuals in relation to “CULL”; these all appear in the same text and relate to female victims of intimidation from cull protestors (see text box below; emphasis added)⁴³.

⁴³ 59/72 hits for CULL in the hedgehog corpus relate directly to hedgehogs (cull as agent (1); agentless (44); agents present (14); overtly human agent present (6)). Of the human agents, one is a person looking at cull alternatives, four are two women who were victims of intimidation, and 13 are field workers from government organisations and RSPB; non-human agents are organisations and lethal injections.

Hedgehog fanatic scared **cull** women

By Shirley English

A BUS driver from Berkshire who travelled to the Outer Hebrides to rescue threatened hedgehogs was found guilty yesterday of intimidating **two women** working on a project to **cull** the animals.

Thomas Frampton, 42, of Tilehurst, was convicted of breach of the peace by conducting himself in a disorderly manner on North Uist on April 29.

Lochmaddy Sheriff Court was told that he blocked a road with his hired car, intimidated **two women employees of Scottish Natural Heritage** who were conducting the **cull** and placed them in a state of fear and alarm.

He was also found guilty of failing to provide police with information about the driver of a vehicle but was found not guilty on another charge of dangerous driving.

Gwen Evans and Anna Crawford were **culling** the hedgehogs to protect the eggs of important bird colonies.

Sheriff David Sutherland deferred sentence until August 3 Sheriff David Sutherland deferred sentence until August 3 next year and ordered Frampton to be of good behaviour.

News, 02/02/2003

Table 9.1 Organisation-for-members metonymy in hedgehog control

Ref	Section	Extract	Date
213	Feature articles	By the end of the year, Scottish National Heritage hopes to kill 200 of the creatures there by lethal injection in an effort to protect local birdlife.	01/04/2003
214	Feature articles	Final score: Uist Hedgehog Rescue, 145 hedgehogs saved at a cost of £25 each; Scottish Natural Heritage , 66 hedgehogs killed at £1, 363 each	06/06/2003
215	Feature articles	Last year SNH killed 58 hogs, at an estimated £100 each, and transferred 160 to the mainland.	05/04/2004

In the context of hedgehog control outside of the SNH cull context, little evidence of change over time is identifiable in terms of agency, except where the text is

critical of gamekeeping in some way. Here (see Table 9.2), agents are present and functionalised in that they are identified by their professions or practices in one text criticising taming of wilderness in the Cheviot hills and in another criticising the killing of British mammals, which are afforded little legal protection compared with British birds (216 and 217). It is very rare for high-level employees or decision makers to be named in hedgehog control texts. This is in contrast to texts about the badger cull, which occasionally report about such individuals, though never in the immediate context of killing.

Table 9.2 Hedgehog control, functionalised agents

Ref	Section	Extract	Date
216	News	trappers and keepers killed 25 hedgehogs	23/09/1937
217	Letters to the editor	I read recently of a keeper who had killed 60 hedgehogs and strung them up on his gallows, because (I suppose) he believed they stole an occasional pheasant's egg	30/04/1963

An exception—where an agent is named in an uncritical piece—appears in a diary entry of the 1600s, which was published in 1929 and reports an historical account of killing a hedgehog that is thought to have taken milk from a cow, injuring it. Here, the first person pronoun “we” is the agent of “killed” (albeit with anaphoric reference).

HEDGEHOG AS MILKMAID

The following passage from Ralph Josselin's Diary (published by the Royal Historical Society) under the date September 27, 1659, may be of interest:- “In the morning the bullock (sic) gave bloud, her bad swelled and so continued blood on that bigge (? bagge) till October 17; we found ye hedgehog in ye field October 4 and killed it.”

Letters to the editor, 11/06/1929

This extract indicates early prejudice towards hedgehogs. As the wider context is not available, it is not clear how the writer came to believe that the hedgehog was responsible for the injury to the cow; it does indicate, however, that this tendency towards concern for welfare and avoidance of first person agency in the context of hedgehog control is perhaps a more modern language choice.

Agents of KILL (v) in relation to the control of badgers are unnamed farmers (221), the Government and its representatives identified by their role (218 and 219), and Government departments (220). With the exception of just one actor—a first person (plural) quote from an unnamed “ministry spokesman” (“we killed as many as we could find”, *news*, 12/08/1994)—all agents in the context of badger control are third-person accounts of killing for this purpose. A selection of organisation-for-members metonymies and functionalised actors in control for bTB is provided in Table 9.3. Full results are available in Appendix R.

Table 9.3 Badger control, functionalised agents, and organisation-for-members metonymy

Ref	Section	Extract	Date
218	News	The Government sought powers yesterday to kill disease-carrying badgers	03/02/1975
219	News	Government scientists will soon start killing badgers in the Ipstones area of north Staffordshire, where they are suspected of infecting cattle with tuberculosis.	15/06/1982
220	News	Campaign opens to stop ministry killing badgers	07/08/1984
221	News	The BBC film also suggests that some farmers are killing badgers illegally to protect their herds	05/05/1999

Extract 218 is particularly interesting since in reality, “The Government” seeking powers to kill badgers will not be carrying out the act; this gives the reader a false sense of transparency since there is an actor present, whilst in fact providing an extra degree of separation between the human actors and the act of control.

Even in opposing opinion, agency is obscured. The anti-cull voice is represented throughout in the badger corpus but to a much lesser extent than the pro-cull voice. These texts (Table 9.4) also contain vague references to agency by way of collectivising agents (223) or omitting them altogether, as in extract 222, which is a quote from the chairman of one badger group. In this way, the established and dominant representation in the language of agency is also employed by those opposing the control of badgers.

Table 9.4 Obscured agency in badger control

Ref	Section	Extract	Date
222	News	John Fleming, chairman of the Gloucestershire Badger Group, said: 'The whole thing is a tragedy. Yet again badgers have been killed for no reason.'	05/10/1994
223	Feature articles	The badger cull is an atavistic response that goes very deep in all those who seek to control the land and livestock and nature when in doubt, kill the biggest predator	21/11/2000

There are also a number of references to professionals identified by pronouns when they appear as agents of KILL (v) in squirrel control discourse; for example, “**they** [foresters] have a passion to kill [red squirrels]” (*letters to the editor*, 25/09/1987); “Anglesey farmers are being given a £1 reward each time **they** kill a grey squirrel” (*news*, 10/08/1999); and “**he** [the Richmond Park Superintendent] is killing the [grey] squirrels off” (*news*, 07/04/1936). These examples demonstrate that even where killing for control might be considered more justified (i.e. professionals seeking to prevent tree damage), the agents, whilst present, are distanced from the KILL clause.

Similarly, a third of social actors involved in cruelty towards badgers in the context of sport are functionalised. Eight references of this kind appear between 1989 and 1991⁴⁴. This has the effect of reducing participants to their actions, denying them any other qualities or roles, distancing the reader from the individuals in question. Killing as a result of cruelty is almost always presented in active constructions in the badger corpus (e.g. “a gang killed 24 badgers”, *news*, 30/01/1995). Where the verb KILL appears in passive constructions, an agent is usually present in a by-phrase (in 10 of 16 cases). There is a cluster of cruelty references published between 1990 and 1994 in which this pattern (passive construction with an agent) is applied in various contexts, most of which belong to the domain of badger sports.

Table 9.5 Functionalisation and aggregation in cruelty in badger sports

Ref	Section	Extract	Date
224	News	10,000 are thought to be killed each year by diggers	01/05/1989
225	News	An estimated 10,000 badgers are killed every year by badger-baiting	01/01/1990
226	News	about 9,000 badgers a year are illegally killed in Britain by badger diggers	24/05/1990
227	News	Many thousands of badgers are believed to be killed each year by badger-baiting	08/06/1990
228	Politics and Parliament	about 9,000 were killed every year by badger diggers	06/02/1991
229	News	9,000 to 10,000 are killed by diggers every year	24/06/1991
230	Feature articles	an estimated 10,000 badgers are killed each year in Britain by diggers and baiters	03/02/2001

The examples in Table 9.5 do not always fit neatly into Radden and Kövecses’ (2007) action metonymies; for example, “badger-baiting” in extract 227 stands for people who bait badgers (“baiters”). It might be that a further level of

⁴⁴ This cluster coincides with the Protection of Badgers Act, 1989 and Further Protection of Badgers Act, 1992.

embedding is involved here: first a transformation from verb-to-noun form (gerund) and then a further metonymic transformation. Also noticeable in the above examples is that from the late-1980s onwards, the scale of the killing is quantified by aggregating badgers as statistics. This finding might be attributable to the availability of population data as a result of the National Badger Survey of 1989 and the Mammals on Roads survey of 2001. These figures are generally used as ledes—opening sentences/paragraphs of news texts—providing contextual information about badger persecution, or they are provided at the end as material that, if necessary, could be cut from publication in line with the “inverted pyramid” style of news reporting.

9.5.1.2 Passive constructions

I found patterns of passive constructions in the analysis. These allow agents to be omitted altogether or distanced from the act in by-phrases which diminish the agent’s involvement by placing them in secondary position in the construction. They are mainly used in descriptions of the non-intentional killing of red squirrels and hedgehogs where the agents are usually unknown but are also found in cruelty in badger control.

In non-intentional killing, all nine verb forms of KILL that appear in relation to road death in the hedgehog corpus are past tense verbs in passive constructions; six of these are agentless. The tense is noteworthy since, according to Bednarek and Caple (2012, p. 87), “[v]erbs tend to occur in present tense slightly more often than in past tense” in news discourse, indicating the timeliness of general (hard) news discourse. Past tense forms here suggest that these stories are not

considered to be “current affairs”. For red squirrels, no agent is present in any of the five mentions of non-intentional killing, three of which are past tense in passive construction; they appear in the most recent texts published between 1996 and 2004. Here, the place of death is quite often specified in prepositional phrases (see Table 9.6). These accounts are single incidents; killing is often anonymous. Of the verbal forms assigned to the context of road death in the badger corpus, 15 of 16 are passive constructions and importantly, there is no evidence of this in relation to grey squirrels.

Table 9.6 Passive constructions in the non-intentional killing of red squirrels and hedgehogs

Ref	Corpus	Section	Extract	Date
231	Hedgehog	News	Miss Gillian Carlyon, aged 51. of Par, in Cornwall, is so worried about the number of hedgehogs killed on the roads and by pesticides that she is prepared to look after a maximum of a hundred of them at her home.	04/04/1975
232	Squirrel	News in brief	The island [the Isle of Wight] has an estimated 1,5000 red squirrels. Up to 100 [red squirrels] are killed on the roads each year.	17/10/1996
233	Hedgehog	Feature articles	It [the Mammals Trust] wants people to collect, among other things, details of how many of the prickly creatures [hedgehogs] are killed on the roads so that it can gain a picture of hedgehog numbers.	02/07/2001
234	Squirrel	Feature articles	Because reds are everyone's favourite animal, perhaps because they look so pretty, whenever they're killed people are appalled and ring me. I then work with the council to arrange a Beware of Squirrels sign on the road or for a rope bridge to be built over the road between trees.	29/03/2003
235	Squirrel	Feature articles	A few weeks ago I saw a red lying killed on the road , having tried to cross for cheaply gained food in the garden of a well-meaning "offcomer".	12/04/2004

All instances of badger killing for control outside of the context of bTB are agentless and all but one appear in past tense form and passive construction⁴⁵. From 1973 onwards, killing for control is carried out solely for bTB purposes; I identified no changes over time in patterns of the form of KILL or the constructions in which it appears in this context. Most instances of KILL in

⁴⁵ The exception is infinitival and about hypothetical killing.

relation to badger control for bTB appear in active constructions (these account for 59% of instances overall) and proportionally the numbers of active and passive constructions are about the same in each period (B3, B4, B5 and B6).

A few instances (see Table 9.7) that contain agentless passives (mainly from the 1990s) reference general or historical killing where the agents were unknown (see 237, 238, and 240) and such instances are less likely to be ideologically-motivated. Agentless passives also appear in the context of cruelty during control for bTB purposes. In some ways, cruelty in badger culling is inconvenient news in a publication that is generally supportive of the culls. These are cases of cruelty borne out of indifference rather than callousness (see section 9.3); it is reported when the acts are questionable (extract 239 reports possible inhumane practices during badger culls) or the agent has been cleared of an accusation of cruelty (236). In this extract (236), the social actor (a “Ministry of Agriculture official”) appears away from the verb in a separate clause and the means of killing (“a snare”) is present in a second prepositional phrase after the verb.

Table 9.7 Agentless passives in the context of badger cruelty

Ref	Section	Extract	Date
236	News	A Ministry of Agriculture official was recently cleared of cruelty to a badger killed in the area with a snare	03/02/1975
237	News	The badgers are killed afterwards [in general baiting practice]	18/01/1994
238	Feature articles	Badgers are creatures which have been persecuted, tortured, killed for sport for many years.	04/01/1997
239	News	Footage from a film made by the BBC's natural history unit during last winter's cull was shown to the RSPCA, which has questioned whether the badgers are killed humanely. [...]The programme shows an operative shooting a badger in a trap but failing to check whether the shot had killed it.	05/05/1999
240	News	I know there have been at least a couple of occasions where setts have been found blocked and badgers killed	04/11/1999

9.5.1.3 Mediation

I refer to killing via the medium of an object as “mediation”, and this is the largest pattern of agency I identified in the KILL analysis. Like functionalisation, metonymy and agentless passive constructions, mediation obscures human involvement, distancing people from the act of killing. It is a pattern in the badger and hedgehog corpora in the domains of both control and non-intentional killing. Mediation tends to feature in cases of killing that are unpalatable or difficult to reconcile with established views of an animal and as such, often feature in reports of road deaths and culling. I consider each in turn below.

Since the hedgehog cull was highly controversial (see 3.3.4), it is noteworthy that transparent human agency is avoided through the repeated use of “lethal injection”. Lethal injections are employed in killing humans as a method of execution and, in veterinary medicine, to euthanise animals. A reference corpus revealed that the term “lethal injection” primarily relates to that administered to dangerous criminals in the justice system, or (illegally) to medical patients (see Appendix S for details). Fourteen of 15 hits from the BNC are about humans, six of which refer to execution. A further five relate to illegal assisted dying or euthanasia (four of these relate to the same story of a doctor illegally assisting his patient to die)⁴⁶. The only instance of the term “lethal injection” relating to animal death in the BNC is a metaphorical reference to a piece of music described as “so lame and tired it should be taken down the vets for a lethal injection”. No

⁴⁶ The remaining instances are about attempted murder, a literary simile and one unclear context.

instance of the term “lethal injection” refers to real animals in the reference corpus (c.f. “euthanasia”, “put to sleep” etc.) making the hedgehog mediation findings unusual. The use of “lethal injection” here connotes criminality; hedgehogs on the Hebridean islands are offenders to be executed, lending the act an increased legitimacy.

In a similar way, “gas” is either attributed agency (242, 243, and 244) or it is given as the means by which killing is achieved in agentless clauses in badger control texts. Table 9.8 shows illustrative examples of mediation; all 11 instances of “lethal injection” in the hedgehog corpus and five instances of “gas” in the badger corpus are provided in Appendix T. The only time humans are mentioned in these extracts is when an animal welfare organisation recommends the act of “destruction” by lethal injection (250).

Table 9.8 Concordance lines showing all instances of “lethal injection” in the hedgehog corpus

Ref	Corpus	Section	Extract	Date
241	Badger	Politics and Parliament	MR COPE (South Gloucestershire, C) moved an amendment to ensure that the ministry was empowered to license killing only by means of cyanide gas .	19/04/1975
242	Badger	News	The killing of diseased badgers with cyanide gas must be resumed as soon as possible, the Government announced yesterday.	31/10/1980
243	Badger	News	Killing of tubercular badgers by gas is to be resumed	31/10/1980
244	Badger	News	The ministry said that its scientists had tested more than 7,500 dead animals for the disease in the 10 years to the end of 1980. All except badgers killed by gas had been found dead either by members of the public or ministry field staff.	15/09/1981
245	Hedgehog	News	The hedgehogs will be trapped when they come out of hibernation at the end of April and will be given a lethal injection under anaesthetic.	18/12/2002
246	Hedgehog	News	MASS extermination of up to 5,000 hedgehogs by lethal injection will begin next spring in the Western Isles to protect one of the world's most important colonies of wading birds.	18/12/2002
247	Hedgehog	News	The rescuers claimed to have saved 150 hedgehogs, compared with the 66 animals killed on North Uist by lethal injection during the six-week cull last April and May which cost £26,000.	29/03/2004
248	Hedgehog	News	Captured hedgehogs are given an anaesthetic and a lethal injection .	07/05/2005
249	Hedgehog	News	The hedgehogs were dispatched by lethal injection .	30/06/2005
250	Hedgehog	News	Yesterday, the Scottish Society for the Prevention of Cruelty to Animals said that under the law, hedgehogs had to be shot if dogs were used to flush them out, but it would still recommend their human [sic] destruction by lethal injection .	19/08/2005

Of 11 instances of “lethal injection”, eight appear in by-phrases suggesting that the lethal injection itself is the agent (e.g. 246, 247, and 249). Just two are agentless passives (e.g. 245 and 248). In the case of killing badgers via the medium of gas, no human agent is present (242, 243, and 244). In one example (241), human agency is impersonalised behind the organisation-for-people metonymy “the ministry”, which in turn is distanced from the action as it was “empowered to license killing”, as opposed to directly killing for control. Table 9.9 shows extracts from the badger and hedgehog corpora demonstrating mediation in non-intentional killing.

Table 9.9 Mediation in the non-intentional killing of badgers and hedgehogs

Ref	Corpus	Section	Extract	Date
251	Hedgehog	News in brief	A hedgehog crossing Fortune Green-road, N.W., near the Hampstead Cemetery was run over by an omnibus and killed.	11/10/1922
252	Hedgehog	Letters to the editor	Have any of your readers noticed the very considerable number of dead hedgehogs on the roads during the same months, obviously killed by heavy vehicles during the night?	17/08/1931
253	Hedgehog	Feature articles	cars are the main hedgehog killers	30/05/1989
254	Hedgehog	News	Each hedgehog had a tiny transmitter glued to its spines, enabling its movements to be tracked. [...] Three of the hedgehogs were killed by traffic and three others were eaten by badgers.	08/12/1998
255	Hedgehog	News	The survey runs until September. Volunteers count hedgehogs killed by vehicles on the road	07/07/2001
256	Badger	News	More than 50,000 badgers are also killed on roads each year.	09/06/2001
257	Hedgehog and badger	News	The nationwide survey of hedgehogs, funded by Mammals Trust UK and the Joint Nature Conservation Committee, was carried out last year by thousands of volunteers who recorded sightings of hedgehogs, rabbits, badgers and foxes killed by road traffic .	05/09/2002
258	Badger	News	About 50,000 badgers a year are killed in road accidents	05/08/2005
259	Badger	News	One in seven badgers killed on the roads is suffering from tuberculosis, according to a survey conducted by the Government	05/08/2005

The agents are usually generic here (“a car”; “cars” or similar) but occasionally even the mediated means of death is obscured and the location of the killing is provided in a prepositional phrase (e.g. 258, 256, and 259). Both badger and hedgehog road deaths are usually discussed in general terms rather than being reports of specific instances. The only time the vehicle is said to belong to a specific individual was published in 1927 in relation to a badger; the full text is provided below.

BADGER KILLED BY MOTOR-CAR

Mr. Leslie Hale, a solicitor, of Coalville, and the youngest member of the Leicestershire County Council, who returned home yesterday from a motor trip, brought with him a large badger which his motor-car killed as the animal was crossing the road near Bridgwater, Somerset. The badger is a fine specimen, beautifully marked, and weighing 3st.

News in brief, 26/04/1927

The incident appears to be newsworthy because the person involved is a public figure in the local council. It is the motor-car that is represented as carrying out the action of killing rather than the man driving and the killing is said to have taken place “as the animal was crossing the road” implying that the blame lies at least partially with the badger. The physical description of the animal, as well as the fact that it was not left behind suggests that some part(s) of the body are to be utilised for some purpose—probably fur⁴⁷. Just one of 10 reports of hedgehog road deaths refers to a specific incident and vehicle (251). The only named individual involved in non-intentional hedgehog killing (that is present in the same clause as KILL)—“[Philip] Larkin”—appears in the descriptions of non-intentional killing in gardens. Larkin’s killing of a hedgehog whilst gardening is recollected in his poem, *The Mower*; all three references relating to Larkin’s poem are in passive construction. Elsewhere in garden deaths, the object of KILL (the

⁴⁷ This is not unusual; there is evidence elsewhere in the corpus that badger skins were used in fashion and military attire in Britain at least until the 1970s.

hedgehog) is left out altogether (261), a feature that is part of another prominent pattern of representation: obscured patients.

9.5.2 Patterns of obscured patients

Having established that obscuring or concealing agency is common, it is worth detailing the contexts and ways in which patients—the focus animals themselves—are sometimes obscured. It is present in the domain of non-intentional killing for hedgehogs, badgers, and red squirrels, as well as for hedgehog control.

9.5.2.1 Distancing the patient from the verb

One feature I found in the context of hedgehog control and non-intentional killing is distancing of the NP from the verb (Table 9.10), as in extract 260, where the object of the verb is provided in a separate clause from KILL elsewhere in the text.

Table 9.10 Distancing NP from the verb *to kill* in the hedgehog corpus

Ref	Section	Focus	Extract	Date
260	Letters to the editor	Non-intentional	Have any of your readers noticed the very considerable number of dead hedgehogs on the roads during the same months, obviously killed by heavy vehicles during the night?	17/08/1931
261	Feature articles	Non-intentional	What are gardeners doing to kill and maim so many [Øhedgehogs]?	10/03/2001
262	Feature articles	Control	MURDER SQUAD: A controversial hedgehog cull gets under way on the island of North Uist in the Western Isles. By the end of the year, Scottish National Heritage hopes to kill 200 of the creatures there by lethal injection in an effort to protect local birdlife.	01/04/2003
263	News	Control	The rescuers claimed to have saved 150 hedgehogs , compared with the 66 animals killed on North Uist by lethal injection during the six-week cull last April and May which cost £26,000.	29/03/2004
264	News	Control	Halfway into the eight-week cull, 120 [Øhedgehogs] have been killed	07/05/2005

For accounts of hedgehog killing in the domain of control, the balance between active and passive constructions is fairly even (14 active (8 agent; 6 no agent)/10 passive (4 agent/6 no agent)). When constructions containing the verb KILL are active in relation to hedgehogs, the nearest NP to the verb is often a pronoun or alternative noun for hedgehog that refers anaphorically to the NP “hedgehog(s)”, as extract 262 shows. The act of killing is somewhat diminished if its named object is distanced from the verb. In other cases, as with hedgehog road deaths above, the name of the animal is omitted completely (via anaphoric reference in a separate paragraph) (261 and 264). It is possible that the popularity of the hedgehog (see 3.3.4 and 3.4.3) requires additional sensitivity in reporting what might otherwise be considered “legitimate” killing.

The case of the hedgehog is unique in that the animal is not vilified in the context of culling in the same way as the grey squirrel or badger. It does not seem appropriate to generate public dislike for the hedgehog in Britain to justify killing because hedgehog populations on the mainland are declining and actively preserved. Campaigns to prevent their further decline are well-reported in *The Times*. The language in reporting the cull therefore appears designed to desensitise the issue. This does not seem to be done for the purposes of suppressing opposition; the anti-cull voice is well represented in this discourse, which is indicative of shared sympathies for the hedgehog, as I explore in a close study in section 9.6.3.

9.5.2.2 Nominalisation

Another aspect of obscuring the patient, which also reduces the severity of the action, is nominalisation where “kill” is a noun that denotes the animal rather than the action (see Table 9.11). These verb-to-noun transformations are a feature of language describing non-intentional badger and red squirrel killing.

