Acts of Killing, Acts of Meaning: An Application of Corpus Pattern Analysis to Language of Animal-Killing

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For Lili and Louis

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.

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Abstract

We are currently witnessing unprecedented levels of ecological destruction and violence visited upon nonhumans. Study of the more-than-human world is now being enthusiastically taken up across a range of disciplines, in what has been called the ‘scholarly animal turn’. This thesis brings together concerns of Critical Animal Studies – along with related threads of posthumanism and new materialist thinking – and Corpus Linguistics, specifically Corpus Pattern Analysis (CPA), to produce a data-driven, lexicocentric study of the discourse of animal-killing. CPA, which has been employed predominantly in corpus lexicography, provides a robust and empirically well-founded basis for the analysis of verbs. Verbs are chosen as they act as the pivot of a clause; analysing them also uncovers their arguments – in this case, participants in material-discursive ‘killing’ events. This project analyses 15 ‘killing’ verbs using CPA as a basis, in what I term a corpus-lexicographical discourse analysis. The data is sampled from an animal-themed corpus of around 9 million words of contemporary British English, and the British National Corpus is used for reference.

The findings are both methodological and substantive. CPA is found to be a reliable empirical starting point for discourse analysis, and the lexicographical practice of establishing linguistic ‘norms’ is critical to the identification of anomalous uses. The thesis presents evidence of anthropocentrism inherent in the English lexicon, and demonstrates several ways in which distance is created between participants of ‘killing’ constructions. The analysis also reveals specific ways that verbs can obfuscate, deontologise and deindividualise their arguments. The recommendations, for discourse analysts, include the adoption of CPA and a critical analysis of its resulting patterns in order to demonstrate the precise mechanisms by which verb use can either oppress or empower individuals. Social justice advocates are also alerted to potentially harmful language that might undermine their cause.

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List of Acronyms and Abbreviations

AN	Agent Number
ANT	Actor-Network Theory
ARD	Agent Referential Distance
BNC	British National Corpus
CADA	Corpus-Assisted Discourse Analysis
CAS	Critical Animal Studies
CDA	Critical Discourse Analysis
CDS	Critical Discourse Studies
CG	Construction Grammar
CLAWS	Constituent Likelihood Automatic Word-Tagging System
COBUILD	Collins Birmingham University International Language Database
Col.	Collective noun
CPA	Corpus Pattern Analysis
CPAO	CPA Ontology
DVC	Disambiguation of Verbs by Collocation
HAS	Human-Animal Studies
In.	Individual, i.e. singular
KVD	Killing Verb Dataset
KWIC	Key Word in Context
MN	Mass Noun
MO	Mass Observation
NF	(of a reference) Not Found
NLP	Natural Language Processing
NS	(of plurality) Not Specified
OD	Oxford Dictionaries
OED	Oxford English Dictionary
OOO	Object-Oriented Ontology

PDEV	Pattern Dictionary of English Verbs
PKO	PPPP Killing Ontology
Pl.	Plural
PN	Patient Number
POS	Part of Speech
PPPP	‘People’, ‘Products’, ‘Pests’ and ‘Pets’
PRD	Patient Referential Distance
PV	Phrasal Verb
RD	Referential Distance
SPOCA	Subject, Predicator, Object, Complement, Adverbial
ST	Semantic Type
TNE	Theory of Norms and Exploitations
WASK	Welfare of Animals (Slaughter or Killing) [Regulations]
WATOK	Welfare of Animals at the Time of Killing [Regulations]

List of Appendices

1 Introduction

> *I want to make this clear from the start–I* **DO NOT** *kill, slaughter, butcher or murder my calves…they are* **harvested.** *Just like other farmers, I'm raising a crop destined to provide sustenance for human consumers*.

S. K. Miller, *On Pasture* (2013)

1.1 Context

The relationship between humans and the rest of the world is, to put it mildly, strained. Environmental degradation, climate breakdown, mass extinction and loss of biodiversity are just some of the global crises widely attributed to human activity, and they are accelerating at an alarming rate. So rapidly is the Earth changing that it is said to have now entered a new geological epoch, commonly termed 'the Anthropocene' (Steffen et al., 2011), so named because of its association with damaging human behaviour. At the time of writing, we are warned that there are just 11 years left to act if we are to avoid an irreversible climate catastrophe (IPCC, 2018), and an enormous amount of energy is being expended on averting this outcome.

Long recognised by ecologists, feminists and philosophers, and now suddenly much more urgent, is the need for critical reflection on how humans exist within a more-than-human world. With the rise of capitalism and neoliberalism has come a global intensifying of violence and consumption, and a rendering of all life, especially that of nonhumans, dispensable (Braidotti, 2013). Capitalist growth and its disregard for life is considered so central to the environmental crisis that some scholars have called for the term 'Anthropocene' to be replaced with 'Capitalocene' (Moore, 2016). Currently bound up in an industrial complex of killing are some tens of billions of land animals worldwide, their deaths construed not as acts of violence but as standard processes in food production for the purposes of human consumption. For marine animals, the numbers are in the trillions.

The quotation at the start of this chapter therefore represents a problem, in both senses of the word. Firstly, it is a problem in that it clearly represents a denial of the nature of animal lives as well as a prioritising of human consumption – two arguably harmful ideas in the context of an ecological crisis augmented by capitalism. From the perspective of human-animal relations, this is indicative of a generalised attitude of human entitlement to animals' bodies, in spite of the suffering that this is known to cause them. The representation of animals as anything other than the sentient individuals they are constitutes a form of ontological violence. Secondly, the quotation is a problem in the sense that it is a puzzle. How do 'killing' terms like *kill*, *slaughter*, *butcher* and *harvest* affect the construal of their arguments? What exactly is it about these terms that makes them different from one another? While human-animal relations are the subject of growing scholarly interest, and analyses of the discursive representations of power abuses are commonplace in Critical Discourse Studies, there is currently no work that takes a systematic, empirical approach to the analysis of 'killing' terms and how their meanings change when applied to different entities. In order to be able to comment authoritatively on the nature of word meanings, we need a robust methodological framework that is suited to profiling lexical items, in this case verbs, as well as access to a sufficient amount of appropriate linguistic data.

1.2 What Is This Thesis (Not) About?

This thesis takes an empirical approach to the study of 'killing' verbs in contemporary British English, with a particular focus on how those verbs, or terms, are applied to animals. It seeks to comment not only on the way killing is written and spoken about, and what this might say about attitudes towards animals, but also on the suitability of a corpus-lexicographical approach to discourse analysis. Hanks' (2013) Corpus Pattern Analysis (CPA), a relatively new technique in corpus lexicography, is trialled in this project as an empirical basis for discourse analysis on the grounds that it has a successful track record of producing data-driven lexicographical entries for verbs (namely in the *Pattern Dictionary of English Verbs*[1]). Verbs are especially fruitful areas of investigation; to analyse a verb is to uncover its arguments, in this case killers and those who are killed. Fifteen 'killing' verbs are selected as candidates for analysis based on principled selection

[1] http://pdev.org.uk/#browse?q=;f=C

criteria, and their CPA-derived patterns are examined critically in light of the literature surveyed.

The thesis relies solely on corpora for data, namely an animal-themed corpus created as part of the *'People', 'Products', 'Pests' and 'Pets'* project[2], and the original British National Corpus, used as a reference corpus. The project does not utilise other forms of linguistic data such as surveys or specially-designed interviews, and it does not draw on psycholinguistics or cognitive linguistics to attempt to explain the psychological mechanisms behind certain language choices. While the project utilises some lexicographical methods, and shares some common concerns with Critical Lexicography, it is not a lexicographical project. Instead, it seeks to investigate the feasibility of CPA as a supplement to current (critical) discourse analytical methods.

1.3 Research Questions

The research is predominantly guided by the following overarching research question:

RQ1. What can a discourse analysis assisted by Corpus Pattern Analysis (CPA) reveal about the 'killing' verbs selected in relation to the key themes identified in the literature?

This question reflects the simultaneously methodological and substantive nature of the project, and entails a critical appraisal of CPA as much as the patterns it identifies. Supplementing this question are the following sub-questions:

RQ2. How is the involvement in acts of killing, of humans and nonhumans respectively, typically represented in the extracts of discourse analysed?

RQ2a. Are these representations stable across the different discourse domains represented in the corpus?

RQ3. What does CPA contribute to the task of discourse analysis?

[2]http://cass.lancs.ac.uk/cass-projects/people-products-pests-and-pets-the-discursive-representation-of-animals/

Answering these questions requires first identifying the key themes in the (i) animal-killing and (ii) discourse analysis literatures, and it is to this task that Chapters 2 and 3 are partly dedicated.

1.4 Definitions

Before continuing, it is necessary to establish some definitions of the key concepts and terminology used in this thesis. These terms may seem simple, unambiguous and self-explanatory, but as demonstrated below, their uses and nuances vary considerably.

1.4.1 'Humans'

By 'humans' or 'human beings' I refer simply to members of the species *Homo sapiens*. By means of comparison, note the definitions below of 'human being', taken from the Oxford English Dictionary (OED)[3] and Oxford Dictionaries (OD)[4], respectively.

> (1.1) *A man, woman, or child of the species* Homo sapiens, *distinguished from other animals by superior mental development, power of articulate speech, and upright stance.*
>
> (1.2) *A person, a member of the human race; a man, woman, or child.*

Definition (1.1) from the OED takes a similar line to the one I use, but additionally specifies that in order to be a human being one must be a man, woman or child, and in doing so implicitly excludes (i) persons of non-binary gender and (ii) the unborn human foetus. It also mentions the 'superior' abilities and 'power' that distinguish human beings from other animals. Note that it does not refer to the remarkable number of commonalities between humans and other animal species, nor the *inferior* abilities and lack of certain powers, senses and modes of communication that distinguish human beings from other

[3] http://www.oed.com/view/Entry/89262?redirectedFrom=human+being#eid131448903

[4] http://www.oxforddictionaries.com/definition/english/human-being

animals, such as our natural inability to fly, see well in the dark, or use echolocation, to name a few examples.

Definition (1.2) by OD baldly and uncritically conflates the terms ‘human being’ and ‘person’, a somewhat problematic proposition. Section 2.3 discusses this problem in more detail, but in short, it is widely considered uncontroversial – in the ethics literature – to assert that not all humans are persons, and not all persons are humans (Singer, 2011).

Evidently, anthropocentric perspectives and sentiments of human exceptionalism can be found even in supposedly ‘neutral’ sources of language, as has previously been established with regards to racism (Krishnamurthy, 1996; Visser’t Hooft, 1997), sexism (Treichler, 1997; Haraway, 2001) and ethnocentrism (Kachru and Kahane, 1995; Benson, 2002). Critical and postcolonial approaches to lexicography, such as that of the emerging Critical Lexicographical Discourse Studies (Chen, 2019), offer promising approaches to tackling such ‘isms’ in dictionaries. However, even a critical approach to language cannot realistically expose and remove all anthropocentrism; human language is, after all, created by humans for human purposes. In this thesis I therefore endeavour to critically evaluate the anthropocentric language surrounding humans and other animals, with an awareness that this task is impossible to do entirely.

1.4.2 ‘Animals’

At the recent *Animal Liberation* conference in Berkeley, California, audience members were asked whether they would consider themselves to be “an animal” (Dickstein, 2019). Almost all of the people in the audience raised their hand. When asked whether, in that case, they would like to be treated “like an animal”, hands swiftly dropped. The exercise demonstrated, with great effectiveness, the distinction to be made between biological and political understandings of the word ‘animal’, and the complications that can arise from it.

Humans *are* animals, in the taxonomic sense, so it should be specified here that by the term ‘animals’ I generally refer to all animals other than humans. Increasingly, in an attempt to disrupt the political human/animal dichotomy, Animal Studies scholars are consciously referring to ‘nonhumans’, ‘non-human animals’ and ‘other-than-human animals’ rather than simply ‘animals’. However, as argued by Bourke (2011), such language does not help to decentralise the human, in that the human is still prioritised over the animal 'non-' or 'other', and in addition these terms can be cumbersome to use (Bourke, 2011: 13). Other strategies include the use of 'human animals' in parallel with 'non-human animals', which certainly helps to remind us of the animality of humans, but nonetheless reifies the human-animal divide. Dunayer (2001: 13) neatly summarises the problem: "With equal validity we could categorize all animals as giant squids and non-giant-squids".

Kemmerer (2006) proposes the term 'anymal', a contraction of 'any' and 'animal', which means "any animal who does not happen to be the species that I am" (Kemmerer, 2006: 10). While I welcome any anti-hegemonic interventions in language that serve to highlight or challenge institutionalised prejudices, particularly those towards animals, I do not see the merit in adopting a new term whose meaning cannot be immediately understood and which means, by default, 'any animal who is not human', i.e. 'a non-human animal'. For these reasons, I reluctantly use the terms 'humans' and 'animals', unless the context requires a more specific distinction. Sometimes I will use 'nonhuman', 'nonhuman animal', or 'humans and other animals' to draw attention to a specific point. I acknowledge that this policy has its own problems, but I cannot currently offer a solution to this "linguistic conundrum" (DeMello, 2012: 15).

The OED[5] and OD[6] provide some illuminating definitions for 'animal'.

> *1. a. A living organism which feeds on organic matter, typically having specialized sense organs and a nervous system and able to respond rapidly to stimuli; any living creature, including man.*
>
> *b. In ordinary or non-technical use: any such living organism other than a human being.*
>
> *c. The living body or soft fleshy part of a mollusc, crustacean, etc., as distinguished from its shell or other hard part.*
>
> *2. a. A person viewed as or likened to an animal; (in non-pejorative sense) a human being, an individual, a 'creature' (now rare); (with negative connotations) a person without human attributes or civilizing influences; one who is very cruel, violent, or repulsive.*
>
> *b. With* the. *The animal nature in a person.*

[5] http://www.oed.com/view/Entry/273779

[6] http://www.oxforddictionaries.com/definition/english/animal

c. colloq. *A person or (in later use) thing of a particular type, esp. as distinguished from others.*

3. In pl., *with* the. *Short for* animal spirits*: see* animal spirit *n.* Obs. rare.

(OED)

1. A living organism which feeds on organic matter, typically having specialized sense organs and nervous system and able to respond rapidly to stimuli

1.1 Any such living organism other than a human being

1.2 A mammal, as opposed to a bird, reptile, fish, or insect

1.3 A person without human attributes or civilizing influences, especially someone who is very cruel, violent, or repulsive

1.4 [WITH ADJECTIVE OR NOUN MODIFIER] A particular type of person or thing

(OD)

Both sources feature a general definition of 'animal', very similar to the one adopted here, that is 1.b in the OED and 1.1 in OD. Other senses are very specific, such as 1.a in the OED, which presumably mentions a rapid response to stimuli in order to exclude plants from this definition (though the meaning of 'rapidly' is open to debate), and 1.c which refers specifically to the non-shell part of a mollusc. More telling are definitions 2.a in the OED and 1.3 in OD, which demonstrate the negative connotations of animality.

1.4.3 'Killing'

The meaning of 'killing' ought to be fairly straightforward and unambiguous. Certainly, the definitions in the OED[7] and OD[8] are much shorter than those for 'human being' and 'animal'. However, they are not necessarily clear-cut.

1. a. The action of kill v., *in various senses.*
b. The act of killing game; a number of animals killed by sportsmen.
c. The prevention of the evolution of gas in the steel during its manufacture.
d. Bridge. *The severe defeat of a contract.*

[7] http://www.oed.com/view/Entry/103382

[8] http://www.oxforddictionaries.com/definition/english/killing

2. A large profit; a quick and profitable success in business, etc. slang (orig. U.S.).

(OED)

An act of causing death, especially deliberately.

(OD)

The OED entry is notable in that it specifically mentions the killing of “game”, i.e. animals forced to participate in a human-initiated hunt, with the agents of the killing referred to as “sportsmen”. This (now outdated) choice of language places them in the same category as tennis players and those who show grace in losing, as opposed to agents whose behaviour is widely frowned upon[9], i.e. those who kill animals for pleasure.

The OD entry, though brief and to the point, claims a specificity that is open to debate. The act of killing may often be deliberate, but it could be argued that there is nothing intrinsically deliberate about killing, nor is it solely the *causing* of death which might be construed as killing. Take, for example, the ‘equivalence thesis’ (Rachels, 2001), the notion that permitting death is equivalent to causing it. Knowingly allowing someone to, for instance, starve to death could defensibly be considered ‘killing’ by some (Rachels, 1979), even though this is not “an act of causing death, especially deliberately”. Killing, letting die and withdrawing aid are complex and interlinked concepts, whose morality can be evaluated in similar terms (McMahan, 1993).

For the purposes of this thesis, ‘killing’ is defined as an act of causing death, though not necessarily deliberately; to kill a human or animal in a motor accident, for instance, could not be construed as “deliberate”. Killing is also distinguished here from dying, which, though closely related, is a process which does not explicitly entail an agent.

[9] A poll of attitudes in Britain towards hunting found that 85% of the population are opposed to a repealing of the Hunting Act: https://www.ipsos.com/ipsos-mori/en-uk/attitudes-hunting-2017

1.5 The Structure of the Thesis

In this chapter, I have provided some background context as well as a brief rationale for the study. I have demarcated the scope of the thesis, stated the research questions, and clarified definitions of some of the key concepts investigated in the project.

In Chapter 2, I discuss the mass killing of animals and how it is achieved through use of distance and concealment, as well as a long history of the ontologising of animals as products and legal property. Posthumanist and new-materialist scholarship is drawn on for inspiration in the search for alternative ontologies.

Chapter 3 brings a discursive dimension to the issues raised in Chapter 2. Critical Discourse Analysis and Corpus Linguistics are discussed as complementary analytical approaches, and the Corpus Pattern Analysis (CPA) technique is introduced in the context of event conceptualisation and the analysis of verbs.

Chapter 4 details the data and methods, and explains how the 15 candidate terms were selected and analysed. CPA is discussed in greater depth, and the CPA-assisted discourse-analytic method, together with the Ontology created in the course of this project, are compared with the standard lexicographic CPA method and Ontology. The data annotation process and the results of an interannotator agreement test are also presented.

In Chapter 5, the recurring themes of distance and concealment are addressed by way of an analysis of Referential Distance and grammatical voice. The features are examined across verbs and text types, and a small selection of verbs are analysed in the context of their CPA patterns.

Chapter 6 takes a bird's-eye view of the data and presents all instances across nine Context 'zones' in order to examine the influence of place, space and circumstances on the construal of events. The 'killing' terms are represented by their verb patterns, as found using CPA, and mapped across text types.

Chapter 7 takes a closer look at (de)individuation strategies in the data and presents six verb case studies using the proposed corpus-lexicographical discourse analysis method.

Finally, Chapter 8 concludes the thesis by summarising and evaluating the key findings in the project, both methodological and substantive. It considers the limitations of the study and offers recommendations for future work in corpus-driven critical discourse analysis.

2 Killing Animals

2.1 Introduction

The global level of animal-killing today is “without precedent” (Animal Studies Group, 2006), and the human exploitation of animals is a subject of growing interest among broad sections of the public and also across a wide range of academic disciplines. This chapter critically examines the current state of human-animal relations, with particular emphasis on acts of killing. First, I give a brief overview of the industrialised killing of animals in the UK and how such an operation is aided by the strategies of distance and concealment. Section 2.3 provides some historical context for the moral justifications of animal-killing, including an account of what it means to be a ‘person’, and a summary of the ethics of killing. Section 2.4 is dedicated to the ontologising of animals, or in other words how they are conceptually managed, and introduces alternative modes of thinking that might be used in analyses of human-animal interactions. Finally, I conclude that the material and the discursive are analytically inextricable, and that the way we think and talk about animals is critical to their lived experiences.

2.2 Killing

The current state of human-animal relations has been described as a “war”, in which animals are not combatants but civilians (Wadiwel, 2015). The scale of killing has been likened to a “holocaust” (Davis, 2005), and animal imprisonment to human slavery (Spiegel, 1996). In the UK, at the time of writing, there are 1,674 intensive factory farms, and around 1.5 billion land animals are killed every year to be made into food products. Taken together with the number of marine animals also killed for food – calculated based on weight, as their deaths are measured in tonnes – the total number of land and sea animals slaughtered each year to support the UK food supply is estimated to be 6.4 billion

(Animal Clock, 2019)[10]. After food products, the next largest animal-killing industry in the UK is animal experimentation, which in 2017 involved 3.3 million animals, some of them subjected to several procedures before being killed (Home Office, 2018). Though this figure is significant, it is still dwarfed by the number of animals slaughtered as part of animal agriculture.

It seems only fitting to include some details of *how* such animals are killed. Fish and shellfish, for instance, must undergo a number of processes. They are first graded (grouped by size), fasted (deprived of food), and, if they are to be killed elsewhere, lifted by nets into a specialised boat to be taken to a central killing site. They are then 'crowded' (forced into a small space) and may be killed using a number of methods: by being removed from water; by being exposed to extreme cold; by being gassed with carbon dioxide; by being bled to death; or by being stunned and/or killed using electricity, anaesthesia, or a blow to the head (Humane Slaughter Association, 2016b). Birds, such as chickens and turkeys, are usually stunned and then cut at the neck until they bleed to death, but they may also be gassed, decapitated, shot with a bullet or have their necks dislocated. Stunning can be carried out individually with a handheld stunner, or, in larger operations, by hoisting the birds by their feet and submerging their heads into a water bath which is then electrified, stunning many at once (Humane Slaughter Association, 2016c). Pigs are also stunned before they are killed, either individually after being penned in groups, or by being mechanically lowered into a carbon dioxide gas chamber. They are then shackled, hoisted by their feet, and bled to death by being cut at the neck (Humane Slaughter Association, 2016a).

For sheep and cows, the procedure is effectively the same: stunning followed by killing. In his ethnography of slaughterhouse workers, Pachirat (2011) describes the full process in detail. The first stage is the 'knocking box', a space into which animals are guided and prodded by a worker with an electric prod. With the animal restrained, another worker – the 'knocker' – fires a captive-bolt gun into the animal's skull, rendering them unconscious. Once stunned, they are then shackled and hoisted away on an overhead line, taken out of the knocker's line of sight. Two more workers, the 'pre-sticker' and 'sticker', then sever the carotid arteries and jugular veins of the unconscious animal, who bleeds to death as their body is carried further along the line to be dismembered and further

[10] Animal Clock draws on a range of sources to produce these figures, predominantly reports by the Food and Agriculture Organization of the UN. Sea animal counts are based on an average of the results of two estimation approaches, outlined at https://animalclock.org/uk/#section-considerations.

processed by other slaughterhouse workers. Pachirat describes a “mythologizing” of the knocker among the others, as it is the knocker who “begins the irreversible process of turning the live creatures into dead ones” (Pachirat, 2011: 159-160). By detailing the killing process and the mechanisms of the slaughterhouse, Pachirat engages in what he calls a “politics of sight”, directly resisting the efforts of animal industries to maintain concealment around industrialised killing. His account, corroborated by Wilkie’s (2010) *Livestock/Deadstock*, draws our attention to that which is typically absent from animal-killing statistics and other ‘official’ government- or industry-driven literature: the widespread use and integral roles of distance and concealment.

One might ask whether we ought to be consulting literature from non-academic sources, such as pressure groups, given that they have a specific agenda and are more likely to highlight the most extreme cases in the interests of their cause. Mitchell (2007) addresses this argument:

> First, any pressure group which publishes information which is inaccurate has a lot to lose politically and risks having all of its published information tainted, thus giving ammunition to its political competitors. Secondly, specialist documents from established groups … give full sets of references, the majority of which are from academic journals and publications by such bodies as the United Nations. However, they may also publish first hand investigative information, which is simply not available elsewhere and the critical importance of using sources from such “pressure groups” is that they document what many journals and official reports are silent about. (Mitchell, 2007: 7).

To this defence I would add that all other such literature also has a specific agenda, and the decision to simply report numerical facts alone is not an altogether objective one. The choice to be “apolitical” is, itself, a political decision (van Dijk, 2008). Describing animal deaths in terms of such huge, almost unfathomable, numbers also “helps us turn animals into objects that we can then kill” (Buller, 2013: 163).

2.2.1 Killing in plain sight

Slaughtering has become an “invisible, exiled, almost clandestine activity” (Vialles, 1994: 5). In nineteenth-century Britain, slaughterhouses were largely unregulated, and could take the form of a butcher's shop or even a butcher's own home (Otter, 2005). They were, in many cases, highly visible, with slaughter carried out in the streets or at public markets. London's Smithfield Market had been famous for its open-air animal slaughter – along with its floggings, executions and bear-baiting – since the Middle Ages, but Victorian sensibilities led to it being removed from the centre of the city and reinstated as a "dead meat" market almost three miles away, in Islington (Metcalfe, 2015). It was found that public sites of slaughter "infected and barbarized those around them, mysteriously stimulating drinking, fighting, and prostitution" (Otter, 2005: 91). In 1857, a bill to "Amend the Acts for the More Effectual Prevention of Cruelty to Animals" meant that not only must slaughter be carried out in licensed, out-of-town 'abattoirs', away from the public, but also that children under the age of fourteen be forbidden from witnessing acts of slaughter (Burt, 2004). The same bill ordered that any stray dogs seen to be in an emaciated or starving state be 'destroyed', in another attempt to control the visibility of animals in public places. Further evidence of public morality concerns are seen in the legislation that followed: in 1876, public vivisection lectures were banned, and in 1911 the witnessing of the cutting up of carcasses was limited to those aged sixteen and above.

Today, the distance between animal products and their origins is greater than ever. The shift towards a more urban society has meant that humans have less contact with animals who are bred to be slaughtered (Cupp, 2016), and there is a concerted effort to maintain that separation in the name of profits (Adams, 1990; Pollan, 2006; Safran Foer, 2010). Slaughtering practices are concealed by a variety of means: the geography and architecture of slaughterhouses; the use of advertising and media; and the discourse and laws that surround animal industries (Calarco, 2015; see also Chapter 3). Vegans and animal-rights activists are successfully portrayed by some members of the 'meat' industry as "terrorists" (Best and Nocella, 2004; Safran Foer, 2010), and specific "ag gag" laws are in place which criminalise undercover investigations and whistleblowing within animal agriculture (Lin, 2015) – something of an "agricultural iron curtain" (Kingery, 2012).