Table 9.11 Nominalisations (verb-to-noun transformations)

Ref	Corpus	Section	Extract	Date
265	Squirrel	News	The tests have involved putting food at each side of the bridge to encourage the reds to use them." Since putting them up two months ago, nobody has seen squirrels crossing the roads and we have not had any road kills ," she said.	29/07/1998
266	Badger	News	"One farmer told us that he poisoned a badger and then put it in the road where it would be thought of as a ' road kill '"	05/05/1999

The nominalisation in example 265 indicates that the killing of red squirrels—even non-intentionally—is a highly regrettable incident; this might be the case because these instances appear at a time of more concentrated conservation of red squirrels. Nominalisation also features in one badger non-intentional killing reference published in 1999 (266). It occurs in a quote from Jeremy Bristow, a BBC producer of *Badgers: the culling fields* and the example differs from the other mentions because the context is deliberate killing disguised as a road death. In this sense, the killing of badgers is illegitimate because it is illegal, yet the period in which it appears is one in which they are frequently vilified in the news (see chapter 8). In this extract a nominalisation uttered by a farmer is quoted by the BBC and then cited by the newspaper. Nesting and embedding quotes is a common feature of news discourse (Bednarek & Caple, 2012, p. 92) and combined with a nominalisation in this way, it dulls the severity of the action.

9.5.3 Patterns of emphasised agency

I found evidence of emphasised actors in patterns of named agency, which occur in the domains of hedgehog and badger cruelty, as well as in grey squirrel control.

9.5.3.1 Named agents: taking personal ownership of the action

Where agents of killing grey squirrels for control are present, they appear mainly before the 1950s⁴⁸ (Table 9.12). The agents are named persons of notable social standing or rank (270) and those associated with them (267 and 271). One striking thing about the language surrounding grey squirrel control is that there are many more first person references, where writers take personal ownership of the act of killing, than is the case for red squirrels, badgers, and hedgehogs (see 268, 269, 272, 273, and 274). The difference can be attributed to the greater number of readers' letters published on the subject of grey squirrel control than for control of the other focus animals.

⁴⁸ There is also a small cluster present in the late 1990s and early 2000s.

Table 9.12 Taking ownership of grey squirrel control

Ref	Section	Extract	Date
267	Letters to the editor	my [Lord Northbrook's] keepers killed last season 234, over 300 the season before, and 200 the season before that.	09/07/1937
268	Letters to the editor	We [The Forestry Commission] kill grey squirrels when we find them, but they are not common and occur only in a few forests, where they have done no appreciable damage to the trees.	09/07/1937
269	Letters to the editor	Also that we killed another member of the same race feeding greedily off some white heart cherries in the orchard	18/08/1937
270	Letters to the editor	Lord Northbrook killed over 300 squirrels one year	28/07/1937
271	Letters to the editor	my [Alured Faunce-De-Laune's] keeper's boy made a raid on the squirrels and killed nearly 500; that year we must have killed at least 700.	29/12/1938
272	Letters to the editor	I have maintained a campaign here over some 4, 000 acres; for the 16-week period May-August our kills have been the heaviest since 1954, which in fact they almost equal.	26/08/1960
273	Letters to the editor	I refuse to allow them any hospitality, and although I have killed some 50 in recent years with an air rifle, that is but a drop in the local ocean.	21/10/1971
274	Feature articles	when these animals started to invade my garden, eating the eggs, I declared war upon these beasts. I bought an air pistol with which I could fire lead pellets and have been able to reduce the grey squirrel population with two kills.	19/04/2003

It is interesting that even though badgers and hedgehogs are also controlled, the grey squirrel is the only animal for which actors are emphasised and highlighted in reports of this type of killing. Controlling the grey squirrel is more acceptable and people are prepared to take ownership of the act and share their methods of success. This is probably due to an overall negative public view of the squirrel, as I established in chapter 7.

9.5.3.2 Named agents: reporting cruelty

Elsewhere, agents are emphasised when they carry out killing acts that are considered callous acts of cruelty⁴⁹. Just two instances of hedgehog cruelty

⁴⁹ In certain cases, emphasis might be preferable but a newspaper may be prevented from including certain information.

containing verbs were identified in the analysis and these have shared features. In both cases, these individuals are not explicitly named in the same clause as KILL, if at all; the agents in the same clause as the verb are a single “boy” in one and group of “five boys” in the other. The single boy appears with the verb in simple present form, which is typical for a headline (Bednarek & Caple, 2012, p. 101) and in an active construction; here, the information is more clearly presented to the reader and the act is not concealed or neutralised by distancing the participants, unlike examples found in the domain of hedgehog control. The reference to “five boys” occurs with KILLING (n). In addition, the NP “hedgehog” appears in the same clause as KILL in both examples. In this first short text reporting an act of cruelty towards a hedgehog, the agent remains unnamed but is described by his age, action, and motive.

Boy kills hedgehog

A boy aged 14 who kicked a hedgehog to death because he did not like hedgehogs was given a two-year supervision order at a Portsmouth juvenile court yesterday and ordered to pay costs of £387.

News in brief, 21/02/1981

Under the Children and Young Persons Acts of 1933 and 1963, a court may prohibit a newspaper from printing identifying information when young persons are involved in criminal proceedings, so the omission may be a result of those constraints. This might explain why the text is so short compared with the other text in this domain. Where the agents have been named and further identified, a choice has been made by the writer to include such information. The writer of the second text has made every effort to identify the actors involved and their act

of cruelty is described in detail. The shocking specifics of the cruel act described in the account makes this story more consequential than the other example. The text is provided in full below.

Five boys found Guilty on Saturday at Woking of ill-treating and killing a hedgehog were told by the Chairman of the Magistrates (Major D. M. Stanley); "I have sat on this bench over 21 years and have never had the misfortune to hear anything so brutal, bestial and inhuman."

Mr. Gordon Jones, for the R.S.P.C.A., said that the boys prodded the hedgehog with a stick to make it uncurl and covered it with dried grass to which they set fire. They placed fireworks underneath the hedgehog and in its mouth and then exploded them. They stoned it with house-bricks and, lastly, they beat it with sticks before leaving it either dead or dying.

Mr. F. P. A. Rickard, a veterinary surgeon, said in evidence that the hedgehog's lower jaw was completely shattered. It could have been as much as an hour before the hedgehog died. Hedgehogs were sensitive animals.

The Chairman said: "This is not the sort of thing one expects to hear about civilized boys in a civilized country. I hope you will take this awful and terrible morning of November 30 as a lesson never again to inflict such cold, calculated, callous torture on a defenceless animal."

John Collins, aged 17, of Walton Road, Woking, was fined £25, and Richard Brian Davis, aged 16, of Elveden Cottages, Pyrford, Michael John Smithers, aged 15, of Townsend Cottages, Coldharbour Lane, Pyrford, and David Ian Day, aged 16, of Stone Lodge, Pyrford, were each fined £10.

Peter John Bruce, aged 14, of Link Way, Woking, the only one of the five to plead Not Guilty, was put on probation for two years.

In addition, each of the five had to pay £4 costs.

News, 02/12/1957

The boys' names (including middle names) appear along with ages and addresses in the penultimate paragraph. This is in contrast to the other actors involved in the prosecution, including those giving evidence. They are both specific *and*

functionalised in the text or given authority by association with their organisation; “Chairman of the Magistrates (Major D.M. Stanley)” and “Mr. F.P.A. Rickard, a veterinary surgeon” provide both the names and roles of these actors; and “Mr. Gordon Jones, for the R.S.P.C.A” provides the man’s name and affiliation. All three men are referred to by their titles, which indicate authority and increase legitimacy of the evidence and information they provide.

Other features of the language in this text indicate the “evalative positioning” of the people involved, giving a sense of how cruel the acts towards hedgehogs are considered to be. The Chairman of the Magistrates makes use of alliteration in his description of the boys (“brutal, bestial and inhuman”) and their actions (“cold, calculated and callous”). Likening the boys to animals in their cruelty towards an animal is ironic and demonstrates that animal qualities are considered inherently negative by this speaker. The chairman also comments on the expected behaviours of British boys: “This is not the sort of thing one expects to hear about civilized boys in a civilized country”. The inference here is that he would perhaps expect it of other classes or nationalities in other countries.

The acts of cruelty—paraphrased from evidence given by the RSPCA representative—appear solely in active formation in the second paragraph. The vulnerability of hedgehogs is emphasised in a paraphrase from the veterinary surgeon which describes them as “sensitive” animals. Although this is a more significant story than the other, it is interesting that these boys received much

lower fines⁵⁰ than the boy featured in the story from the text in 1981. This indicates that the penalty for cruelty and/or the value of money changes over time. There is also a difference in the density of language and the richness of the descriptors but, with just two texts, this cannot be said to constitute a diachronic pattern. It could be a slow news day or it might be the individuals involved that make the story newsworthy enough to be given additional space.

It is not only children who are reported about in the context of cruelty, as demonstrate by this extract from a 1987 text, where cruelty is defined without using KILL in the context of an RSPCA campaign to strengthen animal cruelty legislation.

In the wake of a case in the High Court last year when it was ruled that a man who beat a hedgehog to death had not committed any criminal offence because the animal was not "captive", the RSPCA wants to close what it regards as a loophole by changing the legal definition of "captive" to include wild animals that are unable to escape.

News, 04/03/1987

This text shows an example of an animal welfare organisation actively trying to change a legal definition to better serve their purposes. I have shown that extra sensitivity is employed in the language selected to report killing hedgehogs for control, a kind of killing that is often considered more necessary than others.

⁵⁰ Taking into account the rates of inflation provided by the Official Data Foundation, John Collins' fine is equivalent to £587.20 in 2018, whilst the other boys were fined the 2018 equivalent of £234.88 (not including costs).

What follows, then, is that more unnecessary acts of killing—such as in acts of cruelty—should attract less sensitive language in news reporting. This appears to be the case in the text above as active constructions are used; the action is expressed in a verb (not nominalisation); “hedgehog” appears in the same clause as the verb; human agents are present; and sometimes explicit and shocking language is used to describe the act(s) of cruelty (e.g. “beat to death”). Cases of hedgehog cruelty are one-off occurrences and the relatively low frequency of reporting suggests that hedgehog cruelty is not endemic in the way that cruelty to badgers is represented, particularly in more recent texts.

Over time, individuals involved in badger cruelty in the context of badger sports are emphasised to a greater extent. The change can be pinpointed at the mid-1970s. Social actors involved in killing badgers in acts of cruelty—described as “the men” (*news*, 09/11/1974 (x2)), “six men” (*news*, 09/11/1974 (x2)); “three men” (*law*, 31/01/1975); and “a gang” (*news*, 30/01/1995)—appear mainly in 1974 and 1975. Reports of cruelty towards badgers involving named (not notable) individuals in the same clause as the verb KILL were published only in the 1980s and 1990s (see Table 9.13): “Mr. Morris” (277); “Drummond” (278); “Newton” (276); and “Stephen Mossop” (275). These are all presented in reports of court proceedings.

Table 9.13 Named agents involved in badger killing in the domain of cruelty

Ref	Section	Extract	Date
275	news	Five men were fined a total of £3,400 by magistrates at Millom, Cumbria, yesterday over the death of a badger, which was said to have been pulled out of an earth and held in the air while it was beaten to death with a spade. [...] Stephen Mossop was accused of killing the badger, aided and abetted by the others.	27/01/1983
276	news	Newton was fined £100 on each of four charges of killing, injuring or taking badgers in Devon, Somerset and Wales last May, and a further £100 on each of four more charge of cruelly ill-treating badgers.	11/01/1984
277	news	Mr Morris , 28, who was employed by the Bradenham Hill shooting syndicate, denies killing an unknown number of badgers, interfering with a sett	14/07/1998
278	news	Peter Ward, the stipendiary magistrate, said that because of the cruelty of the killings he had no choice but to impose a jail sentence. Drummond was jailed for three months concurrently on each of six charges of wilfully killing, taking and mistreating badgers. [...] Mr Ward said: "It is obvious the badgers must have suffered a great deal. One dragged a snare and hanged itself and the other died when the snare, which acts like cheese wire, cut through the skin of its neck.	13/07/1999

Detailed descriptions of cruel acts are a common feature in reports of badger killing in the domain of cruelty. They can be classed as instances of vindictive cruelty in line with Lecky (see section 9.3). The prosecution of Stephen Mossop for badger cruelty appears in *The Times* twice over two days following an extended court hearing (*news*, 26/01/1983; *news*, 27/01/1983). The first report does not contain any instance of KILL; it describes, at length, the act of cruelty carried out by five men, including a father and son. The details are shocking, the language is emotive, and it leaves the reader with a clear sense of the evaluative positioning of the writer. The act is described as “cruel and unnecessary” in a quote from the prosecution that is fronted in the construction in which it appears (“The “cruel and unnecessary” ill-treatment resulted in the animal’s skull and jaw being fractured and it died, Mr Simon Earlam, said for the prosecution” *news*, 26/01/1983). The defendants’ awareness of their actions is made quite clear (“As it was being held by the tail, Stephen Mossop swung at it with a shovel, hitting it on what, **as the defendants knew very well**, was the vulnerable part of

the animal, on the nose and head”, Mr Earlam [for the prosecution] said”, *news*, 26/01/1983, emphasis added).

Christopher Newton (*news*, 11/01/1984) was tried and convicted based on diary records and photographs he kept of badger cruelty, which he denied were true accounts. The voice of the prosecution is foregrounded in these reports, again published over two days, and evaluations of the man’s character are present several times in the quotes and opinions of Mr. Revel for the prosecution, who argued that Newton was “a **cunning and calculating** professional poacher”, “a **calculating and clever** man”, and “a **cruel** man” (all *news*, 11/01/1984, emphasis added). More weight is given to the cruelty of Newton’s actions by the report that it was “other hunters shocked by his [Newton’s] cruelty” that had contacted the RSPCA. To supplement details of Newton’s act, the wider issue of badger cruelty in badger digging and baiting (described as a “war” and a “constant battle”) is reported to close the text. Here, a naturalist describes typical practices in badger sports in uncomfortable and, for some readers, distressing detail. The account is lexically dense (“huge iron tongs”) and only men are associated with the practices described, indicating that it is because badger sports are a male occupation generally that only males are reported about in this context in *The Times*.

The RSPCA is waging a continuous war against the men who illegally hunt badgers (the Press Association writes).

“It is a constant battle for us, up and down the country”, Mr John Gordon a Plymouth RSPCA inspector, said after yesterday's hearing.

Sometimes the badgers are killed either by dogs or by their handlers, but sometimes they are kept for baiting sessions, in which dogs are set against the badger and men gamble on the strength and expertise of their animals as they worry the badger to death.

Mr Brian Carter, a writer and naturalist, said: “Sometimes the badger is dragged out of its sett with huge iron tongs. Then it is put into a sack, sometimes with its back legs chained, and released in a disused quarry, a backyard or garage. Dogs are set on it and men bet on the gameness of the dogs.

“The badger dies in the end, but it could take an hour or longer. The dogs get hurt but to protect them, the men sometimes break the badger's lower jaw.”

news, 11/01/1984

In the inverse pyramid style of reporting, this material could be cut from publication if space was required; the important, timely information relating to the immediate story appears at the beginning of the text. Ending the piece with these upsetting details demonstrates that the Newton case is not an isolated occurrence, providing the reader with an increased sense of urgency regarding the threat to badgers and perhaps one of justice being served in the case of Newton himself, who was fined £1,085, equivalent to £3,387.22 in 2018 (Official Data Foundation, 2018).

9.6 Studies of selected texts

To better examine how language features in the discourse of killing in a handful of contexts, I have carried out a small number of close analyses. Each of the contexts I have selected is important because they explore different aspects of necessary and unnecessary killing. Often drawing on similar language regardless of perceived legitimacy or justification, these texts offer some insight into non-mainstream views or how to negotiate unpalatable killing acts.

9.6.1 Exhibitions at Cock Pit, Westminster

Unlike texts published after badger protection laws were implemented, which use the language of cruelty to discuss baiting and digging, early references to badger sports are a mixture of positive, negative, and apparently indifferent accounts of the practices. All but the earliest texts in the badger corpus report about badger sports unfavourably. As it offers a contrast, I provide a close analysis in this section of an early text published in 1824, prior to protection legislation. This article originated in *The Sporting Magazine* in a longer format, though there is no indication of this in *The Times*.

Cock-pit, Duck-lake, Westminster.

On Tuesday last there was a great variety of exhibitions at this pit. The celebrated dog Billy, who has scarcely a tooth in his under jaw, was put in to fight, or rather to kill without opposition, an hundred rats. The dog seems to improve, notwithstanding his defect as to grinders, upon every battle. The rats, upon being thrown out of the basket, ran to the four corners of the pit, and Billy cleared each corner of life with wonderful rapidity. Amongst those who witnessed and admired the ability of Billy were Jack Ketch and the son of a nobleman, who actually got into conversation together without being able to give a guess at each other's station or business. After the dog had despatched the rats in less than 12 minutes, a badger was tied to a wall, and a bull terrier set at him. The fight was furious for a long time; at length the dog conquered, but the victory was dearly won, both of the poor animals having suffered dreadfully. Jack and the Honourable Mr. _____ relished this battle better than the last, although Billy, they admitted, had done the job as clean as if he had been bred at Newgate. A fight between a bull dog and a bull terrier then took place. This battle was a desperate one. The bull terrier, although nine pounds lighter than his antagonist, vanquished him after 20 minutes tearing at him. Jack enjoyed this amusement even more than the former, and his new friend thought him quite right, and observed, that he was certainly a judge. "Why when I am done my business, I likes to see others doing their's [sic] in the same neat way."

News, 7th December 1824

Of "a great variety of exhibitions" taking place at the Westminster cock pit, three separate animal fights are described in this text: one between a dog and 100 rats, another between a dog and a badger; and the last between two dogs. Coverage of

a badger bait is of secondary concern to that of the rattling⁵¹ event featuring a dog named Billy, said to be the most famous animal of the 1800s (Boddice, 2008, p. 25). This text is distinctive because it is a more positive account of badger baiting (and other animal fighting) than other texts of the period and later. It seems that this is due to two men of notable social standing having attended and enjoyed the exhibitions; they are named as “Jack Ketch” and “the son of a nobleman” (also “the Honourable Mr. _____”). The popular name “Jack Ketch” was given to those in the role of executioner (and hangman) in England after the original Jack (John) Ketch, an infamous executioner of the 1600s, who was “notorious for his barbarous inefficiency” (The Editors of Encyclopædia Britannica, 1998). It is a matter of historical debate whether botched execution attempts by this man were the product of incompetence or cruelty. The most likely person that “Jack Ketch” refers to in this text is John Foxtton who was hangman in London from 1818 to 1829 (Webb, 2011) but I cannot be absolutely certain and it is unclear whether his identity would have been transparent to readers at the time of publication either. In any case, as a number of hangmen were working in England at the time, using “Jack Ketch” in the text allows the man to avoid definite identification.

Badger sports were usually considered to be pastimes of the “lower orders”, who were criticised for enjoying such spectacles. In fact, it was “crucial to the

⁵¹ “Rattling”—or rat-baiting—gained popularity from the 1820s as a more acceptable alternative to the baiting of bigger animals in response to increased pressure from animal welfarists (Boddice, 2008).

conceptual construction of cruelty” in animal baiting that a “particular kind of man” (i.e. felons and bad characters) was involved (Boddice, 2008, p. 246). One letter published in *The Times* in 1845 states: “Their tastes are so low, so sensual (that is the phrase), or so little intellectual, that they take the same pleasure in exercise, in badger or bull baiting, as the Court of Charles II. did” (*letters to the editor*, 22/11/1845). The implication may be that enjoying the spectacle of animal sports is unfashionable, unrefined, or outdated and/or it is well-known that Charles II’s court was a place of ill-repute; it therefore seems reasonable that those of higher social standing in attendance may not have wished to be identified.

There is evidence elsewhere in the corpus that there was (some suggest insincere) concern for the morals of people who attend animal baiting, as this extract from the second reading of the Cruelty to Animals Bill in Parliament (published in *The Times* in 1825) demonstrates.

He himself [Sir James Macintosh] was strongly opposed to any instances of petty, and trifling, and vexatious legislation: but this was a point at which the moral welfare of the lower orders was deeply concerned; and the effect of reprobating by Parliamentary denunciation practices abhorrent to the common feelings of humanity would be felt through the whole community. The argument drawn from field sports would not apply. Bear-baiting was not a national sport. It has no insuperable habits and prejudices to plead for it.

Politics and Parliament, 12/03/1825

It is for this reason—as well as for animal welfare concerns—that most of the texts discussing badger sports are more negative in tone than the “Cock-pit” text. In baiting, according to Justice (2015), “[p]eople of different classes and

backgrounds came together in the safely shared experience of mortal conflict, where the bloodshed was not one's own" and Bell's Life published on the 28th December 1823 that "*gentlemen* of the highest *respectability*" were present at one ratting event (Boddice, 2008, p. 253). It is rarely acknowledged in *The Times* that such events were attended by people considered of high social status. In the Cock-pit text, however, the names of "respectable" observers are present (though obscured) and in active form ("Jack and the Honourable Mr. _____ relished this battle better than the last"; "Jack enjoyed this amusement") but the names of humans directly involved in handling the animals at the event are omitted in agentless passives such as: "Billy [...] was put in to fight, or rather to kill"; "The rats, upon being thrown out of the basket [...]"; and "a badger was tied to a wall".

The only transparent indication of killing in the text is about Billy and the rats prior to the action taking place ("to fight, or rather to kill"); the act itself is described in euphemistic terms ("Billy cleared a corner of life") and it later reports the action in terms of "despatch[ing]", which downplays the violence of the act. There are a number of noun phrases and verbs that extend the fights to the domain of war in the description of all three fights: "every battle", "this battle" (x2), "the victory"; the bull terrier "conquered" against the badger; and one dog "vanquished" another.

The fight between the dog and the badger provides the only indication of concern for animal suffering "the victory was dearly won, both of the poor animals having suffered dreadfully". Despite this, the three fights are presented as an "amusement" that was "enjoyed" or "relished" by those watching, with the actions of one "celebrated" fighting dog to be "admired" as he killed rats with

“wonderful rapidity”. The text ends with a hint at humour in the only quote to appear in the text, which is (apparently) from Jack Ketch explaining his attraction to the event: “Why when I am done my business, I likes to see others doing their’s [sic] in the same neat way”. Given that his namesake was notorious for *not* killing in a “neat way”, this quote closes the text on a darkly humorous note and hints at the barbarity of the spectacle he had just witnessed. The explicit parallel drawn between human and animal behaviour here aligns the dog with the crowd against the badger and shows that even in these early texts, support exists for the idea that baiting is linked to ancient arena sports involving humans (Justice, 2015, p. 169).

9.6.2 Two shillings a tail: controlling grey squirrels

Given that the domain of killing for control is the only context in which personal ownership or responsibility is taken in the news⁵², there are several aspects of the language surrounding grey squirrel control that are of interest in the following analysis: legitimisation, objection to killing, cruelty in control, and sport as a form of control.

There are three distinct periods of squirrel control that mark a change in the main issues discussed. They are accompanied by a difference in the kinds of constructions in which the verb KILL appears. In the first period, running from 1897 until the early 1950s, the verb KILL in the context of forestry pest control is

⁵² The exception is the literary reference to the Larkin poem in the hedgehog corpus.

present in mainly active constructions; the same is true of reports of pest control from 1967 to 2004, which discusses control for reasons of plant damage and red squirrel conservation. In the intervening period, there is a cluster of texts published between 1953 and 1955 that contains discussion of sport as a method of pest control and bounty payments made to people providing squirrel tails; there is a higher concentration of references in these two years than at any other time (closely followed by 1936 and 1937). All but one of the verbs (“kill”) are in past tense in passive construction; the one active construction is about cruelty in the bounty scheme (see text iv below); this is different from cruelty in badger control where constructions are usually passives throughout.