The point of slaughter marks a division between those who are responsible and those who are not, with slaughtering seen as the "dirty work" (Thompson, 2003: 313); to some farmers, slaughterers are "little more than 'animals'" (Wilkie, 2010: 173). For non-slaughter workers in animal agriculture, there is a "moral haven" in which they can take refuge and experience a separateness from this less desirable position (Birke et al., 2007: 158). Even within the walls of the slaughterhouse, mechanisms are set in place to maintain this division. This is done partly for reasons of hygiene and efficiency, but also – as found by Pachirat – for control of visibility; via a system of screens, doors, and dividing walls, the many stages in the process of rendering an animal into 'meat' are obscured, concealed from the other slaughterhouse workers and the animals yet to be killed (Franklin, 1999: 158). In fact, in a plant of 121 workers, Pachirat found that only one was seen as responsible for the killing of the animals – something he named "the 120 + 1 argument" (Pachirat, 2011: 160). By means of concealment, distance and isolation, it seems a 'moral haven' can be found even inside a busy slaughterhouse.

2.3 The Ethics of Killing

Broadly speaking, and in normal situations, killing is considered a wrongful act when the victim of the killing is a person (Tooley, 2011). But what constitutes a 'person' – and precisely why killing a person is (normally) considered intrinsically wrong – is hotly debated, and the lines can be drawn in many different ways. The lay understanding of the term 'person' is typically as one that can be used interchangeably with 'human' (Singer, 2011: 74), which perhaps explains why the killing of humans is universally held to be (normally) wrong, and why the killing of animals is (normally) held to be less wrong (McMahan, 2002: 189-190). Entailed in this assumption about humans and other animals is another assumption: that the wrongness of killing is not black and white, but a matter of degree. In this section I examine some of the historical factors in these perceived degrees of wrongness, followed by a discussion of the concept of personhood and a closer look at the ethics of killing.

2.3.1 The natural order

The relationship between species membership and moral value has a long and well-documented history, and, despite there being empirical evidence of innumerable biological (and, increasingly, social) similarities between humans and other animals, there is still an enduring, taken-for-granted notion of the exceptionalism of human beings. Folk beliefs of evolution, for instance, revolve around concepts such as 'the missing link' between humans and their evolutionary predecessors, as though evolution is a linear, progressive and inevitable process – rather than a messy and “accidental” one (H. Gee, 2013) – and one which ultimately places humans at “the top”. Such ideas can be traced back to influential thinkers, notably Darwin and his “Tree of Life” (Fig. 2.1), which, though now understood to be a misleading oversimplification (Tripp et al., 2017; Bapteste and Huneman, 2018), continues to have enormous influence on scientific discussion today.

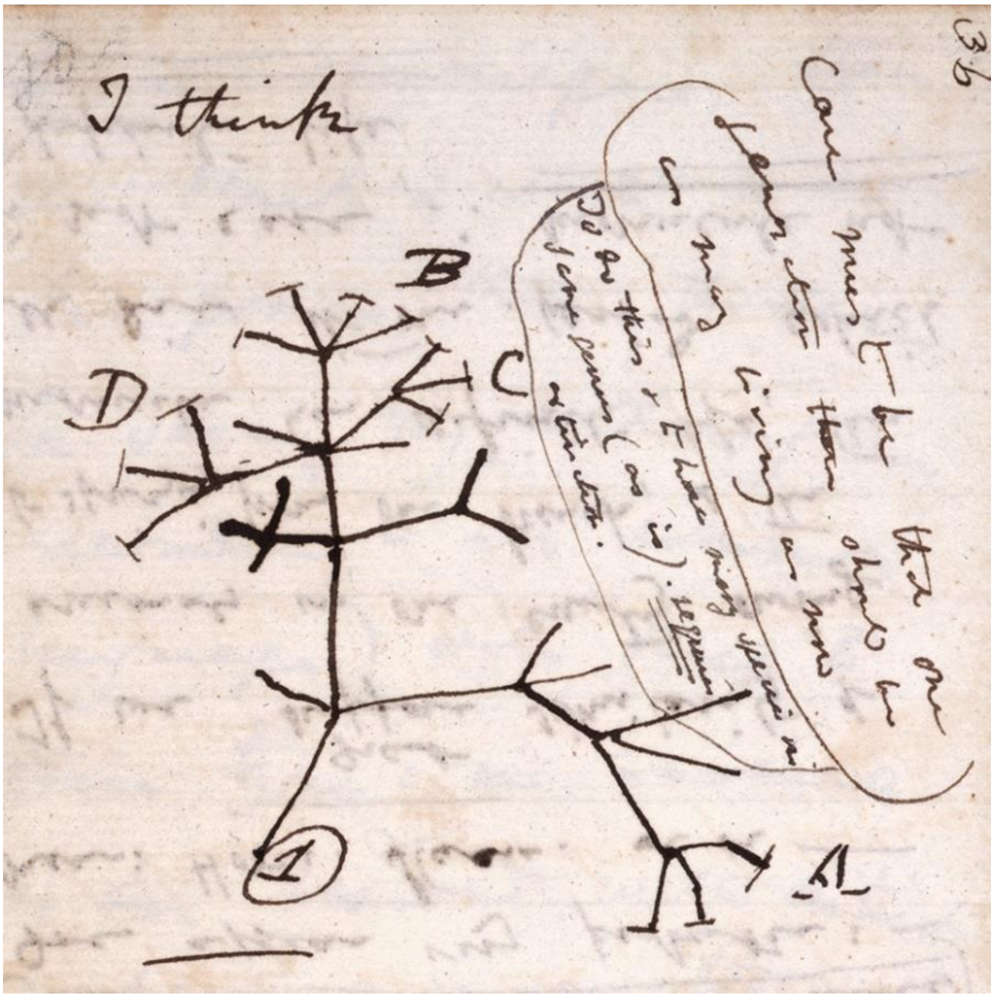

Fig. 2.1: Darwin’s “Tree of Life” sketch from his “B” notebook on Transmutation of Species (Darwin Correspondence Project, 2018)

Much earlier than Darwin, however, and far more influential, was the religious doctrine of the ‘Great Chain of Being’, a hierarchy which attributes to different living entities – including different groups of humans – varying levels of complexity, thus placing them in particular positions of importance (Fig. 2.2). This type of ranking of organisms dates back to the classifications of Plato and Aristotle, but it was more fully developed into the

Great Chain when appropriated by Christians during the Middle Ages. That all forms of life on Earth can be arranged into a natural order, “from the Supreme God down to the last dregs of things, mutually linked together without a break” (Lovejoy, 1964: 63), had by the Elizabethan era become a commonplace assumption (Tillyard, 2011: 26). The notion of a divine order of beings, with God at the apex, followed by the angels, the aristocracy, peasants, nonhuman animals, plants and minerals may sound absurd in a modern context, but this hierarchy continues to be “a fundamental guiding assumption of our culture” (Kaufman, 2016: 26). Carl Linnaeus, whose system of categorising plants and animals is still employed by biologists today, albeit in a modified form, was heavily influenced by the Great Chain of Being.

Fig. 2.2: The “Great Chain of Being” depicted in Diego Valadés’ (1579) *Rhetorica Christiana*, provided by Brock University Digital History (2016). Property of the Newberry Library, Chicago.

A modern-day version of the Great Chain might be what Arluke and Sanders (1996) term the "Sociozoologic Scale", which differs from one culture to another. All societies, they claim, rank living beings on a "ladder of worth" very similar to the Great Chain of Being and the Tree of Life, with the worthiest humans at the pinnacle and less-than-human organisms relegated to the bottom (Arluke and Sanders, 1996: 168-169). The sociozoologic scale is not based solely on biological differences, but primarily on how well each being "fits in" with society. As a result, not all humans rank equally, and these systems of unequal privilege come to be considered natural and normal.

> Those who land at the bottom, because they are in some inferior category, can justifiably be exploited and oppressed. Our ability to rank-order animals – and the inconsistencies that follow – may be a useful form of thinking for systems of social control that seek to justify inconsistent treatment of humans. (Arluke and Sanders, 1996: 168)

Below the humans on the scale are the animals, ranked by their perceived value. 'Good' animals, such as pets and farm animals, accept their place in society, or at least appear to accept it as they cannot do anything about it. These animals have a use to humans – as companions, resources – and therefore occupy a more privileged position. 'Bad' animals are "freaks that confuse their place, vermin that stray from their place, or demons that reject their place" (Arluke and Sanders, 1996: 175). Failure to comply with the societal norms dictated by (elite) humans results in a lower placing on the scale, granting total power over those beings.

There is a spatial element to this ordering of beings – "the centre of the circle, the top of the hierarchy" (Sealey, 2018: 228), 'higher' and 'lower' animals – and the themes of space and place are consistent in the literature. The place in which an animal exists – or is kept – can determine their status and lived experience. A rabbit in a laboratory becomes a different animal to a rabbit in a human's home, or a rabbit in 'the wild'. Sealey finds that a dog "can simultaneously occupy different places in a notional hierarchy of characteristics: mechanistic brute, useful tool, loyal companion, loving family member and intelligent agent" (Sealey, 2018: 243). To be "out of place", like the 'bad' animals described above, is considered unacceptable. This is the case for 'stray' dogs in the UK and other countries, for example (DeMello, 2012: 13).

2.3.2 Enlightened thinkers

Dominant ideas, such as that of the Great Chain of Being, can remain unchallenged for many centuries. Particularly influential – and damaging, as we now realise – were the writings of Descartes in the 17th century. His assertion that all animals other than humans are mere biological automata, whose cries of pain are "no different from a whining gear that needs oil" (Francione, 2009: 29), contributed to centuries of unimaginable animal cruelty. More pervasive than this idea, however, is the Cartesian notion of dualism. The long-standing conceptualisation of body and soul as separate entities has further contributed to the 'evidence' of the superiority of human beings. Humans see themselves as both "biological and cultural beings, organisms with bodies and persons with minds" (Ingold, 1994: 4), while nonhuman animals are still, to some degree, treated as "matter without spirit" (Adams, 1990: 57), as physical beings whose cognitive and emotional capacities are massively inferior to our own. The oppression and harming of animals poses no great moral dilemma to proponents of this view, as discussed in Section 2.3.4.

Further 'proof' of human exceptionalism was proposed by Kant. In his view, humans are unique in that they possess rationality, specifically "substantive rationality", the ability to pursue the ends of one's own choosing (Louden, 2011: xxi). Humans therefore have "dignity", and animals do not. For Kant, animals are means to an end, while humans are ends in themselves. This distinction has been used to justify the classification of humans as 'persons' and all other beings as 'things':

> Beings whose existence depends not on our will but on nature have, nevertheless, if they are not rational beings, only a relative value as means and are therefore called things. On the other hand, rational beings are called persons inasmuch as their nature already marks them out as ends in themselves. (Kant, 1785: 428, cited in Wuerth, 2014 2014: 308)

Elsewhere, Kant writes:

> The fact that the human being can have the representation "I" raises him infinitely above all the other beings on earth. By this he is a person....that is, a being altogether different in rank and dignity from things, such as irrational animals, with which one may deal and dispose at one's discretion. (Kant, 1798: 7, 127, cited in Gruen, 2011: 57)

Though there have been attempts to reinterpret Kant in favour of animal rights (e.g. Korsgaard, 2015), his stance here is clear, and the effects of such thinking can still be seen in our ethics and legal systems (see Section 2.4).

It is not simply that humans and animals differ; it is that animals are *deficient* in values that humans possess. The human ability for language, for instance, has long been cited as justification for the superior status of our species, bolstered by the long-standing idea that "language" is a pre-requisite for thinking and self-consciousness (Singer, 2011: 96). That other animals possess a wide range of more-than-human abilities – the ability to fly, for instance, or to use senses and modes of communication that are unavailable to us – does not appear to threaten the dominant view of human exceptionalism. As noted by DeMello (2012: 42), "we keep redefining the criteria we use to differentiate humans from other animals as we discover bit by bit that animals are a lot cleverer, and a lot more human, than we thought."

Animals' inability to use (our) language is the cause of a great disadvantage to them, in that it leaves humans free to construct the narratives of human-animal relations. In the case of nonhuman advocacy, humans speak out on behalf of animals and petition for their freedom or improved living standards. However, humans have also been successful in creating stories for the benefit of our own species, and to assuage concerns over animal harm: "our denial of the voices of other animals … enables us to exclude them ethically" (Morgan and Cole, 2011: 128). A long-standing and cross-cultural trope is that of animals' complicity in their own exploitation. There is a belief among the Cree Indians in northern Canada, for example, that animals "intentionally present themselves to the hunter to be killed", and that hunting is a "rite of regeneration" which benefits the animal, whose soul is released to be reincarnated in another body (Ingold, 1994: 9). This idea might sound irrelevant and far-fetched, but a more modern equivalent is found in the folk story of animal husbandry. This is summarised in Safran Foer's *Eating Animals*:

> Basically, humans struck a deal with the animals we have named chickens, cows, pigs, and so forth: we'll protect you, arrange food for you, etc., and in turn, your labor will be harnessed, your milk and eggs taken, and, at times you will be killed and eaten. (Safran Foer, 2010: 99)

The arrangement is portrayed not as a human decision to rear and use animals for human ends, but as an agreement between both parties, and even today it continues to be discussed in mutualistic terms (e.g. Zeder, 2015). While it is not unreasonable to suggest, from an evolutionary perspective, that animal domestication has been advantageous for the species involved, it is a projection of anthropomorphism and intentionality to describe it as a "bargain with humanity", and a fiction to declare it a "tremendous success" from "the animals' point of view", as does Pollan in *The Omnivore's Dilemma* (Pollan, 2006: 320). Human monopoly on the discourse surrounding animals plays a major role in the continuation of their oppression.

2.3.3 Personhood

While many contemporary philosophers now agree that membership of the species *Homo sapiens* is neither a necessary nor a sufficient condition for personhood, there are others who hold that (some) humans are persons while all other animals are not, or at least are not likely to be. McMahan, for example, whose *The Ethics of Killing* (2002) constitutes a leading work in this field, concedes that "people", or "persons", "could conceivably include some nonhuman individuals", but chooses nonetheless to use the terms 'people' and 'animals' in the conventional sense, i.e. as "categories that do not overlap" (McMahan, 2002: 190). Thousands of years of philosophy precede this supposition, which cannot be dealt with sufficiently within the scope of this chapter. What follows is therefore a very brief overview of only the most pertinent aspects of the personhood debate.

Personhood is a moral concept; to be a 'person' is to be a member of the moral community, someone worthy of moral consideration. The word 'person' itself derives from the Latin *persona* 'a mask worn in a classical drama, a character in a play', which later came to mean "one who plays a role in life, one who is an agent" (Singer, 2011: 74). Agency is therefore widely considered a key element of personhood. Other criteria, however, vary wildly. From the very early discussions of personhood (e.g. Aristotle, Plato) through to those of the Enlightenment (e.g. Locke, Hume, Kant), emphasis was placed on rationality, reason, autonomy, intelligence, dignity, language, reflectiveness, and (unity with) a soul (Gruen, 2011; Torchia, 2007). Later 'performance-based' theories of personhood have placed value on, for example, consciousness (Midgley, 1985), self-awareness (Singer, 2011), 'second-order' desires (Frankfurt, 1971), the ability to treat other persons appropriately (White, 2010), a biographical sense of self (Varner, 2012), the capacity for deliberate action in a "dramaturgical pattern" (Ossorio, 2013), and the ability to remember past events and hold expectations for the future (Tooley, 2011). Alternatives to these function-based criteria include, amongst others: ‘significance’, that persons are those to whom things matter (Taylor, 1985); ‘essence’, that personhood is inherent to certain ‘natural kinds’ (Beckwith, 2007; Moreland, 1988); and ‘intersubjectivity’, that personhood exists through interpersonal relationships (Kompridis, 2009).

Apart from the inconsistency and “continual shifting” of criteria (Bourke, 2011: 175), there are three glaring problems with the concept of personhood. First, it is rooted in the early Greek philosophical works which were not inquiries into ‘personhood’, *per se*, but rather observations and thoughts on what makes humans distinct from other beings, or in other words, what it means to be ‘human’ (LaGrandeur, 2014; Torchia, 2007). This has resulted in a deeply anthropocentric understanding of ‘personhood’ which makes any attempt to extend it beyond the human an uncomfortable exercise in anthropomorphism. Second, the literature is overwhelmingly unempirical, based predominantly on introspective assumptions of: i) what Others experience and what their lives entail; ii) what matters to Others personally; and, consequently, iii) the value Others attach to their own lives. Third, metaphysical understandings of personhood – i.e. as conferred by a set of psychological and/or biological properties, or other such ‘observed’ properties – are often conflated with moral personhood, which entails ethical concepts such as moral agency and moral standing, thus “placing metaphysics in the service of ethics” (Beauchamp, 1999: 59) and ascribing moral relevance to purely metaphysical properties.

To do personhood philosophy therefore typically involves three steps: i) taking the (‘normal’, adult) human as a starting point, either explicitly or otherwise implicitly by drawing on the long history of normative, human-centred personhood theory; ii) drawing conclusions on the mental states of Others, often via informed guesswork rather than any real empirical investigation; and then iii) using these ‘findings’ to defend a particular moral viewpoint. Historically, this has been used to exclude Others from moral consideration and to justify their use, from as early as Aristotle – to whom non-Greeks were evidently not persons but “natural” slaves (Garnsey, 1996: 107) – to the modern-day exploitation of nonhumans and other entities deemed ‘subhuman’ or otherwise non-personal. Equally controversial is the use of personhood philosophy to defend, or try to extend moral consideration to, individuals. This is because the criteria are typically performance-based, which privilege (human notions of) ability over any intrinsic value the entity may have (cf. Regan, 1987; Vilkka, 1997), and because the inescapably human nature of the concept of personhood also reinforces the narcissistic idea that the lives of nonhuman Others only have value inasmuch as their mental states and capacities are, from what we can gather, similar to ours.

A consequence of a capacity-based approach to personhood (and, by proxy, moral value) is that it can result in some human beings being placed outside of the circle of moral consideration (such as early-stage human foetuses and adult humans in a permanently vegetative state) and some nonhumans inside it (such as dolphins, apes and chimpanzees), thus challenging the entrenched view that moral value can be determined by species, i.e., speciesism (Ryder, 2010; Singer, 2011). It also entails that personhood can exist in varying degrees, as in the cases of 'potential persons' (e.g. human babies), 'former persons' (e.g. severely brain-damaged adult humans) and 'near-persons' (those who meet many, but not all, of the personhood criteria) (Tooley, 2011; Varner, 2012). However, given that it still operates within a normative, anthropocentric discourse of 'personhood', a concept centred around typical, human-like properties, this approach does not challenge the overall paradigm of human exceptionalism (and can have a real and negative impact on the treatment of certain humans). In the scale of worth, the human remains at the top and a few select nonhumans simply move up the ranks. While the result may not be considered particularly controversial, the means by which it has been reached betray an unwillingness, or more likely an inability, to conceive of the value of nonhuman entities on their own terms, rather than against the yardstick of the human.

2.3.4 (When) is killing wrong?

Just as personhood is dependent on varying sets of criteria, each with their own moral priorities, killing is an act whose morality cannot be agreed upon by ethicists. The wrongness of killing can be accounted for from a range of perspectives and by considering a number of factors. A harm-based account, for example, attributes wrongness to killing – where the killing is, in theory, painless – on the basis that (untimely) death is harmful to the individual. Taking this line of reasoning, it follows that killing someone and allowing someone to die are morally equivalent (Rachels, 1986, 2001) and that, depending on the amount of harm that death will cause to the individual, the wrongness of the killing can be considered in degrees. A more specific harm-based account is that of deprivation, by which it would be considered, for example, *more* wrong to kill an infant or even an insentient foetus than to kill an adult member of that species, on the basis that they are being deprived of a greater amount of potential future life (Marquis, 1989). It could also be claimed that the wrongness of killing resides in the value of that which it destroys (Frey, 1988), where value can either be extrinsic (i.e. as a means to an end) or intrinsic (as an end in itself) (Vilkka, 1997: 16). From this perspective, it might be argued that to kill an individual who has intrinsic value is more wrong than to kill an individual with only extrinsic value, though both acts might still be considered wrong. Of course, what counts as 'valuable' is highly debatable and constitutes a field in itself. In the context of killing, however, 'value' is conventionally construed in terms of 'richness' of life, which is dependent upon a certain capacity for wellbeing (cf. Nussbaum, 2011).

On whether we might consider animals' lives to potentially be as 'rich' as those of humans, Frey asks, "But why should I do this? Nothing I observe and experience leads me to assume it" (1988: 195). Frey chooses not to draw on nor pursue empirical evidence of the actual nature of animal lives, calling instead on his intuition that (most) humans have greater cognitive capacities than animals and therefore have lives of greater 'richness'. His conclusion, that it would be morally permissible to use some humans, as well as animals, as experimental test subjects (1988: 201), represents a leap from metaphysics (observations or assumptions of cognitive capacity) to practical ethics (recommendations on how to treat humans and animals) via anthropocentric notions of value ('richness' of life). Singer, a fellow utilitarian, argues that we ought to give animals the benefit of the doubt, and that all animal-killing requires justification (2011: 103). He criticises philosophers for "reaching conclusions from the armchair on a topic that demands investigation in the real world" (2011: 97), but, in the same text, makes unsubstantiated assertions about the desires of snails (2011: 77), for example. Discussions of desires in relation to moral value are consistently anthropocentric, both in terms of which desires are considered morally relevant and how strong and complex the desires of Others are perceived to be. Morally superior desires are long in range: to "bring longstanding projects to fruition" (McMahan, 2002: 197), "to live a good story" (Varner, 2012: 172), "to travel to Nepal next year" (Singer, 2011: 83), for instance. Since animals cannot (satisfactorily demonstrate a desire to) do such things, it is generally considered less wrong to kill them than it is to kill humans; their interests in continued existence are evidently less complex, and in losing their lives they "lose goods that are of a lower quality" (McMahan, 2002: 196).

To Singer, the “father of the modern animal rights movement” (Varner, 2012: 4), most animals are in fact replaceable. If they have lived pleasant lives and are to be replaced with another animal who is bred to enjoy an equally pleasant life, then their (painless) killing is morally permissible, since there is no loss of important future plans on their part and in replacing them the world is no better or worse a place, using a utilitarian calculation of aggregation (Singer, 1979, 2011). His ‘replaceability’ view has been met with opposition (Kagan, 2015; Stephens, 2003; Višak, 2015), most notably by Regan (1987), on the basis that animals are not merely ‘receptacles’ of value, but are individuals with intrinsic value. However, this persistent notion of a narrative, a human-like diachronicity of life, is consistently cited as an important – if not the most important – source of ‘value’ in an individual’s life (Tooley, 2011; Varner, 2012). In the absence of evidence of this, nonhumans are unlikely to be afforded serious moral consideration: “This is the major difference between persons and non-persons … persons are storytellers” (Varner, 2012: 172).

While it is now evident that animals can suffer, and that this *is* morally relevant (cf. Bentham, 1789; Singer, 1975), the lives of animals themselves are argued – via the types of reasoning outlined above – to be of comparatively little value, though not of no value at all. Combined with proposed definitions of personhood, it is possible to draw boundaries of moral consideration that include or exclude certain types of individuals. Whether the wrongness of killing is measured in terms of the harm it causes, the value of that which it destroys, or the unfulfilled future interests of the victim, human lives are consistently attributed far greater value than those of animals, and the killing of nonhumans is generally held to be significantly less controversial.

2.4 Ontologising Animals

Having considered how animals are *physically* treated, and how such treatment has historically been rationalised, I turn now more explicitly to how animals are ontologised. By ‘ontology’ I refer here not to the countable ‘taxonomy’ or ‘inventory’ kind – discussed in Chapters 3 and 4 – but something closer to the philosophical variety, i.e. “the study of being” or “the study of what there is” (Hofweber, 2018). Here, when I use ‘ontology’ in its countable form, as in “an ontology”, I therefore invoke an approximation of the definitions, “a theory of being” (Seuren, 2013), “a view of reality” (Maruska, 2017), and "a formal specification of a perspective" (Smith, 2004). When discussing how animals are 'ontologised', then, I refer to where animals fit in this "theory of reality", or rather, how they are treated *conceptually*.

First, I describe two interrelated ways in which our ontologising of animals has a direct impact on their lived experiences: through their coerced status as producers and products under capitalism (Section 2.4.1), and through their subjugation as legal property (2.4.2). I then introduce the concepts of posthumanist ontology (2.4.3) and assemblage (2.4.4), which offer alternative ways of approaching the human/animal divide.

2.4.1 Animals under capitalism

For humans, the vast majority of animals exist as products, resources, "living tools" (Shipman, 2011: 276), labourers, and test subjects, and the nature of this relationship has dramatically intensified with the rise of capitalism (DeMello, 2012; Nibert, 2013). Braidotti describes capitalism as "the opportunistic trans-species commodification of Life" (2013: 60), with "Life" inclusive of all types: humans, animals and the Earth and its ecology as a whole (cf. Foster et al., 2011; Stibbe, 2015). The position of animals in capitalism is unique, in that they are not like paid human workers, nor quite like human slaves; as producers of commodities who also constitute products in themselves, they are "superexploited living commodities" (Torres, 2007: 58). Animals reared for the purposes of slaughter are often treated more like plants, vegetables and other "biological resources" (Stibbe, 2012: 126), and commonly referred to as *stock* to be later *harvested,* in keeping with this "vegetalizing" metaphor (Vialles, 1994: xiv). Vialles reminds us that the word *abattoir* is itself a euphemism, derived from the French *abattre* 'to fell' (1994: 46). Similarly, the word *cattle*, which has no singular, i.e. individuated, form (cf. Section 3.6.3), was not used to refer to bovine animals until the 16th Century; before then it was a term for 'movable property' – as in a *chattel mortgage* – via the Anglo-Norman *catel*, or *chatel*, meaning simply 'property', a descendant of the Latin *capitale* (Wilkie, 2010: 115).

Capitalism is defined by Torres (2007: 11) as "an alienating, exploitative force that puts the production of capital above all else". When profits are a priority, the exploitation of a supposedly inferior and voiceless social group is easily justified. Nibert's Theory of

Oppression, inspired by Noel's (1968) theory of the origins of ethnic stratification, operates on the premise that "oppression of humans and other animals is entangled and that such exploitation is motivated primarily by economic interests" (Nibert, 2002: 15). This theory is not at odds with the abovementioned explanations for oppression – the God-given hierarchy of beings, the perceived inferiority of the Other – but stresses the significance of the economic system in supporting these power relations. It consists of three 'prongs', or three factors in the oppression of animals by humans: firstly, animals represent competition for economic resources, such as land; secondly, the exploitation of animals is economically beneficial to humans; and thirdly, humans use ideological manipulation to create prejudiced attitudes that reinforce the established economic order (Nibert, 2002). I would add to this a fourth prong: that humans maintain a position of dominance in a politics of sight. That is, animals – and indeed other oppressed groups – continue to be exploited on a massive scale partly due to the fact that certain practices are (able to be) kept largely concealed and obfuscated by those with an economic interest in their continuation. The mass slaughtering of animals in Western societies is a prime example of this, and the slaughterhouse (or 'abattoir') an emblem of the (in)visibility of animal suffering.

2.4.2 Animals under the law

Working in conjunction with capitalism, legal systems are "primary culprits in facilitating the exploitation of non-humans" (Francione, 1996: ii). The interests of humans are systemically privileged over the interests of animals in our laws (Peters, 2016a), even in cases when the human's interest is trivial and the animal's is a matter of life and death (Torres, 2007: 67). Despite legal recognition of their sentient status in a number of countries, including the UK (Ares, 2018), animals still do not have rights as legal subjects; they are "sentient commodities" (Wilkie, 2017). Rights can only be held by legal 'persons', namely humans, corporations, and, rarely, some natural landscape features such as rivers (Hutchison, 2014; O'Donnell, 2017). Legally, animals are classed as property, specifically personal property (Cupp, 2016), and as legal *objects* they cannot hold rights.

There have been some recent attempts by animal-rights lawyers to file writs of *habeas corpus* – a recourse in law that can be used to petition for the releasing of an unlawfully detained individual – on behalf of animals they consider to be legal persons. Most of these petitions, namely by the Nonhuman Rights Project[11] on behalf of chimpanzees in the US (Wise, 2017), have been denied or later overturned by the courts. However, at the time of writing, there have since been two successful cases of captive animals being granted 'legal personhood' and consequently liberated from their enclosures: that of Celia, a chimpanzee in Argentina; and that of Chucho, a bear in Colombia. In both cases, the judges' decisions are reported to have been influenced by "Amerindian perspectivism", a worldview which attributes subjectivity and personhood to (certain) animals (Fraundorfer, 2018). Specifically, in the case of Celia (Poder Judicial Mendoza, 2016), the judge referred explicitly in her decision to the concepts of *Gaia*, *Pachamama* and indigenous thought, all of which emphasise the interrelatedness of life and the respect that is owed by humans to other living beings (Fraundorfer, 2018: 23). Though cases such as these are ground-breaking and represent significant steps towards better legal rights for animals, they do not bestow the animal with the same legal rights as humans; they simply recognise those animals as legal *subjects*, rather than objects. These cases are also extremely rare, and as yet have only been successful in South America and for highly-prized, 'symbolic' animals.

For all other animals, there are animal welfare laws. Early developments in animal welfare laws were inextricably linked with industrialisation, urbanisation and the growing visibility of 'working' animals in society (S. White, 2016: 117), and today's laws are, in principle, the same. Animals receive protection not in and of themselves but via regulation of their use, and laws are often passed to appease the concerns of the viewing public. Harrison's (1964) factory farming exposé, *Animal Machines,* led to the commissioning of the 1965 "Brambell report" (Brambell, 1965), which drew up the 'five freedoms' of domesticated animals. These 'freedoms', such as freedom from hunger and freedom from pain, were formalised in 1979 and are still referred to in today's welfare legislation (Kasperbauer and Sandøe, 2015: 18). Until the Amsterdam Summit in 1996, however, the status of farmed animals in the UK was still technically "the same as that of other agricultural foodstuffs, such as potatoes" (Wilkie, 2017: 5). The most recent UK Public General Act on animals is the Animal Welfare Act 2006, which defines an "animal" as "a vertebrate other than man", and a "protected animal" as one who is "commonly domesticated", "under the control of man", and "not living in a wild state" (Animal

[11] https://www.nonhumanrights.org/

Welfare Act 2006 , ss 1-2), which leaves many animals unaccounted for. Section 4 of the Act, which relates to the prevention of "unnecessary suffering", excludes "suffering caused under the Animals (Scientific Procedures) Act 1986"[12], and concludes with the caveat, "Nothing in this section applies to the destruction of an animal in an appropriate and humane manner" (s 4(4)).

That the words "destruction", "appropriate" and "humane" appear in the same sentence gives an idea of what to expect from the UK's current animal-killing legislation, namely the Welfare of Animals (Slaughter or Killing) Regulations 1995 (WASK) and the Welfare of Animals at the Time of Killing (England) Regulations 2015 (WATOK). To contravene these slaughter regulations is potentially punishable by imprisonment for a maximum term of three months, or by a fine, whichever is considered more appropriate. In WATOK, the legislation that applies to England, the option of imprisonment is included only as part of EU provisions and the fine is unspecified.[13] In WASK, the potential fine is one that is "not exceeding level 5 on the standard scale", for which the default fine is £5,000 (Criminal Justice Act 1982). To provide some perspective, other offences punishable by a level-5 fine include: installing a non-compliant intruder alarm (Noise and Statutory Nuisance Act 1993); selling a football ticket without authorisation (Criminal Justice and Public Order Act 1994); and splashing a pedestrian by driving one's car through a puddle (Road Traffic Act 1988; Crown Prosecution Service, 2018).

Ultimately, animal welfare is a *trade* issue (Rushen, 2008), and UK animal laws read as more of a gesture towards animal protection than a sincere commitment to avoiding harm. They legislate against "unnecessary" cruelty towards animals – even though "we routinely use animals in all sorts of contexts that could never be considered as involving any coherent notion of necessity" (Francione, 1996: i) – while preserving their 'property' status. Animals receive protection depending not on who they are, but on how they are used by humans. This means that *some* animals have the right not to suffer, *sometimes*, but they do not have the right to life. To change this would involve bestowing legal personhood on animals, which would prove "very costly" (Bourke, 2011: 179). More significantly, it would result in an official "unmasking" of the perceived animal-human divide (Peters, 2016b: 53). Since Western legal systems traditionally entail just two

[12] Explanatory Notes to the Animal Welfare Act 2006, para 18

[13] At the time of writing, the UK is preparing to leave the EU, and the legal protection animals will receive 'post-Brexit' is unclear (Ares, 2018).

primary entities, ‘persons’ and ‘things’, it is a matter of course that animals be classed not as fellow persons but as the Other, i.e. as things.

The epistemological and ontological problems described in this chapter therefore matter a great deal to animals, because their ramifications extend beyond the realm of introspective philosophy and into the fields of law and practical ethics. Theoretical and introspective writings on the (assumed) possession of arbitrary, anthropocentric and – often morally irrelevant – properties can translate into actual legal and cultural (dis)advantages for certain individuals. Animals may be considered valuable, as companions and commodities, but they are nonetheless ontologised as “killable” (cf. Haraway, 2008). It is no coincidence that animals are ‘protected’ as property but are denied the fundamental right to life; their lives are purported to be of so little value that death, for an animal, is considered a lesser misfortune than suffering (McMahan, 2002: 202).

2.4.3 Posthumanist ontology

The long history of anthropocentrist, humanist thinking, which “has narcissistically privileged humans as the center of all significance” (Weitzenfeld and Joy, 2014: 3), is beginning to be challenged across a wide range of disciplines. The human-nonhuman divide has been exposed, notably by poststructuralists, (eco)feminists, and critical theorists, as a political – rather than biological – dichotomy (Agamben, 2004). Ironically, it is by such humanist values as reason, egalitarianism and scientific inquiry that this divide has come to be undermined. Each attempt to draw this ontological distinction between humans and other animals inevitably results in an “excision within human being itself” (Weitzenfeld and Joy, 2014: 8), with a great number of human beings finding that they have not been invited to “the exclusive Party of the Anthropocene” (Ferrando, 2016: 165), depending on which version of the human “falsely occupies the space of the universal” (Calarco, 2008: 10; cf. Agamben’s (2004) “anthropological machine”). Whether motivated by these reasons – in the spirit of liberal humanism – or by a posthumanist, anti-speciesist desire to decentre the human, an increasing amount of energy is being expended on pursuing a posthumanist ontology. As emphasised by Wolfe (2003: 7), such a project

> … *has nothing to do with whether you like animals*. We all, human and nonhuman alike, have a stake in the discourse and institution of speciesism; it is by no means limited to its overwhelmingly direct and disproportionate effects on animals.

Before continuing, it is necessary to define what is meant here by 'posthumanist'. Posthumanism can be understood by analogy to – and in conjunction with – poststructuralism and postmodernism, where the 'post' signifies a critique, or more typically a rejection, of those values. 'Posthumanism' has therefore come to be seen by many as a general umbrella term to refer to any departure from the traditional understanding of 'humanism', i.e. an anthropocentric – especially androcentric – view of the world, which operates on Cartesian, hierarchical dualisms (e.g. human/animal, man/woman) and which promulgates the notion of an autonomous, rational subject ('Man'). In all varieties of posthumanism, then, there is at the very least "a refusal to take humanism for granted" (Badmington, 2000: 10). Perhaps the most visible variety is that of transhumanism – as seen in science fiction – which problematises the boundaries of 'the human' in light of scientific and technological developments (Ferrando, 2013: 27). Far from being anti-humanist, this so-called "bad" posthumanism (Wolfe, 2010: xvii) is rooted in Enlightenment values and is in fact an extension of traditional humanism, an "ultra-humanism" (Onishi, 2011) that, taken to its logical conclusion, ontologises humans as disembodied, technologically-enhanced avatars. This is not the posthumanism to which I refer in this thesis. Instead, I draw broadly on the posthumanist theories of Wolfe (Wolfe, 2003, 2010), Haraway (1985, 1991) and Braidotti (2006, 2013), all of which – despite their different aims and provenances – place a common emphasis on the embodied, material and relational aspects of the posthuman. They call for an eschewing of taken-for-granted notions of (non)human qualities and the dualistic, hierarchical organisation of life itself, also described as "the socio-cultural onto-epistemological assumptions which gave rise to the era of the Anthropocene" (Ferrando, 2016: 164). Most importantly, they are committed to the displacement of "the human" as the atomistic centre of interest.

If we are to practise posthumanism, Wolfe says, we "must take another step, another post-, and realize that the nature of thought itself must change if it is to be posthumanist" (2010: xvi). For this we may turn to alternative modes of thinking, other theories of being, that facilitate a more relational understanding of the world. Many writers have converged on this issue, perhaps most notably Deleuze and Guattari, whose ideas laid out in *A Thousand Plateaus* (1988) have led to the development of several influential ontologies in the traditions of poststructuralism and new materialism, namely Assemblage Theory (DeLanda, 2006, 2016), Actor-Network Theory (Latour, 2005; Law and Hassard, 1999), and Object-Oriented Ontology (Harman, 2015). Needless to say, these are all rich, complex and nuanced accounts of reality and there is neither scope nor call in this chapter to describe them all in detail, including the many ways in which they overlap and diverge. Instead, I summarise some of the key propositions that characterise most, if not all, of these ontologies, and how such concepts might bear upon a posthumanist analysis of human-animal relations.

2.4.4 Assemblage thinking

Integral to all of the aforementioned modes of thinking is the concept of the 'assemblage' (or 'arrangement'), derived from Deleuze and Guattari's original *agencement*, which – as argued by DeLanda – does not satisfactorily reflect the processual nature of *agencer*, "matching or fitting together a set of components" (DeLanda, 2016: 1), and rather presents the assemblage as a sort of finished product. On the contrary, an assemblage is "a temporary gathering of influences" (Elder-Vass, 2015: 105), an arrangement of heterogeneous components which appears stable only as a result of being continuously reproduced. This view of the world is dynamic: all entities are in an endless state of flux and 'becoming', closer in nature to processes or events than our traditional understanding of entities. An assemblage is at once 'macro' and 'micro', and is irreducible to its parts; it "can become a component part of a larger one … while its own components can also be treated as assemblages" (DeLanda, 2016: 4). Assemblages connect with one another via reciprocal, rhizomatic networks, rather than being organised in hierarchical, unilinear, tree-like structures. "We should stop believing in trees, roots and radicles," write Deleuze and Guattari (1988: 15); "They've made us suffer too much. All of arborescent culture is founded on them, from biology to linguistics." Rhizomes, based on the botanical kind pictured in Figure 2.3, are not diametrically opposed to trees, however; Deleuze and Guattari consider dualisms "the enemy" (1988: 21) and acknowledge that there are "knots of arborescence in rhizomes, and rhizomatic offshoots in roots" (1988: 20).

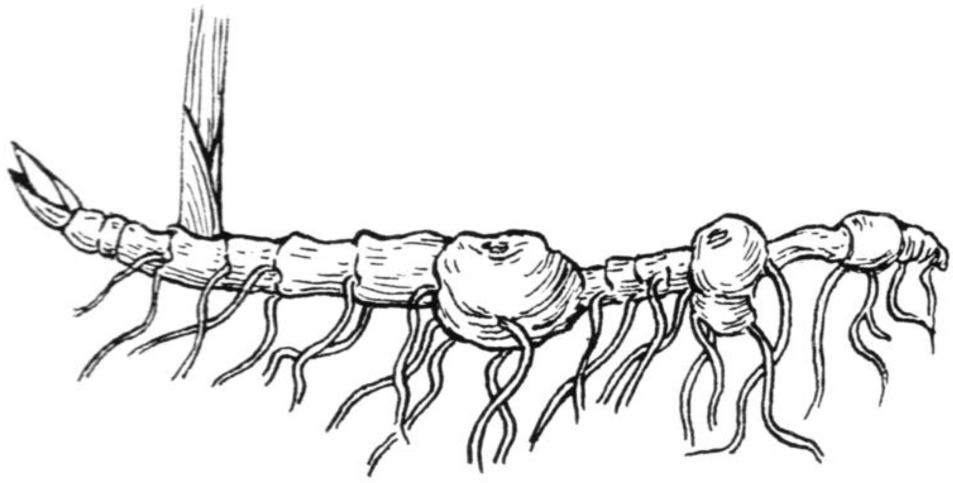

Figure 2.3: The structure of a plant rhizome (Sherman, no date)

Central to Deleuze and Guattari's concept of the rhizome are the ideas that any point of a rhizome "can be connected to anything other, and must be", i.e. that everything is interconnected in some way, and that a rhizome "ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles" (Deleuze and Guattari, 1988: 7-8). Several attempts have been made to visualise such sprawling, multifarious structures, with results ranging from web-like clusters of networks and neurons, as in Fig. 2.4, to three-dimensional shapes connected by lines, as in Fig. 2.5, which emphasises the influence of rhizomes on understandings of discourse. The legend in the top-right hand corner of Fig. 2.5, labelling each side of the cuboids rendered in blue, reads: "1 – semiotic chains; 2 – organizations of power; 3 – circumstances relevant to the arts; 4 – circumstances relevant to the sciences; 5 – circumstances relevant to social struggles; 6 – everything else". A green line represents a "rhizomatic link". For Deleuze and Guattari, rhizomes have no beginning and no end, and they have "multiple entryways" (Deleuze and Guattari, 1988: 32).

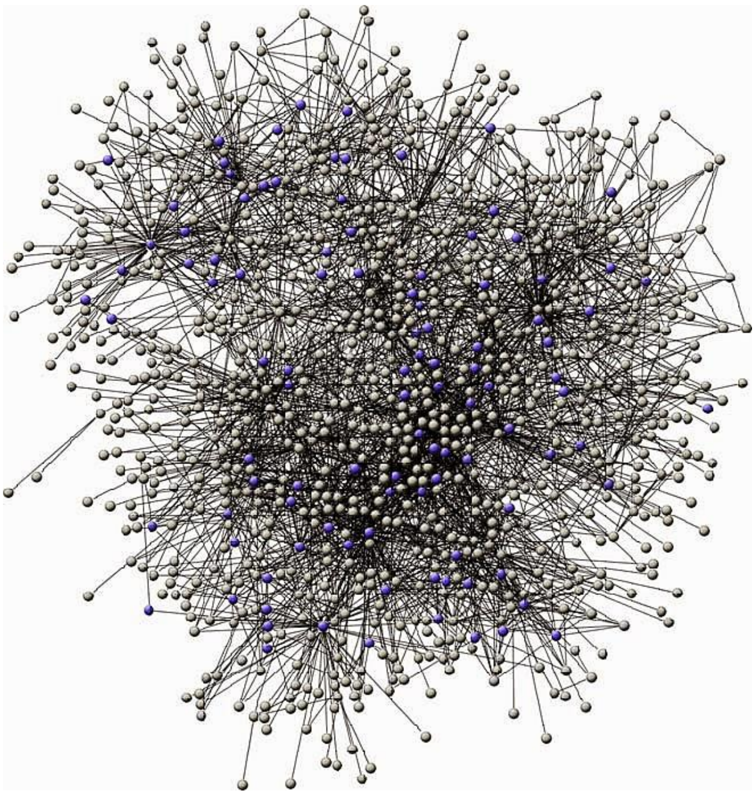

Fig. 2.4: A computer-rendered visualisation of Deleuze and Guattari's rhizome (Eaton, 2015)

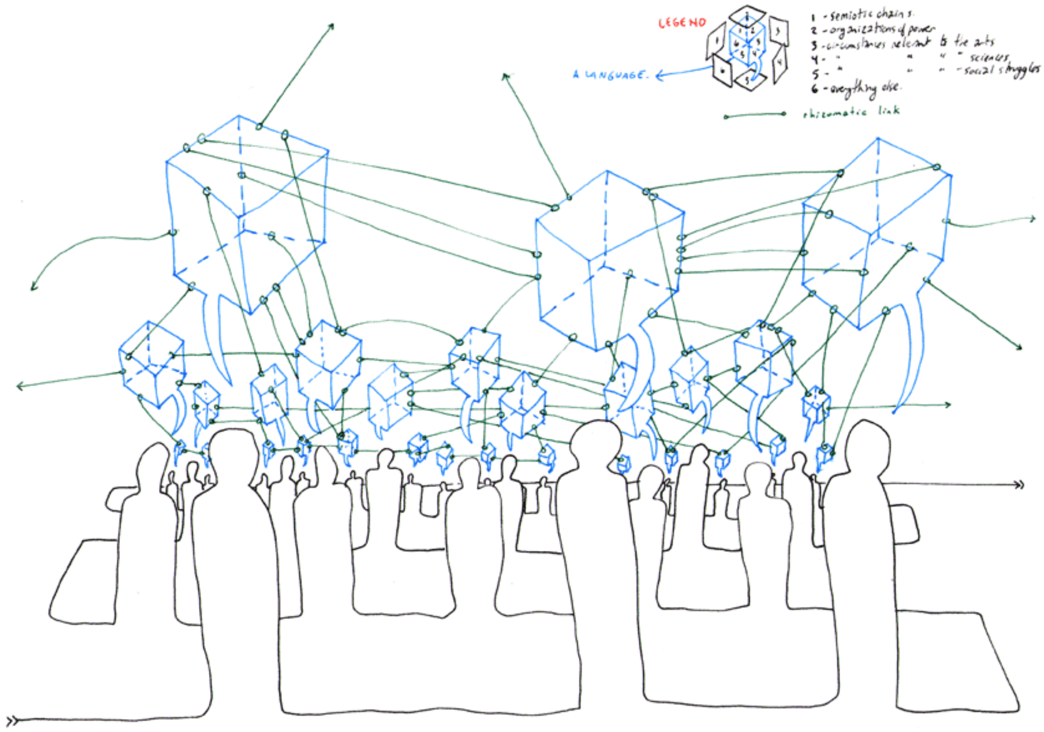

Fig. 2.5: A visualisation of some of the ideas presented in Chapter 1 of Deleuze and Guattari's (1988) *A Thousand Plateaus*. Artist: Marc Ngui. Taken from Connor (2013).

Latour incorporated the ideas of Deleuze and Guattari into his “actor-network theory” (ANT) which, by his own admission, could have been named “actant-rhizome ontology” (Latour, 1999); it is not so much a theory as a method or perspective. ANT, like Harman’s (2015) object-oriented ontology (OOO), asks that we suspend any *a priori* assumptions of human primacy over nonhuman entities. Inanimate objects, abstract entities and states of affairs are all considered to be on the same ontological footing as animate beings, where analysis is concerned, and as such, nonhumans are afforded a kind of agency of their own. In ANT, agency is always distributed across actors (or ‘actants’), rather than belonging solely to the traditional ‘subject’ or ‘agent’ of the event. ‘Agency’ is used here in a very loose sense, however: to have agency in ANT is not necessarily to possess intentionality or causal power in the traditional sense, but simply to have the ability to make a difference to a course of action (Sayes, 2014; Latour, 2005). Though ANT’s commitment to decentring the human is impressive, it has also come under criticism for erasing important differences between actors, as well as “projecting onto the object a form of anthropomorphic agency” (Leach, 2016: 348), and “[letting] humans off the ethical hook” (Diprose, 2009: 9). Taking these challenges into account, the ability to conceive of an event as a co-constructed assemblage, a gathering of critical elements, nonetheless has the potential to entirely reconfigure our conception of human-nonhuman interactions.

The approaches discussed in this section can be described as ‘material-semiotic’, in that they stress the simultaneously material (embodied, consisting of matter) and semiotic (signalling, discursive) nature of everything; the two aspects cannot be separated. Such approaches could also be classed as part of the expanding literature of ‘new materialisms’, described by Sencindiver (2017) as “a growing mesh … whose budding fibers are opening new lines of inquiry mushrooming in and across the fields of the human and social sciences and life and physical sciences as well as the literary, visual, and performance arts.” This transdisciplinarity is echoed by Coole and Frost (2010: 15), who emphasise a growing recognition of the intermeshed, rhizomatic nature of the material, both in the arts and humanities and, concurrently, in the ‘hard’ sciences:

> In the life sciences as well as in physics, material phenomena are increasingly being conceptualized not as discrete entities or closed systems but rather as open, complex systems with porous boundaries.

Recognition that entities are not as static as they may appear (cf. Nicholson and Dupré, 2018) – now empirically provable through scientific methods, such as analyses of subatomic structures (Levitin, 2004; Barad, 2007) – contributes to the challenging of previously established ontologies and bridges a conceptual gap between traditionally scientific research and that of new materialists in radically different fields. Deleuzian thought, though not explicitly 'materialist', is decidedly vitalist (Marks, 1998) and places importance on embodiment in specific environments. Such threads have continued via the posthumanist, neo-materialist works of Haraway, Braidotti, Barad and Despret, amongst others.

What does this have to do with (an analysis of the discourse surrounding) the killing of animals? First, a poststructuralist, neo-materialist outlook, while not explicitly posthumanist, anti-speciesist or for the benefit of nonhumans, directly targets the political boundaries that separate 'the human' from all others. As demonstrated through the course of this chapter, a great deal of the misfortune suffered by animals at the hands of humans comes as a direct consequence of Cartesian dualisms as well as constructed hierarchies of moral value, a model of worth through which some humans will also inevitably be excluded from moral consideration. A priority of (post)humanities researchers, then, should be an aggressive dismantling of the human-animal dichotomy. Second, the killing of animals is facilitated, justified and legalised through their systematic objectification. A vitalist, object-orientated ontology, in which matter is considered agentic and agency is distributed across all actants, will help to disrupt the normative representation of animal subjectivity. We need to be mindful, however, of attributing undue intentionality or somehow construing victims as being culpable in their own killing. Finally, an appreciation of the material – or 'machinic assemblages' – is essential to a holistic account of human-animal relations, which has a strong material component as well as being discursively managed.

2.5 Conclusion

Animals are killed in their billions to be made into consumable products for humans. Such an operation is made possible only through strategic use of distance and concealment and an appeal to long-standing folk beliefs on the nature of animal lives. The moral value of (non)humans is established via modes of ethics informed by outdated humanist thinking, the ramifications of which can still be seen in modern, Western legal systems. Meanwhile, capitalism renders all beings – human and nonhuman – expendable and exploitable, and a radical shift in thinking is required if we are to renegotiate these power structures. A posthumanist, anti-speciesist, material-semiotic analysis of human-animal interactions, namely killing events, represents an ideal starting point. How we think and talk about animals evidently matters a great deal; if we are to bring about real change, we must reject speciesist ontologies and narratives and construct new ones. In particular, we should pay attention to the effects of place, space and distance, and engage in a critical politics of sight.

This chapter has reviewed key concepts relating to the substantive topic of the data analysed in this project. The next chapter focuses on the linguistic mechanisms associated with these material practices as well as the means of analysing such language.

3 Language, the Loaded Weapon

3.1 Introduction

In the previous chapter I focused mainly on the material aspects of animal-killing: who is killed, where, in what ways, via which legislative mechanisms and in relation to which moral and ethical considerations. In this chapter, I turn my attention to the more ‘discursive’ side of this material-discursive account of killing, with particular emphasis on the method trialled in this project: a corpus-lexicographical (critical) discourse analysis. This entails, first, a brief unpacking of the fundamental concepts involved, from the ‘critical’ in Critical Discourse Analysis through to the ‘material’ in ‘material-discursive’. Next, I discuss some of the literature that has examined language surrounding animals and killing – regarding both humans and nonhumans – as well as the rise in eco-centric discourse analysis. In the second half of the chapter, I introduce corpus methods and their role in (critical) discourse analysis, including Hanks’ Corpus Pattern Analysis (CPA) technique, which until now has not been considered as a basis for discourse analysis. I discuss CPA in the context of related concepts in lexical semantics and argument realisation, including valency, agency, animacy and thematic roles, and consider the resulting corpus-lexicographical discourse analysis method with regard to some of the philosophical problems discussed thus far in the thesis.

3.2 Critical Discourse Analysis

Since the 1970s, Critical Linguists have explored the ways in which language can be used to further a particular ideology, particularly through means of linguistic foregrounding, backgrounding and suppression. In his 1979 analysis of newspaper reports on the shooting of civilians by police in Zimbabwe, Trew found that the events were presented in consistently different ways by different newspapers, and were even reinterpreted in different ways over time. The differences were grammatical – for example through the use of active and passive voice – and lexical, notably the variety of terms used for referring to the event participants. Through this analysis, Trew (1979) exposes the often implicit link between language and ideology, as well as the varying ways in which responsibility can be attributed, or denied, through the use of linguistic structures. Such analyses are now commonplace, under the rubric of Critical Discourse Analysis (CDA), sometimes referred to as Critical Discourse Studies (CDS), which seeks "to uncover and de-mystify certain social processes in this and other societies, to make mechanisms of manipulation, discrimination, demagogy and propaganda explicit and transparent" (Wodak, 1989: xiv). CDA is drawn upon in this thesis as a guide to the analysis of 'killing' language, and as such it is necessary to clarify the definitions of some key terms and concepts referred to and relied upon in this thesis.