Where the killing of grey squirrels is discussed for conservation of red squirrels (and, in one instance, birds), the verb is nominalised, appearing in gerund form (“killing”). This has the effect of neutralising both the act and the contradictory standards of killing one species to promote another of the same genus. This is an unusual situation in that an animal culled for the promotion or protection of another would usually be of a different kind (cf. hedgehogs and wading birds). The killing of grey squirrels in any domain differs somewhat from that of the badger and hedgehog in that it is almost always portrayed as necessary or justified. There is very little evidence of an alternative viewpoint in the wider corpus, in contrast to the language identified in the other two datasets. Although killing is considered necessary, there is some evidence that “humane” killing is preferred (emphasised in the following extracts in Table 9.14).

Table 9.14 Humane control of grey squirrels

Ref	Section	Extract	Date
279	News	The commission seeks the aid of "anyone who is entitled to handle a gun or capable of trapping in humane fashion [...]"	11/03/1953
280	Politics and Parliament	The importance of trapping squirrels in a humane manner has been stressed by the Forestry Commission in announcing the campaign, and reference to humane killing of trapped squirrels is made in the published leaflets	01/04/1953
281	Editorials/leaders	Something must be done and that means population control and culling by efficient and humane killing	09/09/1992

There are 15 instances of “humane” in the squirrel corpus. They all relate to methods and actions of squirrel control(lers) and are published between 1930 and 2004. These references are absent in the 1940s and 1980s and only one is present in the 1970s. This means that humane killing is emphasised at a time when killing grey squirrels for control was at its peak.

Language features combine to legitimise the act of squirrel control as these close analyses of four texts demonstrate.

(i) In the leading article in *The Times* of July 3 you say that the grey squirrel robs man of more of the fruits of his labour than the rabbit. Both ought to be exterminated, but, considering the preponderating numbers of the rabbit, is not the statement liable to be misunderstood?

Sir Rowland Sperl, Travellers' Club, *Letters to the editor*, 05/07/1937

(ii) Unless a determined and comprehensive effort is made to combat the grey squirrel menace it is impossible to "estimate the return on capital invested" in forestry.

Letters to the editor, 04/09/1945

(iii) Squirrel Bonus. —The Forestry Commission announce that payment of the grey squirrel bonus of 2s. a tail is to be continued throughout 1957.

News in brief, 15/02/1957

(iv) John Shiafkou, of Hilton Avenue, North Finchley, north London, fined £75 with costs by Highgate magistrates yesterday when he admitted allegations by the RSPCA that he used a spring trap for killing or taking animals.

He said he set the trap because squirrels in his house were damaging the wiring.

Law, 06/12/1984

In text (iii), the organisation-for-members metonymy "the forestry commission" does not provide information about whether a spokesperson or all members of the organisation have made the announcement; it is an impersonal authority, which increases the legitimacy of the announcement. Grey squirrels are de-individualised through embedding in the noun phrase "the grey squirrel bonus",

and the act of killing is masked and replaced by the synecdoche for the whole squirrel "a tail", which disguises the violence of the act to readers.

The writer of text (ii) is Laurance Swainson, founder of The National Anti-Grey Squirrel Campaign, who is published often in *The Times*, particularly in the letters pages. He takes a strong pro-control stance and this letter encodes this position in several powerful ways. First, the actor responsible for making the "determined and concentrated effort" is missing, which implies that it is the responsibility of everyone. The act of killing is concealed within the metaphorical "combat" (WAR), which prompts the need to take an organised approach to controlling the animals. The squirrels themselves are embedded in the noun phrase "the grey squirrel menace", de-individualising the animals and linking them with the writer's position; "menace" itself denotes threat or danger. The quote referring to financial investment in forestry presents grey squirrels as a threat to profit and there is no indication here of who invested the money. It is presumably a minority involved in the forestry industry but omission of the social actor makes it unclear and, again, serves to suggest that it is everyone (including the reader), who is financially threatened by these animals. The quote could be paraphrased easily and there is no significant source provided. I suspect the writer included this financial information in the form of a quote simply to increase the epistemic modality of the text and, as such, his qualification to make the case for pro-control, as he has knowledge of the topic. The topos of (financial) burden is activated in this letter and the use of this argument schema serves to legitimise the proposed action. In addition, this argument triggers proximation—that the squirrels' (THEIR) presence threatens

those who are financially invested in forestry (US). All this legitimises the pro-control action proposed against them.

Text (i) is a response letter to a previously published article. The writer agrees with the sentiment of the original article—that grey squirrels should be killed—but disagrees with some misleading phrasing, which he reproduces in his letter. This reproduced part uses generic reference “the grey squirrel”, which de-individualises squirrels, though not nearly to the same extent as embedding the animals in secondary noun phrases (as above). Grey squirrels are construed as a criminal threat in this part as they thieve from “man”, taking the produce of humans’ hard work. The argument schema summoned here is the topos of burden, which encourages the reader to see population control as a reasonable and natural course of action. The original portion of the text includes the word “exterminated”, which evokes vermin or insect pest connotations since eradication of “pest” animals is often described in this way. This could be seen as a use of spatial proximisation since those animals whose eradication is described in this way are a threat to humans. Again, this implies that squirrels’ (THEIR) actions or behaviours are a threat to humans (US). This writer also omits the social actor who should be responsible for the killing, which again may suggest that it is the responsibility of everyone. The response text and the original quote contrast the two “pest” species—rabbits and grey squirrels. Paralleling these two species has the effect of justifying the control of grey squirrels when it is well known (and well reported in *The Times*) that rabbits are agricultural pests, though myxomatosis was not introduced to Britain until 1953 (see Bartrip, 2008 for a comprehensive account).

Cruelty towards squirrels outside of official culls appears only once in these results in a very short text of two sentences (text iv). It contains the phrase “killing or taking animals”, which is taken directly from the Pests Act of 1954. This Act prohibits the use of spring traps for killing or taking animals and would have been the legislation under which the individual was prosecuted. The second and final sentence gives the agent a voice (though it does not directly quote him) and provides additional information. Without this sentence it would not be clear that the animals killed were squirrels and it is made clear that it is the negative actions of the squirrels—namely, being in the house and damaging wiring—that gives the actions validity; something must be done to stop that damage.

Finally, as one of the only two texts that mention cruelty and express concern for squirrel welfare in relation to control the following text is worth closer investigation because of the language it contains.

LETHAL BOX FOR SQUIRREL PESTS

FROM OUR CORRESPONDANT

GUILDFORD, FEB, 27

In future squirrels in the Walton and Weybridge area of Surrey will be killed only with a lethal chamber, to be supplied to the council by the R.S.P.C.A. And the council will act only on request from the occupier of any house or land.

Animal lovers had been **shocked** to learn that the council intended to buy an air pistol to shoot squirrels, trapped in cages. They were even more **shocked** to learn that some squirrels had been killed by **turning** them into a sack and **hitting** them with a bar. Today the R.S.P.C.A, made a full investigation after a protest from Mrs. Louise Sleeper, who said: "It's horrifying. I am absolutely appalled."

The council say squirrels have reached plague proportions. There has been a flood of complaints of squirrels **causing** extensive damage by **tearing** refuse bags, **raiding** gardens, even **invading** homes.

Mr. Frank Hulme, the public, cleansing officer, said: "At the moment we are using traps only in roof spaces."

Senior Inspector Robert Waddell of the R.S.P.C.A., after a full discussion with Mr. Hulme, said: "A skilled man with one blow could kill a squirrel using the sack method. But it does leave a margin, for error, and I could not countenance that. The same applies to an air pistol which in the hands of a capable operator could make death instantaneous, but the risk would be wounding.

News, 28/02/1967 (emphasis added)

Published in 1967, this text from a *Times* correspondent contains parallel structures that add emphasis to both viewpoints. This is demonstrated first by the repetition of "shocked" and the two "-ing" forms ("turning" and "hitting"). Parallel use of "-ing" forms is also found in a line describing the destructive

behaviour of squirrels (“causing”, “tearing”, “raiding” and “invading”; emphasised in bold).

One of the most striking things about this text, given the findings in chapter 7, is the lack of a modifier to clarify which species of squirrel the text refers to; it is taken for granted that the text is about grey squirrels, given the structural emphasis of the squirrel’s “pests” status in the headline: “LETHAL BOX FOR SQUIRREL PESTS”. As grey squirrels are reported about in a largely negative way elsewhere, it may be the case that naming them might not generate the desired response (i.e. sympathy) from the reader. But given that their pest status is mentioned along with some negative information about their actions, combined with the growth in population (and corresponding decline in the red squirrel population), it is more likely that, at this time, the grey squirrel is considered the “default” species. Nowhere does the text explicitly state that grey squirrels are invasive, imported, American, or similar, which is atypical (see chapter 7). References to the grey squirrel’s non-native status are more subtle in this text where common features of anti-immigration discourse are present in the second paragraph. Disaster metaphors appear in the forms of DISEASE (“squirrels have reached plague proportions”); WATER (“a flood of complaints of squirrels causing extensive damage”); and WAR (“invading homes”). As is widely reported in the literature on human immigration, these features of the discourse have the effect of legitimising action against perceived threats. It seems that such ways of describing grey squirrels have become established and as such, have filtered into this text that expresses concern about welfare, though does not deny the need for control. Importantly, these negative descriptions are attributed to an

organisation—“the council”. The impersonalisation here means the statement carries more weight than if it had been attributed to an individual.

Both the opposition to these forms of control and a pest controller are quoted. “It’s horrifying. I am absolutely appalled” is a quote from a named woman, (“Mrs. Louise Sleeper”), who raised a complaint (defined here as a “protest”) with the RSPCA. She is not identified by any other status or role and it is not immediately clear that her “protest” is about a specific individual: a pest controller in one area of Surrey. This individual is the next named actor, “Mr. Frank Hulme, the public cleansing officer”. Describing the role of a pest controller as such both masks the reality of the job and the actions such an individual carries out (beyond that which “control” already does) and it likens the animal objects of the control to dirt or filth—something that must be cleansed. He is quoted as saying, “At the moment we are using traps only in roof spaces”; it is unclear whether or not the animals in question are killed in or following this process. The action is qualified in that it is only happening at the present time and it is presented as necessary since squirrels are in human spaces, increasing the temporal and spatial relevance of the piece.

The text closes with a quote from a senior RSPCA inspector, whose “full **investigation**” of the first paragraph is reduced to a “full **discussion** with Mr. Hulme” here (emphasis added). In this quote, hypothetical, competent animal killers are described as “a skilled man” and “a capable operator”; the killing itself is euphemistic in “make death instantaneous”; and where concern is raised over risks of killing with an air pistol, there is no animal object as the verb is nominalised in gerund form (“the risk would be wounding”). Despite the anti-

cruelty concerns expressed here, this article demonstrates the strength and extent of anti-squirrel sentiment in Britain by this time. Generic terms like “pests” take an anti-animal stance; immigration metaphors, which have been firmly established in relation to squirrels from the 1930s, endure; and the presentation of opinion on both sides of the debate is geared more towards a pro-control than an anti-control stance.

9.6.3 A waste of taxpayers’ money

The popularity of hedgehogs and the controversy surrounding the Scottish National Heritage cull give rise to two distinctive language choices that make the hedgehog different from the other focus animals. First, the relocation of hedgehogs to mainland Britain by those opposing the cull is described in terms of evacuation (Table 9.15) (282 and 287).

Table 9.15 Hedgehog cull opposition

Ref	Section	Extract	Date
282	News	the agency would not stand in the way of any groups prepared to evacuate the hedgehogs themselves, providing their plans met animal welfare regulations	18/12/2002
283	Feature articles	Final score: Uist Hedgehog Rescue, 145 hedgehogs saved at a cost of £25 each; Scottish Natural Heritage, 66 hedgehogs killed at £1, 363 each”	06/06/2003
284	Feature articles	Last year SNH killed 58 hogs, at an estimated £100 each, and transferred 160 to the mainland.	05/04/2004
285	News	Advocates for Animals, which organised the protest, argued that the cull, which last year killed 66 animals, was a waste of taxpayers’ money	03/04/2004
286	News	This is being paid for using hundreds of thousands of pounds of taxpayers' money, yet killing hedgehogs flies in the face of expert advice and public opinion	19/08/2005
287	News	Uist Hedgehog Rescue, which "evacuates" hedgehogs to the mainland	19/08/2005

This invokes the idea that the Scottish islands where the culls take place are warzones, a concept that is paralleled in the opposition between SNH and hedgehog rescue groups on the islands. The issue of the cost or financial burden

of the cull is prioritised in reporting; this is particularly true in relation to extracts that contrast cull and rescue efforts (283, 284, 285, and 286). People opposing the cull tend to communicate the financial costs involved.

These extracts are part of the opposition opinion, the voice of which is well-represented in texts about hedgehog killing for control. It is quoted directly in some cases and increases the legitimacy of the opposition viewpoint through the epistemic modality of the language. Crucially, these extracts illustrate that language usually associated with negative aspects of immigration (namely, metaphors and language invoking the topos of (financial) burden) are utilised in the language of opposition to killing for control in this instance.

9.7 Chapter summary and implications

In this chapter, I have discussed the language surrounding the killing of the focus animals. I identified four main domains of killing: for control, non-intentional, with cruelty, and recreational. Texts containing details of animal control are prioritised over other domains in *The Times*. Major features in language surrounding killing are obscured agency, obscured patients, and emphasised agency; overall it is much more common for human agents to be obscured than emphasised in the discourse. There is an element of human preservation to be considered here; humans disassociate from acts that are unpalatable, non-intentional, or otherwise inconvenient because they do not fit the standard narrative. Overall, there is not a vast amount of change in language to be reported; the animals' (dis-)association with the various domains of killing is responsible for changing representations. The animals, time period, the other

killing contexts in which they are involved, the means, and location of killing are all influencing factors.

The extent to which killing is socially acceptable varies in terms of domain and focus animal. There is little evidence of opposition to grey squirrel killing whatever the domain; red squirrel killing is hardly recognised but when it does appear, the language hints at this being a non-intentional and deeply regrettable occurrence. Badger killing differs widely according to the domain and hedgehog killing challenges expectations. Cruelty towards the focus animals—with the (occasional) exception of grey squirrels—is unacceptable; reports contained emphasised actors, active constructions, and detailed descriptions. Control is generally acceptable (with the exception of the hedgehog) and recreational killing is acceptable early on and becomes unacceptable over time, merging with cruelty. Non-intentional killing is treated as unfortunate; the acceptable/unacceptable line is not as valid here.

Lecky's (1890) definition of cruelty remains relevant over time; both the callousness and vindictiveness are accounted for in the data at various times. For example, vindictiveness is present in discussion of inhumane practices in animal control and callousness is represented in the shocking and emotive language of court reports, even extending to likening the behaviour of human actors to that of animals. I found that similar acts are represented as benign and necessary in some contexts but cruel and unacceptable in other places. It follows from Ascione's (1998) definition of cruelty (see section 9.3) that any act of violence towards animals that is socially acceptable is not cruel. The kinds of acts associated with cruelty do change in line with shifting values (i.e. in terms of

attitudes, events, circumstances etc.). For example, baiting and digging become less acceptable as time goes on. Similarly, killing hedgehogs for control is acceptable early on but less so in recent texts.

Challenges to the conventional approaches to discussing certain kinds of killing (e.g. justification of cruelty towards pest species compared with cruelty to other animals) occur where there is some disruption to what is normally considered socially acceptable killing. In addition, the distribution of texts reporting killing in one context is also disrupted by reports of other contexts in which a focus animal is killed. For example, the pattern of reporting non-intentional hedgehog and badger killing appears to be influenced by reports of their population control. It is therefore not enough to examine reports of one type of killing in isolation; to gain a greater understanding, other domains of killing have to be considered. With this in mind, chapter 10 discusses the interaction between these findings and those from chapters 7 and 8, further positioning them in relation the wider historical context, in line with the DHA.

10 Conclusion

10.1 Chapter introduction

I set out to discover the patterns of change and continuity in language about four British wildlife species in *The Times* newspaper between 1785 and 2005, with particular focus on the impact of (changing) human practices and attitudes on their discursive representation and their related treatment. In chapter 6, I refined my research questions by identifying sub-questions, which focus on the language surrounding three key themes that I found in the discourse: origin, nationality and spatial distribution, life-cycle and health, and human actions and pursuits.

In this chapter, I first present, in 10.2, a summary of my main findings by theme and by corpora. Following this in 10.3, four major findings identified across the analysis as a whole are discussed in relation to the literature and historical context. In 10.4 I account for, and discuss implications of, my findings, describing the way that disruptions to established narratives and patterns can cause human-human and human-animal conflict and controversy. The limitations of

this study and directions for further research are presented in 10.5 and 10.6 respectively. I revisit my own stance as the researcher in 10.7, and I close the chapter in 10.8 with recommendations for the future.

10.2 Analysis summary

To summarise findings relating to the refined research question 1 (see section 6.5), for the theme of origin, nationality, and distribution, I explored the discursive relationship between the representation of animals in physical and abstract spaces (Philo & Wilbert, 2000), determining how separationist paradigms (see 2.4.3.1) are represented in the corpora and manifested in inclusionary and exclusionary practices. For the theme of life-cycle and health, I established that a change from “being with” to “being alongside” animals (Whitehouse, 2017) was reflected in the discourse, partly through the increase of discursively shared experiences of wildlife. The topic of disease eclipses the less (overtly) political way that maintaining connection to the natural world features in human lives and discourse. Finally, for the theme of human actions and pursuits, I found that reports of killing in four domains—non-intentional, cruel acts, control, and recreation—fluctuate over time and that each has characteristic language associated with it that does not change much over time. The degree of social acceptability of the human act of killing an animal (contemporaneously) determines whether it is considered cruel (e.g. Ascione, 1998; DeMello, 2012). In line with this I found that the degree of acceptability of similar acts is subject to change in line with societal developments, such as changes in land management (see 10.3.2 for others).

10.2.1 The linguistic representation of the focus animals, 1785 to 2005

Having summarised the analysis for each of the themes I examined, I present the findings from a different perspective, drawing together the main ways in which the representations of the focus animals have changed over the period of interest. I provide (where possible) further historical context for the findings in line with research question 2 (see section 6.5): to what extent are the patterns found consistent with changing human practices and attitudes?

10.2.1.1 Red and grey squirrels

The 1930s are a point of major change in the representations of squirrels across themes. This is the period of greatest concern over the effects of grey squirrel populations on red squirrels. Greys were established in the role of “invader” in the early 1930s and in the mid-1930s they were assigned primary responsibility for their presence in Britain following the launch of the National Anti-Grey Squirrel Campaign in 1931. A peak in (otherwise fairly consistent) references to red squirrel homes in the 1930s coincides with this period of change, presumably as a result of heightened concern. Ethnonyms and xenonyms show that red squirrels’ representations grow less “native” and grey squirrel representations grow more “foreign” after this period. Defence discourse surrounding red squirrels emerges as if in response to the grey squirrel threat and competition between the red and grey species appears in the language from the 1950s onwards. Between 1953 and 1955, bounty payments were made to the public for the control of grey squirrels, coinciding with a brief change in construction (from active to passive) in accounts of people killing grey squirrels. I identified no

major change in squirrels being (un)welcome in gardens over time and squirrel pox is not mentioned in *The Times* until late (mid-1980s), which is surprising given that the red squirrel was believed to be extinct in Britain by 1842 as a result of the disease (Lovegrove, 2007). The absence of early disease references is perhaps to be expected given the generally sparse distribution of texts; however, the absence of later references to squirrel pox—especially after the 1930s—is indicative of a wider pattern of suppression regarding information that might limit grey squirrel blame for red squirrel decline.

10.2.1.2 Badgers

For the badger, disease references do not appear in *The Times* until 1973, two years after the animal was first associated with bTB (see Krebs et al., 1997 for review of annual government reports). This coincides with the Badgers Act, the legislative result of animal welfarists lobbying against farmers killing badgers to control disease, which made badger digging and unauthorised killing illegal. Disease features in the badger corpus in a major way during two main periods: from 1973 to the mid-1980s and from the early 1990s until 2005. This largely coincides with two separate periods of badger culling: gassing with hydrogen cyanide from 1975 to 1982 and the government blood test trial for detecting bTB in badger populations between 1994 and 1997 followed by randomised badger cull trials from 1998 to 2005. A break in gassing between October 1979 and October 1980 pending Zuckerman's (1980) review coincides with a fall in the number of texts published about the badger at this time.

The period of reduced reporting about badgers and disease coincides with controversy over how humane culling methods were. Gassing was replaced with live trapping and shooting in 1982 after “the Chemical Defence Establishment reached the conclusion that [gassing] was inhumane” (Krebs et al., 1997, p. 52). At this time, an “interim badger culling strategy” implemented after a review of policy (Dunnett, 1986) recommended that culling should be carried out by farmers where badgers are reasonably suspected of causing an infection. As Spencer (2011, p. 93) points out, the BSE crisis diverted government attention away from bTB during this period also. Perhaps as an illustration of controversy over badger culling, the mid-1970s marks a change in reports of badger cruelty in the corpus, where individuals carrying out cruel acts are emphasised more. From the late 1980s onwards, the scale of badger killing is quantified by aggregating badgers as statistics, coinciding with the first National Badger Survey in 1989. Reports of accidental badger killing decline as culling begins (after 1970s).

Finally, I identified no major change in badgers being (un)welcome in gardens over time. As with the squirrel data, I found a trough in the (generally increasing) representation of badger habitats in the 1950s, though 1952 marks the emergence of references to spring cleaning of habitats, which continue until the 1970s. I can find no obvious external factor that might have influenced these events.

10.2.1.3 Hedgehogs

It was more difficult to link my language findings with key events in the history of the hedgehog than was the case for the squirrel and badger (corpora), partly because there was less information available (see chapter 3). Hedgehogs were associated with foot-and-mouth disease from the 1930s onwards in the corpus, around the same time as laboratory-infected hedgehogs were being experimented on; naturally occurring foot-and-mouth was not confirmed in hedgehogs until 1947 (McLauchlan & Henderson, 1947).

The animals become more popular over time and more welcome in human spaces, particularly as records of the species show decline from the 1960s. There is a drop in the association of hedgehogs with winter after 1965, which may also be related to species decline and general lack of human-hedgehog contact. In terms of killing, little change occurs in the hedgehog corpus except for a drop in the reporting of vehicle-related killing during periods when reporting of killing hedgehogs for pest control was at its highest (2002). This finding corresponds with discourse about the badger, indicating a wider pattern of representation.

10.2.1.4 The methods

Though I cannot definitely know that the events I identified in this section have a causative influence on the findings I outline here, certain parallels I identified between representations of the focus animals and key events in their histories indicate—in relation to research question 2—that the patterns I found are largely consistent with (changing) human practices and attitudes towards animals, though, as I discuss below, wider change is not substantial. There are, of

course, exceptions also. Findings from the hedgehog corpus in particular demonstrate that the DHA is only helpful insofar as information is available and it seems that more historical information exists for wildlife species that are more problematic for humans. Such an issue is determined by the fact that a “history of animals is in reality the history of human attitudes toward animals”, though it is usually the utility of animals that is highlighted (Fudge 2002, p. 6). Lack of (historical) sources is a problem for the pursuit of acknowledging the historical realities and contributions of (unproblematic or otherwise unusable) animals, much as it has been for the historical study of other previously under-represented groups, such as women and the working classes (see Fudge, 2002; Kelly-Gadol, 1977; Sharpe, 1991; Tosh & Lang, 2006 for discussion). For animals, then, (historical) significance is determined by the anthropocentric values I discuss in 10.3.3 below.