3.2.1 "Critical", "Ideology" and "Power"

3.2.1.1 Critical

'Critical', in the sense of Critical Discourse Analysis, does not refer to negativity or criticism *per se*, but rather a kind of scepticism. Being 'critical' involves "having distance to the data, embedding the data in the social, taking a political stance explicitly, and a focus on self-reflection" (Wodak, 2001: 9). Doing discourse analysis critically, then, requires careful consideration of the social, historical and political contexts of the research topic, and explicit mention of the researcher's own stance. A declaration of the researcher's own position need not invalidate their findings in critical research (Burr, 2015); rather, it is strongly encouraged. In the words of van Dijk (2001: 96), "CDA is biased – and proud of it."

3.2.1.2 Ideology

Not only does language reflect ideology, but it also mediates it (Fowler and Kress, 1979: 185-186). Fairclough (2010: 8) defines ideologies as "ways of representing aspects of the world … that contribute to establishing or sustaining unequal relations of power". For Simpson (2003: 5), they are "ways in which what we say and think interacts with society", and according to Knight (2006: 619), "the way a system – a single individual or even a whole society – rationalizes itself". The sense invoked in this thesis is somewhere between Fairclough's "ways of representing" and that of Hart, who simply defines an ideology as a "world view", adding that "ideologies are seen as normalized patterns of belief and value" (2014: 3). This last point is important, as the persuasive power of an ideology lies in its ability to remain hidden and latent, and in its perception as normal and natural, or "common sense", in Gramscian terms (Fairclough, 2010: 67; Daldal, 2014). It has also been noted that ideology typically has negative connotations, despite some definitions describing ideology in fairly neutral terms, e.g. as a "belief system" (Knight, 2006).

3.2.1.3 Power

Like many concepts central to social science research, the notion of power "is as complex as it is fuzzy" (van Dijk, 2008: 1). Rather than being concerned with 'power' in the interpersonal sense, i.e. the dominance of an individual over another in the context of interpersonal communication, CDA is particularly interested in social power relations. These can be understood in terms of control: a social group can be said to have power over another "if it is able to control (specific) actions of (the members of)" said group (van Dijk, 2014: 132). Of course, if language mediates ideology, then it can safely be considered a mechanism of social power relations and a site of power struggles.

Wodak (2006: 187) argues that while power is indexed and expressed through language, it does not derive directly from language itself. However, this claim is contradicted by much of the literature reviewed in Chapter 2. Not only have humans historically been granted greater moral worth and consequently many more freedoms than nonhumans purely by virtue of possessing (human) language, but this access to language also grants humans total control over the discourse surrounding the affairs of nonhumans, whose voices are effectively excluded. Van Dijk (2014: 132) makes this argument with regard to journalists, politicians and academics, who have access to the production of news texts, parliamentary debates and scholarly discourse, respectively, and who, as a result, enjoy a certain degree of social power that other members of society do not. Similarly, there are text types that may be considered more 'powerful' than others, in the sense that they have the potential to influence more people (e.g. national newspapers as opposed to local newspapers), or to influence people in a more serious way (e.g. policy reports as opposed to blog posts).

3.2.2 (Analysing) Discourse

3.2.2.1 Discourse

'Discourse' is a notoriously slippery term, and has a wide range of interpretations. In its more general sense, it may be used interchangeably with 'text', 'discussion', or 'language in use'. For Blommaert (2005: 3), discourse includes 'non-linguistic' action and "comprises all forms of meaningful semiotic human activity seen in connection with social, cultural and historical patterns and developments of use". In critical discourse studies, 'discourse(s)' might refer to 'conventional practice', 'a form of social action', or even "practices that systematically form the objects of which they speak" (Foucault, 1972: 49). These two broad conceptualisations of discourse might be considered to refer to discursive manifestations at the micro and macro levels, respectively. Gee (2015) refers to these as 'little d' and 'big D' discourses; 'little d' discourse constitutes the 'big D' Discourse(s), and by analysing the former it is possible to deconstruct the latter. In this thesis, little distinction is made between the two. 'Discourse', with a "little d", is used when referring to all kinds of 'discourse'. Sometimes it features as a countable noun, as in 'a discourse' or 'discourses', in which case it signifies a set of socially-constitutive discourse practices shared by a community, such as 'legal discourse', 'welfarist discourse', and so on. Typically, however, it is used in this thesis in its non-countable form to invoke the simple definition offered by Chouliaraki and Fairclough (1999: vii): "language but also other forms of semiosis, such as visual images". My vagueness here is intentional, in line with Wierzbicka (1985: 15):

> An adequate definition of a vague concept must aim not at precision but at vagueness: it must aim at precisely that level of vagueness which characterizes the concept itself.

All discourse is social. It "enters into and influences all social practices" (Hall, 1992: 202), and "is socially constitutive as well as socially conditioned" (Blommaert, 2005: 25; cf. Hart and Cap, 2014). As such, it has the ability to construct our knowledge of concepts; social phenomena can be "talked into being" (Chouliaraki and Fairclough, 1999: 4). Discourse, we are reminded, is also is a primary vehicle and producer of ideology (van Dijk, 2013). Critical discourse analysts, therefore, might approach discourse as "a major instrument of power and control" (Caldas-Coulthard & Coulthard 2013: xi). However, care should also be taken not to overstate the role of language in determining power relations, nor other realities. Discourse is just one part of a larger assemblage – in the Deleuzian sense – that is co-constituted by extra-discursive elements.

With this in mind, the present research takes an approach to discourse that might be considered compatible with *critical realism*. It recognises that discourses contribute to the construction of social realities, but do not determine it. From a critical realist perspective, language is bound to but does not take precedence over the material world:

> For critical realists, material practices are given an ontological status that is independent of, but in relation with, discursive practices. Furthermore, material practices are understood as accommodating, although not determining, the discourses that arise within these material conditions. (Sims-Schouten et al., 2007: 102)

Critical realism rejects the subordination of the non-discursive to the discursive (under the relativist logic that non-discursive practices are generated by discourse), as well as the notion that there can be no meaningful interpretation of experience without discourse. In terms of this thesis, a critical realist stance means that there are different ways of discursively 'constructing' animals, but that they have inherent and 'real' properties independent of how our language construes them (Sealey, 2014; Atran et al. 2004). Relativist positions, on the other hand, have been criticised for their anthropocentrism, in that they suggest that the world is somehow constructed by us or even "made for us" (Cruickshank, 2003: 7).

I should acknowledge here that there are several competing and sometimes overlapping strands of realism with which one might align, and indeed could be useful here, including *social realism* (Sealey and Carter, 2004), *speculative realism* (Harman, 2018; Meillassoux, 2008) and *critical social realism* (Haslanger, 2012). Pennycook's (2017) *critical posthumanist realism*, which at first glance seems an ideal fit for the present research, appears to be an unfortunate example of the "new systems of thought with clunky titles" criticised by Gratton (2014: 1), rather than the fully-fledged strand of realism that posthumanists have been waiting for. Similarly, the proposition by Elder-Vass (2014) that there are "seven ways to be a realist about language" is a promising one, but is ultimately muddled by conflations of the senses of the word "language" (Sealey and Carter, 2014), making it difficult to rely on.

3.2.2.2 Critical Analysis of Discourse

Just as Actor-Network Theory is not really a theory (see Section 2.4.4), Critical Discourse Analysis (CDA) "is *not* … a *method* of discourse *analysis*" (van Dijk, 2008: 2). The methods employed under CDA – now more often referred to as Critical Discourse Studies (CDS), in an attempt to be more felicitous – are as varied as those found in any other branch of linguistic study. CDA (or CDS; I use them interchangeably) may be realised

> … in terms of grammatical (phonological, morphological, syntactic), semantic, pragmatic, interactional rhetorical, stylistic, narrative or genre analyses, among others, on the one hand, and through experiments, ethnography, interviewing, life stories, focus groups, participant observation, and so on, on the other hand. (van Dijk, 2013)

There are no set ways, then, of 'doing' CDA; it "adopts any method that is adequate to realize the aims of specific CDA-inspired research" (Baker et al., 2008: 273). However, there are certain tenets that unite all CDA/CDS research: a commitment to a critical outlook; a focus on a particular (societal) problem; an inter- or transdisciplinary approach; a transparency with regard to researcher stance and political bias; and a recognition of discourse (written, spoken, visual) as a repository or reflector of ideology and power (Wodak and Meyer, 2016). CDS places emphasis on context; discourses are analysed with reference to social and historical factors, perhaps most notably in the Discourse Historical Approach (Reisigl and Wodak, 2016).

Discourse, then, is a form of social action, and CDA is conducted in the spirit of social scientific inquiry. CDA is an opportunity for "bringing a variety of theories into dialogue, especially social theories on the one hand and linguistic theories on the other, so that its theory is a shifting synthesis of other theories" (Chouliaraki and Fairclough, 1999: 16). In this thesis, the critical discourse analysis moves from a text analysis of verbs and their arguments (Section 3.6), via corpus analysis, including Corpus Pattern Analysis (Section 3.7), to a material-discursive understanding of discourse as part of a larger, social assemblage of material events and meaning events (Section 3.7.3). Quantitative results are considered in light of findings in the literature in an attempt to make sense of the implications of language choices. Materiality, introduced briefly at the end of Chapter 2, is discussed more explicitly in the section that follows.

3.2.3 Material

Materiality is a recurring theme in this research. The material is that which is comprised of matter, and traditionally this has been juxtaposed with language, as in phrases such as 'the material and the discursive'. Following from the posthumanist, new materialist modes of thinking described in the previous chapter, a material-discursive approach to discourse posits that the discursive and the material are inextricable from one another, as described by Barad (2003: 822, emphasis added):

> The relationship between the material and the discursive is one of mutual entailment. Neither is articulated/articulable in the absence of the other; matter and meaning are mutually articulated. Neither discursive practices nor material phenomena are ontologically or epistemologically prior. Neither can be explained in terms of the other. *Neither has privileged status in determining the other*.

In this sense, the approach taken in the present research might also be considered in alignment with Barad's (2003, 2007) *agential realism*. The 'realism' here is not the same as the realism referenced by e.g. critical realism; it is less a rejection of relativism than it is of representationalism, which "separates the world into the ontologically disjoint domains of words and things" (Barad, 2003: 811). A material-discursive ontology rejects the notion that language 'reflects' or 'represents' material practices. Instead, consistent with the processual, assemblage-orientated ontology of material semiotics, e.g. Actor-Network Theory and the work of Deleuze and Guattari, it would claim that the material and the discursive are bound up in a dynamic, material-discursive assemblage made up of heterogeneous parts, none of which is ontologically privileged over any other. The material and the discursive "make a difference to each other: they make each other be … they enact each other" (Law and Mol, 2008: 58).

Taking this one step further, we can in fact say that all discourse is itself material, given that it "must be *materialized* in some form and in specific times and places in order to exist" (Orlikowski and Scott, 2015: 4). Spoken language is material in that it consists of sounds, vibrations in the air; written language is material in that resides in markings on a page or screen; and gestures are material in their use of physical, bodily motion (Beetz, 2016: 82). All discourse is therefore a trace, "an already-happened" (Jameson, 1974: 175);

all observable linguistic signifiers are material evidence of semiosis that has previously taken place. Discourse analysis "is essentially a *retrospective* enterprise … always bitterly but literally 'systematically' lagging behind events" (van Eeden, 2017: 9).

3.3 More-than-Human Discourse Analysis

Traditionally, CDA has been used to investigate uneven power relations, and to examine how discourse plays a role in sustaining these oppressive and exploitative systems. However, this style of discourse analysis is typically applied to the oppression of human groups only (Stibbe, 2001: 146). Fairclough's CDA, for example, is concerned with "human matters" (1985: 747), specifically "human well-being and flourishing" (2010: 2), and seeks to demystify how "language contributes to the domination of some people by others" (2001: 193). Wodak stresses that CDA should not end at the point of critique, but practical steps should also be taken by "the people who are most involved", and she cites Labov (1982: 195-6), who concludes that "[t]he only permanent advance in the condition of life in any field occurs when people take their own affairs into their own hands" (Wodak, 1989: xiv). Even the most reflexive strands of critical discourse studies, such as the emerging 'Critical Lexicographical Discourse Studies' mentioned in Chapter 1, proudly "adheres to the research ethics that consider human emancipation" (Chen, 2019: 13).

Concern for the environment, particularly the climate, has prompted researchers to address the more-than-human world more earnestly. There has been a dramatic increase in climate-related discourse analysis, as illustrated in Fig. 3.1: between 2000 and 2017, the number of academic books and papers published yearly that mention both *discourse analysis* and *climate change* increased 50-fold. For comparison, the number of papers that mention both *discourse analysis* and any form of the lemma NONHUMAN – i.e. *non-human(s)*, *nonhuman(s)* or *non human(s)* – also increased during that period, but only eight-fold.[14] Of course, these two topics – climate change and nonhumans – are related

[14] Source: http://scholar.google.com. Search terms: *"discourse analysis" "climate change"* and *"discourse analysis" nonhuman**. Number of papers published in 2000 are 103 and 354, respectively. Number of hits published in 2017 are 5,200 and 2,910, respectively. Last accessed 10th June 2019.

and have the potential to overlap, but evidently there has been a far greater academic interest in the breakdown of the climate and its related discourses.

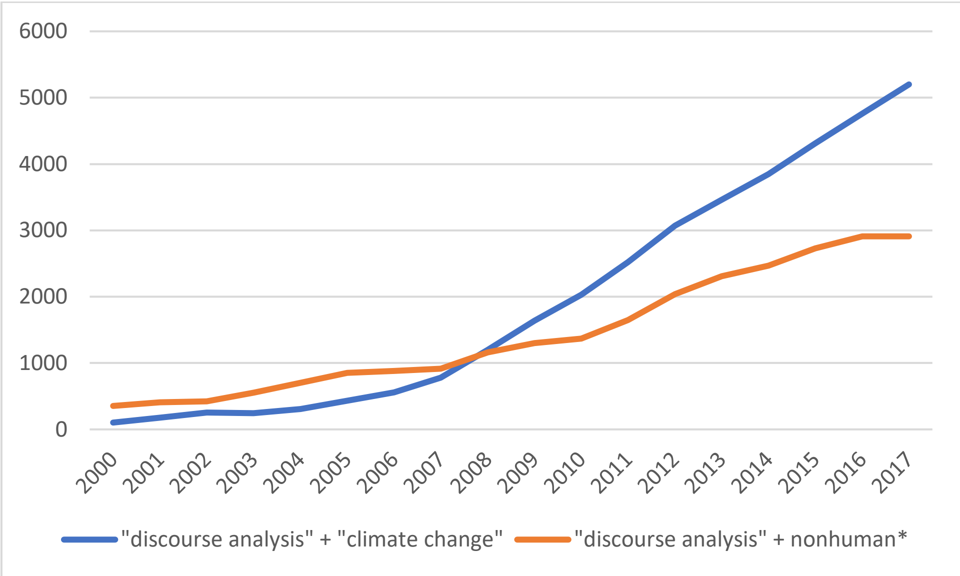

Fig. 3.1: The number of academic books and articles published yearly, according to Google Scholar, that mention both “discourse analysis” and “climate change” (in blue) and both “discourse analysis” and nonhuman* (in orange), from 2000 to 2017

Many of these studies are metalinguistic, carried out in response to the growing number of debates, discussions and campaigns surrounding the issue of climate change (e.g. Boykoff, 2008; R. Alexander, 2009; Grundman and Krishnamurthy, 2010; Nehrlich and Koteyko, 2009; Nehrlich et al., 2010; Koteyko et al., 2010; Koteyko et al., 2013). Others are in the ecolinguistic tradition of e.g. Arran Stibbe, whose ‘positive’ critical discourse analysis seeks to expose and redress the language that encourages (or fails to challenge) the ideologies that allow the destruction of the more-than-human world. Stibbe (2015) follows the example of Naess (1995) in devising an ‘ecosophy’ – an ecological philosophy, a set of principles – against which potentially beneficial or harmful discourses can be evaluated.

Nonhuman animals are gradually being incorporated into emancipatory discourse studies, thanks in part to the scholarly “animal turn” (Weil, 2010). One of the earliest examples is Carol Adams’ (1990) *The Sexual Politics of Meat*, now an iconic work of ecofeminism, which argues that a major instrument in the oppression of animals is the language used to refer to them and their bodies.

> Animals are rendered being-less not only by technology, but by innocuous phrases such as “food-producing unit”, “protein harvester”, “converting machine”, “crops” and “biomachines”. The meat-producing industry views an animal as consisting of “edible” and “inedible” parts … (Adams, 1990: 58)

One of Adams’ best-known contributions is the ‘absent referent’, the notion that in referring to animals – and women – as ‘meat’, the speaker ontologises them as objects and thus legitimises violence towards them (Adams, 1999: 249). Similar parallels between animals and women were found by Kheel (1995) in her analysis of the discourse of hunting, and by Dunayer (1995) and Lopez Rodriguez (2009) in their respective studies of animal- and woman-related metaphors.

Stibbe has written extensively on the effects of harmful discourses with regard to animals as well as the environment. Like Adams, he finds multiple linguistic strategies which serve to objectify other animals and justify their commodification (Stibbe, 2001, 2003, 2012, 2015). In *Language, Power, and the Social Construction of Animals* (2001), he summarises a variety of ways in which the oppression of animals is concealed and maintained through the use of figurative language, count/mass nouns, nominalisation of processes, pronoun choices, and other subtle linguistic devices. In a similar vein, Mitchell (2007) establishes ways in which animal farming discourses negatively impact on animals by constructing them as objects and slaves, while Glenn (2004) identifies corporate discursive strategies which support the processes involved in factory farming, and simultaneously present animals as complicit in their exploitation. Kahn’s study of vivisection discourse describes a “passive, soulless voice” that excludes any mention of the ‘doer’ of the deeds, instead awarding the “traditional position of responsibility, the head of the sentence”, to the animals (2006: 242).

Animal metaphors, applied to humans, have been found to be overwhelmingly negative in connotation (Haslam et al., 2011; Palmatier, 1995; Sommer and Sommer, 2011; Goatly, 2006; Santa Ana, 1999; Fernandez Fontecha and Jimenez Catalan, 2003), and to have high comparability across several languages (Talebinejad and Dastjerdi, 2005; Lopez Rodriguez, 2009; Hsieh, 2006). Gupta (2006) and Gilquin and Jacobs (2006) have examined the ways in which human-like status is bestowed upon, or denied to, animals through use of pronouns. Bastian et al. (2012) found that when animals are depicted as similar to humans, there is less outgroup bias against them than when this analogy is reversed, and Sealey and Oakley (2013) have investigated anthropomorphism in descriptions of animal behaviour, finding that choice of pronouns and clause connectives can subtly impose human-like qualities onto animals. Morris, Fidler and Costall (2000) discovered high levels of consistency in ways that different people described animal behaviour, which provides some support for a moderate realist approach. Crist (1999/2000: 10) concludes, from her extensive study of scientific discourse representing animal actions and behaviour, that "in the depiction of animals language is never a neutral medium".

In *The Discursive Representation of Animals*, a timely review of animal-orientated discourse studies published in *The Routledge Handbook of Ecolinguistics*, Cook and Sealey (2017) categorise such research into three groups, conceptualised as a Venn diagram of two overlapping circles. Type 1, the first circle, consists of linguistic work whose focus is on language and whose references to animals and animal-related language is purely incidental. Type 2 scholarship, found in the second circle, is focused on the study of animals and human-animal relations, and any linguistic comments are incidental. Type 3, occupying the intersection of these two circles, is research whose focus is both language and animals. The present research is therefore an example of Type 3. That discourse analysis related to the treatment of nonhuman animals should be categorised primarily as a form of "eco-" scholarship, rather than as socio-political commentary akin to feminist discourse analysis or other studies on the treatment of marginalised social groups, is indicative of a largely unchallenged view of animals as a kind of 'natural' feature, a fixture of our environment, rather than as social actors. A case in point is the recent rejection of an animal-orientated Special Issue from the *Journal of Language and Politics*, on the grounds that the editors did not find it to be a sufficiently political subject.

3.4 Killing Humans, Killing Animals

In his provocatively-titled essay, *How to Kill People*, theologian Denys Turner draws our attention to the pivotal role of language in legitimising acts of killing:

> Let me tell you how to kill people efficiently … if we propose to kill a fellow human being and justify it, we have to redescribe him in such a way that he no longer belongs to us, becomes an alien being … we will allow ourselves to kill only those

> whom we have set at a maximum distance from ourselves by means of that most powerful of human tools, the power of misdescription. (Turner, 2002: 60-61)

Such observations have been borne out in numerous analyses of killing-related discourse. The dehumanisation of Jews, for example, whether to the point of being nonhuman animals (Bolinger, 1980: 119), diseases (Savage, 2007: 417) or inanimate objects, gave Nazi workers "a discourse in which killing was no longer killing" (Lifton, 2000: 460), one which "renders murder non-murderous" (Savage, 2007: 425). Similarly, the Khmer Rouge referred to their enemies using the pronoun intended for subordinates, animals and inanimate objects (Savage, 2007: 429). Even in today's mainstream 'war on terror' discourse, the enemy is dehumanised "through a consistent framing of animal, vermin, pest and disease" (Steuter and Wills, 2010: 163), describing terrorist hide-outs as animal habitats ("lair", "den", "breeding ground"), drawing on hunting vocabulary ("hunt", "trap", "snare") and using verbs associated with killing 'pests' ("exterminate", "wipe out", "eradicate") (Steuter and Wills, 2010). Disease is another recurring theme in 'Otherising' language; Islam, for example, has been likened to a disease in the British press through its collocation with 'spread' (Baker et al., 2013: 47). The outcome of dehumanising language such as this is the perpetuation of the ideology of the Other as 'other-than-human', and importantly as a *threat*, thereby "legitimising their destruction" (Savage, 2007: 405). An "artificial distance" is placed between the speaker and the victim, much like the ontological distance placed between humans and other types of animals (Linzey, 2006: 68) and the geographical distance placed between animal consumption and sites of animal killing (Chapter 2).

Linguistic distance can also be created in other ways. Discourse may be structured so as to foreground or background particular aspects of an event (cf. van Leeuwen, 1996), such as the actors involved, the cause, the agent, and the means, so as to either emphasise or minimise a sense of culpability. The decision whether to use the active or passive voice when describing an act of killing, for example, is often given little thought (Bolinger, 1980), and is arguably driven by phraseological norms as much as it is by latent ideology, though the degree to which ideology informs and is informed by phraseology is difficult to determine (cf. Sinclair's (1991) open-choice vs. idiom principles, and Hoey's (2004, 2005) theory of priming). While Bolinger claims that the passive is technically "no more open to bias than the active", he concedes that the passive "is a handy way of serving up prejudices as if they were universal truths" (1980: 85-86). That is, the concealment of the agent by use of a truncated passive construction may well be a cause for suspicion and, in the case of ‘killing’ discourse, an attempt to divert responsibility away from the perpetrator (Trew, 1979). In the same way, the use of the active voice is argued to attribute a greater sense of agency and responsibility; news reports of the death of Princess Diana, for example, were found to consistently attribute blame to the paparazzi through the application of grammatical agency (Macmillan and Edwards, 1999).

In a study of the use of the active and passive voice when reporting violence, social psychologists Henley, Miller and Beazley (1995) concluded that the passive voice “is used for violent crimes because it offers psychological distance from their extreme negativity” (1995: 70). More troubling, however, are their findings that the passive leads to “lower attributed harm and perpetrator responsibility for violence against women”, and “more acceptance of rape, battering of women and rape myths” (1995: 79). They also found, in support of previous studies, that the passive voice attributes greater causality to the object than the subject of an argument (1995: 62), and that the rate of use of the passive is even greater for nonsexual violence than for sexual violence (1995: 69). These findings suggest that not only is there a systemic and widespread use of the passive voice in an attempt to make the unpalatable less so (and perhaps, in this case, to attribute more causality to the victim), but that this also has an effect on how the reader or hearer perceives the act of violence. Several works on this theme have since reported similar results (e.g. Bohner, 2001; Ehrlich, 2001; Coates and Wade, 2004). Coates and Wade, in developing a framework for understanding personalised violence, identify four discursive operations that typically feature in accounts: the “concealing of violence”, the “obfuscating of perpetrators’ responsibility”, the “concealing of victims’ resistance”, and the “blaming and pathologizing of victims” (Coates and Wade, 2007).

Ultimately, writes Dalla Bernardina (1991: 35), all slaughter requires that the victim be “relegated to the rank of object”[15]. While human Others are dehumanised, nonhuman Others are “deanimalised” (cf. Rémy, 2009) and “de-ontologised” (Adams, 1997). Figure 3.2, reproduced from Morgan and Cole (2011), demonstrates the relationship between subjectivity/objectification and visibility of animal experiences. On the far left-hand side of the diagram are humans, ascribed the most subjectivity, followed by pets, ‘working’ animals, and ‘wild’ animals, distinguished in terms of their diets. Carnivorous ‘wild’ animals, they find, are described with more subjectivity than their non-carnivorous

[15] Translated from the original French: “Mais tout abattage, au bout du compte, requiert que la victime soit préalablement reléguée au rang d'objet.”

counterparts. On the right-hand side are animals used for entertainment and experimentation, farmed animals, ‘vermin’, and ‘Dead-Meat’ animals. The animals killed for ‘meat’, they argue, are “culturally invisible” (2011: 116) compared with the abuses inflicted upon ‘companion’ animals. Such invisibility is not only discursive, but, as indicated here, material too (cf. the isolation of slaughterhouses and obfuscation of slaughter practices, Chapter 2). When animals are objectified to the point of being ontologised as ‘meat’, a kind of ‘stuff’, the violent nature of their deaths is effectively erased (Adams, 1990, 2018). Many animals are also “desingularised”, their deaths measured by weight rather than by number (Despret, 2016: 82).