This MD-CADS study demonstrated that the approach can be used for the exploration of thematic corpora, which, to the best of my knowledge, has not been previously done. It also demonstrates that continuous (rather than parallel) corpora may be used in this approach by adopting the WPT method to aid segmentation of the corpora for contrastive analysis. Combining the analysis of keywords, BE and OF clusters, diachronic collocates, diachronic keywords and diachronic modifiers to form a multi-perspective analytical method worked well to identify key topics and trends in the corpora. Identifying linguistic phenomena (e.g. van Leeuwen’s social actor representation categories) in close analysis, as well as drawing on historical events were useful for interpreting and explaining the patterns and themes that I found. The approach I adopted need

not be limited to the immediate study; it could be applied in similar types of research (i.e. (diachronic) corpus-assisted discourse analysis of any social group featuring in language, whose representations might be affected by external social, cultural and political influences). In these ways, the study makes a contribution to the field of CADS. I move now to consider the main patterns of change and continuity in the language about the focus animals that I found were present across all three corpora.

10.3 Major shared findings

I identified four shared patterns of representation across the three corpora: (i) growing distance between humans and animals over time, (ii) the diachronic stability of themes, (iii) the maintenance of anthropocentric values, and (iv) the shifting of blame away from humans and toward animals for the negative consequences of human actions.

10.3.1 Increasing human-animal distance over time

A pattern of change shared by the three corpora is one of growing distance between humans and animals over time. Animals are depicted as more engaged in early human-animal encounters, whilst being passively encountered in later texts. Overall, human-animal encounters decrease over time, with a cluster around the 1930s, for which I can find no obvious cause. This growing detachment from wildlife coincides with the animals' increased symbolic and superficial significance for humans. For example, the aesthetic value attached to animals becomes more important over time. This change is discussed further in 10.3.2.

10.3.2 Key themes remain relevant over time

The major overarching themes—spatial concerns, life-cycle and health, and killing animals—feature in discourse about the focus animals in a fairly stable way from around 1900 onwards. Issues within these themes are mapped onto different animals at different times (e.g. different aspects of spatial concerns are activated at different times in the badger, hedgehog, and squirrel corpora). The political, social, and cultural factors I identified as catalysts for a steady increase and fluctuations in animal-related news, as well as the way themes are mapped, include: socio-political and socio-economic relations with other human groups (including war); changes in land management and use and associated effects (e.g. development of road networks, urbanisation and more time spent indoors); new scientific understanding and various government strategies for disease management; increasing interest in animal ethics; and government conservation policy. Discourse-specific factors, including changing news values, new technology, and post-war paper rationing, also contribute to fluctuations in animal-related news.

Early news texts are not usually about the focus animals centrally; they are backgrounded, afterthoughts, or used to contextualise news about other topics where the central focus is often prominent or noteworthy humans. Since animals were clearly important in Victorian society, this finding reflects the limitations Brown (1985) identified with the representativeness of Victorian news (see section 4.4.1). It confirms that there are limitations to the conclusions that might be drawn about historical human-animal relationships from the content of the earlier texts. Later developments in the history and publication of *The Times*

such as Northcliffe's new ownership in 1908 and an increase in soft news content after the 1920s and 1930s (see 4.4.3 for discussion) do correspond to the general increase in animal-related news that I identified from the early 1900s.

In the early years, *The Times* was distributed to major cities (starting with London). Urban living affords relatively little contact with wildlife compared with rural living. Corbett (1995, p. 206) argues that "the urban newspaper is likely to focus more on the stewardship activities of wildlife management" since cities are the location of governing bodies in charge of major decisions regarding wildlife populations. I found wildlife management featured throughout, even when circulation had expanded beyond London, signifying that urban perspectives are maintained in the newspaper, despite a wider audience. In terms of annual news cycles, I found no indication that animal news increased during the Parliamentary recess ("silly season") (Molloy, 2011, p. 6), though annual cycles were found to be important in soft animal-related news (especially during the spring months).

Though I did identify changing fashions in lexical choice when describing animal habitats, influenced by variations in spelling, the language within themes generally remains quite stable. For example, the representation of the grey squirrel as an invader remains more or less consistent after the species becomes properly established in Britain and the language of cruelty remains the same from the very earliest texts. Such discursive change as there is, then, is largely linked to the issues associated with animals at various times.

Even where I have highlighted linguistic change, this is more subtle than might be expected given the diachronic scope of the study and changes identified in other studies about the discursive representation of marginalised (human) social groups (see chapter 4). Where change is identified, the underlying motivations often remain stable. For example, though I found a shift from “being with” to “being alongside” animals in the discourse, as described above (10.3.1), the maintenance of a human connection to the natural world remains important throughout. Sharing experiences of animals with those who have a diminished connection with nature through news texts might almost be seen as a way of resisting change, in fact. The very latest disease texts show early indications of more overt change (e.g. the two-way transmission of bTB between badgers and cows begins to be acknowledged). It may be that the diachronic scope of the project was not wide enough to capture change that might be present in more recent texts (see also 10.5.4).

10.3.3 Harmful anthropocentric values are maintained

Anthropocentric values are maintained over time and though they may be manifested in different ways, the underlying motivations are shared across all three corpora and remain diachronically stable. Anthropocentrism exists in three forms in this discourse: that which is unavoidable and expected (“weak” anthropocentrism), that which is deliberately distancing, and that which subtly denies animals’ intrinsic worth. Anthropocentric values are activated at various levels such as newsworthiness, themes, issues and trends, and related language.

Throughout the period under investigation, animals feature in the news when they are caught up in human issues. That the human aspects of animal issues are foregrounded in news about wildlife is perhaps to be expected, given what we know about the effects of (cultural and geographical) “proximity” on newsworthiness (see Bednarek & Caple, 2012, pp. 42-43). The language is human-produced and news content must be interesting and relevant to humans or it would not be published. Though it is useful to recognise this as a form of “weak anthropocentrism” (Heuberger, 2017), it is to a large extent unavoidable in news discourse.

Elsewhere, more overtly harmful anthropocentrism is also maintained over time. What animals offer and cost humans affects their newsworthiness, their (linguistic) inclusion and exclusion, and the subsequent impact their representations have on their real-life treatment (see 10.5). For example, the impact that animal disease has on human lives is foregrounded. Similarly, the representation of animal suffering is dependent on human interests both in the animal and at the time of publication. In such cases, differences between humans and animals are emphasised, which, according to Heuberger (2017), allows for emotional distancing. Distance, in turn, makes exploiting animals easier (Dunayer, 2001). Anthropocentrism might be considered a rational position in cases where material costs and benefits for humans are concerned. However, I also identified a less logical side to anthropocentrism in cases where the animals’ (lack of) aesthetic and domestic qualities that provide entertainment value—or not—for humans are prioritised above material costs and benefits. This

indicates that emotion here is a stronger driving-force than practical considerations.

Animal lives (i.e. their quest to survive, thrive, and fulfil their potential) are consistently positioned below human concerns. News that on the surface appears to be animal-orientated often has human-centric underpinnings. For example, the corpora contain seemingly zoocentric texts that demonstrate an attempt to (re-)connect with nature over time, such as the more literary style accounts of seasonal change and related animal behaviours. However, I found that wildlife seasonalities are usually only newsworthy when they involve human participation, even during periods where technology allows for remote observation. This omission of animal behaviours in any context where they are unconnected to humans denies their intrinsic worth and deprives readers of the opportunity to appreciate it. It may be that other animals are represented in the news in this context but it is nevertheless surprising that these animals are not, given their cultural significance.

Where anthropocentrism can emphasise the differences between humans and animals, creating distance, anthropomorphic representations draw on familiar human characteristics and can be an attempt to connect with animals (e.g. I found parallels drawn between seasonal human and animal rituals). Attributing “human intentions, goals, mental states, and material practices to non-human animals” is one way of countering otherness (Philo & Wilbert, 2000, p. 18). But presenting animals in terms of the features they share with humans denies animals individuality (Heuberger, 2017) and could be interpreted as anthropocentric, despite motivations here being arguably more positive than

those that are deliberately distancing. In addition, I found that greater value is placed on the control of nature than on (re)connecting with it, since anthropomorphic representations present in the “seasons” results were disrupted by the discourse about animal/disease control (from 1970s).

The focus animals fall in and out of favour but their position below humans in the hierarchical order of living things—with lives that are subject to management and control—is maintained throughout. I can foresee no context in which any change in this situation will be sincerely adopted on any significant scale, though it is possible that modern movements and trends such as veganism (see 10.8 for other examples) offer at least some potential for equality among living beings. For the present study, certain forms of harmful anthropocentrism can and should be challenged to provide some balance. In many ways, subtle anthropocentrism is perhaps more harmful, given that it is difficult to identify, and thus less easy to challenge.

10.3.4 Blame shifting

One result of the kind of anthropocentric values I discuss above is that humans have the social and discursive power to absolve themselves of blame for the negative consequences (for humans and animals) of their own actions. Blame shifting has a psychological basis; according to Trampe (2018, p. 333), “denial mechanisms are dominant and empathy is blocked out”. Humans are usually concealed in language relating to the killing of animals in my data, supporting Trampe’s finding of “distance and detachment or an emotional disconnection” in language surrounding intentional killing (2018, p. 331). The domain of

accidental killing is generally overlooked in the literature which deals with socially constructed forms of violence toward animals (e.g. DeMello, 2012, pp. 237-244). In examining reports of accidental killing in my corpora I found that the language demonstrates an even greater level of emotional detachment than killing in other domains; animals are blamed for being present on roads, for example.

On the surface, language describing deviant violence (where humans are emphasised) appears to provide an exception to this rule, but even here subtle blame shifting strategies can be identified. I found that where humans are cruel—an undesirable trait—it is because of the qualities that they share with animals. Goatly (2006, p. 17) identified “metaphorical evidence that it has been common in Western thought to regard humans behaving like animals as reprehensible”. In my data, I found that boys involved in hedgehog cruelty are likened to “brutes” and parallels are drawn between the actions of fighting dogs and a human executioner.

Blame is shifted onto badgers more explicitly than is the case with the other animals. This may be a response to concern over diseased badgers escaping “justice” because they are legally protected (Cassidy, 2012, p. 8). Here, blame-shifting (primarily through the lexis and suppression of facts concerning the two-way transmission of disease) legitimises the control of badgers. This is not unique to badgers; chickens with avian flu have been vilified with the same effect (Potts, 2012, p. 57). It appears that *The Times* reports the official government position on bTB; the “Bovine Tuberculosis in Badgers” report from the Ministry of Agriculture (1977) does not mention cow-to-badger transmission of bTB

(Coffey, 1977). Shifting blame to badgers is maintained over time despite: (i) new scientific understanding indicating that the spread of bTB is exacerbated by poor disease and cull management (the effects of perturbation); (ii) the raising of several serious issues with the statistical reliability of the experiments carried out in advance of the government report; and (iii) a viable alternative theory about the spread of bTB, which also implicates humans (Coffey, 1977). In this theory, the loss of the rabbit population (through deliberate spreading of myxomatosis) is said to have left badgers seeking an alternative source of vitamin B—cow dung.

The abstract and metaphorical ways in which grey squirrels are blamed for red squirrel decline (e.g. through immigration and disease metaphors) draw on the emotive aspects of red squirrel protection to gain public support (both discursive and in deed) for grey squirrel control. Human actions (including introducing grey squirrels and reducing hazel woods after the Second World War (Kenward & Holm, 1993)) are (at least partially) responsible for red squirrel decline. No text in my corpus acknowledges that humans created food competition. If the language of blame was less abstract, the hypocritical nature of controlling one animal to protect another of the same genus (that was also once controlled for being a forest pest) would be too obvious. The irony surrounding the protection of the red squirrel as a symbol of Britishness/Englishness is that European red squirrels are theorised to have replaced the original red population following historical extinction from squirrel pox before the grey squirrel was introduced (Fowler-Reeves, 2007; Lovegrove, 2007).

Even where blame is not shifted onto animals for the consequences of human actions (e.g. when the hedgehog was introduced to the Hebridean islands) human responsibility is still limited through the use of (agentless) passive constructions and nominalisation (see section 10.4.2). The examples discussed here demonstrate how the way that blame is realised in the language depends on the context: what the blame is for, how responsible humans are, and factors such as legal protection and historical control. Whether it is achieved through abstract and metaphorical subtleties or more overtly, “[t]he linguistic shift of perspectivization removes the agents, i.e., the human being, from active participation and thus responsibility” (Trampe, 2018, p. 333), essentially offering humans a psychological barrier to taking accountability for their actions.

10.4 Accounting for the findings and real-world implications

The discursive representations of the focus animals that I identified have real-world implications for human-animal—and human-human—relationships. In this section I endeavour to (further) account for the findings and discuss the implications they have for human-animal relationships and for the lives of animals in Britain, both at present and in future.

10.4.1 Representations and identity

In contrast to changes in the language used about human social groups as reported in the literature (e.g. LGBT(QIA) and British Minority Ethnic groups), I found little change in the way animals are represented. In other words, substantial language change as a result of changing social and political attitudes

was not identifiable in the corpora, despite certain linguistic changes having been proposed (e.g. Dunayer, 2001). One way to account for the general lack of change in the representation of the focus animals is to consider that, unlike human representations in discourse, when animals feature in language the focus is not on identities but on imposed roles. Humans have all the discursive power in this relationship. Van Dijk (1993, p. 251) argues that “social cognition is the necessary theoretical (and empirical) ‘interface’, if not the ‘missing link’, between discourse and dominance”. For animals, it is not possible to examine “the role of social representations in the minds of social actors”, as van Dijk recommends, and it is clear that the social cognition of animals (in discourse analysis terms) is not part of the reproduction of dominance.

Animals are social actors insofar as their actions (unwittingly) have consequences for their social representations. The physical boundaries that humans impose on animals do not always match animal territories, yet their occupation of spaces outside of those that are considered acceptable give rise to their representation in certain roles (e.g. “pest”). Animals are able to “transgress” abstract and physical boundaries but cannot be said to have agency in this (Philo & Wilbert, 2000, p. 4). Any support or rejection of the roles they are assigned through such transgressions is done without understanding the discursive impact of their actions.

The role of animals in determining their own representation is overstated in the discourse; it is taken for granted that animals understand the consequences of their actions or behaviours, particularly in situations where humans need to justify certain action or inaction against them. Here, the animals are attributed a

false sense of deliberate agency such as the one assigned to grey squirrels in matters of national identity realised through the animals' occupation of physical space. Here, "there is a tension between imaginaries of purified space/place (where native ecologies flourish free from the impact of invasive competitors and disease) and the materialities of porous borders (where red and grey squirrels, and viruses, repeatedly transgress)" (Hodgetts, 2017, p. 22). A blurring of the boundaries between physical and abstract space allows for the role of symbols of national identity to emerge, and the othering that results from ideas of (non-)nativeness.

Animals rely on humans to produce counter discourses that resist (harmful) dominant representations. I found counter discourses to be under-represented and, where they are present, they do not appear to resist harmful discourses particularly well. For example, where arguments against badger culling are made, they reproduce the dominant language of blame (e.g. by attributing agency and "criminal" intentions to the badger) and human agency is concealed (e.g. by collectivising or omitting agents). Others have criticised the inefficiencies of counter discourses in the representation of animals (Corbett, 2006; Stibbe, 2012), indicating that this issue extends beyond these particular focus animals and society. For instance, quoted material in US wildlife news prioritises government (wildlife) officials over conservation or environmental groups (Corbett, 2006). Letters to the editor are a recognised forum for counter power (Van Dijk, 1993, p. 256) but even here I found that counter arguments in readers' letters reproduced established harmful narratives.

10.4.2 Maintaining order following disruptions to established narratives

Several of the findings presented above may be the result of an attempt to maintain order in the face of disruption to established narratives—or “stories-we-live-by” (Stibbe, 2015). Humans are said to respond to a need to make sense of the world through place-making practices; these include social and spatial classifications and boundary-making (Sibley, 1995). Ways of ordering the world differ culturally (e.g. see Douglas, 2003 on purity and dirt). In environmental management, dualisms that are borne of a desire for order include: country/city, science/humanities, native/non-native, protected area/unprotected area, and wild and savage/tame and domestic (Head & Muir, 2006, p. 507). For abstract animal classifications, animals should be either one thing or another (e.g. either pests to be killed or acceptable animals to be left or preserved); materially, animals belong in some places, not others. The results of the present study indicate that humans are invested in establishing and preserving traditional classifications and representations—and the narratives that support them—as part of maintaining order. The problem with assigning animals to groups and classifications is that it “creates liminal zones or spaces of ambiguity and discontinuity” (Sibley, 1995, p. 33), where animal otherness and deviance disrupt idealistic views of order. One way in which the resistance to otherness and deviance is reinforced in discourse about marginalised social groups is to emphasise how the current model is typical (Van Dijk, 1993). According to Van Dijk (1993, p. 264), “[s]peakers or writers [...] tend to emphasize that this ‘is always like that’, that ‘we are not used to that’, and that the circumstances do not

allow alternative interpretations". It becomes difficult to accept alternative narratives when those already existing are so well-established. In my data, it appears that certain narratives are so ingrained that they are not challenged in the discourse. For example, the denial of the historical pest status of red squirrels is unchallenged to any great extent in the data.

One narrative, "it is legitimate to (humanely) kill pest species" is particularly powerful. The labels "alien", "pest", and "predator" alone are often enough justification for species management to be considered necessary (Fowler-Reeves, 2007). Investments have been made in establishing the legitimacy of killing grey squirrels and badgers for control (by the 1930s and 1970s, respectively) and the need to preserve endangered and beneficial hedgehogs, which are promoted as "friends" in the garden because they eat animals considered to be garden "pests", such as slugs (see Chinery, 2010 for example outside of news discourse). Reports of cruelty in the process of killing for control are awkward and controversial, as this disrupts pest status and assigns victim status to the animals. Conversely, it is difficult to apply the linguistic conventions associated with control (Joseph, 2013) when hedgehogs display what is considered deviant behaviour in new spatial contexts (Hebrides) and are themselves assigned pest status. Discourses surrounding pestilence operate on the premise that wildlife species in "human" spaces (including spaces set aside for human use) are "unnatural and something to be removed" (Knight, 2000b, p. 10). In the case of the hedgehog, this completely contradicts the established narrative.

It follows, then, that disruption to narratives must be resolved before order can be restored. In the case of the above example, humans attempt to restore order

through increasing use of legitimisation strategies (including grey squirrel and badger blame and criminality) to redress the balance lost through reports of cruelty in otherwise legitimate control. A familiar immigration narrative is applied to counter the issue of hedgehogs as pests in the Hebrides. Here, hedgehogs are referred to as asylum seekers, with positive outcomes for the animals (see also Salahshour, 2016 who found typical immigration (liquid) metaphors were used to reflect the positive value of immigration on New Zealand's economy). Similarly, representing grey squirrels as immigrants and drawing on American stereotypes can be seen as a way of restoring order for the disruption arising from the presence of a non-native species, by positioning the squirrel with reference to established understanding of the world.

Such a strategy offers fresh challenges, however. A diachronic investigation into the representation of the word “animal” in Canadian English produced between 1921 and 2011 revealed consistent representation of animals as separate from humans (Fusari, 2018). Head and Muir (2006) established that liminality (in relation to boundary marking and bounding processes) leads to othering and related exclusionary practices—as Sayer (2001, p. 44) posits, discourse and practice may be “reciprocally confirming”. Anthropomorphising animals challenges the narrative, “animals are different from humans” by emphasising similarities which (i) deny animals intrinsic worth/individuality (as discussed above in 10.3.3) and (ii) allow human-animal relationships to become conflated with external human-human issues, thus reinforcing exclusionary practices.

10.4.3 Conclusions

Language that defines human-animal relationships in British cultural history, as represented in *The Times* newspaper, establishes animals in certain roles and maintains these representations. I identified six major roles of the focus animals in my corpora:

(i) as humans or similar to humans: “Animals are (like) humans”

(ii) as different to humans: “Animals are not humans”

(iii) as competitors or opponents of humans and other human-favoured animals:
“Animals are rivals”

(iv) as bearers of blame: “Animals are scapegoats”

(v) as mediums through which humans can comment on other humans: “Animals are mediums for social comment”

(vi) as victims of human and other animal actions: “Animals are victims”

These representations are not natural but naturalised (Stubbs, 1996, p. 85) in discourse. This is evidenced by the suppression of pest roles for the red squirrel and the hedgehog, which are contrary to the expectations that would arise from established patterns (i.e. that animals would be assigned “pest” status based on certain actions and behaviours). Disruptions to established order (and supporting narratives) generates polarised views, which lead to actual (human-animal and human-human) and discursive (human-human) conflict and controversy.

Harmful anthropocentric values are perpetuated and maintained in the discourse through the following main strategies:

- Preserving the traditional hierarchy that places human wants, needs, and desires above those of the animals. This includes welcoming animals that are perceived as useful into human spaces and vilifying those that are not.
- Exerting bias for and against animals in relation to human preference. For example, favouring animals (such as the red squirrel) for their aesthetic and symbolic value leads to vilification and control of the less favoured species (i.e. grey squirrels), as well as suppression of inconvenient historical facts that do not fit preferred narratives.
- Blame shifting (away from humans towards animals) and scapegoating animals for the negative consequences of human actions (such as killing animals with cars or for the results of poor disease management).
- Utilising established human frames of reference (e.g. immigration) to represent animals; anthropomorphism denies animals their distinctive and intrinsic worth.

Repetition of anthropocentric values in news discourse has real consequences for the animals. Animals are the focus of human actions that are a response to the kinds of external socio-political factors named above. For example, prejudice towards people from certain socio-economic backgrounds has led to badger protection, and anti-American sentiment is reflected in the treatment of American immigrant animals, such as the grey squirrel. Crucially, all this is

reflected in—and perpetuated by—discourse about them. This raises questions about the (perceived) legitimacy of preserving and harming animals that are considered welcome or out of place according to human preference. The treatment of other non-native species such as coypu, which are mentioned in the corpus, for example, may be affected by international relations. Creating distance between humans and animals through anthropocentric representations allows for ecological disconnectivity (Hodgetts, 2017, p. 21), ultimately influencing the degree to which animals are welcome in human lives and what is (and is not) considered acceptable treatment of them. Given what I have argued regarding disruption to established order, I can predict that any future challenge to the established anthropocentric order will cause human-human (discursive) conflict and controversy before any new norm can be established. I discuss this further in 10.8.

This study has highlighted just how anthropocentric available linguistic tools are. Whilst the analytical tools are useful, interpreting the implications of results for animals, humans, and for the approach has raised theoretical issues. It is clear that existing models of discursive dominance and power designed with human social actors in mind do not account for animals' absolute lack of discursive power and ability to (discursively) resist representations. These findings also highlight the need for effective counter-discourses that are produced within and yet challenge “established frameworks of understanding” (Cole & Morgan, 2011, p. 136), rather than compete with, or reproduce them.

In sum, the findings can be used to inform understanding of future linguistic representations of wildlife. They draw awareness to the key issue of

anthropocentrism and to the dangers of accepting an imposed representation, and they indicate that future challenges to established narratives and representations are likely to be met with resistance.

10.5 Limitations of the study

In this section I outline a number of potential limitations of the present study.

10.5.1 Representativeness

The findings I present can be applied only to the representation of the four focus animals in *The Times* newspaper, aimed at—and in the case of letters, produced by—the newspaper’s readership. Other news publications and data sources (e.g. letters, literature) might reveal other representations. Any extrapolation of findings beyond the immediate focus of the study must therefore be tentative.