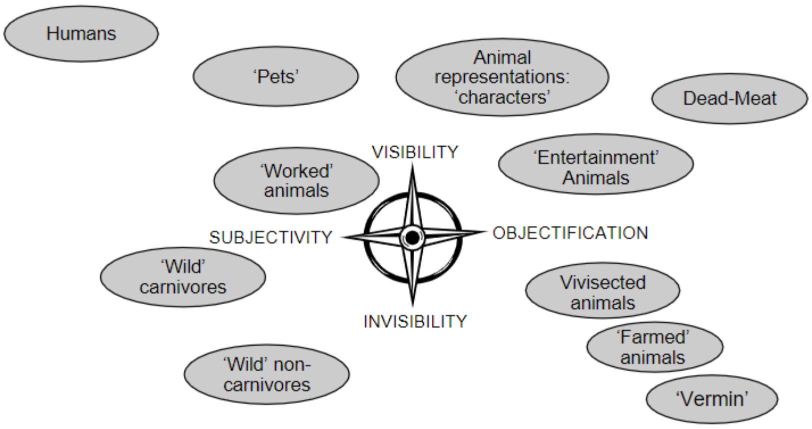

Fig. 3.2: “The material and discursive positioning of nonhuman animals” (Morgan and Cole, 2011: 113)

In *Murdering Animals*, a direct challenge of speciesist representations of animal-killing, Beirne reflects that

> The variety of ways that we kill animals seems without limit. Animals can be boiled, cooked, crushed, drowned, electrocuted, ensnared, exterminated, harpooned, hooked, hunted, injected with chemicals, netted, poached, poisoned, run over, shot, slit, speared, stoned, strangled, stuck, suffocated, trapped, and vivisected. However, operating in tandem with the strategic invisibility of animals in slaughterhouses is the increasing elusiveness of their deaths in various discourses of lethality. (Beirne, 2018: 21).

These “discourses of lethality” are, for example: hunting discourses, in which animals are described as “catch”, “game”, or “yield”; laboratory discourses, which construe animals as “sacrifices”, “subjects” and “products”; and “conservationist” discourses, which generate euphemisms like “cull”, “harvest”, and “wildlife management” (Beirne, 2018: 21). Beirne’s argument – that animals are owed a fair and honest representation in language – is one that has been promulgated by a number of pro-animal scholars in recent years (e.g. Dunayer, 2001, 2004; Freeman, Bekoff and Bexell, 2011; Freeman, 2014; Almiron, Cole and Freeman, 2016; Stibbe, 2012, 2015; Trampe, 2017) and is gaining traction within mainstream animal justice organisations, such as the Vegan Society (Cook, 2015) and People for the Ethical Treatment of Animals (PETA, 2018).

While there is a growing interest in the representation of animals and animal-killing, Jepson’s (2008) *A Linguistic Analysis of Discourse on the Killing of Nonhuman Animals* is the only work identified that focuses directly on ‘killing’ verbs, and specifically the ways that these verbs are used for animals and humans, and the effects these lexical choices have. Jepson finds that humans, unlike animals, are afforded “highly specific” killing terms, and that to extend ‘human’ killing terms to nonhumans adds sentimentality, while the reverse connotes brutality. She analyses seven verbs, noting the agents and patients in different constructions, along with the perceived motivation for killing and the ‘emotional content’. Although her findings raise interesting questions, the approach taken is somewhat vague and unsystematic. Jepson selects verbs of interest on the basis that they are “nontechnical and frequently used”, without giving any indication of *how* frequently they are used. Her data consists of “a collection of references to the killing of human and nonhuman animals”, gathered from “electronic, print, and broadcast media and from conversations” (2008: 131), but no information on the size, composition or nature of the dataset is given. This analysis provides a useful starting point but, as it stands, is unreliable and incomplete. Similarly, Trampe’s (2017) *Euphemisms for Killing Animals and for Other Forms of Their Use* gives general, anecdotal observations about the fact that a wide range of euphemistic terms are employed in descriptions of animal-killing, but does not take any kind of systematic or empirical approach to the analysis of this language.

3.5 Empirical Approaches

Much of the work in Human-Animal Studies, Critical Animal Studies and indeed Critical Discourse Studies is lacking in empirical methods. This is not to say that “empiricism” is preferred or more valuable, in a “scientistic” way (Williams and Robinson, 2016), but that there are some studies, such as those of Jepson (2008) and Trampe (2017), which would greatly benefit from taking a more systematic and empirical approach to discourse. The *‘People’, ‘Products’, ‘Pests’ and ‘Pets’* (PPPP) project[16], which explored the different ways in which animals are “discursively represented”, is an example of a large-scale, data-driven linguistic project on human-animal relations. It employed a corpus-assisted discourse analytic methodology, making use of a specialist, animal-themed corpus of just under 9 million words, with texts ranging from newspaper texts and scientific journal articles to transcripts from focus groups, interviews and documentaries (Sealey and Pak, 2018). The texts were selected so as to represent a diverse range of perspectives on animals, including ‘meat’ industry discourse, scientific experimentation discourse, and the opinions of vegans and animal-rights proponents, making the corpus ideal for investigating the discursive representation of different attitudes towards animals. The creators of the corpus were kind enough to share it with me, and it forms the basis of the findings in this project.

3.5.1 Corpus Linguistics

Corpus linguistics represents an empirical way of carrying out linguistic analysis. There is an accountability in corpus methods which cannot be found in introspective approaches to linguistic data, though corpus linguistics itself is not immune to “cherry-picking” (Baker, 2015) or “fishing” (Hanks, 2013: 375) for examples. Corpora allow for easy access to vast amounts of data, enabling the researcher to process and analyse far more text than would be possible to read in a traditional close-reading manner. This means that widespread, patterned linguistic features can be identified and satisfactorily generalised, rather than analysing small samples of language and attempting to generalise these to the

[16] http://cass.lancs.ac.uk/cass-projects/people-products-pests-and-pets-the-discursive-representation-of-animals/

domain or genre as a whole. Corpora also make it possible for theories of language to be induced from the bottom up, rather than taking a hypothesis and trying to prove it in a top-down way. However, no research is totally objective, and traces of researcher bias can be found at every step: the research questions, the selection of data, the choice of method (or corpus software), the features analysed, and so on.

Nevertheless, and crucially, corpora provide the researcher with authentic language data. A collection of authentic texts created by a researcher – a corpus – is indeed contrived, but, as Gledhill reminds us,

> … the linguistic behaviour used to produce authentic texts is uninhibited, unselfconscious and natural. The same can not be said for invented examples or examples created to prove some grammatical point. (Gledhill, 2000: 89)

Though invented examples can be useful for illuminating differences in grammatical structure, e.g. in syntactic alternations, corpus linguistics has consistently demonstrated the fallibility of human intuition and the importance of relying on natural language, especially in determining the most frequent, typical and normal uses of words and phrases (Sinclair, 1991; Hanks, 2013).

Corpus linguistics, like any other analytical approach, is subject to criticisms. What it gains in terms of scope and scale – the capacity to survey millions of words of text at once – it loses in terms of diversity of data. While multimodal corpora are certainly on the rise (André and Martin, 2014), there are arguably many instances of communication that will be excluded from corpus analysis (Baker, 2006), and there may be a temptation on the part of the researcher to select only the texts that are the most easily converted into corpora (Taylor and Marchi, 2018: 9). And while corpora are processed using unemotional corpus software, the analyst of this output is a human who is susceptible to their own kinds of bias and personal research interests. Given the same corpus data and the same research questions, for example, analysts will not necessarily reach the same conclusions (Marchi and Taylor, 2009; Baker, 2015; Baker and Egbert, 2016). I should add to this list the charge that corpus linguistics abstracts language from its original context, and in doing so commits an act of violence upon the text (Widdowson, 2000). While we can accept that a certain amount of bias is unavoidable (and healthy), we must acknowledge and account for these stumbling blocks as and when we encounter them, and supplement corpus analysis in other ways so as to try and avoid such pitfalls.

3.5.2 ‘Corpus-Assisted’ Discourse Analysis (CADA)

Corpus-linguistic approaches to (critical) discourse analysis are now well established: there are a growing number of texts and volumes on the application of corpus methods to discourse analysis (e.g. Baker, 2006, 2012; Fairclough et al., 2007; Baker et al., 2008; Mautner, 2009, 2016; Partington et al., 2013; Baker and McEnery, 2015; Taylor and Marchi, 2018; Handford, forthcoming), as well as an international *Corpora and Discourse* conference series and, as of 2017, a dedicated *Journal of Corpora and Discourse Studies* (Taylor and Marchi, 2018: 1). Corpus linguistics, with its strong empirical basis, resistance to certain types of bias, and capacity for large-scale linguistic analysis, “makes a good ally for CDA” (Mautner, 2016: 155), traditionally criticised for its potential for researcher bias, questionable selection criteria and small data samples (Fowler, 1996; Stubbs, 1997; Widdowson, 1995; Koller and Mautner, 2004; Koteyko, 2006). As highlighted by Baker et al. (2008), the synergy between corpus linguistics and CDA can be considered a mutually beneficial one, rather than the somewhat “subservient” one implied by the use of ‘corpus-assisted’ (Baker et al., 2008: 274). Corpus analysis output requires critical interpretation and explanation, for which CDA is well-placed, and conversely the rigorous and empirical methods employed in a corpus analysis have the potential to significantly bolster work in CDA (Orpin, 2005). One of the most significant benefits corpus linguistics can offer CDA, claims Stubbs (1997), is the comparison of features found in texts with attestable language norms (Orpin, 2005).

Just as there is no set way of ‘doing’ CDA, there is no template for corpus analysis, nor indeed a corpus-assisted (or -based, or -driven[17]) discourse analysis. CADA involves “integrating whatever insights corpus linguistic techniques provide into the wider interpretive framework that underpins the analysis” (Mautner, 2009: 37). The analyst is therefore free to decide upon the discourse analytic framework, if applicable, and pair this with a suitable corpus analysis method of their choosing. In the case of this study, the corpus element is constituted – in part – by Corpus Pattern Analysis (CPA), described in Section 3.8.

[17] I choose not to delve into ‘corpus-based’ and ‘corpus-driven’ labels in this study; ‘corpus-assisted’ is an imperfect descriptor chosen on the basis that it conveys the minimum required meaning (i.e. involving the use of a corpus) without invoking any of the contestable issues around the differences between ‘corpus-based’ and ‘corpus-driven’ research (cf. Tognini-Bonelli, 2001; Partington et al., 2013; Meyer, 2015).

3.6 Event Conceptualisation and Argument Realisation

Given that this research is concerned with the analysis of real-life (killing) events as construed through language, there is a direct focus on processes, the participants involved, and how they relate to one another. This translates to an analysis of predicators, or verbs, and the arguments, typically noun phrases, they associate with. It also means examining how the presence of certain arguments affects the meanings of others. This section therefore provides a brief overview of some of the key elements of event structure and verb analyses, with particular reference to 'killing' verb events.

3.6.1 Valency

The notion of valency originates in chemistry, where 'valency' describes the number of atoms to which a chemical element can bind itself, to form a complex molecule (Hilpert, 2014: 26). Responsible for introducing this analogy to linguistics is Lucien Tesnière (2015 [1959]), who also sought to replace binary approaches in syntax with one that recognised the verb as the nucleus of the clause (the origin of Dependency Grammar). In linguistics, valency refers to the number and type of arguments that are 'taken' (or 'governed' or 'attracted' or 'controlled' or 'selected', cf. Section 3.7.3) by a predicator. The valency of a predicator can be described as: avalent, as in the impersonal verb (or 'dummy subject') construction, *it's snowing*; monovalent, as in intransitive constructions such as (*he)$_1$ is sleeping*; divalent, as in transitive constructions such as *(I)$_1$ saw (her)$_2$ yesterday*); trivalent, as in ditransitive constructions such as (*she)$_1$ cooked (me)$_2$ (dinner)$_3$*; and even quadrivalent, as in rare tritransitive constructions such as *(John)$_1$ bet (me)$_2$ (five dollars)$_3$ (that Bill would win)$_4$* (Mita, 2009). As such, the valency of a verb can be increased or reduced in different ways: converting an active construction into a truncated passive one, for example, has the effect of removing the agent argument and thus reducing the valency by 1; conversely, introducing a causative construction is a common way of increasing valency. Cross-linguistic studies have found that constructions that increase the valency of verbs in different languages tend to have similar kinds of meanings

(Hilpert, 2014: 31), providing support for the view that a verb's meaning and its valency are related and should be examined together.

3.6.2 Case and thematic roles

The study of the lexical semantics of verbs dates back to the 6th century BC, when Pānini developed his *Kāraka Theory*, or "theory of participants in an action or event" (Butt, 2005: 16), in a very early attempt to relate semantic regularities with morphological case. Verbs were placed in verb classes, each of which had particular features which help to determine how Kāraka roles should be assigned to their arguments (participants). Butt (2006: 17) illustrates the correlation between Pānini's Kāraka roles and modern, Western thematic roles, such as *karana* 'the most effective means', which is likened to 'instrument', and *kardr* 'the independent one', or 'agent'.

Following this work was a period of around 2,500 years in which the dominant ideas on case followed the Greek and Roman traditions, and did not place the same emphasis on semantic value (Kasper, 2008: 17). Only since Frank R. Blake's (1930) *A Semantic Analysis of Case* has the relationship between form and meaning been given proper attention. Following Blake, Charles Fillmore (1968) proposed that each verb selects a certain number of cases, forming a "case frame". Fillmore's later work on Frame Semantics (1982) built on Case Grammar, and posited that meaning exists in *frames* as opposed to individual lexical items, with 'frame' defined as "any system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits" (Fillmore, 1982: 111).

For the purposes of this research, thematic roles such as those identified by Blake (1930), Fillmore (1968) and – perhaps best-known – Gruber (1965), are not considered the central focus of the analysis, since this work does not seek to comment on conceptual frames (only the 'frame' of killing, if that can be considered a well-delimited frame), nor does it deal with a wide range of event types or participants (only the killer, the killed, and the means by which the killing takes place). However, thematic roles provide a useful context in which to understand event participants and their relationships to predicators, or verbs. Work undertaken by Dowty (1991), Tenny (1992), Levin and Rappaport-Hovav (2005) and Jackendoff (1992, 1996) on the relationship between thematic roles and argumentation also lends richness to a verbal analysis, but this is not the focus of the present work. It is perhaps simply worth mentioning here the thematic roles that tend to consistently feature in studies of thematic relations. These are summarised in Table 3.1, adapted from Hilpert (2014) to include some (invented) examples inspired by the data used in this study.

Thematic Role	**Definition**	**Example**
AGENT	The initiator of an action	**He** murdered his partner.
PATIENT	The participant undergoing an action or a change of state	Tuna fishing kills **dolphins**.
THEME	The participant which is moving	I put **the poison** down.
EXPERIENCER	The participant who is aware of a stimulus	**She** found it very upsetting.
STIMULUS	The participant that is experienced	You could smell **the rotting carcasses**.
BENEFICIARY	The participants who benefits from an action	We did everything we could for **him**.
RECIPIENT	The participant receiving an item	**My son** was given a rabbit.
INSTRUMENT	The participant serving as a means to an action	The pigs are gassed with **carbon dioxide**.
LOCATION	The place of an event	They're raised in **cages**.
GOAL	The end point of a movement	Blood samples were placed into **an ice bath**.
SOURCE	The starting point of a movement	They come from **family-run farms**.

Table 3.1: Thematic roles and their definitions, adapted from Hilpert (2014).

The twelve thematic roles given in Table 3.1 are the standard set that most thematic analyses rely on or refer to in some way. There is, however, a lack of real consensus on the number and nature of thematic roles, and no reliable diagnostic criteria for identifying them. Dowty (1991) proposes, in place of this system of discrete roles, a scalar theory of 'proto-roles' which sorts all arguments into just two cluster-concepts: the Proto-Agent and the Proto-Patient. Rather than trying to choose a pre-determined, fine-grained thematic role from the set available, Dowty's approach involves assessing the argument against a checklist of 'contributing properties' for both the Proto-Agent and Proto-Patient and deciding to which one it is most aligned, based on how many of the criteria it satisfies.

The two proto-roles are in opposition to one another; an argument may have elements of one or both of these proto-roles, but will inevitably lend itself more to one than the other. This conceptualisation of thematic roles more accurately reflects the fuzzy nature of semantic distinctions, and recognises the fact that linguistic events are always bound up in an event "out there" (Dowty, 1991: 575).

3.6.3 Agency, animacy and individuation

Much like personhood, discussed in Chapter 2, agency is a hotly debated and contestable concept and the subject of thousands of years' worth of thinking and writing. In short, we can summarise much of what has been said with the observation that agency is traditionally associated with volition, action, animacy and intentionality (Yamamoto, 1999, 2006). Referring to Dowty's (1991) proto-roles, one might say that an 'agent' is: more likely to be volitionally involved, be sentient, cause a change of state in another event participant, be moving, and exist independently of the event in question (the contributing properties for the Proto-Agent role); and less likely to undergo a change of state, be an incremental theme (a participant whose wholeness reflects the degree of completeness of a telic verb process), be affected by another participant, be stationary, and not exist outside of the event (the contributing properties for the Proto-Patient role) (Dowty, 1991: 572). Taking a "purely linguistic" position, Cruse (1973) considers agency to be attributable to any participant that (discursively) performs an action, meaning that inanimate, abstract and insentient entities can be considered agents, too. Most accounts, however, consider agency to presuppose animacy at the very least. All of these are at odds with the material-semiotic ('actant') understanding of agency, which posits that all participants, 'doers' or not, have some degree of agency.

The concept of animacy has received much attention, particularly in typological and cross-linguistic studies. Unlike agency, which mainly reflects what an entity is 'doing', animacy is concerned with the "intrinsic features and ontological status of the entities themselves" (Yamamoto, 1999: 149). It is understood not as a simple binary distinction between animate and inanimate entities, but as a complicated gradient. The General Animacy Scale, reported for many languages, is an anthropocentric cognitive construct which holds humans to be the most animate entities and inanimate objects to be the least animate, with different types of nonhuman entities at various points in-between.

Yamamoto's (1999) visualisation of the General Animacy Scale, drawing on Comrie (1989), is not linear but radial; at the centre are individual human beings, followed by human organisations, supernatural beings, human-like machines, anthropomorphised animals, other animals, plants, and so on, with abstract entities and physical objects at the furthest points from the centre. Animacy is not as simple as having the quality of being alive or the capacity for movement, but is also influenced by issues of empathy, from a conceptual point of view (Langacker, 1991) and individuation, from a linguistic point of view (Dahl and Fraurud, 1996).

Like both animacy and agency, individuation – the propensity for an entity to be construed as an independent individual – is considered from a scalar perspective, rather than as a binary distinction (Grimm, 2018). This concept of individuation translates, lexicogrammatically, into countability, i.e. the ability to be encoded as singular, plural, mass or collective nouns. Although individuation can often appear fairly intuitive, from a cognitive perspective – larger, more visible entities with clearly defined boundaries are more likely to be construed as individuals, for example (Wierzbicka, 1988) – cross- and intra-linguistic studies have highlighted the fact that there are many material entities for which there is a lack of consensus on grammatical number and countability. Take, for instance, the English noun *hair* (mass) and the French equivalent *cheveux* (countable, plural), or the fact that in English we can take two countability approaches to what are essentially the same real-world concepts, e.g. *leaves* vs. *foliage* and *letters* vs. *mail* (Clausen et al., 2010; Grimm, 2018). Berries and berry-sized fruits are encoded as countable nouns in English but as mass nouns in Russian, while in Polish, berries are encoded as countable nouns by those who eat them, but as mass nouns by the farmers who produce them (Wierzbicka, 1988; Kwak, 2014). Grimm (2018) demonstrates, with convincing cross- and intra-linguistic evidence, that individuation and countability are neither ontologically based nor totally arbitrary, but instead are influenced by multiple interacting factors, including semantic properties, the grammatical number system of the language, and the ways the real-world entities are experienced and construed by the language users (cf. Prasada et al., 2002; Middleton et al., 2004).

Although individuation, animacy and agency are separate concepts, they closely interact with and influence one another (Yamamoto, 1999: 4). Animacy, a prerequisite for agency in the traditional sense, is linguistically encoded through a variety of means, but particularly through grammatical number and countability (cf. Stibbe, 2006; Sealey, 2018). Animacy "favours overt marking of number" (Dahl and Fraurud, 1996: 56), and “higher-level” animates such as mammals, and especially dogs, are typically unmarked in the singular, while those lower down in the animacy scale are typically unmarked in the plural or as mass (Grimm, 2018; Corbett, 2000). It makes sense that the entities we conceive as being well-individuated – i.e. individuals – are also likely to be considered animate agents.

Animacy and agency have also been linked with topicality and subjecthood. In a canonical, active, transitive clause in English, the topic – i.e. the unifying theme of a stretch of discourse – is likely to also be the grammatical subject, the agent, and an entity that ranks highly on the animacy scale (Yamamoto, 1999; Croft, 1991; Givón, 1983). (When the clause is in the passive voice, the topic is generally still the grammatical subject but is no longer the agent and is also less likely to be animate.) Givón and colleagues (1983), who used referential distance – the number of clauses between references to entities – to measure topic continuity across a number of languages, found animacy, particularly human animacy, to be a significant predictor of topicality in discourse. In written English, human/animate references were also found to have lower referential distance (a shorter distance between coreferential noun phrases), higher topic persistence (longer coreferential chains) and lower ‘ambiguity’ (less potential interference from other candidate references in the surrounding clauses) than non-human/inanimate references. The differences between human and nonhuman construal are described as “huge”, but “not surprising”, since “humans are what we talk about” (Brown, 1983: 323-324). The lower ambiguity score was attributed to the fact that nonhuman entities outnumber human entities in almost any setting, as well as the fact that the English pronoun system renders all nonhumans more ambiguous under the pronoun of “it” (Brown, 1983: 324). As there are so many cooccurring features – subjecthood, topicality, animacy, agency, individuation – it is difficult to determine the direction of causation, i.e. how these factors influence one another. As noted by Brown (1983), these results may be influenced by other factors, such as case. Yamamoto reminds us that linguistic attribution of animacy and agency can be seen not only in the noun phrases used to refer to entities, but also in “the nature of verb phrases characterising their actions” (Yamamoto, 1999: 150). Verbs are central to the event and its participants, and it is to verbs that I turn in the next section.

3.6.4 Verbs and their alternations

Beth Levin's (1993) *English Verb Classes and Alternations* classifies more than 3,000 English verbs according to their shared meanings and syntactic behaviour. Verbs are organised into 57 classes, many of these with subclasses, ranging from 'verbs of putting' and 'verbs of communication' to 'verbs of grooming and bodily care'. Evidence for these classes is given in the form of selected examples of verbs in context, along with their alternations. These *diathesis alternations* are "alternations in the expressions of arguments, sometimes accompanied by changes of meaning" (Levin, 1993: 2). Levin's list of verb alternations is extensive, and includes transitivity alternations, "oblique" subject alternations, and reflexive diathesis alternations, amongst others. In studying these alternations, Levin argues that it is possible to identify the specific linguistic components which determine a verb's behaviour. Although such work had been undertaken before (e.g. Guerssel, 1986; Hale and Keyser, 1986, 1987), this was the first large-scale, semantically-driven classification of English verbs and their alternations, and it provides a rich source of insights on the relationship between verbs, argument structure and meaning.

As this study focuses on 'killing' verbs, Levin's classifications of verbs that she considers to be 'verbs of killing' are of particular interest. She identifies two such classes: 'murder' verbs (class 42.1), and 'poison' verbs (class 42.2). These two classes are included in the census of 'killing' terms undertaken in this study, detailed in Chapter 4. The class members of 42.1 are *assassinate, butcher*, *dispatch, eliminate, execute*, *immolate*, *kill, liquidate, massacre, murder*, *slaughter* and *slay*. Levin notes that, of these verbs,

> The verb *kill* is the class member with the least specific meaning: it lexicalizes nothing about the specific means, manner, or purpose involved in bringing about death; it also differs from other class members in its behaviour. Unlike *kill*, the other verbs in this class lexicalize something about the purpose or manner of killing. None of the verbs in this class lexicalize a means component. (Levin, 1993: 231)

Levin also provides a list of alternations that are not permitted for verbs of this class, including the causative alternation (i.e. we can say that *Brutus murdered Julius Caesar*, but not that *Julius Caesar murdered*); the middle alternation (i.e. we can say that *The bandits murdered innocent victims*, but not that *Innocent victims murder easily*); and the instrument subject alternation, with the exception of *kill* (i.e. we can say that *Brutus* *murdered Julius Caesar with a dagger*, or that *The dagger killed Julius Caesar*, but not that *The dagger murdered Julius Caesar*) (Levin, 1993: 231).

Levin has similar comments for the 'poison' class of verbs, 42.2, which are *asphyxiate, crucify, drown, electrocute, garrotte, hang, knife, poison, shoot, smother, stab, strangle* and *suffocate*. She adds:

> Few members of this class are found with instrumental phrases, probably because they already lexicalize a means. Those that are in fact found with an instrumental phrase typically take what might be described as a "cognate" instrumental phrase (e.g., *poison with rat poison*) or an instrumental phrase involving a hyponym of *poison*. Fewer still allow instrumental subjects; their absence might reflect the fact that most of the allowable instruments are merely so-called "enabling" or "facilitating" instruments. (Levin, 1993: 233)

However, in their systematic review of Levin's 'poison' verb class, using Corpus Pattern Analysis (CPA), Bradbury and El Maarouf (2013) found that none of these hypotheses are satisfactorily corroborated by evidence. They also found little evidence to support Levin's decision on verb class boundaries and discovered missing or misclassified entries in Levin (1993) due to the lack of empiricism and systematicity in its construction. Levin does not use corpus data to derive these verb classes, and instead relies on introspection. In doing so, "Levin proposes many plausible but sometimes unsafe generalizations" (Hanks, 2013: 187).

Another contestable aspect of Levin's approach is her assumption that "the behavior of a verb, particularly with respect to the expression and interpretation of its arguments, is to a large extent determined by its meaning" (1993: 1). This is, in the words of Hanks, "a chicken-or-egg question":

> It might equally well be claimed that the meaning of a verb is to a large extent determined by its behavior. The two aspects, word behavior and word meaning, are undoubtedly interdependent, but it does not seem safe to assign priority to either … (Hanks, 2013: 186)

It must be said, then, that although Levin's classifications of verbs are useful in that they feature many illustrative examples of verb alternations to which analysts can refer, caution must be used when relying on these results or attempting to use them to make generalisations. Generalisations must be based on data, rather than introspection, and I maintain that an empirical approach to the study of meaning is therefore non-negotiable.