10.5.2 Digital archives

Historians are warned (Bingham, 2010, p. 230) not to forget that digital archives detach individual texts from their original context both materially (physical news copy to digitised versions) and contextually within the newspaper itself. One limitation of the CL methodology is that a researcher does not study whole newspapers for context, as Bingham advises. A limitation of this project is that it was not possible to analyse the visual aspect of news discourse.

10.5.3 Diachronic segmentation

Gathering a continuous dataset rather than a snapshot of data, selected from regular intervals over time, presented a number of unforeseen challenges in terms of processing the data for diachronic analysis. The corpus segmentation guided by the WPT method was usually not fine-grained enough to reveal nuanced diachronic change. If the corpora contained more data then topic modelling may have offered a quicker and more robust way of identifying themes. That said, it may not work well with the specialised thematic nature of this particular data (I encountered problems with USAS semantic tagging). Though I maintain that the WPT method is better than the more arbitrary method of corpus segmentation by decade (for example), the absence of a suitable alternative statistical means for segmenting fine-grained diachronic analysis based on frequencies remains an issue for the analysis of small corpora.

10.5.4 Early data and diachronic scope

Differences in the form, style, and purpose of news discourse have impacted on the study. The bulk of the analysis relates to texts from the early 1900s, since the animals were not often newsworthy in earlier years (the “bad data” problem (Kopaczyk, 2012, p. 85)). Indications of diachronic change (and continuity) from the earliest texts are evident but limited. Such a limitation was unavoidable given constraints of time and space; this is simply the nature of *The Times* data.

There is some indication that the diachronic scope of the project (1785 to 2005) was not wide enough to detect more language change. For example, the earliest

mention of Candlemas Day (1867), treats seasonal cues given by the badger as a novelty, suggesting that the transition toward “being alongside” began earlier than this. In addition, the historical diary entry from the 1600s (see chapter 9) indicated that avoidance of first person agency in hedgehog control is a modern language choice (see 10.8).

10.5.5 CDA and social impact

I should not close this section without briefly acknowledging the recognised limitations to employing a linguistic approach with a view to influencing social change (see Tenorio (2011) for an overview of CDA critiques). It is not even always accepted that linguistics has something to offer the field of human-animal studies, despite recent discussion of the benefits of multi-/inter-disciplinarity in wider academia (for good examples of an interdisciplinary approach, see McEnery & Baker, 2015; McEnery & Baker, 2017).

10.6 Further research

There is no set endpoint for this kind of research; as Marchi (2010, p. 186) comments, “there will always be new questions to be asked”. I outline here a number of possible directions that I consider important for further research, some of which would address the limitations I identified above.

10.6.1 Tools

The possibilities for analysis in this kind of research are almost endless. Conclusions drawn from the data are influenced by the interests of the researcher (in terms of the patterns they identify and the path they follow) and

the tools selected for analysis (McEnery & Baker, 2017; Taylor, 2010). Expanding the analytical tools applied to the data would undoubtedly open up new channels of enquiry and could reveal different patterns in the language (see Baker & Egbert, 2016). For example, a thorough thematic analysis of verb sets denoting harm and preservation would supplement the findings presented here nicely.

10.6.2 Topic

The same diachronic methodology could be applied to the study of discourse about domesticated species over the same period. A researcher would be able to see how the language changes over the course of major shifts in the way animals have been farmed in Britain from the mid-17th to late-20th centuries (for overviews see Gold, 1998; and Lovegrove, 2007) and assessing human responses to these changes would make such a study worthwhile. Since the animals featuring in the news are often those that are “liked” by humans (Corbett, 1995) or as I found, those that are problematic to humans, an alternative text type (such as parliamentary discourse, literature, scientific journals, industry literature) might prove fruitful for studying different species.

10.6.3 Positive discourse analysis

One way to supplement these findings, as well as provide some future direction for preferred language use (see also 10.8) might be to identify counter-discourses that **are** effective and take note of what language features contribute to their effectiveness. Such “positive discourse analysis” (Martin, 2004; Tenorio,

2011) could be applied in much the same way as Stibbe's (2006, 2012) analysis of Carson's *Silent Spring*.

10.6.4 Widening the diachronic/text scope of the project

To address the limitation regarding the diachronic scope of the project, the data for this study could form the basis of a dynamic diachronic corpus with the addition of further texts at a later date. More data would also assist with demonstrating statistical salience of manually identified changes in representation. Alternative text types would need to be added to expand the diachronic scope back further in time, however. In addition, as some important changes were identified in recent texts, ongoing diachronic investigation would also be worthwhile. The *Times Digital Archive* has recently been extended to include texts published up to 2012.

10.7 Researcher stance

From the outset of the project, my stance towards the plight of wildlife in Britain was sympathetic and I aimed to take care to recognise that my personal views affect my understanding and interpretation of the news texts in ways that may well have deviated from the intentions of the original writers. My original stance, as well as ongoing learning, undoubtedly influenced my research, no matter how objective I intended to be. Nevertheless, I endeavoured to bear in mind my potential bias, report patterns (and rare cases that went against patterns) identified by the corpus approach, and recognise that there are limitations to how fruitful my recommendations will be. Finally, given the historical nature of some of the texts in the corpora, I strived to bear in mind Tosh's (2006, p. 9)

principles of historical awareness, in particular, to avoid anachronism (“the unthinking assumption that people in the past behaved and thought as we do”) and understand that the past is different both in terms of material things and the values that were held.

At the end of this study I have been able to refine my stance towards animals to include the following specific views:

(i) Using public discourses like newspapers to impose and reinforce unnatural order on animals (e.g. through classifications and categorisations) is unhelpful and unreasonable.

(ii) Allowing connection to the natural world through discursively shared experiences to be disrupted by political issues is harmful and should be recognised and addressed.

(iii) Erasing or denying historical truths and conflating human political issues with the perception and representation of animals is also harmful to animals and unhelpful for human-animal relationships.

With the above in mind, I move on to present some recommendations for how these issues may be addressed.

10.8 Recommendations

I open this section with a caveat from Arendt (1998, p. 5), who wrote that practical solutions “can never lie in theoretical considerations or in the opinion of one person, as though we dealt here with problems for which only one solution is possible”. Though the problems she is concerned with relate more to her

observed decrease in human agency and political freedoms that coincide with technological and scientific development, I believe her caveat is fitting here. With this in mind, I offer my recommendations, which I hope can supplement suggestions made by others I mention here.

I identified that certain values and cultural norms surrounding animals have remained largely unchanged over the time period I investigated. Given that it is an enduring theme in the discourse, it seems safe to assume that without disruption, deeply anthropocentric values will continue to be typical. Similarly, I can also predict that the subtle ways in which language has changed as a result of growing human-animal distance over time (as identified in the shift in reports of animals actively engaging with humans to animals being passively observed by humans) will continue.

Ideally, I would like to see a reduction in harmful anthropocentrism and (growing) distance between humans and animals, both in society and as reflected in language. In relation to the natural world more generally, Monbiot (2017) argues: “[i]f we want people to engage with the living world, we should stop using such constipated terms to describe our relationship to it”. He makes a number of suggestions, including the use of “climate breakdown” instead of “climate change”, the terms “living planet” and “natural world” instead of the more “empty” “environment”, and the term “places of natural wonder” to replace “sites of special scientific interest” to denote their importance to everyone, not just the ecologists who are interested in them from a scientific perspective. To avoid anthropocentric language (in agroindustrial production), Trampe (2018, p. 334) recommends “[a] linguistic practice which ‘says it like it is’ with respect to

the killing of animals, which uncovers animal-hostile, utilitarian linguistic usage". Whilst vocabulary is the easiest aspect of language to challenge, there are limitations to how much one might reasonably expect such changes to influence established anthropocentric attitudes (Heuberger, 2017). In fact, Kemmerer (2006, p. 13) finds that the language is not as important as the discussion and thought it generates. It is dualisms that allow us to view creatures that are not human as "other" (even the labels "nonhuman animal" and "other animals" "emphasise Western dualism" according to Kemmerer (2006, p. 11)). If resistance to otherness and deviance from the "norm"—in this case, deviance from being human—is reinforced through emphasising the typicality of the current model (Van Dijk, 1993), then challenging this needs to happen through a change in attitudes. It would mean either a change in what is considered typical or a rejection of valuing typicality. Achieving the latter seems unlikely, so promoting a new norm would be more feasible.

Given some of the more harmful discourses identified in the present study, it is clear that ecologically progressive counter-discourse is needed to encourage people to respect and care for the lives of animals. One possible approach to identifying more inspiring language might be Positive Discourse Analysis, which identifies "what texts 'do well' and 'get right' in our eyes" (Macgilchrist, 2007, p. 74). Strong examples of analyses of discourse about animals that revealed ecologically positive language include Stibbe (2006), who examined Carson's

Silent Spring (see 4.2.5)⁵³ and Goatly and Hiradhar (2016, p. 265), who identified language that suggests “the connectedness and indivisibility of nature” in the writing of Wordsworth (“and mountains over all, embracing all”, p. 265)⁵⁴. Comparing Wordsworth’s language to the representation of animals and nature in *The Times* they conclude, “the view of the natural world represented by Wordsworth, along with aspects of his grammar, provides a much better model for our survival than that represented by *The Times* [...] to survive we had better take note of Wordsworth [...] rethink and re-speak our participation in nature before it rethinks or rejects our participation in it” (p. 277).

Though Wodak and Chilton (2005, p. xvi) warn against viewing traditional CDA as negative discourse analysis, Martin (2004) observes that the traditional approach usually explores negative issues, viewing it as a “deconstructive” activity, which must work with “constructive” positive discourse analysis to move beyond the study of abusive power (p.6). He argues that the approach allows us to “reconsider power communally [...] as it circulates around

⁵³ Stibbe found a lack of euphemistic verbs for killing salmon and little reference to the impacts of their death on humans. Carson places fish in agentive position in the roles of senser and actor, carrying out mental and material actions respectively, which demonstrates purposeful decision-making and the presence of cognition.

⁵⁴ Nature is presented by Wordsworth as more powerful than in the *Times*, it is more active and communicative. Natural things are sometimes the agents of active processes affecting other natural entities. Plants, landscape and weather are often upgraded from experiences to actors of transitive verbs (e.g. “Oh there is blessing in this gentle breeze,/A visitant that while it fans my cheek/Doth seem half conscious of the joy it brings”, p. 268). At other times (in contrast to news reporting) the actions of animals, birds and water are mentioned for the own sake, rather than the effect they have on humans (e.g. “the eagle soars high in the element”, p. 263). There is also a higher number of animals as experiences in Wordsworth’s writing compared with language in *The Times*.

communities, as they re-align around values, and renovate discourses that enact a better world” (p. 24). Unfortunately, suggestions of alternative language may not be adopted by those who can act to make meaningful change. When contacted about harmful language use in their own writing, the authors of the Millennium Ecosystems Assessment Report viewed the devaluing of species’ intrinsic worth through language choices a “cost worth paying” considering their intended audience (finance ministers, company CEOs, and planning ministers) (Stibbe, 2012, p. 100). Heuberger (2017, p. 345) finds that “language reforms have mainly been successful in those areas where attitudes within society have also changed”; people who have an “intellectual and ideological understanding for why [change] is important” are more receptive to linguistic change. (Macgilchrist, 2007, p. 83) offers key strategies to maximise the impact of counter discourses by appealing to mainstream media, arguing that “[i]f we shift the issues we feel strongly about [...] closer to the space currently inhabited by dominant frames they are much more likely to be printed.” Even so, issues with the take-up of effective counter discourses as highlighted by Stibbe (2012) (and see also Martin, 2004) indicate that progressive change probably needs to include more than language.

Following this, and with the findings of the present study in mind, first steps toward achieving a change in the representation of British wildlife—and animals more generally—might include the following:

- 1) recognising the unique pattern of dominance in the discursive representation of animals (i.e. one where animals are impacted on in concrete ways supported

and promoted by language used about them, and to which they cannot subscribe or resist);

2) recognising where truths are denied in favour of established narratives and the (sometimes unrelated) reasons why this happens;

3) in relation to patterns of blame shifting, understanding the root cause and not denying historical facts;

4) an acceptance of (abstract) liminal spaces (rejection of dualisms and separationism) would reduce polarised discourses and lower conflict between humans and animals—and humans and humans (about animals); and

5) recognising that anthropomorphism is not a viable alternative (in line with Heuberger, 2017) and that its employment in subtle, covert ways (such as through animals-as-proxies) makes it particularly damaging.

Recent movements are proving effective in providing challenges to typical attitudes. The surge in veganism in the UK⁵⁵ is causing more people to reconsider the oppression of farmed domestic animals, and the re-wilding movement is promoting the value of wildlife and large predators as part of the wider eco-system. The People's Walk for Wildlife (Packham, 2018) held in September 2018 in central London also raised public awareness of wildlife

⁵⁵ An IPSOS Mori poll recorded a 360% rise in veganism in the UK population over ten years from 2006 to 2016.

issues. A practical way to further change attitudes in Britain would be to encourage people to spend more time outdoors and view themselves as part of nature rather than separate from it. One way of promoting this might be to endorse “nature therapy” (Williams, 2017) or *shinrin-yoku* (Japanese for “forest bathing”) (Li, 2018), which is already popular—and state-sponsored—in Japan and South Korea and has physical and psychological benefits for humans, including improving immune function and reducing stress (Li, 2010). In addition to these practical approaches, language has its own part to play. Whilst I recognise the limits of linguistic analysis for bringing about social change, I nevertheless believe it is crucial for the real lives of animals that the capacity for language to encode subtly anthropocentric values is acknowledged.

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12 Appendices

Appendix A – Descriptive information for corpora segmentation.....	428
Appendix B – Keywords by corpus results.....	429
Appendix C – Diachronic keywords results	430
Appendix D – Statistical information for diachronic collocates analysis.....	436
Appendix E – Range and frequency information for clusters analyses.....	444
Appendix F – Thematic categories in results from clusters analyses	445
Appendix G – Council rehuses badger family full text.....	447
Appendix H – Squirrel opposition extracts	448
Appendix I – Spine tingler full text	450
Appendix J – Grey squirrel ARRIVE (v) and INTRODUCE (v).....	451
Appendix K – The present weather full text	453

Appendix L – DISEASE and INFECT in general use.....	454
Appendix M – Badger blame clusters extended table.....	455
Appendix N – Killing of tubercular badgers by gas is to be resumed full text	457
Appendix O – STRAIN as a disease metaphor: evidence from a reference corpus	458
Appendix P – Badgered by this deadly infection full text.....	461
Appendix Q – All harm and killing findings from corpus analysis.....	462
Appendix R – Extracts showing agents of badger control for bTB purposes	464
Appendix S – Lethal injection evidence from a reference corpus.....	465
Appendix T – Mediation in badger and hedgehog control.....	466

Appendix A – Descriptive information for corpora segmentation

Corpus	Segment	Period	Years*	Number of texts	Tokens (types)	Sig. peaks	Sig. troughs
Squirrel	S1	1825 – 1876	52	13	26029 (5410)	0	0
	S2	1877 – 1909	32	23	27722 (5070)	0	0
	S3	1910 – 1932	23	115	53526 (8061)	1	0
	S4	1933 – 1958	26	205	68493 (8258)	6	0
	S5	1959 – 1987	29	119	52228 (7739)	0	1
	S6	1988 – 2005	18	223	100791 (12151)	0	2
Badger	B1	1786 - 1815	30	3	950 (435)	0	0
	B2	1816 - 1904	89	71	82917 (9626)	1	0
	B3	1905 - 1956	52	135	64963 (8351)	4	2
	B4	1957 - 1987	31	191	90337 (9621)	1	2
	B5	1988 - 1997	10	141	79955 (10174)	0	0
	B6	1998 - 2005	8	173	98975 (11127)	2	0
Hedgehog	H1	1838 - 1905	68	31	72087 (8191)	0	0
	H2	1906 – 1946	41	124	82902 (9987)	2	0
	H3	1947 -1986	40	122	72744 (9906)	0	4
	H4	1987 - 2005	19	178	97773 (11984)	0	0

*The “years” column reflects that the dates span from the 1st Jan (first year) to the 31st Dec (second year)

Appendix B – Keywords by corpus results

Corpus (reference dataset)	Rank	Freq	Keyness	Keyword
Squirrel corpus (Badger and Hedgehog corpora as reference)	1	1691	3117.04	squirrel
	2	1320	2211.512	grey
	3	1153	1961.893	squirrels
	4	841	1056.314	red
	5	432	302.036	trees
	6	142	296.081	greys
	7	126	280.007	reds
	8	156	224.477	forestry
	9	150	195.095	nuts
	10	312	193.318	tree
	11	471	178.521	species
	12	204	172.725	native
	13	211	144.062	damage
	14	261	132.406	forest
	15	128	118.34	pest
	16	618	113.127	birds
	17	79	99.482	alien
	18	121	98.89	american
	19	125	98.564	commission
	20	99	94.041	bark
Badger corpus (Squirrel and Hedgehog corpora as reference)	1	1734	2551.973	badger
	2	1388	2013.644	badgers
	3	279	478.068	tb
	4	339	324.828	cattle
	5	175	292.03	tuberculosis
	6	171	284.466	baiting
	7	407	242.332	bill
	8	133	218.228	sett
	9	138	217.379	bovine
	10	121	185.923	setts
	11	195	166.039	police
	12	88	163.368	gassing
	13	283	152.689	fox
	14	136	152.323	digging
	15	851	143.72	said
	16	166	140.093	cruelty
	17	247	132.391	hunting
	18	274	129.126	dogs
	19	106	125.939	sets
	20	162	123.139	hunt
Hedgehog corpus (Badger and Squirrel corpora as reference)	1	1164	2221.706	hedgehog
	2	951	1682.869	h (initial)
	3	565	956.029	hedgehogs
	4	360	356.938	game (laws)
	5	202	185.513	hon (member)
	6	130	162.974	laws
	7	277	149.97	hear (parliament - hear hear)
	8	87	125.467	slugs
	9	53	104.64	uist
	10	293	94.27	winter
	11	111	89.584	milk
	12	44	83.849	saucer
	13	90	75.488	sleep
	14	59	70.03	hibernation
	15	26	64.193	robeson
	16	1930	59.841	he
	17	33	58.879	darwin
	18	40	58.211	toads
	19	307	57.454	garden
	20	68	54.338	hedge

Appendix C – Diachronic keywords results

C1. Squirrel corpus diachronic keywords

Corpus	Segment (reference dataset)	Rank	Frequency	Keyness	Keyword
Squirrel	S1 (S2, S3, S4, S5, S6 as reference)	1	59	252.403	cheers
		2	42	175.459	reform
		3	39	174.461	prisoner
		4	49	149.526	hear
		5	32	132.007	gentleman
		6	256	121.746	<i>he</i>
		7	48	105.598	bill
		8	273	94.235	which
		9	23	89.907	liberal
		10	57	74.171	upon
		11	19	68.741	franchise
		12	77	68.083	<i>him</i>
		13	13	65.188	gladstone
		14	13	65.188	prosecutor
		15	73	63.335	those
		16	1233	61.566	<i>of</i>
		17	12	60.174	estaminet (from a single text)
		18	12	60.174	reformers (from a single text)
		19	126	56.526	would
		20	31	56.159	room
Squirrel	S2 (S1, S3, S4, S5, S6 as reference)	1	276	262.105	<i>his</i>
		2	311	213.012	<i>he</i>
		3	40	129.208	edward
		4	25	88.533	tenant
		5	50	85.87	act
		6	15	74.207	goschen (from a single text)
		7	17	71.667	fern
		8	14	69.26	banff (from a single text on Banff museum)
		9	15	66.902	garth (from a single text)
		10	19	64.939	occupy (mainly from a single text)
		11	18	56.262	rooms (from a single text)
		12	73	55.403	<i>him</i>
		13	67	54.829	old
		14	20	50.887	section
		15	17	46.878	boughs
		16	14	45.882	entitled (to a vote) (from a single text)
		17	222	44.657	<i>not</i>
		18	9	44.524	meredith
		19	9	44.524	stillman
		20	13	43.923	occupation (mainly from a single text)
Squirrel	S3 (S1, S2, S4, S5, S6 as reference)	1	4339	85.097	<i>the</i>
		2	21	76.257	burnham (beeches)
		3	2326	71.919	<i>of</i>
		4	19	68.995	rothschild
		5	17	61.732	dunfermline
		6	175	55.969	birds
		7	30	55.182	beeches (burnham)

		8	69	54.145	park
		9	1843	51.141	and
		10	13	47.207	tinned (meat and fish - from a single text)
		11	77	47.072	among
		12	17	42.703	canal
		13	27	38.443	committee
		14	72	32.888	london
		15	24	32.428	collection
		16	17	31.387	albino
		17	21	30.039	king
		18	10	29.966	seton (from a single text)
		19	49	29.484	gardens
		20	35	28.303	parks
Squirrel	S4 (S1, S2, S3, S5, S6 as reference)	1	570	333.695	grey
		2	566	145.64	squirrel
		3	59	83.718	owl
		4	72	79.07	rat
		5	25	60.786	truffles (from a single text)
		6	18	56.486	truffle (from a single text)
		7	57	55.413	killed
		8	344	51.897	squirrels
		9	62	48.065	pest
		10	14	43.934	pease (alfred)
		11	47	42.984	acres
		12	70	41.05	correspondent
		13	42	40.944	editor
		14	15	40.058	alfred (pease)
		15	38	37.667	campaign
		16	18	37.492	eric (mainly Eric Teichman)
		17	64	36.947	area
		18	11	34.519	teichman (from a single text)
		19	13	34.058	allotment
		20	26	33.243	smith
Squirrel	S5 (S1, S2, S3, S4, S6 as reference)	1	23	76.954	caravan (from a single text)
		2	19	62.558	caravans (from a single text)
		3	19	53.66	territorial
		4	14	51.693	coypus
		5	44	47.912	mrs
		6	26	47.304	otter
		7	24	43.41	elm
		8	19	42.27	bay (mainly about a dog named bay)
		9	47	41.336	shooting
		10	11	40.616	kennedy (from a single text)
		11	14	40.323	bradford (lord)
		12	10	36.923	beresford (-cooke)
		13	10	36.923	cooke (beresford-)
		14	34	35.455	zoo
		15	13	33.589	hardwood
		16	9	33.231	mckenna (from a single text)
		17	14	31.51	moorhens
		18	19	31.391	otters
		19	13	30.825	shortage
		20	32	29.816	air
Squirrel	S6 (S1, S2, S3, S4, S5 as reference)	1	121	267.534	reds
		2	127	235.626	greys
		3	432	199.333	red
		4	119	193.692	wildlife
		5	272	180.944	you
		6	136	156.988	t

		7	111	108.126	says
		8	158	105.573	britain
		9	156	103.761	because
		10	421	95.243	we
		11	66	94.168	conservation
		12	37	93.658	russells
		13	146	88.633	she
		14	64	85.293	environment
		15	56	83.59	island
		16	33	83.533	uk
		17	52	83.471	million
		18	209	82.442	said
		19	82	81.291	around
		20	223	77.219	species