3.7 Corpus Pattern Analysis (CPA)

3.7.1 Theoretical background

Corpus Pattern Analysis (CPA), developed by lexicographer Patrick Hanks, seeks "[to elucidate] the relationship between syntagmatic patterns and activated meanings" (Hanks, 2004: 92). Following the work of John Sinclair, and previously J. R. Firth, CPA uses corpus data to examine the behaviour of words in their contexts, and in doing so establishes the linguistic patterns with which they are associated. Words, Hanks argues, do not have meaning but 'meaning potential'; their meanings are only activated by the lexical patterns in which they exist (Hanks, 2004), and, like Sinclair, Hanks finds meaning to be inextricably linked to form (cf. Sinclair, 1991). So far, CPA has mostly been employed in computational lexicography, namely the *Pattern Dictionary of English Verbs* (PDEV)[18], under the *Disambiguation of Verbs by Collocation* (DVC) project[19], on which I was trained in CPA and worked as an annotator. CPA has the potential to be integrated in automated, Natural Language Processing (NLP) tasks (e.g. El Maarouf et al., 2014; Hanks and Pustejovsky, 2005), but its potential in many other areas is yet to be explored.

CPA is underpinned by Hanks' (2013) Theory of Norms and Exploitations (TNE), which is centred on the distinction of linguistic norms, or typical instances, from exploitations, or anomalous ones. Hanks conceptualises TNE as a "double helix" (Hanks, 2009) in reference to the two intertwined systems of norm and exploitation generation. The relationship between the two "is bidirectional, i.e. if on one hand norms are used to generate new semantic, figurative and syntactic exploitations, the latter can also turn into norms through frequent and continuous use over an extended period of time" (Hanks and Može, 2019: 12). Norms and exploitations therefore co-exist with varying degrees of distinguishability, and quite often a sizeable grey area in-between, which can be "disentangled" using large corpora and statistical evidence (Hanks and Može, 2019).

[18] http://pdev.org.uk

[19] http://gtr.rcuk.ac.uk/projects?ref=AH/J005940/1

TNE originated in "a marriage between lexicography and corpus linguistics" (Hanks, 2013: 410), and as such has the following main characteristics:

- It relies on evidence of usage. Introspection is not considered a valid method of data gathering and intuition should only be used as a means of explaining patterns found in authentic language data.
- It is concerned with conventionality. For a norm to be considered so, there must be repeated and reinforced evidence of its usage in authentic language. That a construction is *possible* in a language is not of relevance to this task; the question is, "is it *typical*?"
- It is lexicocentric; emphasis is placed on lexical sets and semantic types.

Like Sinclair, Hanks works on the assumption that form and meaning are closely related, and that a difference in surface representation signals some difference in meaning, even if the difference is only very subtle. Sinclair's observation that collocational analysis can reveal the "semantic prosody" (Sinclair, 1996; cf. Stubbs, 1996; Partington, 1998) of a word is also of relevance to the Corpus Pattern Analysis exercise. Hanks argues, however, that Sinclair's approach "did not fully integrate the notion of lexical semantics" and "did not introduce criteria for distinguishing systematically between normal patterns of collocation and creative uses of these patterns" (2013: 6). Nonetheless, CPA is highly compatible with the work of Sinclair and other Neo-Firthian linguists, particularly in its insistence on using actual language data rather than invented examples.

Similarities can also be drawn between CPA and the work of Charles Fillmore, namely Case Grammar, and later Frame Semantics and FrameNet. Fillmore's work is more concerned with the cases, or clause roles, that must somehow be present in language, explicitly or not, while Hanks' TNE and CPA are concerned with the intrinsic properties of the lexical items that tend to appear in such roles. FrameNet, an inexhaustive inventory of 'frames', or cognitive constructs consisting of frame elements (participants) and lexical units (pairings of words with meanings), is essentially cognitive linguistics applied to lexicography. Rather than beginning with a word or multiword unit and examining its various behaviours in a corpus, the FrameNet analyst will begin with a frame, such as the "buying and selling" frame, which involves frame elements labelled as e.g., Buyer, Seller, Goods, Money, and so on, and then find examples in a corpus to map onto this frame. So Fillmore's "frames" are conceptual, rather than lexical, and Frame Semantics does not distinguish between a concept and the meaning of a word in context (Hanks, 2013: 385).

While TNE and CPA are concerned with patterns of word use, Frame Semantics and FrameNet deal in conceptual relations. Hanks describes TNE and Frame Semantics as “fellow travelers toward the goal of a ‘semantics of understanding’” (2013: 386), but with different starting points and different means of analysis. FrameNet, Hanks concludes, is not based on a systematic form of lexical analysis.

Construction Grammar (CG), another product of Fillmore’s (1982) work, further developed by his student, Adele Goldberg (1995, 2003), might also be compared with CPA and the work undertaken in this project. ‘Constructions’, in the CG sense, can be anything from a morpheme to a phrase, and for construction grammarians there is a need for not only a lexicon but also a ‘constructicon’, given how much meaning resides in constructions as opposed to single lexical items. CG accounts of meaning make little distinction between semantics and pragmatics, and no distinction is made between the lexicon and grammatical rules, unlike generative approaches. The main difference between CG and TNE is that the former is based predominantly on constructions created through introspection, sometimes corroborated using corpus evidence, and the latter is thoroughly committed to a data-driven theory of meaning. Both TNE and CG agree, however, on the primacy of patterns or ‘constructions’, as opposed to individual words, as producers of meaning.

The procedure of CPA is comparable with the approaches taken in the COBUILD project (Sinclair, 1987; Francis et al., 1996), the Hector project (Atkins, 1993) and Pattern Grammar (Hunston and Francis, 2000), in that it consults large amounts of linguistic data and identifies patterns in form which relate to patterns in meaning. However, CPA is more concerned with lexical patterns than syntactic or grammatical ones. On Pattern Grammar, which deals in constructions made up of parts of speech and collocating particles such as prepositions, Hanks remarks that “no distinction is made between *firing a gun* and *firing an employee*, since they are both transitive uses of the verb *fire*, with the pattern V n” (2013: 6). As a result, Pattern Grammar is insufficient for the syntagmatic profiling of a word. Hunston and Francis summarise the difference in approach:

> … our patterns involve a fairly high degree of generalisation. … In this respect, our work is not entirely in step with that of Sinclair, who stresses the idiosyncratic behaviour of individual word forms and the phraseological patterning of particular lexical items. (Hunston and Francis, 2000: 77)

The present work is therefore more in line with Hanks (2004, 2013) and Sinclair (1966, 1991, 2004) in terms of the means and granularity of pattern distinction. Shared by both Pattern Grammar and CPA, however, is the recognition that language patterns do not necessarily have a one-to-one correspondence with senses; one sense can be realised by several patterns, and vice versa.

3.7.2 Features of CPA

CPA is a straightforward and fairly intuitive method of analysing lexical patterns. It makes use of a simple syntactic framework based on the kind of systemic grammar used by Quirk, Halliday, Sinclair and others, as opposed to using generative syntactic trees. Verb analysis, according to Halliday's 'rank scale' (Halliday and Matthiessen, 2004), must be done at the rank 'clause'. Following systemic grammar, CPA identifies the five basic 'SPOCA' elements that can feature in a clause: the subject, i.e. a noun phrase (S); the predicator, i.e. a verb group (P); an object, i.e. a noun phrase (O); a complement, i.e. an adjective or noun phrase that is coreferential with either the subject or the object (C); and an adverbial (A), also known as an 'adjunct' in systemic grammar (Hanks, 2013: 94). These clause roles, described at length in Young (1980), are simple but robust enough for analysing the valency of predicators, i.e. verbs.

It is important to note here some of the different ways in which CPA uses familiar terminology. A *pattern*, in the CPA sense, "consists of a valency structure … together with sets of preferred collocations" (Hanks, 2013: 92). Patterns are identified by taking a sample concordance of a key word in context (KWIC) and grouping similar concordance lines together based on their lexical, semantic and syntactic patterning. Hanks has two questions that are necessary, but not sufficient, for determining whether the pattern is the same for several concordance lines: "Do these uses all have the same meaning?" and "Do these uses all have the same valency?" (Hanks, 2013: 95). All examples of a pattern must have the same meaning and the same valency. What counts as 'the same' can vary slightly depending on how fine-grained a meaning distinction is, or whether there are optional arguments that can affect the valency of a construction, for instance. For most verbs, there will be one or two patterns that dominate the sample, and a few others that constitute a much smaller percentage.

Patterns can be *norms* (patterns of normal, conventional, everyday usage) or *exploitations* (creative patterns of language use), though, as noted above, the distinction between the two is not an absolute one (Hanks, 2013: 4). Rather than being considered as binary opposites, they should be understood as two ends of a cline:

> Some norms are more normal than others; some exploitations are more outrageous than others. And in the middle are alternations: lexical alternations, where one word can be substituted for another without change of meaning (e.g., the idiom *grasping at straws* alternates with *clutching at straws*); syntactic alternations (e.g., active vs. passive); and semantic-type alternations, which are devices for selecting a different focus when talking about what is basically the same event type (you can talk about *calming someone* or alternatively, with a slightly different focus, about *calming someone's anxiety*; you can talk about *repairing a car* or you can focus on the presupposition and talk about *repairing the damage*). (Hanks, 2013: 411)

Most lines in a concordance sample will be norms. Exploitations are marked as such precisely because they are rare and because they flout the 'rules' of a normal pattern. When exploitations recur consistently, as is common for metaphorical language, they can become naturalised over time and themselves become norms, as suggested by the 'double helix' analogy of TNE.

In *Lexical Analysis*, Hanks provides a typology of exploitations (2013: 215-226):

- Ellipsis, a syntactic alternation that becomes an exploitation when the omission of an argument, such as a direct object, changes the meaning of a construction;
- Metaphors and similes, the most common kind of exploitation and the main form of semantic change;
- Anomalous collocates, which are simply abnormal lexical choices used for a particular purpose;
- Construction exploitation, i.e. exploitation that goes beyond phraseology to affect the entire construction; and
- Semantic-type coercion, in which arguments are coerced by the context into having a different meaning from usual.

Hanks also explores the ways in which rhetorical tropes, such as metonymy, puns and euphemism, can be put to use as creative exploitations of norms.

Semantic types are logical constructs for groups of lexical items, derived from Pustejovsky's (1995) Generative Lexicon theory and described in Hanks and Pustejovsky (2005). These semantic types are arranged in a hierarchical semantic *Ontology*, an inventory of all concepts, both abstract and concrete, expressed in a language. (I capitalise the 'O' in this kind of Ontology to distinguish it from the philosophical "world view" kind of ontology discussed in Chapter 2.) Semantic types, in PDEV, are designated by double square brackets. To illustrate with an example: the verb *sip* selects as its object lexical items such as *beer*, *water*, *whiskey*, *drink*, and *tea*, which form a lexical set represented in the *CPA Ontology*[20] by the semantic type of [[Beverage]]. In the Ontology, a [[Beverage]] is a [[Liquid]] is a [[Fluid]] is [[Stuff]] is [[Inanimate]] is a [[Physical Object]], and so on. The CPA Ontology is unique, in that it was not devised *a priori*, but instead was progressively built and altered during the course of the project, and can be considered to be data-driven and specific to the corpus upon which it is based (the original British National Corpus). Hanks and Jezek (2008) are critical of 'speculative' Ontologies, and assert that, as well as being empirical, a CPA Ontology should be "statistically based" and consisting of "shimmering lexical sets" (2008: 393). By 'shimmering', they refer to the tendency for certain semantic types to be activated (or deactivated) by particular verbs, and for this reason they stress that the nodes of an Ontology should represent typical, canonical, and empirically founded members of a lexical set, rather than all possible members. They also concede that a hierarchical, *IS-A* (e.g. a beverage *is a* type of liquid *is a* type of fluid *is a* type of stuff) Ontology structure is problematic when dealing with natural language, but note its usefulness in making generalisations and predicting the lexical items associated with a particular verb. Verbs may be applied differently, in patterned ways, to members of different lexical sets (or semantic types), for example.

A major problem for linguistic categorisation, other than the fact that natural language does not "map neatly onto conceptual categories" (Jezek and Hanks, 2010: 8), is that ordinary language does not tend to correspond to existing Ontologies, least of all scientific ones (Dupré, 2002). Whereas scientific (e.g. Linnaean) taxonomy classifies organisms based on their shared biological characteristics (morphology, genes, etc.), 'ordinary language' Ontologies are more anthropocentric, and are organised based on the various functions that organisms can serve, e.g. their social and economic importance for humans

[20] http://pdev.org.uk/#onto

(Dupré, 2002: 31). This is what sets the CPA Ontology apart from existing semantic inventories, such as WordNet[21], which is not data-driven and which features many scientific concepts rather than focusing on the folk concepts that form the foundation of meaning in natural language (Bradbury and El Maarouf, 2013: 71). An ordinary-language Ontology of animals, then, will reflect not only the specificities of the corpus being used, but also the multiplicity of animals in society and discourse. Rather than listing 'mammals' and 'amphibians', it might list 'domesticated animals', 'farmed animals', 'wild animals', and so on. The *Animals in Context Ontology*, for example, was developed in order to represent animals "in practical use", for purposes such as "drug labels, gene set mapping, species preservation, and veterinary medical records" (Santamaria et al., 2012). Animals are classified by their dispositions (e.g. "disposition to ruminate"), roles (e.g. "produces milk for human food") and other characteristics relevant to human uses.

The semantic types from the CPA Ontology occupy the argument slots in CPA, for example, the subject, object and prepositional object slots. CPA patterns are anchored to *implicatures*, which form an integral part of a word's "syntagmatic profile" (Hanks, 2013: 117), and which describe the entailment of a particular pattern. For example, the most common pattern associated with the verb *eat* is listed in PDEV[22] as

(3.1) [[Human]] or [[Animal]] or [[Animate]] eats ([[Physical Object]] or [[Stuff]])

with the primary implicature

(3.2) [[Human]] or [[Animal]] or [[Animate]] puts [[Physical Object]] or [[Stuff = Food]] into his/her mouth, and swallows it (usually after chewing it).

The round brackets in this pattern (3.1) denote optionality; in this instance, a direct object is not always present. The use of the equals sign in (3.2), as in [[Stuff = Food]], denotes a *semantic role*, not to be confused with 'semantic roles' such as 'agent', 'patient' and 'instrument', which are instead referred to in this thesis as 'thematic roles' (see Section 3.7.3). 'Semantic roles'[23] in the CPA sense are roles imposed on noun phrases by virtue of the context. Hanks uses the example of the verb *sentence*, which has a very limited choice of arguments. Where [[Human 1]] *sentences* [[Human 2]], as in *Mr. Woods sentenced Bailey to three years*, there is nothing intrinsic to the expression of *Mr. Woods*

[21] https://wordnet.princeton.edu/

[22] http://pdev.org.uk/#browse?q=eat;f=A;v=eat

[23] Hanks now refers to these as 'contextual roles' to avoid confusion.

to say that he is a judge nor to *Bailey* to say that he or she is a criminal; these roles are instead imposed by the context (Hanks, 2013: 285-286). In the case of a human who slaughters animals for a living, as in *Here, we slaughter pigs relatively young and shorthaired* (taken from a broadcast transcript in the PPPP corpus), the semantic role, or contextual role, of the subject might be [[Human = Slaughterer]]. It should be noted that patterns can also have secondary implicatures, though this is relatively uncommon (see the example of *drink* presented in Chapter 4).

3.7.3 Meaning as event, pattern as assemblage

Hanks makes the case for an evental understanding of meaning. Meanings, he says,

> … are constructs, but ephemeral; they are to be seen as events involving interaction between two or more participants. The invention of writing and (even more so) printing has made meanings seem more permanent than they really are. Texts may be permanent, but meanings are transitory. A reader's attribution of a meaning to a fragment of text is a displaced participatory event. (Hanks, 2013: 409)

Hanks builds on the ideas of Firth (1957) – namely that meaning is to be viewed holistically and cannot be separated from context – as well as Grice's maxims (1975) and his theories of cooperation. In this instance, Hanks is talking about events at the level of human participants, i.e. how humans interact with each other and with text or speech to make meaning. It is not a huge leap to extend this statement to include, as is standard in argument realisation discourse, clause constituents such as subject and object, or thematic roles such as agent and patient, under the rubric of "participant". Whether we are discussing *patterns* in the style of Hanks, *frames* in the tradition of Fillmore, *constructions* of the kind described by Goldberg, or the molecular-bond-inspired *valencies* proposed by Tesnière, we are essentially considering the components of meaning in arrangements or *assemblages* (Section 2.4.4). While Firth would say that we know a word "by the company it keeps" (Firth, 1957: 11), Deleuze and Guattari would say that all meaning is external, that concepts vary "according to their neighborhood" (Deleuze and Guattari, 1994: 20). Firth also claimed, as do integrationists[24], that "each word when used in a new context is a new word" (Firth, 1957: 190), and for Deleuze and Guattari, the same can be said for an assemblage. Each assemblage is unique, an event that only happens once. When it stops being reproduced, it no longer exists.

As discussed in Chapter 2, assemblages are composed of heterogeneous elements and are at once both micro and macro, themselves parts of a larger assemblage as well as being constituted by smaller assemblages arranged in a rhizomatic network. We might talk of lexical patterns as themselves assemblages, but we can just as easily describe their components as assemblages: phrases are arrangements of words, which are arrangements of morphemes, and so on. Meaning, like all other events, is emergent and immanent: it is bound up in the particular mixture of its constituents, and is greater than the sum of its parts. Language, we are reminded by Hanks and colleagues, "is not a Lego set"[25]; we do not simply make meaning by joining lexical items together like building blocks. The relationship between words and phrases, between grammar and lexis, is fuzzy and complex. As expressed by Goldberg,

> The totality of our knowledge of language is captured by a network of constructions: a 'construct-i-con'. (Goldberg, 2003: 219)

A major failing of generative grammar – along with its rejection of authentic language data – is its conception of language as catenative chains of atomistic units of meaning, rather than as a complex mesh of discursive and extra-discursive elements that, when brought together, give rise to meaning. Although language is patterned, predictable and regular in many senses, it is also dynamic and multiple. It is for this reason that Natural Language Processing struggles to disambiguate word senses, for example, especially via traditional rule-based systems. The recent wave of non-linear Deep Learning and Neural Network approaches, inspired by biological networks of the brain (Marblestone et al., 2016), represents a general shift towards more relational, rhizomatic thinking in Computational Linguistics and related fields. This trend is concurrent with the new-materialist turn seen in a range of other disciplines on both sides of the arts-science divide (see Chapter 2).

[24] A comprehensive overview of integrationist approaches to language can be found in Pablé and Hutton (2015). Relevant to this discussion is the claim of integrationist theory that all meaning in communication is emergent and context-bound.

[25] http://rgcl.wlv.ac.uk/research/dvc-disambiguation-of-verbs-by-collocation/

Although discussions of language as patterns and other arrangements are not new, and although we are now seeing empirically well-founded, context-sensitive approaches to the study of meaning, such as Corpus Pattern Analysis and the more computational Distributional Semantics, there remain some problems which lend themselves to a material semiotic reading of assemblages, rhizomes and actor-networks. One of these is the tension between the signified and signifier, between states of affairs and propositions: are semanticists, for example, analysing language, or the event construed by the language? Deleuze describes the intersection of these two series – the material and the discursive – as the point of the event: “Everything happens at the boundary between things and propositions” (Deleuze, 1990: 8). This boundary Deleuze calls ‘sense’:

> *Sense is both the expressible or the expressed of the proposition, and the attribute of the state of affairs*. It turns one side toward things and the other side toward propositions. But it does not merge with the proposition which expresses it any more than with the state of affairs or the quality which the proposition denotes. It is exactly the boundary between propositions and things (Deleuze, 1990: 22)

Butler elaborates on this, describing the moment of the proposition as a sliding back and forth between the material and the discursive ‘sides’, as if Deleuze’s ‘sense’ were a Möbius strip: “It is to move from one side to the other without leaping across any gap or void” (Butler, 2005: 134). Taking this line of thinking, then, we can recognise that semantic analysis is not purely linguistic, nor is it a comment on the material, but it lies somewhere in-between these two ‘sides’. It is simultaneously material and discursive.

Another problem for which we might turn to assemblage thinking for a solution is that of how to deal with agency and causality. I refer here not only to the kind of ‘agency’ discussed in Chapter 2, i.e. the material-semiotic notion of distributed agency, as opposed to traditional ideas of human-like agency and intentionality, but also the difficulties linguists face in describing relationships between components of language and their meanings. It is quite common, for example, to describe predicators as ‘taking’, ‘selecting’, ‘controlling’ or ‘governing’ their arguments, or to claim, as did Levin (1993), that the behaviour of a word is “determined by” its meaning. As argued by Hanks and others (cf. Leech, 1981; Lyons, 1977; Gabrielatos, forthcoming), this is a circular issue. Rather than attributing agency or causality in this way, we could accept meaning to be an event, which both co-constructs and is also co-constructed by a web of interrelated meaning events or assemblages. An event, according to Žižek, is “a manifestation of a circular structure in which the evental effect retroactively determines its causes or reasons … an effect which exceeds its causes” (Žižek, 2015: 2-5). Taking this view, it is unhelpful to attempt to draw a linear course of causality. Verbs may be central to a clause, but instead of construing them as agentic, for example, we might describe them using such terms as ‘participate’, as in Hanks (2013: 288): “Light verbs in languages such as English and German *participate in* several hundred patterns each” (emphasis added). Meaning, as per the original ‘valency’ analogy, might also be understood in the same way as a chemical reaction: words, phrases, spaces and interlocutors meet, form alliances, and produce new outcomes that have the capacity to contribute to further events.

3.8 Conclusion

This chapter has located the role of (critical) discourse analysis in recognising – and thus potentially dismantling – less obvious systems of oppression. Approaches to discourse analysis vary widely, but there is an argument for paying explicit attention to the social context of the problem, as is done in CDA, and for drawing only on authentic, actual language data, as is done in corpus linguistics. Despite fast-growing interest in discourse surrounding the more-than-human world, there is still a lack of emancipatory discourse analysis for the benefit of nonhumans, which this thesis aims to redress in some small way. Corpus Pattern Analysis, a technique used in corpus lexicography, is shown to have the potential for methodically and empirically classifying instances of ‘killing’ constructions in English, something that many other approaches have failed to do. Integrated into a broader analysis that takes other verb features into account, we might term this a ‘corpus-lexicographical discourse analysis’. Borrowing some concepts from material semiotics, namely the multiplicity and interconnectedness of events in the form of assemblages and rhizomes, it is possible to not only reconfigure understandings of agency and event dynamics, but also perspectives on language and meaning. Central to studies of language, such as this one, is the recognition that the ‘material’ and the ‘discursive’ are two sides of the same coin, always enmeshed in a larger assemblage, a ‘mixture’ of heterogeneous elements in a constant state of flux.

Having set the scene in this and previous chapters, I now introduce my empirical study, which draws on the theories and concepts presented. I begin with a description of the data and methods employed in Chapter 4, which also includes the methods and results of a comprehensive census of ‘killing’ terms.

4 Data and Methods

4.1 Introduction

This chapter describes the data and methodological approach used in this project, and gives the rationale for all major decisions taken in the development of this new methodology. As this project is concerned with the adaptation of Corpus Pattern Analysis (CPA) for a discourse analysis task, special attention is given to the steps taken in the analysis, and how this method differs from the conventional use of CPA.

In the remainder of this introductory section, the research questions from Chapter 1 are revisited, along with a brief account of the stance taken in this research. In Section 4.2, the data sources are explained, along with the procedure used for identifying ‘killing’ terms and for shortlisting candidates for analysis. The theoretical underpinnings of CPA are then revisited briefly in Section 4.3, followed by an example of CPA as used in lexicography and a description of how CPA is adapted for the purposes of this project. The full data annotation procedure is laid out in detail, including the construction of the PPPP Killing Ontology and the evaluation of the annotation procedure using an inter-annotator agreement test. Finally, the statistical methods employed in this research are explained, and Section 4.4 summarises the nature of the final data set and the main analytical steps taken.

4.1.1 Research questions

As stated in Chapter 1, the research questions (RQs) guiding this project are as follows:

> **RQ1**. What can a discourse analysis assisted by Corpus Pattern Analysis (CPA) reveal about the ‘killing’ verbs selected in relation to the key themes identified in the literature?

Having surveyed the literature, it is now possible to be more specific about RQ1. Key themes that emerged from the animal studies literature were those of distance, concealment, space and visibility, e.g. a politics of sight. The 'property' status of animals was also found to be widely discussed, as well as their position in longstanding hierarchies of worth. Chapter 3 demonstrated that the language of violent acts is characterised by discursive operations that effectively conceal or somehow justify these acts of violence, mirroring the material themes in Chapter 2. Finally, the material-semiotic ideas of assemblage, becoming and event were found to be recurrent critical concepts, closely related to the posthumanist ontologies previously discussed. All of these themes are therefore given explicit attention in the analysis.

RQ1 is supported by three further questions:

RQ2. How is the involvement in acts of killing, of humans and nonhumans respectively, typically represented in the extracts of discourse analysed?

> **RQ2a.** Are these representations stable across the different discourse domains represented in the corpus?

RQ3. What does CPA contribute to the task of discourse analysis?

All of the research questions are answered explicitly in Chapter 8.

4.1.2 Research philosophy

In the spirit of Berman (2006), I feel it is important that I situate myself in this research. As well as being a linguist, I am also a woman, a vegan, and an outspoken animal advocate; my motivation for conducting this research came partly from a deep sense of injustice and a wish to alleviate, and bear witness to, the suffering of nonhuman animals. I am white, British, able-bodied, atheistic, childless, and sufficiently educated – and privileged – to be pursuing a doctoral degree. These are not insignificant details and each aspect of my identity lends itself to a particular flavour of bias. I may well have more interest in, or sympathy for, issues that affect women and nonhuman animals than other researchers in my field. My social circumstances and cultural background will dictate, to some degree, my capacity to consider different worldviews and conceptual categories. I make connections within this research that my biologist colleagues perhaps would not, and I have undoubtedly missed details to which a mother, a farmer, or a theologian, for instance, would be more attuned. Above all, I am – like anyone reading this – a human.

There is no way of measuring the extent to which our status as humans affects our ability to critically evaluate human behaviour, and the language through which we communicate such ideas is inescapably anthropocentric. All of these factors are taken into consideration as powerful sources of potential bias in this research.

The decision to take a corpus linguistic approach in this research is no doubt itself a result of bias, in the sense that I identify as a corpus linguist, but it is also defensible – even necessary – on several fronts. To revisit some of the key points established in Chapter 3, language is instrumental in supporting and reifying ideologies and relations of power and as such warrants close and detailed investigation. However, it is hard to comment on the validity and generalisability of linguistic findings without having surveyed large volumes of linguistic evidence, typically more language than a human can process without computational assistance. Furthermore, corpus software helps to mitigate human bias in that it helps identify salient language units to which a human analyst is likely to be desensitised, and it produces quantitative reports on word frequency and statistical significance to a degree of accuracy that is not realistically attainable without the use of computers. Corpus linguistic methods are by no means infallible, however, and those working with corpus data must still exercise their own judgement when interpreting results. It is therefore particularly important that corpus linguists – and other quantitative researchers – recognise and declare their own biases in relation to their research, and avoid presenting their results as though they are objective. This research therefore employs corpus methods critically, with a focus on the use of empirical data rather than 'objectivity'. To mitigate some of the pitfalls of corpus approaches discussed in Chapter 3, namely the loss of textual context, this project involves extensive reading beyond the immediate node environment and annotation of a range of features (detailed in Section 4.3.2) that requires a thorough understanding of each instance in the data.

This research takes a straightforward and primarily descriptive approach to statistical methods, on the basis that natural language data is messy and open-ended, and in the case of several of the terms analysed here, too small in size to be submitted to such methods. I am also conscious that more complex, inferential statistics are still human-constructed measures of 'truth' and are not necessarily more empirical nor useful than their more basic, descriptive counterparts (Byrne, 2002).

I purposely grasp the data loosely. Few attempts are made to control, isolate, or "torture" (Huff, 1954) the data, in favour of a more bottom-up, open-ended and data-led approach.

Rather than confronting my research interests head-on, e.g. by looking directly at ‘animal’ terms, or by looking exclusively at ‘killing’ instances, I endeavour to approach them “sideways” (Žižek, 2010). By starting with verbs and examining all of their potential senses, it is possible to locate the place of the animal and the nature of the killing in light of these possibilities.

Finally, a concerted effort is made to incorporate material-semiotic, i.e. assemblage-aware, actor-network-informed, thinking. This entails an appreciation of the fact that the material and the discursive – and everything in-between – is interdependent, as well as “an insistence on seeing each event as the outcome of a convergence of multiple interacting influences including those of material objects, all to be taken equally seriously by the investigator” (Elder-Vass, 2015: 101). Language is seen as just one part of a chaotic ‘mixture’. While it is recognised that different text types have the potential to wield different kinds of power (see Section 3.2.1), this thesis does not seek to delineate nor analyse the effects of those different kinds of power, instead focusing on the lexical relations within documents and how they form part of a material-discursive reality.

4.2 Data

4.2.1 Corpora

Two corpora are used as sources of data for this project. One is the original British National Corpus (BNC), used for establishing conventional patterns of language usage in general English. The other is the corpus from the *‘People’, ‘Products’, ‘Pests’ and ‘Pets’* (PPPP) project, henceforth referred to as ‘the PPPP corpus’. This corpus provides the language data for animal-themed discourse, and makes it possible to compare the use of ‘killing’ constructions across different genres and as used by people with varying attitudes towards animals. The details and rationale for both corpora are given below.

4.2.1.1 The British National Corpus

The original British National Corpus (BNC) is a general-language corpus of roughly 100 million words of late-twentieth-century British English. It is comprised of text samples of up to 45,000 words taken from a wide range of genres and domains, 90% of which are written texts, the remaining 10% being transcriptions of spoken language. The original creators of the BNC – a consortium with members in the publishing industry (Oxford University Press, Longman, Chambers Harrap), academia (Oxford University, Lancaster University) and the British Library – compiled the corpus between 1991 and 1994 according to carefully considered design principles, with the aim of producing a large, balanced, representative sample of contemporary British English for (computational) linguistic purposes (Burnard, 1995; Leech et al. 2014). The basic composition details are given in Table 4.1.[26]

Subcorpus	No. of texts	No. of tokens	% of whole BNC
Spoken demographic	153	4233955	4.30
Spoken context-governed	755	6175896	6.27
Written books and periodicals	2685	79238146	80.55
Written-to-be-spoken	35	1278618	1.29
Written miscellaneous	421	7437168	7.56
Total	4049	98363783	100

Table 4.1: Basic composition details for the BNC, adapted from Burnard (1995)

Each of the subcorpora of the written BNC consist of various subcategories, each purposefully chosen to be representative of a particular genre, domain or time period, and balanced to reflect the proportions of different types of books being published around that time (Leech et al., 2014). Written text types are predominantly samples from books (57%) and periodicals (33%), with domains ranging from natural science and world affairs to arts, leisure, and belief and thought; see Table 4.2.

[26] Full compilation and composition information is available at http://www.natcorp.ox.ac.uk/docs/URG/.

Written domain	No. of texts	No. of tokens	% of written BNC
Imaginative	476	16496420	18.75
Informative: natural & pure science	146	3821902	4.34
Informative: applied science	370	7174152	8.15
Informative: social science	526	14025537	15.94
Informative: world affairs	483	17244534	19.60

Table 4.2: Size and proportion information for the written domains represented in the BNC, adapted from Burnard (1995)

The spoken part of the BNC is of a smaller proportion than would be ideal, but still provides linguistic evidence from a wide range of British English speakers representing a variety of regional backgrounds, age ranges and social groups. The 'demographic' portion of the spoken corpus consists of unstructured, 'spontaneous' conversation between recruited participants and their interlocutors. The rest of the spoken subcorpus consists of 'context-governed' speech, made up of monologues (40%) and dialogues (60%) selected based on a set of predefined, linguistically motivated topics. These are spread fairly evenly across four broad categories: educational, business, public/institutional, and leisure; Table 4.3 shows this distribution.

Context	No. of texts	No. of tokens	% of context-governed spoken corpus
Educational/Informative	169	1646380	26.65
Business	129	1282416	20.76
Public/Institutional	262	1672658	27.08
Leisure	195	1574442	25.49

Table 4.3: The context categories of the context-governed part of the spoken BNC, adapted from Burnard (1995)

As well as featuring extensive metadata relating to text type and domain, target audience, the place and year of publication (or recording), the number of authors (or speakers) and details of their gender, age range and regional identity, the BNC is annotated with structural tags denoting sections, words and parts of speech (POS). The BNC was POS-tagged using the CLAWS4 automatic tagger (Garside and Smith, 1997) and then the Template Tagger (Fligelstone et al., 1996), achieving a final accuracy rate in the region of 98% (Leech et al. 2014: 15).

As a large, freely available, carefully curated and comprehensively annotated corpus of British English, the BNC has been the (reference) corpus of choice for innumerable corpus linguistic investigations around the world with a diverse range of applications. Despite now being more than 20 years old, the BNC continues to play a central role in corpus linguistic theory and practice.

The original BNC is no longer sufficient for studies of contemporary British English which seek to comment on neologisms or linguistic phenomena specific to 21st-century – particularly technology-related – language. Researchers with these priorities might instead turn to web-crawled corpora such as the *ukWac* corpus (Ferraresi et al. 2008) and *enTenTen* (Jakubíček et al., 2013), or, once it is available, the brand-new version of the BNC, *BNC2014*[27]. For investigations into language change and general British English usage, however, the original BNC continues to be a robust and reliable source of linguistic data. It is for this reason that the *Pattern Dictionary of English Verbs* (PDEV) takes the BNC as its main source of data, and the BNC is used as the reference source of general British English in the present study. Using the BNC as a reference corpus also makes my results more comparable with those presented in the PDEV, whose entries I regularly refer to when doing CPA. In the rare absence of sufficient general-language data I refer, as per the policy in the PDEV project, to an *enTenTen* corpus. *EnTenTen13* is a web-crawled corpus of around 20 billion words, with subcorpora classified according to region (e.g. British English, American English and Australian English). Its size makes it an excellent source of linguistic evidence, but, as predicted by Thelwall (2005), it is not particularly representative of general written or spoken English due to being “Web English”. Most notably, “it houses a steaming, pulsating trove of pornographic writing”

[27] http://cass.lancs.ac.uk/bnc2014/

(Hargraves, 2017). *EnTenTen13* therefore serves as a last-resort, back-up corpus in which to search for evidence of specific language use.

4.2.1.2 The 'People', 'Products', 'Pests' and 'Pets' (PPPP) corpus

The PPPP corpus is a thematically-organised, specialised corpus of approximately nine million words consisting of texts related to animals, created for the purposes of the *'People', 'Products', 'Pests' and 'Pets'* project[28]. This was a cross-institutional research project between Kings College London and Lancaster University (initially University of Birmingham) from 2013 to 2016. The approach and aims of the project were similar to those of this research: to use corpus methods to create an overview of the ways in which animals feature in human society, as reflected in contemporary British English language. As such, it was necessary to build a corpus of animal-related discourse representing a variety of speakers, domains, text types, and – of course – animals.

Discerning what counts as 'animal-related discourse' is not a straightforward task, as acknowledged by the makers of the corpus (Sealey and Pak, 2018), and begins with the question of "what is an animal?". The creators decided, for the purposes of their project, that the 'animals' under consideration are only those visible to the human eye, thus excluding micro-organisms and imperceptibly small insects, for instance. The delimitation of what counts as an animal is more important in that project than in this one, as it seeks to comment on discourse related to animals as a whole, rather than on a specific phenomenon (e.g. killing) and how that affects a range of entities. As such, their analysis begins with the animal terms and then moves outwards. Nonetheless, that criterion is considered a useful and robust one, and does not create problems of exclusion in the data. As remarked by the authors, it has not prevented the less visible animals from being represented in the corpus: "[…] our searches for texts about animals visible to the eye often lead, especially in the scientific literature, to language about parts of such animals, as well as about invisible animals that co-exist with the visible, such as parasites" (Sealey and Pak, 2018). Naturally, this also resulted in the inclusion of texts that were not exclusively about animals.

[28] http://cass.lancs.ac.uk/?page_id=1560

The corpus was constructed by a variety of means: interviews and focus groups were carried out with a diverse range of people, such as hunters, vegans and wildlife broadcasters; text was downloaded from websites, news articles, legislative documents and scientific journal articles on the theme of animals; and additional linguistic data was successfully obtained from other research projects. The creators obtained nineteen transcripts of interviews carried out with dog owners, and were also given 103 written entries from a Mass Observation (MO) Project which included a directive on animals and humans (see Sealey and Charles (2013) for more information). The composition details of the PPPP corpus are given in Table 4.4.

<table>
<tr><th colspan="2">Subcorpus</th><th colspan="2">No. of texts</th><th colspan="2">No. of tokens</th><th colspan="2">% of PPPP Corpus</th></tr>
<tr><td rowspan="7">Written text</td><td>Broadcasts</td><td rowspan="7">4389</td><td>83</td><td rowspan="7">7975112</td><td>614378</td><td rowspan="7">91.97</td><td>7.08</td></tr>
<tr><td>Campaign literature</td><td>470</td><td>306680</td><td>3.54</td></tr>
<tr><td>Legislation</td><td>843</td><td>627127</td><td>7.23</td></tr>
<tr><td>Food websites</td><td>258</td><td>87118</td><td>1.00</td></tr>
<tr><td>Journal articles</td><td>1609</td><td>5698531</td><td>65.72</td></tr>
<tr><td>News</td><td>1023</td><td>466340</td><td>5.38</td></tr>
<tr><td>Contributions to Mass Observation Project</td><td>103</td><td>174938</td><td>2.02</td></tr>
<tr><td rowspan="3">Spoken text</td><td>Focus groups</td><td rowspan="3">55</td><td>19</td><td rowspan="3">696442</td><td>229059</td><td rowspan="3">8.03</td><td>2.64</td></tr>
<tr><td>Interviews with text producers</td><td>17</td><td>157664</td><td>1.82</td></tr>
<tr><td>Interviews with guardians/keepers of dogs</td><td>19</td><td>309719</td><td>3.57</td></tr>
<tr><td></td><td>Total</td><td></td><td>4444</td><td></td><td>8671554</td><td></td><td>100</td></tr>
</table>

Table 4.4: The composition of the PPPP corpus, adapted from Sealey and Pak (2018)

The written text part of the corpus, which is of a similar proportion to that of the BNC, comprises texts taken from the time frame 1995-2015. Almost two-thirds of this data comes from journal article texts due to their size and availability and the opportunistic approach taken to data collection. Potentially relevant journal articles were identified by searching within a corpus of 10,000 articles from 50 Elsevier journals for the presence of any of the ‘animal’ terms on the ‘master list’ drawn up by the PPPP researchers, and the results were checked manually for false hits (see Sealey and Pak (2018) for full details). This provided an extra 5.6 million words of relevant linguistic data from sources that were not necessarily ‘animal-related’ (simply mentioned an animal somewhere in the text), which was important methodologically, but it also created a significant imbalance of genres in the corpus and this is taken into consideration in the analysis. Other sources of written data – the broadcasts, campaign literature and legislation, for instance – were more obviously animal-related, and they represent a range of attitudes to animals (e.g. as food, as property, as an oppressed and exploited group) as expressed in written English.

The spoken text part of the corpus consists of elicited responses – as opposed to spontaneous conversation – on topics related to animals (though the ‘broadcast’ text type, in the written text part of the corpus, is another source of spoken language data in the form of transcripts). Seventeen metadiscursive interviews were carried out with producers of animal-related texts, such as broadcasters, academics, animal industry representatives, and high-ranking members of different organisations, including animal rights charities, pro- and anti-hunting groups, and societies involved in public engagement. Reflective focus group sessions were also conducted with respondents belonging to nine pre-defined categories, each category involving two focus group sessions of two hours each: participants aged 18-23, participants aged 60 and above, farmers, butchers, people with experience of hunting or fishing, people in support of animal rights, people (other than farmers) who work with animals, vegans, and people working in animal research.

In both the interviews and the focus groups, the aim was to elicit participants’ views on communication strategies and use of language, and the questions reflected this research priority. Questions posed in the interviews ranged from “What does your role entail in terms of communicating about animals?” and “Do you have any guidelines relating to communication around animals?” to “Why do you use [term] instead of [term]?” and “Can you say a bit more about anthropomorphic language?”. In some cases, these questions prompted a discussion around the control of language, in a professional capacity, and in other cases they sought to uncover motivations and personal feelings towards certain language. In the focus groups, short stimulus texts[29] were provided by the researchers in the first of the two sessions, along with questions about particular words and phrases that featured in those texts. In some of the focus groups, such as for those working with animals, or those who abstain from the eating of animals, these included both texts that supported and opposed what the participants of the focus groups were

[29] See Appendix F for examples of these stimulus texts, reproduced with the permission of the PPPP project team.

doing for a living or how they lived their lives, and these stimulus texts were also used in some of the interviews, depending on their relevance. In the second focus group sessions, participants were asked to bring brief instances of relevant language use that they found to be of interest, and these were used as stimulus texts.

The fact that these discussions were elicited and were themed around animals and animal-related discourse, sometimes via stimulus texts, means that some of the language is overtly metalinguistic and there are inevitably some cases where, in the absence of the stimuli used in the discussion, the transcript lacks sufficient context for the corpus analyst. These are rare instances, however, and represent a very minor issue with the spoken data which is otherwise a valuable source of insight on a broad spectrum of attitudes to animals.

The PPPP corpus was POS-tagged using Anthony's (2015) TagAnt software, built on the TreeTagger (Schmid, 1995), whose accuracy is reported to be between 95 and 98% (Giesbrecht and Evert, 2009). To meet their research needs, the creators of the corpus also opted to tag the corpus for the 'animal' terms from their 'master list' (see Sealey and Pak (2018) for details). This research does not make use of these 'animal' tags, useful though they are for other analytical purposes.

The suitability of the PPPP corpus to this project is clear, and I was fortunate to be given access to it. Even taking into consideration the limitations of this corpus – its relatively small size, the imbalance of subcorpora and the elicited nature of the spoken data – it is nonetheless an ideal sample of contemporary British English representing animal-related discourse across a number of genres and from a diverse range of perspectives.

4.2.2 Identification and selection of terms

4.2.2.1 Why verbs?

This study is limited to the analysis of verbs, or more accurately, predicators. There are several reasons for this: i) the exclusion of nouns and adjectives (including predicative adjectives) helps to narrow the research focus, which is otherwise in danger of becoming too broad and unsystematic; ii) verbs (predicators) act as the pivot of a clause, and so a verb analysis will simultaneously uncover the arguments (subjects and objects; agents and patients) entailed by different verb senses; and iii) the analysis of verbs is proven to be an ideal application for CPA, as seen in the *Pattern Dictionary of English Verbs* (PDEV), and one of the main aims of this project is to determine whether CPA-derived entries can form a suitable basis for discourse analysis. Of course, with each of these justifications come potential challenges or rebuttals: i) that the exclusion of e.g. modifiers and nominalisations will undoubtedly exclude some of the more interesting or controversial 'killing' constructions; ii) that this approach assumes a conventional argument structure, and does not easily accommodate more unusual constructions; and iii) that lexicography has very different aims from (critical) discourse analysis. In response to these hypothetical criticisms, I would argue that this research aims to arrive at the interesting and the unusual via the typical, since we cannot say with certainty what is abnormal without first establishing a norm; and that a corpus-lexicographical discourse analysis is one which places a central emphasis on (evidence of) meaning and is therefore a defensible approach to analysing language in use.

4.2.2.2 Census of 'killing' terms

Prior to analysis, it was necessary to draw up a list of 'killing' verbs, and so I undertook a census of 'killing' terms. (Note that I use 'terms' and 'verbs' interchangeably in the context of this analysis.) As this study is concerned with British English, the census involved the use of a range of English language resources and an investigation of the terms using the BNC.

In order to gather as many potential 'killing' terms as possible, and to establish which terms are consistently listed in popular lexicons, twenty lexical resources were consulted and a list of their 'killing' terms compiled. These included twelve 'ordinary' thesauri (some physical and some electronic, so as to keep the list up-to-date); six dictionaries of slang and euphemism, given the tendency of 'killing' language to be euphemistic (see Chapter 3); the concept-orientated *WordNet*; and Levin's (1993) verb classes, discussed in Chapter 3. Table 4.5 lists these resources and the number of terms yielded.

Source	Citation	Terms
The Oxford Thesaurus	Urdang (1991)	78
Oxford Dictionaries Thesaurus [online]	Oxford Dictionaries (2018)	43
Collins Thesaurus [online]	Collins Dictionary (2018)	63
Thesaurus.com [online]	Dictionary.com (2018)	106
Bloomsbury Thesaurus	F. Alexander (1997)	125
Longman Synonym Dictionary	Urdang (1986)	109
Roget's Thesaurus [online]	Roget.org (1999)[30]	27
The Macmillan Dictionary and Thesaurus [online]	Macmillan Dictionary (2009-2018)	10
The Nuttall Dictionary of English Synonyms and Antonyms	Elgie Christ (1943)	15
Webster's New Dictionary of Synonyms	Merriam Webster (1973)	13
The Macmillan Dictionary of Synonyms and Antonyms	Urdang and Manser (1995)	11
Roget's Thesaurus of English Words and Phrases	Dutch (1962)	104
Kind Words: a Thesaurus of Euphemisms	Neaman and Silver (1990)	17
The Faber Dictionary of Euphemisms	Holder (1989)	99
The Oxford Dictionary of Slang	Ayto (1998)	43
The Wordsworth Thesaurus of Slang	Lewin and Lewin (1995)	90
Stone the Crows: Oxford Dictionary of Modern Slang	Ayto and Simpson (2008)	39
Dictionary of Contemporary Slang	Thorne (2007)	35
Beth Levin's Verb Classes: *murder*, *poison*, *destroy*	Levin (1993)	33
WordNet [online]	Princeton University (2018)	70
Unique 'killing' terms, after vetting		**370**

Table 4.5: Resources used and number of terms extracted from each lexicon consulted

For the first twelve resources, the term *kill* was located first and then its synonyms noted. Those synonyms which also had their own entries were then investigated and, where pertinent, their related lexical items were also recorded. As the terms moved gradually further away from killing, and more towards related concepts such as destruction, termination and elimination, lexical items were selected more cautiously, but with an open mind. Some were later found to fall outside of the semantic field of killing, and these were removed from the final inventory of terms; the original total of 420 lexical items was thus reduced to 370, as described below. The full, final list of terms is given in Appendix A.

[30] Roget.org is an online, hyperlinked version of the 1911 edition of Roget's Thesaurus. The print version consulted is the 1962 edition which was the result of several major revisions and provides different terms.

For the six slang and euphemism dictionaries, the procedure depended on the format of the resource; in some cases, the terms were grouped conceptually, i.e. under the theme of 'killing', while in other cases the euphemisms themselves formed the headwords of the dictionary, in which case it was necessary to manually find and compile all terms which denoted killing. This was an iterative process which involved cross-checking across all of the six dictionaries.

WordNet, much like the traditional thesauri, provided synonyms of *kill*, but these are arranged into senses which made selection easier. Its 'killing' terms were noted in the same way as for the other resources. Finally, Levin's (1993) inventory of verbs was consulted. From all of its conceptual categories, three were considered to be useful: 'murder' verbs (class 42.1), 'poison' verbs (42.2), and 'destroy' verbs (44). All of the items in these categories were added to the list.

Each verb was then checked for meaning to confirm that it was in fact a 'killing' term, including etymological investigations into each term. It was with this final step – and the cleaning of the data, including removing typos and standardising spelling variations – that the list of terms was reduced from 420 to 370. It should be noted that while spelling conventions were altered to avoid duplicates (e.g. *despatch* to *dispatch*, *life-blood* to *lifeblood*), phraseology was preserved (e.g. *make an end of* and *make an end to* were kept as distinct entries).

4.2.2.3 Corpus evidence

From the 370 'killing' terms found, it was necessary to define a smaller set of salient terms for further investigation. In order to filter out terms that are not so strongly associated with killing (or at least are not widely agreed upon as being associated with killing), only those that featured in seven or more of the resources consulted were chosen for corpus examination. This resulted in the 48 terms listed in Table 4.6, the most 'popular' being *bump off* and *kill*, present in fourteen of the twenty resources consulted. It became apparent at this point that *euthanise* (or *euthanize*, or *euthanase*) did not appear in any, and thus was not examined in the corpus. This problem is discussed later.

Term	**Sources**	**Term**	**Sources**
bump off	14	*zap*	9
kill	14	*blow away*	9
assassinate	13	*put to sleep*	8
slay	13	*eliminate*	8
exterminate	13	*mow down*	8
dispatch	13	*decimate*	8
waste	13	*snuff*	8
murder	12	*shoot*	7
destroy	12	*strangle*	7
wipe out	12	*poison*	7
do in	12	*get rid of*	7
massacre	12	*finish off*	7
rub out	12	*electrocute*	7
execute	11	*put down*	7
slaughter	11	*take out*	7
butcher	11	*eradicate*	7
annihilate	11	*top*	7
liquidate	11	*smother*	7
knock off	10	*extinguish*	7
do away with	10	*off*	7
hit	10	*ice*	7
hang	9	*extirpate*	7
put to death	9	*end*	7
erase	9	*blot out*	7

Table 4.6: The 48 most 'popular' terms

Each of the terms was searched for in a POS-tagged version of the BNC via CQPweb[31], specifying verb-only hits, and in the case of separable verbs (such as *bump off*) queries were formulated which could accommodate up to three words in between (as in *bumped the old Pope off*). A random sample of 100 lines – or as many as were available, if fewer than 100 – was then manually examined for relevant 'killing' senses of the verbs. If no 'killing' senses were found in the first 100 lines, another 100 lines were added to the sample, and repeated if necessary up to 500 lines. The number of 'killing' senses was then divided by the sample size and multiplied by the total number of hits in the corpus. This provided a very rough estimate of how frequently each term features as a 'killing' term in the BNC, and can be referred to as a 'salience' score. Finally, this figure was multiplied by the number of sources in which the term could be found originally, forming an overall score which incorporates the 'popularity' of a term (the number of lexicons in which it features as a 'killing' term) as well as its salience as a 'killing' verb (roughly

[31] https://cqpweb.lancs.ac.uk/bncxmlweb/

how often it features in the corpus as a ‘killing’ term). Table 4.7, in Section 4.2.2.4, gives the twenty highest-ranking terms according to this metric.

Euthanise/euthanize/euthanase

It was surprising to find that *euthanise* (or *euthanize,* or *euthanase*) did not appear once across any of the thesauri and lexicons. It can be found in dictionaries, including etymology dictionaries, but it does not appear to occur as a synonym of, or term related to, killing. *Etymonline*[32] claims that *euthanize* was in use as early as 1915 in American English, and this is corroborated by Google’s Ngram Viewer[33]. A search for *euthanize, euthanise* and *euthanase* in British English books on Google Ngram Viewer shows that all three came into use in the late 1960s, and have steadily grown in frequency over time, as shown in Figure 4.1. They are still very low-frequency terms; in 2008 *euthanize* and its spelling variants (i.e. *euthanize, euthanise* and *euthanase*) appeared 0.018 times per million words in Google’s British English books, making it comparable in frequency with terms such as *strangulate* and *cannibalise*. Lemma forms of *euthanise*, *euthanize* and *euthanase* occur collectively 0.40 times per million words in the British English subcorpus of enTenTen13[34], though it is not possible to know the time period for these usages as enTenTen’s texts are derived from the Web and do not include time metadata. The BNC features just three examples of the lemma *euthanase,* and no hits for *euthanise* or *euthanize*.

[32] http://etymonline.com/index.php

[33] http://books.google.com/ngrams

[34] Lemma search for *euthanize*|*euthanise*|*euthanase* in enTenTen13 via the Sketch Engine (http://the.sketchengine.co.uk)

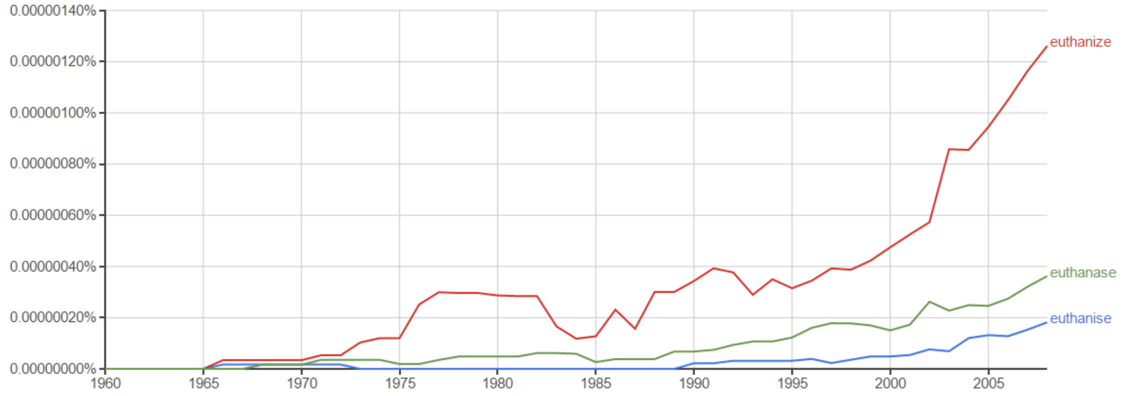

Fig. 4.1: the use of *euthanize* (in red), *euthanase* (in green) and *euthanise* (in blue) in British English books, 1960-2008, according to *Google Ngram Viewer*

Several of the thesauri consulted for 'killing' terms are from the 1980s and 1990s, which could explain why *euthanise/euthanize/euthanase* was not found in those books. The online dictionaries, however, should be more up-to-date. It is difficult to speculate as to why *euthanise/euthanize/euthanase* appears as headwords of dictionary entries, but is not synonymically linked to *kill*; perhaps it suggests that euthanasia is not typically conceptualised as a true act of killing, and it could be due in part to low usage and lack of (corpus) evidence. However, what can be concluded with certainty is that dictionaries and thesauri are not necessarily reliable resources for investigating language usage, and are at best a basic – though useful – starting point.