C2. Badger corpus diachronic keywords

Corpus	Segment (reference dataset)	Rank	Frequency	Keyness	Keyword
Badger	B1 (B2, B3, B4, B5, B6 as reference)	1	23	51.307	<i>their</i>
		2	4	41.391	un
		3	22	39.592	<i>they</i>
		4	3	32.271	tithe (from single text)
		5	2	24.51	fouls (from a single text)
		6	2	24.51	manifesto (from a single text)
		7	2	24.51	miseries (from a single text)
		8	2	24.51	oppression (from a single text)
		9	2	24.51	poverty (from a single text)
		10	2	24.51	proctors (from a single text)
		11	2	15.006	mob (from a single text)
		12	1	12.255	<i>beggarly</i>
		13	1	12.255	<i>belcherites</i>
		14	1	12.255	<i>benediction</i>
		15	1	12.255	<i>benedictions</i>
		16	1	12.255	<i>berkites</i>
		17	1	12.255	<i>beseech</i>
		18	1	12.255	<i>cabling</i>
		19	1	12.255	<i>canting</i>
		20	1	12.255	<i>cottager</i>
Badger	B2 (B1, B3, B4, B5, B6 as reference)	1	650	309.305	<i>his</i>
		2	163	295.339	<i>upon</i>
		3	791	224.676	<i>he</i>
		4	108	185.995	hear
		5	3486	179.554	<i>of</i>
		6	70	165.593	experiments
		7	61	156.365	<i>hon</i>
		8	608	140.73	<i>which</i>
		9	51	108.68	medical (from a single file)
		10	32	99.357	pryme (Mr) (from a single text)
		11	52	97.335	persons
		12	6066	89.628	<i>the</i>
		13	59	85.43	bull
		14	27	83.833	amusements
		15	1176	81.247	<i>that</i>

		16	40	78.914	gentleman
		17	160	78.203	<i>him</i>
		18	50	77.082	character
		19	843	74.839	<i>was</i>
		20	28	73.193	cheers
Badger	B3 (B1, B2, B4, B5, B6 as reference)	1	40	120.052	ken
		2	92	103.682	wood
		3	34	78.513	hampstead
		4	26	75.13	downs
		5	4442	70.218	the
		6	32	70.059	cry
		7	25	65.152	wasps
		8	23	64.805	purchase
		9	27	63.617	earths
		10	2400	63.589	<i>of</i>
		11	17	51.536	kenwood
		12	29	50.49	preservation
		13	36	47.008	w (initial)
		14	12	44.933	chislehurst (from a single file)
		15	34	43.359	acres
		16	73	41.436	times
		17	42	40.577	rabbit
		18	20	40.037	mansfield
		19	48	38.95	park
		20	29	38.938	points
Badger	B4 (B1, B2, B3, B5, B6 as reference)	1	121	160.442	ministry
		2	109	140.09	tuberculosis
		3	69	132.987	gassing
		4	475	131.206	badgers
		5	95	90.245	agriculture (ministry)
		6	295	85.619	said
		7	38	74.46	clause
		8	49	68.71	amendment
		9	44	65.731	aged (relating to people in crime reports)
		10	20	62.575	beaver
		11	22	61.075	zuckerman
		12	18	56.317	skip (from a single text)
		13	30	53.57	fisheries (ministry)
		14	74	51.772	west
		15	309	50.129	<i>mr</i>
		16	34	47.744	veterinary (occupation and association)
		17	20	46.171	newton
		18	790	45.864	<i>was</i>
		19	143	43.65	bill
		20	43	42.54	snow
Badger	B5 (B1, B2, B3, B4, B6 as reference)	1	38	126.501	alf (animal liberation front) (from a single file)
		2	154	95.064	<i>her</i>
		3	65	92.124	sets
		4	30	91.453	bypass
		5	27	76.166	newbury
		6	77	67.819	hunt (groups, saboteurs, and less frequently the practice)
		7	44	63.489	prince
		8	104	62.322	says
		9	21	62.192	soames (MP)
		10	134	61.65	<i>she</i>
		11	37	59.403	traffic
		12	20	54.015	swan
		13	16	53.263	whip
		14	43	52.956	site

		15	33	51.187	project
		16	15	49.934	dame
		17	17	49.288	lee
		18	14	46.605	ici
		19	25	45.542	baiters
		20	46	44.899	mrs
Badger	B6 (B1, B2, B3, B4, B5 as reference)	1	211	339.631	tb
		2	100	228.966	cull
		3	657	144.964	i
		4	176	128.923	cattle
		5	49	121.082	uk
		6	139	108.282	t
		7	261	105.885	you
		8	62	104.49	culling
		9	491	101.234	badgers
		10	138	100.907	farmers
		11	87	98.23	bovine
		12	33	95.918	jessica
		13	47	95.249	girls
		14	31	90.105	www
		15	33	81.651	maff (Ministry of Agriculture, Fisheries and Food)
		16	27	78.478	soham
		17	36	76.895	holly
		18	731	64.675	are
		19	35	64.674	trials
		20	22	63.945	elliott (valerie - countryside editor)

C3. Hedgehog diachronic keywords

Corpus	Segment (reference dataset)	Rank	Frequency	Keyness	Keyword
Hedgehog	H1 (H2, H3, H4 as reference)	1	311	637.437	game
		2	201	567.964	<i>hon</i>
		3	244	519.594	hear
		4	900	485.587	<i>he</i>
		5	124	312.44	laws
		6	1232	250.419	<i>that</i>
		7	830	225.975	<i>was</i>
		8	110	223.175	member
		9	480	205.107	<i>had</i>
		10	81	203.643	gentleman
		11	494	169.006	<i>his</i>
		12	3144	140.806	<i>of</i>
		13	83	131.468	law
		14	71	127.671	committee
		15	52	110.855	property
		16	203	107.621	<i>mr</i>
		17	67	99.185	cases
		18	306	96.004	would
		19	104	82.719	upon
		20	45	80.302	inquiry (by game law committee)
Hedgehog	H2 (H1, H3,	1	6119	186.416	<i>the</i>
		2	95	114.981	autumn
		3	105	95.917	spring

	H4 as reference)	4	3265	91.962	<i>of</i>		
		5	38	83.923	boughs		
		6	30	73.557	sunshine		
		7	142	70.51	winter		
		8	29	65.425	swallow		
		9	93	62.963	summer		
		10	31	62.015	martins		
		11	1072	58.574	<i>is</i>		
		12	280	55.112	<i>its</i>		
		13	1847	52.63	<i>in</i>		
		14	43	50.324	september		
		15	20	47.085	gordon (mostly from single text)		
		16	32	47.058	swallows		
		17	62	45.657	milk		
		18	21	44.853	downs		
		19	53	44.472	sleep		
		20	23	42.426	winds		
		Hedgehog	H3 (H1, H2, H4 as reference)	1	45	95.88	club
				2	26	79.108	roberson
				3	20	60.852	flea
4	19			57.81	harewood (Lord)		
5	29			53.545	clubs		
6	23			52.862	tape (mainly from single text about video recording)		
7	28			46.321	grouse		
8	15			45.639	jesse (from single text)		
9	15			45.639	stewards		
10	27			41.845	oil (single text about olive oil)		
11	24			40.976	snake		
12	18			39.021	speaker		
13	33			38.586	hedges		
14	17			36.295	stuffed		
15	51			35.486	disease		
16	16			33.586	recording (mainly from single text about video recording)		
17	36			32.305	c (BBC and RSPCA)		
18	33			31.138	b (BBC)		
19	10			30.426	cassette (mainly from single text about video recording)		
20	10			30.426	distemper		
Hedgehog	H4 (H1, H2, H3 as reference)	1	144	235.588	wildlife		
		2	333	209.349	<i>you</i>		
		3	319	187.155	hedgehogs		
		4	163	143.343	<i>t</i>		
		5	55	136.346	cull		
		6	119	134.962	says		
		7	52	128.909	uist		
		8	711	123.72	<i>i</i>		
		9	339	114.299	hedgehog		
		10	44	109.077	uk		
		11	61	88.588	car		
		12	45	78.712	million		
		13	229	77.361	my		
		14	31	76.85	hebrides		
		15	583	74.869	<i>s</i>		
		16	36	70.143	beer (mostly from a single text)		
		17	30	66.219	rescue		
		18	39	65.443	islands		
		19	25	61.976	snh (Scottish Natural Heritage)		
		20	25	61.976	www		

Appendix D – Statistical information for diachronic collocates analysis

All corpus queries carried out in the DC analysis were simple searches, 5 left to 5 right of the node word. The following tables shows the top ten lexical collocates for the “squirrel” (“squirrel*”), “grey” (“grey”|“greys”|“grey squirrel”|“grey squirrels”), “red” (“reds”|“red”|“red squirrel”|“red squirrels”), “badger” (“badger*”), and “hedgehog” (“hedgehog*”) queries, sorted by the logDice score followed by the collocates sorted by diachronic type. All MI scores are over 3 except for those marked by an asterisk, which resulted from a POS tagging error in the Sketch Engine software.

Squirrel query

S3			S4			S5			S6		
Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice
grey	6.956	13.263	grey	6.357	13.54	grey	6.937	13.214	red	6.54	12.942
red	6.629	12.122	red	6.291	12.34	red	6.791	12.325	grey	6.613	12.695
letters	6.567	10.023	campaign	5.693	9.635	native	6.07	9.883	population	4.984	9.671
native	5.853	9.88	correspondent	4.791	9.585	seen	4.97	9.882	native	4.93	9.617
english	5.737	9.765	editor	5.418	9.497	trees	4.275	9.608	britain	4.145	9.425
editor	6.442	9.685	american	5.378	9.283	population	5.57	9.526	squirrels	2.97	9.421
american	6.152	9.672	native	5.148	9.194	pest	5.433	9.517	american	5.764	9.245
white	5.015	9.464	letters	5.511	9.123	squirrels	3.366	9.497	nutkin	6.26	9.106
regent	6.322	9.402	damage	4.395	9.071	correspondent	4.947	9.353	squirrel*	2.492	9.087
park	4.387	9.391	squirrel*	1.878	9.065	watch	6.281	9.281	england	4.453	9.016

"squirrel" query				
	S3	S4	S5	S6
Consistent	grey	grey	grey	grey
	red	red	red	red
	native	native	native	native
Initiating			population	population
				nutkin
Transient			pest	
			squirrels	
		squirrel		squirrel(s)
	american	american		american
Terminating	english			

Grey query

S3			S4			S5			S6		
Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice
squirrel	6.811	12.864	squirrel	6.179	13.061	squirrel	6.954	13.003	squirrels	6.3	12.285
squirrels	7.207	12.842	squirrels	6.555	13.042	squirrels	6.816	12.537	squirrel	6.042	12.13
red	5.647	10.908	red	5.067	10.969	pest	6.101	10.075	reds	5.689	10.443
american	6.934	10.391	editor	5.891	9.932	trees	4.703	9.786	north	6.023	10.348
pest	7.072	9.715	american	5.81	9.68	american	6.731	9.765	american	6.835	10.248
editor	6.487	9.678	correspondent	4.87	9.601	population	5.561	9.415	red	3.985	9.934
letters	6.265	9.66	great	4.404	9.363	control	5.11	9.35	introduced	5.723	9.712
grey	3.613	9.534	damage	4.676	9.293	correspondent	5.075	9.345	population	4.838	9.372
introduction	7.072	9.464	pest	4.504	9.039	red	4.044	9.295	cull	6.385	9.287
species	4.657	9.425	menace	6.195	8.993	presence	6.561	9.206	control	5.335	9.198

"grey" query				
	S3	S4	S5	S6
Consistent	squirrel(s)	squirrel(s)	squirrel(s)	squirrel(s)
	red	red	red	red(s)
	american	american	american	american
Initiating			population	population
				north
Transient			presence	
		menace		
Terminating	grey			
	species			
	pest	pest	pest	

Red query

S3			S4			S5			S6		
Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice
squirrel	6.598	11.936	squirrel	6.286	12.202	squirrel	7.011	12.408	squirrel	6.256	12.5
squirrels	6.58	11.65	squirrels	6.115	11.817	native	8.091	11.656	squirrels	6.257	12.387
native	7.194	10.934	grey	4.962	10.877	squirrels	6.079	11.258	native	6.285	10.87
grey	5.661	10.917	native	6.998	10.83	watch	8.046	10.9	england	5.796	10.265
certainly	7.609	10.452	species	5.158	9.72	london	6.368	10.55	greys	5.167	10.056
species	5.779	10.21	see	6.023	9.515	seen	5.999	10.424	grey	4.227	10.054
variety	7.735	10.18	fact	5.422	9.415	zoo	6.423	10.213	population	5.323	9.908
due	7.024	10.093	indigenous	8.333	9.371	sydenham	7.976	10.167	deer	6.304	9.707
english	6.194	9.934	driven	7.655	9.349	regent	7.976	10.167	britain	4.494	9.622
shy	7.609	9.791	nest	5.1	9.093	populations	7.824	10.155	food	4.832	9.543

"red" query				
	S3	S4	S5	S6
Consistent	squirrel(s)	squirrel(s)	squirrel(s)	squirrel(s)
	native	native	native	native
Initiating			populations	population
Transient	grey	grey		grey(s)
		indigenous		
Terminating	species	species		
	variety			
	english			
	shy			

Badger query

B3			B4			B5			B6		
Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice	Collocate	MI	logDice
letters	6.719	10.378	tuberculosis	15.967	10.402	sets	6.001	10.56	tb	4.791	10.555
editor	6.278	10.351	digging	16.673	10.376	set	5.504	10.178	cull	5.591	10.483
fox	5.227	9.899	gassing	15.763	10.158	setts	6.484	10.135	cattle	4.873	10.425
points	5.976	9.684	cattle	14.737	10.004	baiting	5.999	9.978	culling	5.878	10.111
cry	5.719	9.56	killing	15.593	10	protection	5.663	9.953	setts	6.007	9.996
habits	5.786	9.445	protection	14.347	9.709	badger	3.506	9.932	bovine	5.095	9.804
rogue	6.871	9.353	population	14.794	9.577	killed	5.917	9.83	badger	3.14	9.778
kill	5.845	9.173	badger	12.568	9.536	act	5.665	9.737	killed	5.795	9.7
poultry	5.845	9.173	disease	13.399	9.492	year	4.419	9.676	sett	5.403	9.679
badger	2.554	9.057	areas	13.703	9.408	bill	4.513	9.62	groups	6.114	9.659

"badger" query				
	B3	B4	B5	B6
Consistent	badger	badger	badger	badger
	kill	killing	killed	killed
Initiating				bovine
				groups
				cull
				culling
			setts	setts
				sets
			set	sett
Transient		tuberculosis		tb
		cattle		cattle
		protection	protection	
		digging		
		disease		
		gassing		
		population		
		areas		
			groups	
			year	
			act	
		baiting		
		bill		
Terminating	cry			
	editor			
	fox			
	habits			
	letters			
	points			
	poultry			
rogue				

Hedgehog query

H2			H3			H4		
collocate	MI	logDice	collocate	MI	logDice	collocate	MI	logDice
letters	7.662	11.167	nest	6.288	9.848	society	6.136	10.411
points	7.255	10.835	hedgehog	4.342	9.804	preservation	7.177	10.333
milk	5.799	10.037	grids	7.391	9.356	british	5.736	10.235
found	5.244	10.012	cattle	6.037	9.29	cull	5.77	9.844
editor	6.526	9.866	correspondent	5.275	9.219	uist	5.777	9.776
friendly	6.943	9.725	young	4.833	9.159	rescue	6.41	9.661
family	6.647	9.497	nature	4.561	9.113	hebrides	6.275	9.572
correspondent	5.882	9.425	winter	4.473	9.097	garden	4.218	9.38
lawn	6.536	9.245	friends	7.128	9.093	eat	5.438	9.243
killed	6.247	9.224	crisps	6.838	9.084	found	4.663	9.179

"hedgehog" query			
	H2	H3	H4
Consistent			
Initiating			british
			cull
			eat
			garden
			hebrides
			preservation
			rescue
			society
			uist
Transient	found		found
		hedgehog	
		cattle	
		crisps	
		friends	
		grids	
		nature	
		nest	
		winter	
		young	
Terminating	correspondent	correspondent	
	editor		
	family		
	friendly		
	killed		
	lawn		
	letters		
	milk		
	points		

Appendix E – Range and frequency information for clusters analyses

Squirrel corpus

	S3	S4	S5	S6
"grey squirrel is"	frequency 13; range 12	frequency 24; range 21	frequency 9; range 8	frequency 9; range 9
"grey squirrels are"	frequency 4; range 4	frequency 13; range 12	frequency 3; range 3	frequency 15; range 14
"grey squirrel was"	frequency 2; range 2	frequency 4; range 4	frequency 3; range 3	frequency 5; range 5
"grey squirrels were"	-	frequency 9; range 9	-	frequency 3; range 3
"red squirrel is"	frequency 4; range 4	frequency 12; range 7	-	frequency 8; range 5
"red squirrels are"	-	-	-	frequency 10; range 8
"red squirrel was"	frequency 1; range 1	frequency 5; range 5	frequency 3; range 3	
"red squirrels were"	frequency 1; range 1	frequency 4; range 3		frequency 6; range 6
"of the grey"	frequency 21; range 19	frequency 42; range 37	frequency 10; range 9	frequency 13; range 11
"of the greys"	frequency 1; range 1	-	-	frequency 3; range 3
"of a grey"	frequency 1; range 1	frequency 2; range 1	frequency 2; range 2	-
"of the red"	frequency 9; range 8	frequency 12; range 12	frequency 6; range 6	frequency 21; range 18
"of the reds"	-	-	-	frequency 4; range 3
"of a red"	-	frequency 4; range 3	-	-

Badger corpus

	B3	B4	B5	B6
"badger is"	frequency 19; range 14	frequency 13; range 13	frequency 5; range 5	frequency 11; range 11
"badgers are"	frequency 12; range 6	frequency 19; range 15	frequency 27; range 19	frequency 62; range 36
"badger was"	frequency 5; range 5	frequency 15; range 13	-	-
"badgers were"	frequency 3; range 3	frequency 14; range 10	frequency 7; range 6	frequency 14; range 13
"of the badger"	frequency 22; range 19	frequency 20; range 23	-	frequency 3; range 3

Hedgehog corpus

	H2	H3	H4
"hedgehog is"	frequency 6; range 5	frequency 4; range 4	frequency 12; range 8
"hedgehogs are"	frequency 9; range 8	frequency 13; range 10	frequency 28; range 21
"hedgehog was"	frequency 1; range 1	frequency 3; range 3	frequency 5; range 4
"hedgehogs were"	frequency 5; range 5	frequency 3; range 3	frequency 14; range 9
"of the hedgehogs"	frequency 7; range 5	frequency 2; range 2	frequency 4; range 4

Appendix F – Thematic categories in results from clusters analyses

Squirrel corpus

BE clusters	Grey query				Red query				sum
	S3	S4	S5	S6	S3	S4	S5	S6	
Qualities/Attributes	8	13	4	11	2	8	0	6	52
Activities/Pursuits/Actions	3	9	3	6	0	4	0	8	33
Pest/Rat/Pejorative	4	7	4	2	0	1	0	0	18
Distribution/Spatial	2	12	4	3	5	5	1	7	39
Control	1	6	0	1	0	1	0	0	9
Origin	0	0	0	7	0	0	0	0	7
In defence of	0	1	0	0	1	0	0	0	2
Human experience of	1	1	0	2	0	1	2	3	10
Numbers	0	0	0	0	1	0	0	0	1
War	0	1	0	0	0	0	0	0	1
Cost/money	0	0	0	0	0	1	0	0	1

OF clusters	Grey query				Red query				sum
	S3	S4	S5	S6	S3	S4	S5	S6	
Qualities/Attributes	4	13	3	0	1	6	2	4	33
Activities/Pursuits/Actions	7	8	3	1	0	2	0	1	22
Pest/Rat/Pejorative	0	3	0	0	0	0	0	0	3
Distribution/Spatial	9	10	3	7	6	6	2	18	61
Control	2	4	1	1	1	0	0	1	10
Origin	0	2	0	5	0	0	0	0	7
In defence of	1	2	1	1	0	0	0	1	6
Human experience of	0	2	1	0	0	1	0	0	4
Numbers	0	0	0	1	1	1	0	0	3
War	0	0	0	0	0	0	2	0	2
Cost/money	0	0	0	0	0	0	0	0	0

Badger corpus

BE clusters	B3	B4	B5	B6
pest/rat/pejorative	0	0	0	0
attributes	13	10	8	16
control/killing/harm	4	15	16	29
activities/pursuits	10	9	4	7
distribution/spatial	10	5	2	1
war	0	0	0	0
origin/'nationality'	1	0	0	2
in defence of/protection	0	5	1	7
human experience of	1	0	1	0
cause/source of disease	0	17	7	24
numbers	0	0	0	1

OF clusters	B3	B4	B5	B6
pest/rat/pejorative	0	0	0	0
attributes	11	6	0	1
control/killing/harm	0	3	0	2
activities/pursuits	7	1	0	0
distribution/spatial	1	3	0	0
war	0	0	0	0
origin/'nationality'	0	0	0	0
in defence of/protection	1	3	0	0
human experience of	2	2	0	0
cause/source of disease	0	2	0	0
numbers	0	0	0	0

Hedgehog corpus

BE clusters	H2	H3	H4
pest/rat/pejorative	0	0	2
attributes	4	11	16
control/killing/harm	3	0	8
activities/pursuits	4	4	13
distribution/spatial	6	4	11
war	0	0	0
origin/'nationality'	1	0	3
in defence of/protection	0	0	1
human experience of	1	2	4
cause/source of disease	2	1	1
numbers	0	0	0

OF clusters	H2	H3	H4
pest/rat/pejorative	0	0	0
attributes	2	1	2
control/killing/harm	0	0	0
activities/pursuits	4	0	0
distribution/spatial	0	0	2
war	0	0	0
origin/'nationality'	0	0	0
in defence of/protection	0	1	0
human experience of	0	0	0
cause/source of disease	0	0	0
numbers	1	0	0

Appendix G – Council rehouses badger family full text



VICTORIA STEWART / NORTHSCOT PRESS AGENCY

£30,000 home: front door to the badger family's des res, built by Aberdeenshire council to avoid damage to a road

Council rehouses badger family

By A Correspondent

A COUNCIL that took a number of unpopular cost-cutting measures to balance its budget must now find £30,000 to move a family of tunnelling badgers to prevent a country road from collapsing.

Because badgers are protected by law, Aberdeenshire council is implementing an elaborate and expensive plan to move them to a new home.

Kenneth Benzie, a councillor, said: "I can understand people thinking that it is a

waste of money when we are having to close public toilets and the money could be better spent on road repairs. But unfortunately the council has no alternative."

Subsidence on a stretch of the A97 near Aberchirder has been a problem for some time. It was eventually identified as the work of the burrowing badgers. The Protection of Badgers Act of 1991 makes it an offence to interfere with a badger's sett.

The council could only carry out temporary work to shore

up the road while experts studied the problem. Eventually, it was decided to build an artificial sett near by, but with wire mesh lining the underground perimeter to prevent the badgers burrowing back under the road. Their new home will have nine nesting chambers and connecting tunnels finished in wood and plastic.

The repair work, consultant's fees, construction of the artificial sett and rehousing the badger family adds up to £30,000.

Ray Peat, of the council's

roads and transport department, said: "We searched around and found that there were no other unoccupied setts in the area so, with the help of a consultant, we set about building them a new one. We were left with very little option unless we wanted the road to collapse, which it eventually would have done."

The badgers will be coaxed into their new home at some point between June and November when their young will have achieved a degree of independence.

News, 30/03/2001

Appendix H – Squirrel opposition extracts

Extracts in this extended table were identified through qualitative analysis and clusters analyses.

Section	Focus	Extract	Date
Letters to the editor	Grey squirrel criminality	[the grey squirrel] kills the red squirrel and by robbing wild birds' nests of their eggs may exterminate not only its rival, but our singing and other birds.	16/12/1921
Letters to the editor	Red squirrel superiority	they [grey squirrels] have none of the endearing qualities of our native, fascinating little rodent	17/12/1921
Letters to the editor	Grey squirrel criminality	[grey squirrels] are engaged in the damage of trees and plants and in robbing birds' nests of the eggs.	20/12/1921
Letters to the editor	Grey squirrel criminality	It [the grey squirrel] is very active on the ground, and, in addition to robbing gardens of their fruit, it nips off the tips of the shoots of nut and apple trees, and barks all kinds of trees.	22/08/1927
Letters to the editor	Grey squirrel criminality	Sir Alfred Pease states that he has never met a single person who had actually witnessed a grey squirrel committing a crime . Will he accept my written declaration that I saw a grey squirrel climb up a thorn tree and descend with a young bird in its mouth?	18/08/1937
Letters to the editor	Defence of grey squirrel criminality	I am surprised at the small amount of evidence which I have collected and read of in your columns of the crimes of the grey squirrel	27/08/1937
News	Grey squirrel criminality	the American grey squirrels are hustlers	01/10/1942
News	Grey squirrel criminality	So, in other winters, have I seen grey squirrels loitering with, it seemed to me, evil intentions among a crowd of chaffinches	04/03/1947
News	Red squirrel superiority	Squirrels, although he entered a <i>caveat</i> about the grey squirrel, could be delightful pets	02/01/1951
News	Squirrel competition	the commission's concern was not with the activities of the native species, the red squirrel, which was struggling for existence against fierce competition from its American relative	11/03/1953
News	Squirrel competition	red squirrels could be competing unsuccessfully with the grey squirrels for resources and living space	16/02/1985
Feature articles	Squirrel competition	Competition for resources is believed to be the major factor in the war of the squirrels	05/12/1989
News	Grey squirrel criminality	when one catches it [the grey squirrel] in the act of robbing a bird's nest	19/02/1957
Letters to the editor	Red squirrel superiority	This alien invader [the grey squirrel] has also eliminated over most of the country that far more attractive native mammal, the red squirrel.	11/10/1971
Letters to the editor	Defence of grey squirrel	In all the correspondence and articles I have read on this subject [of Dutch elm disease], nowhere have I seen the grey squirrel mentioned as being a possible culprit	08/11/1972
Letters to the editor	Red squirrel vulnerability	from America has now ousted the smaller , native red squirrel from most parts of the kingdom	29/09/1984
Feature articles	Red squirrel vulnerability	Since then it [the grey squirrel] has spread throughout much of England, Wales and the lowlands of Scotland, driving out the native red squirrel, <i>Sciurus vulgaris</i> , which is now rare	05/12/1989
News	Grey squirrel criminality	In North America, where it does not show the same hooligan tendencies, the grey squirrel is a delicacy	21/08/1990
Feature articles	Red squirrel vulnerability	Canada geese are not natives. Like the rhododendron, the grey squirrel and the foreign wife, they are an import that has flourished in competition with apparently weaker native species.	16/04/1994
Feature articles	Squirrel competition	So red squirrels are left with an unhealthy diet of acorns in many broadleaf forests, whereas the greys have an abundance of food sources where both compete .	08/05/1995
News	Squirrel	Research has indicated that grey squirrels are beating red squirrels in	21/03/1996

	competition	the battle for food, leaving the reds with poor diets.	
Feature articles	Squirrel competition	Other mammals such as the red squirrel find it hard to compete for the same food against the bolder and bigger North American grey squirrel that arrived in Britain 100 years ago.	06/04/2001
News	Squirrel competition	Red squirrels have been wiped out in most areas since the 1940s by their larger grey cousins, which were imported from America and are better able to compete for food	21/06/2001
News	Squirrel competition	The red squirrel is considered threatened because of competition from the introduced American grey squirrel	09/10/2002
Feature articles	Squirrel competition	dwindling numbers of reds which are unable to compete with their bigger and brasher American cousins	12/04/2004
Feature articles	Red squirrel vulnerability	a red would have no chance against the larger grey in a battle over territory	12/04/2004
Feature articles	Grey squirrel criminality	IN THE 1950s the grey squirrel flourished in the grounds of the offices where I worked, to the delight of the secretarial staff, who fed them, and to the extreme distaste of others, who regarded them as immigrant mobster tree-rats with bushy tails.	20/04/2004
News	Red squirrel vulnerability	2. 5 million greys in Britain, outnumbering the native red by 66 to one.	14/05/2005
News	Red squirrel vulnerability	among other animals in this sequestered spot are the hedgehog, the mole, the little English red squirrel, and the weasel.	25/05/1925

Appendix I – Spine tingler full text



SPINE TINGLER

WAY UP NORTH A CRUEL WAR IS BEING WAGED.
RICHARD HELLER HEARS THE HARROWING TALE
OF A VICTIM WHO SOUGHT ASYLUM IN BRITAIN

SPIKE IS NOT his real name, but real names do not matter when you are on the run without papers. Besides, the British are notoriously bad at foreign names and "Erinaceus Europaeus" defeats even the most expert immigration official.

So this is Spike's story — sometimes moving, sometimes sharply pointed — one hedgehog's search for freedom in Britain. It is an astonishing journey over sea, over land, over the motorway, by a young stranger who began it knowing just two words of English: St Tiggywinkles.

Spike was born on the Hebridean island of Uist. He has four brothers and sisters: Erin, Arran, Euan and Eewhat, the wild one of the family. Hedgehogs first came to the Hebrides as immigrant labour, to protect gardens against slugs and snails. For generations they lived there happily and were accepted by the local community. But, like many immigrants, Hebridean hedgehogs fell victim to prejudice and hysteria.

"They spread scare stories, accused us of eating birds' eggs. They said that we were a threat to native waders. They wrote lies about us in *The Daily Snipe*," says Spike. With official encouragement, hedgehogs were hunted down and killed in the notorious Uist drives over the culling fields. "I had to get away," says Spike. "They told me about this place in England, St Tiggywinkles, where hedgehogs can make a new life."

There is only one way out of Uist for a hedgehog — to slip on to the ferry at night. "Some hedgehogs tried to do it by seaplane, but we never heard from them again."

Security is lax at Uist, but not at the next island. "They warned us about the ferret patrols. They hunt us down to prevent us from getting to the mainland. We saw them on *Skye News*." But Spike managed to hide in the sample case of a short-sighted brush salesman. After another boat ride, he was on the mainland.

As an asylum-seeker, Spike had to make his claim at the first opportunity at his port of landing, Kyle of Lochalsh. But he was stuck in a queue two miles

long of wild rhododendrons — escaping the cull on the neighbouring Hebridean island of Colonsay. Spike was locked away in the detention centre. "A tiny wire cell. The grub was terrible — and only one a day."

When he eventually made it to the head of the queue, Spike was offered a safe haven in Sellafield while his claim was being processed. But he had been

IT IS AN ASTONISHING
JOURNEY — OVER SEA,
LAND AND MOTORWAY

advised not to accept it. "Sellafield hedgehogs glow in the dark. They do it deliberately, to stop us from running away."

While others distracted the guards with a camp variety show, Spike dug his way out of the wire cell. He travelled hundreds of miles by the side of the road, dodging foxes and police hunting foxhunters. He lived off stolen cat food and by begging for Mars bars in batter from dieting Scots, until he reached Glasgow.

But then came the biggest test of all for a hedgehog on the run: The Motorway. "You can't get across The Motorway unless you know The Weasel [a notorious mammal-smuggler and racketeer]. You need The Weasel to get you on to a lorry. The fee is a whole chicken. I hid in the rubbish by a KFC until I had collected enough pieces."

The Weasel found Spike the right southbound lorry and told him to flatten himself and play dead. He gave him a Yorkie Bar and a paper with the right motorway exit for St Tiggywinkles.

Spike was one of the lucky ones — he made it to the sanctuary. He is learning English customs and has a new girlfriend, an attractive shrew. He works as a streetcleaner, picking up chewing gum, but hopes eventually to land a job in a garden centre.

But he misses his family terribly. "I don't know what has happened to them. You don't get much on the news. The world seems to have forgotten about Uist."

Feature Articles (aka Opinion), 9 April 2003

Appendix J – Grey squirrel ARRIVE (v) and INTRODUCE (v)

Focus	Extract	Date
subject position to arrive	Then, a few years ago, the grey horrors began to arrive : they are now a multitude.	30/08/1937
subject position to arrive	they happened to arrive here during a temporary decline in the red squirrel	20/11/1950
subject position to arrive	So when grey squirrels arrived in Britain, they were well-placed to drive out the native squirrel.	05/12/1989
subject position to arrive	Although both species can breed twice a year, red squirrels have smaller litters. So when the greys arrived , they swept all before them, especially in broadleaf woodland.	05/12/1989
subject position to arrive	there are indications from eastern England that red squirrels were in decline before the greys arrived.	15/02/1990
subject position to arrive	Once the grey arrives the red inevitably disappears.	29/09/1992
subject position to arrive	The grey squirrel, which arrived from America at the end of the 19th century, is tougher than its red cousin.	20/12/1996
subject position to arrive	It took those immigrant grey squirrels nearly a century to work their way from Chester along the North Wales coast road and across the road bridge to the Isle of Anglesey. But the greys have arrived .	04/11/2000
subject position to arrive	Other mammals such as the red squirrel find it hard to compete for the same food against the bolder and bigger North American grey squirrel that arrived in Britain 100 years ago.	06/04/2001
object position to introduce	Another creature which was being introduced largely into our parks was the grey squirrel.	07/01/1909
object position to introduce	They [grey squirrels] were first introduced into Bedfordshire, and have utterly destroyed the English squirrels	20/12/1921
object position to introduce	I was surprised some time ago on hearing that the authorities of Kew Gardens had accepted a present of some [grey squirrels] and introduced them there.	20/12/1921
object position to introduce	the red was a decadent and diminishing species —at least in the South of England—long before the grey was introduced .	30/03/1922
object position to introduce	A few pairs were introduced some years ago, and they bred so rapidly that a number were set free in Regent's Park.	20/08/1927
object position to introduce	Quite possibly these squirrels came originally from Regent's Park, for the experiment of introducing them there has succeeded in a way that was not foreseen.	13/04/1929
object position to introduce	grey squirrels were present in North Wales before 1828, were introduced in Cheshire in 1876, and two were shot near Nottingham in 1884,	21/05/1930
object position to introduce	at my old home in Norfolk, long before the grey squirrel was introduced , my father set free a number of Barbary doves	27/12/1944
object position to introduce	Have the greys, introduced from America, in fact killed the reds	27/12/1951
object position to introduce	Of two charming small rodents, introduced within the last century for sentimental reasons, the grey squirrel has become a serious menace	04/04/1953
object position to introduce	More recently the grey squirrel— introduced as a supposed added attraction— has become a somewhat serious pest	26/08/1954
object position to introduce	The grey squirrel was first introduced in this country towards the end of the last century	13/04/1973
object position to introduce	Lord Dulverton said that the grey squirrel, introduced from North America to British zoos in the last century and then released, attacked young hardwoods with disastrous effects.	26/05/1973
object position to introduce	It [the grey squirrel] was introduced here from North America on at least 30 occasions between 1876 and 1929	13/06/1974
object position to introduce	The American grey squirrel, <i>Sciurus carolinensis</i> , was introduced at the turn of the century into several places in Britain	05/12/1989
object position to	Murray and colleagues sought to make a mathematical model of the squirrel	05/12/1989

<i>introduce</i>	invasion, using a few simple equations to work out how they would have spread from the places where they had been introduced .	
object position to <i>introduce</i>	The grey squirrel was introduced to Britain from North America at the start of the century, it has been vandalising trees for decades	21/08/1990
object position to <i>introduce</i>	the new policy of planting broad-leaved woods may hasten the native squirrel's disappearance in favour of the grey, an invader from north America introduced in the nineteenth century.	26/05/1992
object position to <i>introduce</i>	As the red squirrel declines, its larger and more assertive grey cousin, introduced from North America a century ago, is moving northwards, colonising red territory.	09/09/1992
object position to <i>introduce</i>	Since they [grey squirrels] were first introduced into Britain at Woburn Abbey a century ago, they have spread rapidly across the land.	09/09/1992
object position to <i>introduce</i>	Early this century landowners were advised to introduce greys into their woodlands to replace the "harmful" red!	15/09/1992
object position to <i>introduce</i>	Research shows that as the population of the grey squirrel, introduced into Britain from North America in the mid-1870s, increases, reds are becoming scarcer.	17/12/1994
object position to <i>introduce</i>	Grey squirrel (<i>Sciurus carolinensis</i>): introduced towards end of last century.	22/04/1995
object position to <i>introduce</i>	Greys were introduced to about 30 sites in England between 1876 and 1929 in the days before the dangers of exotic imports were recognised.	16/11/1995
object position to <i>introduce</i>	Grey squirrels were introduced from America 150 years ago.	14/02/1998
object position to <i>introduce</i>	Since they were introduced to Britain from America in the 1880s, grey squirrels have reproduced so successfully that they now number about 2.5 million.	24/06/1998
object position to <i>introduce</i>	the grey squirrel was deliberately introduced between 1876 and 1905 by animal lovers.	10/08/1998
object position to <i>introduce</i>	Dr Lyster believes that the North American grey squirrel, which was introduced into British parks at the end of the last century, will have to be killed	23/09/1998
object position to <i>introduce</i>	It has been going on ever since grey squirrels were introduced in the 19th century as an ornament to Victorian gardens.	15/11/2000
object position to <i>introduce</i>	The red squirrel is considered threatened because of competition from the introduced American grey squirrel	10/09/2002
object position to <i>introduce</i>	Greys were introduced in 1876 and by the 1940s their population had exploded.	12/04/2004
object position to <i>introduce</i>	The biggest problem for red squirrels is no longer anything to do with poor habitat, human persecution or predation, it is simply their misfortune that we introduced their larger relative.	12/04/2004
object position to <i>introduce</i>	While the American grey is pleasing to see, their introduction has led to the dwindling numbers of reds which	12/04/2004
object position to <i>introduce</i>	IT WAS clearly detrimental to introduce grey squirrels.	12/04/2004
object position to <i>introduce</i>	It is a pity that they [grey squirrels] were ever introduced .	12/04/2004
object position to <i>introduce</i>	At around that time, alien incomers in the shape of greys had started to appear — remarkable when they [grey squirrels] had only been introduced into the country some sixty years earlier.	12/04/2004
object position to <i>introduce</i>	Grey squirrels, introduced from the US in 1876, have colonised 90 per cent of England and Wales and are widespread in Scotland.	12/10/2004
object position to <i>introduce</i>	The squirrels are an introduced species and their population just keeps growing and growing.	26/07/2005

Appendix K – The present weather full text

THE PRESENT WEATHER.

TO THE EDITOR OF THE TIMES.

Sir,—Some time ago Sir J. Herschel recommended persons who attend to the “signs of the weather” and put faith in any particular weather-adage often repeated, to keep a note-book and set down, without bias, all the instances in confirmation or in contradiction of the same; and he added that he would be very glad to enlarge his own experience by the obliging communication of such memoranda.—*Good Words*, January, 1864. One of these popular maxims has had a remarkable fulfilment in the present return of winter.

Sir Thomas Browne, in his *Vulgar Errors*, quotes a Latin couplet as follows:—

“Si Sol splendescat Mariæ Purificante,
“Major erit glacies post festum quàm fuit antè.”

That is, “Should the sun shine out at the purification or churching of the Virgin Mary there will be more ice after the festival than there was before it.”

The adage is thus paraphrased in the popular Scottish rhyme:—

“If Candlemas-day be dry and fair,
“The half o’ winter is to come and mair;
“If Candlemas-day be wet and foul,
“The half o’ winter’s gane at Yule.”

Now, last Candlemas-day (February 2) was a remarkably fine day in London, and, as far as I can ascertain, much about the same throughout the country. I noted it at the time with the view of verification.

In Germany there are two proverbial expressions on this subject:—1. The shepherd would rather see the wolf enter his stable on Candlemas-day than the Sun. 2. The badger peeps out of his hole on Candlemas-day, and when he finds snow, walks abroad; but if he sees the sun shining, he draws back into his hole.

It has been deemed not improbable that these notions—like the festival of Candlemas itself—are derived from Pagan times, and have existed since the infancy of our race.

Forster, a very patient and accurate observer, states that he has “noticed this to be a critical time of the year with respect to the weather, and that, when mild and wet, winter is actually gone, and we may calculate on no more frost, quoting another version of the proverb:—

“If Candlemas-day be fair and bright,
“Winter will have another flight;
“But if Candlemas-day bring clouds and rain,
“Winter is gone and will not come again.”

Probably Candlemas-day was only the prominent day selected to fix the characteristic of the period, extending back to the 23d of January, by which time the utmost rigour of frost is usually expended, followed by westerly gales, “mild and wet”—in countries where the seasons are more regular than in England. Fine and frosty weather at the period would, therefore, indicate a continuance of wintry weather. I remain, Sir, yours obediently,

March 14.

A. S.

Letters to the editor, 16/03/1867

Appendix L – DISEASE and INFECT in general use

This appendix shows statistical information for the corpus queries *infect** and *diseas** from LANCASTER1931, LOB, FLOB, and BE06 corpora, which demonstrate that the diachronic trends I identified in the badger data are largely independent from general use.

	LANCASTER1931		LOB 1961		F-LOB 1991		BE2006	
	Frequency (texts)	Normalised per million words	Frequency (texts)	Normalised per million words	Frequency (texts)	Normalised per million words	Frequency (texts)	Normalised per million words
<i>diseas*</i>	143 (34)	122.99	48 (29)	42.03	105 (35)	91.87	107 (43)	93.28
<i>infect*</i>	58 (26)	49.88	21 (13)	18.39	91 (19)	79.62	51 (21)	44.46

The frequency of *diseas** in Lancaster1931 and F-LOB is particularly high due to limited distribution across texts (a small number of texts contain several instances). Legitimately high frequencies in general usage are *diseas** in BE2006, and *infect** in F-LOB, both of which compare with declining or zero frequency at their equivalent times in the badger corpus.

INFECT LANCASTER 1931		DISEASE LANCASTER 1931	
v	7	v	0
adj	19	adj	12
n	31	n	130
adv	1	adv	0
INFECT LOB 1961		DISEASE LOB 1961	
v	2	v	0
adj	11	adj	2
n	8	n	36
adv	0	adv	0
INFECT F-LOB 1991		DISEASE FLOB 1991	
v	8	v	0
adj	27	adj	1
n	54	n	104
adv	0	adv	0
INFECT BE 2006		DISEASE BE2006	
v	4	v	0
adj	14	adj	1
n	33	n	106
adv	0	adv	0

Appendix M – Badger blame clusters extended table

This table shows all results from the CO and CB analyses that indicate badger responsibility for bTB, categorised by strength of blame.

Info	Extract	Date
Badgers as a possible or partial cause of bTB.	Work by government researchers shows that there are still uncertainties about the disease which badgers are thought to pass on to cattle. Ministers use the evidence of infection to defend their campaign of containing the disease by killing badgers with poison gas.	B4
Badgers as a possible or partial cause of bTB.	a source of disease	B4
Badgers as a possible or partial cause of bTB.	the role	B4
Badgers as a possible or partial cause of bTB.	Hugh Oliver-Bellasis, a Hampshire farmer who chaired the working party that produced the report, said: "We are convinced that badgers are implicated in the spread of the disease, which causes severe financial loss.	B5
Badgers as a possible or partial cause of bTB.	first identified as a possible cause	B6
Badgers as a possible or partial cause of bTB.	a cause	B6
Badgers as a possible or partial cause of bTB.	not alone [in carrying TB]	B6
Badgers as a possible or partial cause of bTB.	one, but only one, of the ways in which the disease can be spread	B6
Badgers as carriers of or infected with bTB.	Learned people had become almost certain that the cause of this repeated infection was that a certain strain of badger was a carrier and infected cattle	B4
Badgers as carriers of or infected with bTB.	already infected	B4
Badgers as carriers of or infected with bTB.	infected	B4
Badgers as carriers of or infected with bTB.	found to have TB	B5
Badgers as carriers of or infected with bTB.	carrying TB (The Ministry of Agriculture admitted that tests had yet to prove the badgers were carrying TB)	B5
Badgers as carriers of or infected with bTB.	It has long been believed — but never proven — that badgers are carriers of bovine tuberculosis.	B6
Badgers as carriers of or infected with bTB.	known carriers (Since badgers are known carriers and their numbers have soared, farmers naturally put two and two together.)	B6
Badgers as carriers of or infected with bTB.	found to be severely infected	B6
Badgers as the sole/main cause of bTB	the cause of cattle disease (Despite this evidence, the ministry persists in its belief that the badger is the cause of cattle disease and claims that it has the approval of the consultative committee and the Nature Conservancy.)	B4
Badgers as the sole/main cause of bTB	the main cause of the disease (The gassing of badgers was resumed on government orders almost a year ago after Lord Zuckerman, president of the Zoological Society of London, had reported to ministers that the badger was the main cause of the disease in cattle.)	B4
Badgers as the sole/main cause of bTB	responsible for the spread of tuberculosis	B4
Badgers as the sole/main cause of bTB	the main source of tuberculosis	B4
Badgers as the sole/main cause of bTB	by far the main source among wild and stray animals for passing bovine tuberculosis to cattle	B4
Badgers as the sole/main cause of bTB	the source of tuberculosis in cattle	B4

Badgers as the sole/main cause of bTB	the source of tuberculosis in cattle	B4
Badgers as the sole/main cause of bTB	definitely the source	B4
Badgers as the sole/main cause of bTB	passing on bovine tuberculosis	B4
Badgers as the sole/main cause of bTB	almost the only animals found with bovine tuberculosis	B4
Badgers as the sole/main cause of bTB	responsible,	B5
Badgers as the sole/main cause of bTB	a significant cause of TB in cattle	B6
Badgers as the sole/main cause of bTB	the main cause of the disease	B6
Badgers as the sole/main cause of bTB	the cause of disease	B6
Badgers as the sole/main cause of bTB	the prime remaining reservoir of bovine tuberculosis	B6
Badgers as the sole/main cause of bTB	a significant source of infection	B6
Badgers as the sole/main cause of bTB	a significant source of TB in cattle	B6
Badgers as the sole/main cause of bTB	a significant source of infection	B6
Badgers as the sole/main cause of bTB	a significant part of the problem	B6
Badgers as the sole/main cause of bTB	responsible	B6
Badgers as the sole/main cause of bTB	badgers are being blamed for a new case of bovine TB	B6
In defence of badgers; not at fault.	the cause	B4
In defence of badgers; not at fault.	There was still doubt whether the badger was the culprit and it would be better to test live badgers before instead of after killing the animals.	B4
In defence of badgers; not at fault.	seen as a threat to livestock	B4
In defence of badgers; not at fault.	Mr Walker ordered resumption of gassing after almost a year's suspension so that Lord Zuckerman could investigate complaints from naturalists that the badger was being blamed unjustly for infecting cattle.	B4
In defence of badgers; not at fault.	the real cause (I came away totally unconvinced that badgers were the real cause)	B6
In defence of badgers; not at fault.	the cause of the spread of the disease (David Drew, the Labour/Co-op MP for Stroud, who chaired the committee sub-group that produced the unanimous report, said: "We felt very strongly from the evidence that there was no proof that badgers were the cause of the spread of the disease.)	B6
In defence of badgers; not at fault.	not the cause of TB	B6
In defence of badgers; not at fault.	not to blame for bovine TB	B6

Appendix N – Killing of tubercular badgers by gas is to be resumed full text

HOME NEWS

Killing of tubercular badgers by gas is to be resumed

By Hugh Clayton
Agriculture Correspondent

The killing of diseased badgers with cyanide gas must be resumed as soon as possible, the Government announced yesterday. It decided to act after receiving a warning that tuberculosis in badgers could spread to humans.

The warning appeared in a report commissioned by Mr Peter Walker, Minister of Agriculture, Fisheries and Food, from Lord Zuckerman, OM, FRS, the former chief scientific adviser to the government, who is president of the Zoological Society of London.

"The human risk is enormously important", Lord Zuckerman said at a press conference in London yesterday. He knew of no case in which the disease had been transferred from a badger to man. "But without doubt it could happen. Any creature that gets tuberculosis the way the badger gets it could cross-infect a human being."

The government decided yesterday to accept all of his suggestions for improving the campaign to reduce tuberculosis among badgers by killing infected animals. The campaign was suspended a year ago after protests by animal welfare campaigners.

It will resume in south-west England where the disease has reached serious levels among badgers. The campaign began in the 1970s when the Government became convinced that badgers were the source of tuberculosis in cattle.

Last year it was suspended

for Lord Zuckerman to decide whether the campaigners were right in claiming that badgers had not been shown to be the source of the disease in cattle.

He said in his report that badgers were definitely the source and defended ministry staff in the west of England who have been criticized in recent years by animal welfare groups. "Ministry scientists are to be commended for having set about their work in the way of all good and experienced scientists", Lord Zuckerman added.

The Government has accepted Lord Zuckerman's plea for staff at the Chemical Defence Establishment at Porton Down, Wiltshire, to investigate better gassing methods. "We should, if possible, discover a better way of disseminating cyanide gas throughout the tunnels and chambers of a set than by blowing in particles of cyanide preparations, as at present".

One in four badgers in some areas in the South-west had the disease. If diseased animals were not eliminated the entire British badger population, hundreds of thousands of animals, could become extinct.

People who found dead badgers anywhere in the country should tell local ministry staff so that the carcass could be tested for the disease. Lord Zuckerman said he was worried about the keeping of badgers as pets.

Mr Walker asked farmers not to kill suspected badgers. He said that the ministry would review its policy on badger disease in three years.

Leading article, page 13

Appendix O – STRAIN as a disease metaphor: evidence from a reference corpus

Of 50 concordance lines for "strain of", ten percent relates to viruses (e.g. a, b, and c below) and ten percent relates to varieties of plants and parasites (e.g. d, e, and f] below); the vast majority of senses would not be relevant in the context of the badger extract⁵⁶ so these were dismissed as possible interpretations.

Virus sense of *strain*

*(a) There was a nasty **strain** of it [gastric flu] doing the rounds*

*(b) one **strain** of an HIV-like virus*

*(c) like other **strains** of flu, there is no known cure*

Variety sense of *strain*

*(d) disease resistant **strains** of fruits and crops*

*(e) which **strain** of millet can withstand the intense heat*

*(f) a new **strain** of trichinae, microscopic creatures parasitic upon the bodies of human beings*

Extracts from the BNC query "strains of" (1985 - 1993)

⁵⁶ For example, music and sound (e.g. "deafening strains of 'Bye Bye Blackbird' burst from the speakers"); social/political movements (e.g. "strain of anti-Americanism in the Soviet army"); and stress/burden ("stresses and strains of public life"; "big banks will be taking the strains of the smaller ones").

Extract			Context
the stars soon lost their sheen and went out as the first	strain of	light eased away the darkness.	light
without any explanation the screen darkens and the deafening	strains of	'Bye Bye Blackbird' burst from the speakers.	music
his feet eager to practise some passion as the	strains of	'La Paloma' came throbbing out of the music box.	music
In Chicago, an annual chipping ceremony is held to the	strains of	'O Christmas Tree, O Christmas Tree.' Creditors'	music
Presently the Watling Street Guard came over the hill to the	strains of	'Viva España' and soon we were all singing away.	music
their pleasingly plump girlfriends boogie decorously to the	strains of	a bored rock trio. I'm not here to dance,	music
and nothing is secret.' The group laughed as the first	strains of	a Hungarian pop group wailed from the hall. 'Shall we	music
. Only then did she let herself watch the clock to the	strains of	Beethoven's Apassionata. Oh, to live abroad! But	music
in the morning I was fighting to keep awake. With the	strain of	listening for the slightest sound a desperate	music
burst into a thundering shout; the orchestra pealed forth the	strains of	the Hallelujah Chorus; the wheels of the great Ellis	music
bottle of sake, 'Mozart K.001', fermented to the	strains of	the master's music; the other is an unfinished	music
overwhelmingly to drop 'Workers' from their title. As the	strains of	the national anthem filled the hall, the editors of the	music
particles. Soviet hawks fly again THE Gulf war has revived a	strain of	anti-Americanism in the Soviet army, dressed up as	social/political movement
fail to acknowledge their point of contact with a different	strain of	Conservatism, namely the common conception of	social/political movement
right kind of knowledge,' he liked to say. A	strain of	independent socialist thinking runs through his	social/political movement
— — you are, after all, suffering most of the	strains of	downhill skiing and for longer at a stretch — but	stress/burden physical
Rodda in Las Vegas predicts that Ray Leonard will feel the	strain of	the advancing years more than his rival in tonight's	stress/burden physical
cattle, listening to their soft thud in the mud and the	straining of	the horse as his hooves sucked and sank, the cattle	stress/burden physical
rounds at 'stand-to'. As the days dragged on the	strain of	continually living in front-line positions began to show in the faces of	stress/burden war
external difficulties as the economy tried to recover from the	strains of	the war; balance-of-payments crises of a severe	stress/burden war
, putting further pressure on their ability to cope with the	strains of	growth. The extent to which the sector as a whole	stress/burden
difficulty well enough,' he said. 'It is the	strain of	living alone with someone who is no longer predictable. But it	stress/burden
[who] had reached breaking point under the continuing	strain of	looking after wives with severe mental or physical	stress/burden
federation council — the first step towards wider talks. The	strain of	Spain FROM OUR SPECIAL CORRESPONDENT IN	stress/burden
But while it happens, the big banks will be taking the	strain of	the smaller ones. They cannot at the same time	stress/burden
their potential. They are also vulnerable to the stresses and	strains of	a larger cosmic struggle and can become casualties	stress/burden
caused by the constant lack of sleep and the	strain of	being on the alert all the time. 'Do I look	stress/burden
felt that he had released Vivienne from the	strain of	being with him. He too had time to think and to	stress/burden
Beeson, who has been showing the	strain of	captaincy, secured his third carefully crafted win by	stress/burden
into a musing in the outfield. 'I had a curious	strain of	not attending to things which failed to grip	stress/burden
A year ago he was in Arizona showing the	strain of	preparing to face Tyson in Las Vegas;	stress/burden
individuals who can cope with the stresses and	strains of	public life, domestic pressures, and	stress/burden
make them better places to be. While that particular	strain of	thinking was busy degenerating into New Pop,	stress/burden
, how to manage tiring tours and how to cope with the	strains of	travel. He has helped her with her public speaking,	stress/burden
Havel's talent had begun to be affected by the nervous	strain of	writing under surveillance and of not having seen any of his work	stress/burden
to protect children from poverty, AFDC has eased the financial	strain of	raising children alone; so more women do so. His	stress/burden
room with several others; marriages broken up through the	strain of	sharing a home or making do in cramped and	stress/burden
year. 'My schedule has been wrong. After all the	strain of	the Ryder Cup I feel even more tired. I haven't	stress/burden

for the normal tasks of the council and technical business.'	Strains of	that thinking can be seen today in France's wish	thinking
a chosen few, a very few. There appeared a new	strain of	trichinae, microscopic creatures parasitic upon the	variety parasite
fruit and nuts successfully in temperatures of 46 ° C and new	strains of	drought and heat-resistant crops will no doubt be	variety plant
medicines, natural drugs and chemicals, new disease resistant	strains of	fruits and crops. Throwing them away is sheer folly.	variety plant
on the Cardigan Bay coast are under way to find which	strain of	millet can best withstand the intense heat. From more than 80	variety plant
immunised eight of nine monkeys against infection with one	strain of	an HIV-like virus. Dr David Tyrell, a scientist	variety virus
of chestiness, weakness, fever and aching limbs. Like other	strains of	flu, there is no known cure. A Department of Health	variety virus
strains is essential, because humans can be infected by many	strains of	HIV. In addition, a chemically inactivated virus is	variety virus
Perhaps it was just gastric flu. There was a nasty	strain of	it doing the rounds at the moment, and she didn't	variety virus
no studies have been carried out. There are more than 2,000	strains of	salmonella. The best known — because of their	variety virus
them. Can there be, Berkeley asks, 'a nicer	strain of	abstraction than to distinguish the existence of	variety

Appendix P – Badgered by this deadly infection full text

Badgered by this deadly infection

There is no doubt that badgers with TB can pass it on to cattle. The only solution is to cull them, says **James Allcock**

I was on a wet and horrible Friday last month that the slaughter happened. "The worst day I can remember," says Sarah Pain. "The family had spent 40 years building up that herd. Those 40 years were wiped out when the cows were killed."

Tim and Sarah Pain, who farm in Gloucestershire, lost their entire herd of around 80 dairy cows on January 8, slaughtered because they were infected with tuberculosis. "The worst bit was seeing our favourite two, Ginger and Hornblower, going up the ramp into the lorry," says Pain. "You could see the fear in their eyes. They knew what was going on; they could smell it."

Pain and her family had to be tested for tuberculosis — the bovine strain of the disease can pass to humans. They tested negative but she blames disease-ridden badgers for infecting her cattle and says badger culling is the only way to stop such slaughter. But culling is a political hot potato. Badgers have highly skilled PR agents — not the least of whom was Kenneth Grahame: "Dear old Badger," exclaimed Ratty at the start of *The Wind in the Willows*. "Nobody interferes with him... They'd better not."

The Government certainly does not want to interfere, despite overwhelming circumstantial evidence that badgers do carry infection and pass it on to cattle.

Cattle are regularly tested for tuberculosis and the first evidence came in 1971, when a dead badger

was found to be severely infected with the disease on a Gloucestershire farm where TB cattle were discovered during a routine test. Further investigations found that 20 per cent of the badgers in this part of the country were infected.

In 1975 abnormal numbers of "reactors" — cows which react positively to a tuberculin test — were found in a part of Dorset where TB was present in large numbers of badgers. All badgers in an area of 1,200 hectares around these farms were trapped or gassed. One year later the cattle were clean. No reactors were found. A similar cull took place in part of the Severn Vale and TB almost disappeared from cattle for ten years.

I was a member of the minister's consultative panel on badgers and tuberculosis for some years in the early 1980s. Little has changed. We knew then that large-scale culling of infected badgers reduced infection in cattle.

During the 1990s, badger control measures were applied only half-heartedly. This softly-softly approach did not work. In 1990, 143 herds were infected with TB. In 1997, it was 515. In the past two years, TB cattle and badgers have been discovered in Staffordshire, Cheshire, Shropshire, Derbyshire and Nottinghamshire — counties which had been almost free from infection for more than a decade.

When on the consultative panel, we were often asked what would be the effect of doing nothing to control TB in badgers — and were



Badgers: loved in children's literature but loathed by farmers

sometimes told that infection would not spread. We know the answer now. Half-hearted culls followed by two years of "do nothing" have led to a fourfold increase in the outbreaks of TB in cattle — many in areas which were previously clean.

There have been three inquiries by eminent scientists. Lord Zuckerman in 1979, Professor Dunnet in 1984 and Professor Krebs in January 1998. Zuckermann observed that 300,000 tubercle bacilli are present in 1cc of urine from an infected badger. One mouthful of grass can supply an infective dose.

Some infection passes from cow to cow, but diseased badgers appear to be the more important source. A few enthusiasts continue to assert that there is no proof of badger-cattle transmission. No one has seen *Mycobacterium bovis* jump from a badger's urine or sputum from the pasture into a cow, but in every other way the evidence is overwhelming.

The evidence is much more con-

vincing than the relationship between BSE and new-variant CJD which has justified the slaughter of more than two million cattle. By comparison the TB badger-cattle link is a certainty. "Veterinary opinion accepts that badgers can and do contract bovine tuberculosis which they can transmit to cattle. The veterinarians' view is that badgers are the prime remaining reservoir of bovine tuberculosis," said the Dunnet report in March 1986.

Professor Krebs's report in January 1998 finds the evidence suggesting that badgers are a significant cause of TB in cattle "compelling". It suggests a large-scale experiment to ascertain what would happen if infected badgers are removed in some places, left alone in others and whether cattle infections develop where badgers are free from TB. A year has passed and the experiment has hardly started; it will stop soon for two months so lactating

sow badgers are not killed, thus depriving their youngsters of milk.

We do not need an experiment; we need practical action to eliminate TB from badgers and cattle.

Disease control is a prerequisite of animal welfare. Unhealthy animals are disadvantaged and disease may cause suffering. A basic principle of disease control is to remove the source of infection. That is sound veterinary advice. But the Badgers Act prohibits any interference with the animals.

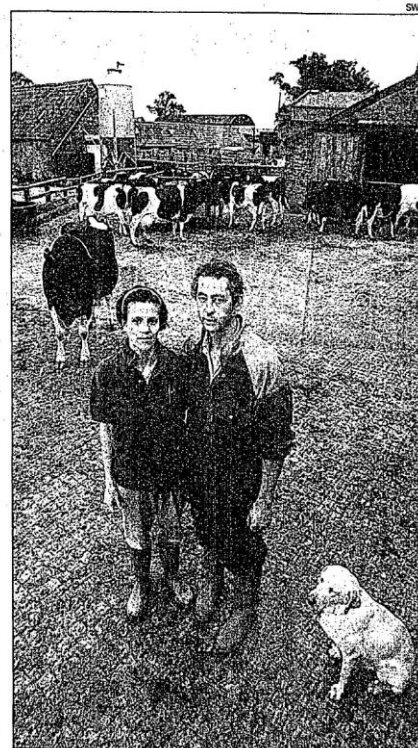
What does the farmer — now expected to stand on his own feet — do? How will the new Food Standards Agency react when it finds diseased badgers sharing the pastures with cows? Whenever badger infection is established on "reactor" farms, every effort should be made to remove all badgers from that area. There should be no moratorium in springtime.

Rats and rabbits are trapped, poisoned and gassed throughout the year. Their unweaned offspring suffer no less than suckling badger cubs. This week we hear that £800,000 is to be spent on shooting healthy ruddy ducks to maintain the purity of a white ducks' lineage. Orwell was right: some animals are much more equal than others.

Professor Harris of Bristol University, a badger expert, has long suggested "pro-active" culling. It means selecting fairly large areas where there is known to be a high badger population with a large number of TB badgers and where cattle infections are above normal.

Without action now, TB will spread and more badgers will have to be killed in the long term — or to be killed in the long term — or to be killed in the long term. More cattle will be slaughtered unnecessarily and there is a real possibility of infection among our farming families.

Lucy Pinney will be back next week



Sarah and Tim Pain had 80 dairy cattle slaughtered because of TB

Appendix Q – All harm and killing findings from corpus analysis

Corpus	Result	Analysis	Period
Squirrel	battue-shooting	CO (red)	S3
	exterminated	CB (grey)	S3
	extermination (x2)	CO (grey)	S3
	control	CB (grey)	S4
	destruction (x2)	CO (grey)	S4
	kept in check	CB (grey)	S4
	killed	DK	S4
	killed (historical)	CB (red)	S4
	killed (x4)	CB (grey)	S4
	poisoned	CB (grey)	S4
	the solution	CO (grey)	S4
	control	DC (grey)	S5
	destruction	CO (grey)	S5
	shooting	DK	S5
	control	DC (grey)	S6
	controlled	CO (grey)	S6
cull	DC (grey)	S6	
Badger	kill	DC	B3
	shot (x3)	CB	B3
	?trap	CB	B3
	destruction	CO	B4
	digging	DC	B4
	elimination	CO	B4
	excluded	CB	B4
	exterminated	CB	B4
	gassed	CB	B4
	gassing	DK	B4
	gassing	DC	B4
	hunted	CO	B4
	killed	CB	B4
	killed (x2)	CB	B4
	killing	DC	B4
	killing	CO	B4
	shot	CB	B4
	taken out (disease)	CB	B4
	baited to death	CB	B5
	baiting	DC	B5
	culled	CB	B5
	hunt	DK	B5
	hunt	DK	B5
	killed	DC	B5
	killed (x7)	CB	B5
	shot, stabbed and torn to pieces	CB	B5
	baited (x2)	CB	B6
	control	CO	B6
	cull	DK	B6
	cull	DC	B6
	culled	CB	B6
	culled (x2)	CB	B6
	culling	DK	B6
culling	DC	B6	
eradication	CO	B6	
gassed	CB	B6	

	hunted	CB	B6
	killed	DC	B6
	killed (x7)	CB	B6
	put down	CB	B6
	run over	CB	B6
	shot	CB	B6
	slaughtered (x2)	CB	B6
	baiting	KC	N/A
	digging	KC	N/A
	gassing	KC	N/A
	hunt	KC	N/A
	hunting	KC	N/A
Hedgehog	found dead [having been strychnined]	CB	H2
	killed	DC	H2
	run over	CB	H2
	cull	DK	H4
	cull	DC	H4
	dispatched	CB	H4
	given [...] a lethal injection	CB	H4
	killed (x4)	CB	H4
	squashed beneath car wheels	CB	H4

Appendix R – Extracts showing agents of badger control for bTB purposes

This table contains details of all instances of functionalised agents and organisation-for-members metonymy in badger control for bTB purposes from the qualitative analysis of KILL concordance lines.

Extract	Date
Further investigations were made on badgers found dead or killed by local farmers	11/07/1973
Any "authorized person" , including the owner or occupier of the land on which badgers are found, or any person to whom he gives permission, may at any time kill a badger without having to produce any special reason for so doing, and without needing any licence.	27/03/1974
The Government sought powers yesterday to kill disease-carrying badgers in north Avon and	03/02/1975
Government scientists will soon start killing badgers in the Ipstones area of north Staffordshire, where they are suspected of infecting cattle with tuberculosis.	15/06/1982
The group [<i>Dartmoor Badger Protection League</i>] seeks to halt the trapping and killing of the animals by the Ministry of Agriculture	07/08/1984
Campaign opens to stop ministry killing badgers	07/08/1984
Post-mortem tests have found no trace of disease in any of the animals which were killed by ministry officials after an outbreak of TB in the Prince's herd of 140 Aberdeen Angus.	05/10/1994
we are not going to allow MAFF [the Agriculture Ministry] to continue this killing of badgers that has been going on	05/05/1999
The BBC film also suggests that some farmers are killing badgers illegally to protect their herds	05/05/1999
The disease has continued to spread even though farmers whose herds have been infected are licensed to kill all badgers on their land.	05/05/1999
Contrary to your leader, farmers with TB-infected herds are not licensed to kill all badgers on their land.	10/05/1999
the Government has waived its own law in order to carry out an experiment in badger-killing	21/11/2000
they [the Ministry of Agriculture] really should not be killing them this month, putting cubs at risk of losing their mother.	10/01/2001

Appendix S – Lethal injection evidence from a reference corpus

This table shows concordance lines for all 15 instances of “lethal injection” in the BNC. Of these, 14 are about humans, (at least) six of which are about execution. A further five are about assisted dying or human euthanasia. The remaining instances relate to attempted murder, a literary simile, and one unclear context.

	Concordance		Context
steely horror chilling the bloodstream as if from a execution , whose ugliness prompted calls for decent'	lethal injection	— he had left them in the stolen mini. He sat	human - simile
Dodd 's mother said : ' I wish he would choose a	lethal injection	' , it did n't work like that. The judicial system	human - execution
Dr Cox , 47 , who gave a dying patient a	lethal injection	. ' Boss quits in neo-Nazi row A TOP boss of the	human - execution
Dr Nigel Cox , who gave the terminally ill woman a farewell to his fiancée in Britain before being given a	lethal injection	, would not name the hospital yesterday. ' It 's not	human - assisted dying
I read about the ordeal of Dr Nigel Cox who gave a	lethal injection	, has accepted an offer from bosses to go back under	human - assisted dying
Crown Court heard how father-of-two Dr Cox gave a	lethal injection	yesterday. Jeffery Griffin , the 53rd person executed in	human - execution
lame and tired it should be taken down the vets for a	lethal injection	to a suffering patient. Dr Cox was given a 12-month	human - assisted dying
his final appeals and Pinkerton was executed by	lethal injection	to arthritis sufferer Lillian Boyes , 70 , after she begged	human - assisted dying
hurt. ' I meant what I said. Give him a	lethal injection	. And there is an A&R man at EMI who is still	music - metaphorical animal euthanasia
convicted of attempted murder for administering a	lethal injection	. James Terry Roach , electrocuted in South Carolina in	human - execution
switch its method of execution from gas chamber to	lethal injection	. That is an order. I 'll wait in your office	human - unclear
man , who was not suffering , was killed with a	lethal injection	of potassium chloride to a patient in intractable pain	human - attempted murder
murder and terrorist bombers to be given a	lethal injection	. Transitional team — Meeting with Bush Clinton	human - execution
		, in part because of his poor quality of life. Whatever	human - euthanasia
		. Society is better off without them. Remember the	human - execution

Appendix T – Mediation in badger and hedgehog control

Corpus	Focus	Extract	Date
Hedgehog	Lethal injection	MASS extermination of up to 5,000 hedgehogs by lethal injection will begin next spring in the Western Isles to protect one of the world's most important colonies of wading birds.	18/12/2002
Hedgehog	Lethal injection	The hedgehogs will be trapped when they come out of hibernation at the end of April and will be given a lethal injection under anaesthetic.	18/12/2002
Hedgehog	Lethal injection	Their evacuation came ten days before the start of a programme of killing of hedgehogs by lethal injection in an effort to protect populations of rare wading birds.	29/03/2003
Hedgehog	Lethal injection—SNH direct agent	Scottish National Heritage hopes to kill 200 of the creatures there by lethal injection in an effort to protect local birdlife.	01/04/2003
Hedgehog	Lethal injection	The rescuers claimed to have saved 150 hedgehogs, compared with the 66 animals killed on North Uist by lethal injection during the six-week cull last April and May which cost £26,000.	29/03/2004
Hedgehog	Lethal injection	A Scarlet Pimpernel is stalking the Western Isles of Scotland. The recipients of his heroism? Not doomed aristocrats but hedgehogs destined to be put down by lethal injection .	07/05/2005
Hedgehog	Lethal injection	Captured hedgehogs are given an anaesthetic and a lethal injection .	07/05/2005
Hedgehog	Lethal injection	The hedgehogs were dispatched by lethal injection .	30/06/2005
Hedgehog	Lethal injection	The small mammals, about 9in (23cm) long, have been culled as a pest by lethal injection on North Uist and Benbecula for the past three years after being caught by hand at night with spotlamps.	19/08/2005
Hedgehog	Lethal injection	ministers insisted that the law, which states that dogs can be used only to flush out wild animals to waiting guns or birds of prey, must be followed. There is no provision for use of lethal injection .	19/08/2005
Hedgehog	Lethal injection	Yesterday, the Scottish Society for the Prevention of Cruelty to Animals said that under the law, hedgehogs had to be shot if dogs were used to flush them out, but it would still recommend their human destruction by lethal injection .	19/08/2005
Badger	Gas	MR COPE (South Gloucestershire, C) moved an amendment to ensure that the ministry was empowered to license killing only by means of cyanide gas .	19/04/1975
Badger	Gas	The killing of diseased badgers with cyanide gas must be resumed as soon as possible, the Government announced yesterday.	31/10/1980
Badger	Gas	Killing of tubercular badgers by gas is to be resumed	31/10/1980
Badger	Gas	The ministry said that its scientists had tested more than 7,500 dead animals for the disease in the 10 years to the end of 1980. All except badgers killed by gas had been found dead either by members of the public or ministry field staff.	15/09/1981
Badger	Gas	Ministers use the evidence of infection to defend their campaign of containing the disease by killing badgers with poison gas .	11/02/1982