4.2.2.4 Identification of more 'killing' terms

Due to the fact that they were derived from human-compiled lexicons, the terms found so far were overwhelmingly anthropocentric; that is, with the exception of a few, they tended to be terms used for humans rather than for nonhumans. A second issue is that, although thesauri serve as a good starting point, their selections of entries are typically subjective rather than being empirically founded, and, as illustrated by the absence of *euthanise†*, are not necessarily reliable. For this reason, the PPPP corpus was taken as a source of data for more 'killing' terms, this time with a focus on animal-related terms.

Informed by the observation that 'killing' terms are very often used in the passive voice – a finding corroborated by the literature on discourses of violence (e.g. Bolinger, 1980;

Henley et al., 1995; Trew, 1979; see Chapter 3) – a regular expression search was used to retrieve as many passive constructions as possible from a POS-tagged version of the PPPP corpus. This led to 186,148 hits, consisting of 2,871 unique past participles. These verbs were then manually examined and those pertinent to killing were identified, in some cases by checking their usage in the corpus. From the 2,871 verbs, 105 were found to refer to killing.

Similar to the previous investigation into 'killing' terms, each of the verbs was searched for within the POS-tagged PPPP corpus. Random samples of 100 lines were taken – or as many lines as were available, if fewer than 100 – and manually checked for 'killing' senses. In some cases, this led to the original, single-word verb entry becoming a multiword expression (e.g. 'kick' becoming 'kick to death'), or single-word entries representing more than one 'killing' term (e.g. 'do' representing 'do the killing', 'do the shooting' and 'do pest control', amongst others).

As before, a metric was used for ranking the verbs in descending order of their potential relevance to the project. The number of 'killing' instances identified was divided by the sample size and multiplied by the number of hits for that term within the PPPP corpus, giving a rough idea of how many times it occurs in a 'killing' sense within the corpus. As there were no dictionaries or thesauri consulted for these animal-orientated killing terms, there was not a 'popularity' score by which this figure could be multiplied. This figure therefore constituted the final score. Table 4.7, below, gives the highest-ranking and therefore potentially most salient 'killing' terms as found by consulting lexicons and then searching in the BNC (on the left-hand side), and as found by manually identifying 'killing' terms within the PPPP corpus (on the right-hand side). Raw frequencies are given, along with normalised frequencies (per million words). Italics denote terms that appear on both sides of the table.

To reiterate, for the sake of clarity: the two rankings on each side of the table were calculated in slightly different ways due to the lack of dictionary evidence for the 'animal' terms. The left-hand side represents the 'killing' terms identified via the census of lexicons, top-sliced by number of resources in which they feature (minimum of seven) and this number multiplied by the 'salience' score described in Section 4.2.2.3 (the proportion of a random BNC sample in which the term features in a 'killing' sense, multiplied by the number of hits in the whole corpus for that term). The scores informing the ranking of the right-hand side of the table is simply the 'salience' score for that term, except the figures are derived from the PPPP corpus rather than the BNC.

Rank	Term	BNC freq. (raw)	BNC freq. (norm)	BNC Score	Term	PPPP freq. (raw)	PPPP freq. (norm)	PPPP Score
1	***kill***	14923	133.12	173703.72	***kill***	2281	263.04	2166.95
2	**murder**	2204	19.66	26183.52	***shoot***	641	73.92	615.36
3	***shoot***	7414	66.14	19721.24	**hunt**	542	62.50	542.00
4	***destroy***	6002	53.54	7202.40	***slaughter***	437	50.39	432.63
5	**execute**	1874	16.72	4535.08	**cull**	407	46.94	407.00
6	**slaughter**	377	3.36	3939.65	**sacrifice**	234	26.98	226.98
7	**assassinate**	287	2.56	3619.07	**fish (for)**	393	45.32	224.01
8	**slay**	285	2.54	3556.80	**crush**	229	26.41	167.17
9	**hang**	8717	77.76	3138.12	**put down**	279	32.17	156.24
10	**strangle**	390	3.48	2484.30	**eat**	2613	301.33	130.65
11	***wipe out***	631	5.63	1590.12	**trap**	408	47.05	126.48
12	***poison***	576	5.14	1249.92	**do**	33765	3893.77	112.55
13	**exterminate**	80	0.71	949.00	***destroy***	384	44.28	84.48
14	**do in**	6721	59.95	806.52	**harvest**	574	66.19	80.36
15	**put to death**	69	0.62	612.00	***put to sleep***	61	7.03	60.02
16	**massacre**	43	0.38	492.00	***poison***	70	8.07	58.00
17	**dispatch**	935	8.34	486.20	**euthanise†**	51	5.88	51.00
18	**butcher**	85	0.76	451.00	**sting**	47	5.42	41.89
19	**waste**	3136	27.97	407.68	***wipe out***	63	7.27	36.00
20	***put to sleep***	70	0.62	288.00	**prey (up)on**	37	4.27	29.21

Table 4.7: The highest-ranking 'killing' terms according to the census of lexicons, investigated using the BNC (left); and the highest-ranking terms according to the manual identification of 'killing' verbs within the PPPP corpus (right). All hits are those POS-tagged as verbs, and the normalised frequencies are per million words. †'euthanise' stands for all spelling forms.

Due to the nature of the data sources – one being subjective, human-compiled lexicons of 'killing' terms and one being a database of natural language on the theme of animals – it could be argued that the two columns of terms in Table 4.7 roughly correspond to 'human' terms on the left and 'animal' terms on the right, though it is of course more complicated than that. *Destroy*, for example – when used to denote killing – refers only to the killing of animals in both corpora, as does *put to sleep*, and both sides feature terms (in italics) which apply to both humans and animals.

Of these high-ranking terms, a much smaller number was selected for analysis. Fifteen terms were chosen so as to represent each of the high, medium and low ranks (in terms of the items in Table 4.7), i.e. five were taken from the top of the table, five from the middle, and five from the bottom. Terms were also considered in terms of their relevance to the literature, as well as other factors, such as the unexpected absence of *euthanise* from thesaurus entries. An equal number of terms was selected from each of the different categories, thus placing roughly equal emphasis on 'human' terms, 'animal' terms, and terms used for both humans and animals (denoted by italics in Table 4.7). The 'high' terms chosen are *kill, murder, slaughter, assassinate* and *cull*. The 'medium' terms are *sacrifice, put down, wipe out, exterminate* and *destroy*. The 'low' terms are *dispatch, put to sleep, butcher, harvest* and *euthanise*. Reasons for not selecting terms from outside this table are that: i) the ranking is taken as an imperfect but nonetheless empirically defensible approach to salient term selection, something not demonstrated by previous studies of 'killing' language; and ii) with around 9 million words the PPPP corpus is not especially large, so it is important to select higher-frequency terms for which there is likely to be sufficient evidence in the corpus. Given that some terms are chosen precisely due to the fact that they rank highly for 'humans' (left) and not for 'animals' (right), and vice versa, there will inevitably be some terms for which there is substantial evidence in one corpus but not necessarily in the other.

4.3 Method of Data Analysis

4.3.1 Doing Corpus Pattern Analysis (CPA)

As discussed in Chapter 3, the main application of CPA is currently in (computational) lexicography. It can be used to produce data-driven inventories of patterns associated with words – notably verbs, as in the *Pattern Dictionary of English Verbs* (PDEV) – and to illustrate the ways in which we use words to make meanings. CPA therefore lends itself to lexicographical endeavours, and as explored in this thesis, such a lexicographical approach might be extended to other empirical investigations into language and meaning, such as corpus-assisted (critical) discourse analysis. As previously mentioned, I was employed as an annotator on the PDEV project and trained, in a lexicographic context, in the CPA technique.

As also explained above, CPA has been shown to be effective for identifying typical language patterns and using these to distinguish norms from exploitations. One of the main aims of this project is to take CPA a step further: to test its effectiveness for discourse analysis by critically examining the significance of the patterns it uncovers, the boundaries of those patterns, and how the patterns feature across domains, genres and speakers. The standard CPA procedure is described below, with specific reference to the PDEV project, followed by an explanation of the proposed application of CPA to a corpus-lexicographical discourse analysis.

4.3.1.1 CPA for lexicography

CPA is geared towards lexicography, and, as explained in Chapter 3, it follows in the traditions of previous corpus-based lexicographical projects, such as the COBUILD dictionaries (Sinclair, 1987) and the Hector project (Atkins, 1993). Doing lexicography specifically with CPA involves the following steps:

1. Taking a random sample of concordance lines for a node word, starting with 250 and adding more later if necessary (see Step 4). In the interests of producing generalisable results, a large, general-language corpus is used as a source of data.
2. Manually grouping lines together based on their shared syntagmatic properties; this involves identifying norms, or (proto)typical phraseologies, and deciding which concordance lines are likely to be exploitations. Establishing such patterns is by no means simple, and “calls for a great deal of lexicographic art”, especially when deciding on the appropriate level of generalisation (Hanks, 2004: 88).
3. Sorting these grouped lines into patterns by tagging each line with a pattern number (and ‘lumping’ or ‘splitting’ these groups according to the judgement of the lexicographer), and then writing up the patterns and their implicatures.

4. Assessing the number of patterns. If more than twelve patterns are found during the analysis, it is recommended that the sample size is doubled and the tagging process repeated (Hanks, 2013: 95).

CPA as used in the PDEV

Figures 4.2 to 4.5, below, are used to illustrate the implementation of CPA in the creation of the PDEV, taking as an example a less emotive verb than those that are the main focus of this study, namely *drink*.

Due to the nature of the data sources – one being subjective, human-compiled lexicons of ‘killing’ terms and one being a database of natural language on the theme of animals – it could be argued that the two columns of terms in Table 4.7 roughly correspond to ‘human’ terms on the left and ‘animal’ terms on the right, though it is of course more complicated than that. *Destroy*, for example – when used to denote killing – refers only to the killing of animals in both corpora, as does *put to sleep*, and both sides feature terms (in italics) which apply to both humans and animals.

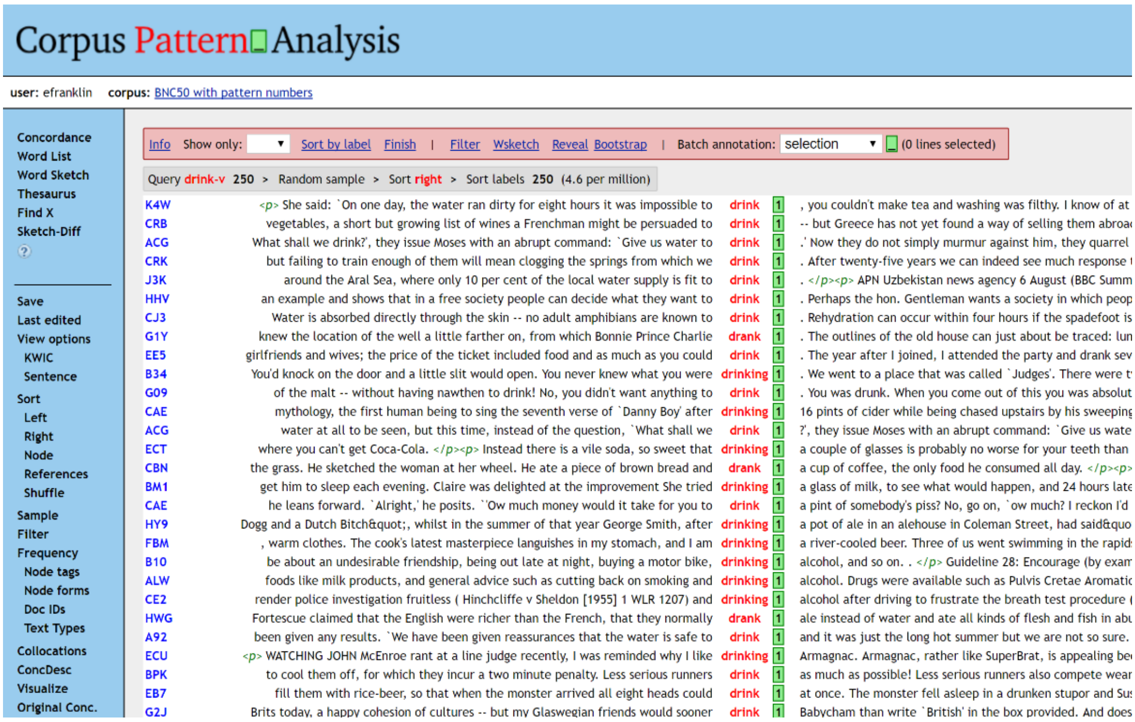

Fig. 4.2: Concordance lines for the verb *drink* within the CPA tagging environment, tagged and sorted by pattern labels

Verbs analysed for the purposes of the PDEV are annotated using a modified version of the *Sketch Engine*[35], shown in Fig. 4.2. Lines can be sorted by left and right contexts, node, file name and pattern number. Numbers are assigned using a drop-down menu box on the right-hand side of the node and multiple lines can be tagged in batches. This helps to streamline the sorting and tagging process, and for a straightforward verb with just one or two senses, the identification and labelling of syntagmatic patterns can take as little as half an hour. More complex verbs, especially those which require multiple extensions to the sample size due to a high number of patterns, can take several days or weeks to complete. Fig. 4.3 gives examples of tagged concordances for *drink*, this time zoomed in and demonstrating some non-standard notation: *.a* refers to an anomalous pattern realisation, *.f* is used for figurative instances, and *.s* (not shown here) for cases with unusual syntax, e.g. an elided object.

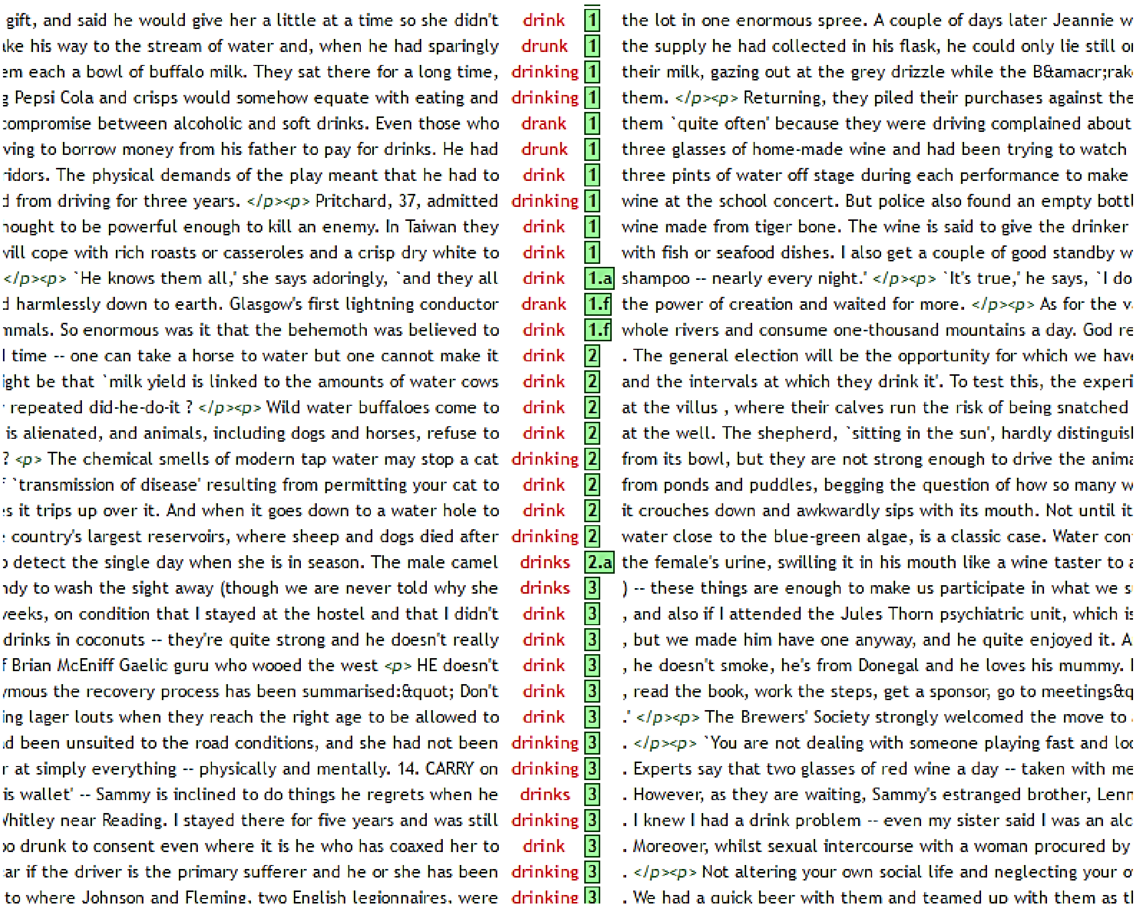

Fig. 4.3: More concordance lines for the verb *drink* within the CPA tagging environment, showing examples of anomalous (.a) and figurative (.f) pattern tags

[35] https://the.sketchengine.co.uk

Looking at the lines in Figure 4.3, we can see that the typical arguments governed by drink in the sense of Pattern 1 are humans in the subject slot and beverages of various kinds in the object slot, making the construction, *and they all drink shampoo – nearly every night* an anomalous example of Pattern 1, hence being tagged with the label *1.a*. The line directly below it, *Glasgow's first lightning conductor drank the power of creation*, is also unusual, but it is clearly a figurative use of language and therefore is labelled *1.f* and not *1.a*. The line marked *2.a*, in which a male camel drinks a female camel's urine, is another anomalous example, this time of Pattern 2, which involves an animal in the subject slot and water in the object slot (see Fig. 4.4). All of the lines tagged with *.a* are examples of exploitations as introduced in Chapter 3.

Once all lines have been sorted and tagged, their pattern information can be written up into a lexicographical entry (see Fig. 4.4). This includes the pattern structure – the verb and its typical arguments for that pattern, represented by semantic types (STs) selected from the CPA Ontology – as well as the implicature entailed by the pattern. This usually involves some anchoring of the implicature to the pattern itself via their shared STs, though this is not always the case. Every pattern will have a primary implicature, and some will even have a secondary implicature, as is the case for Pattern 3 in Fig. 4.4. This allows the lexicographer to record extra information or nuance that they feel is important to include in the dictionary entry. Orthographic conventions denote different features of patterns: double square brackets signify a semantic type; an equals sign converts a semantic type to a semantic role; round brackets imply optionality; curly brackets specify a fixed word or phrase; and pipes are used to separate alternative elements. It is also possible to mark instances that are phrasal verbs (as in *pv* on Pattern 4) and those that belong to particular domains or registers (e.g. SCIENTIFIC, FORMAL).

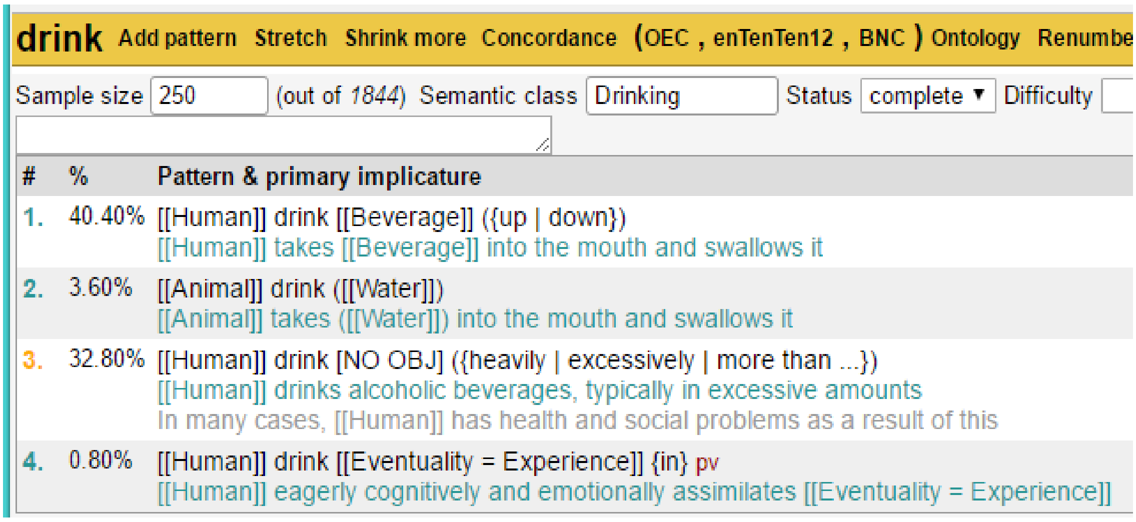

Fig. 4.4: The non-public-facing PDEV entry for the verb drink, with pattern structures (in black), primary implicatures (in green), and – in one case – a secondary implicature (in grey).

The public-facing version of the PDEV is simplified for the end user. It also includes example sentences for each pattern (see Fig. 4.5). The percentages of the most prominent patterns are given in bold, making it easier for the user to identify the most salient verb senses.

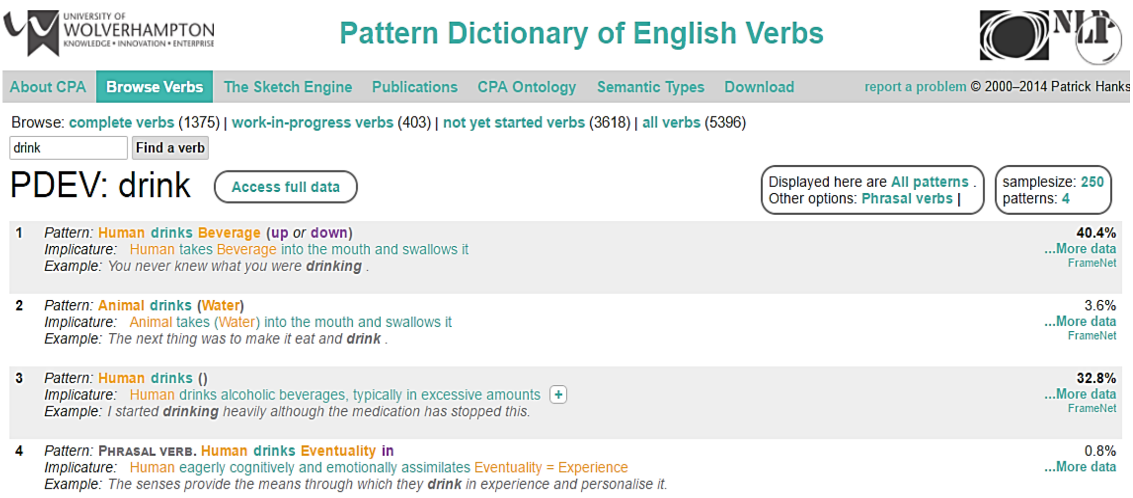

Fig. 4.5: The public-facing PDEV entry for the verb *drink*

For the lexicographer, analysis using CPA ends here. Dictionary makers will have little to say about the observations that i) humans do not appear to *drink* in the same way as other animals, at least not according to this sample, and ii) out of four senses of the verb *drink*, three relate solely to the concerns of humans, who account for just one species out of several million on the planet, the majority of whom will also have the capacity to *drink*, in some form or other. It is therefore necessary for a critical discourse analyst to take the lexicographical entry as an empirically founded basis for further investigation, rather than an end point in itself.

4.3.1.2 CPA for discourse analysis

To apply CPA outside of lexicography, the process begins in the same way as outlined above: a corpus is identified, a node word is selected for investigation, a random sample of concordance lines is taken, and the syntagmatic patterns and their implicatures are established through the iterative process of tagging, sorting, lumping and splitting. However, CPA-assisted discourse analysis – or corpus-lexicographical discourse analysis, as it might be called – differs from CPA in a number of ways:

- **The type of corpus.** CPA seeks to comment on widespread and typical language use, and as such takes a large, general corpus as its main source of data. Discourse analysis, on the other hand, is usually more concerned with distinguishing characterising features of particular discourses, and might therefore, as in the current project, require a more specialised and thematically focused corpus.
- **The goals of the analysis.** CPA was specifically designed for lexical analysis, in particular for distinguishing ‘normal’ word uses from ‘abnormal’ ones. Discourse analysis goes beyond word- and sentence-level language and seeks to draw conclusions about certain types of texts, topics and speakers.
- **The focus of the analysis**. Typically, CPA is used for analysing verbs, and verbs are treated as the focal point of the analysis. A discourse analyst may be interested in the participants or themes of a discourse, i.e. the noun phrases (or semantic types, in CPA). Discourse analysis using CPA can therefore begin with a verb analysis and from there progress to the arguments connected with the verb.
- **The output of the analysis**. CPA produces inventories of patterns, as in the case of PDEV. For discourse analysis purposes, the analysis needs to be taken further so that the output can answer the researcher’s questions relating to participants, rhetorical devices, and so on. An inventory of the subjects and objects associated

with a pattern, for example, could go some way towards answering the discourse-related research question at hand.

- **The Ontology**. As the PDEV project aimed to comment on general, typical and normal language, using the BNC its main source of data, it makes sense that an analysis of 'general' language which also uses a large and heterogeneous corpus such as the BNC should use the Ontology from the PDEV project. For specialised corpora and discourses, however, it is necessary to adapt the Ontology to reflect the evidence found in the data, or even to create a brand new, data-driven, specialised Ontology.

CPA as used in this project

The adapted CPA method, for each verb analysed in this project, is as follows:

1. Carry out CPA, using the CPA Ontology[36], on a random, 250-line (or as many as available, if fewer than 250) sample of the BNC. This might already have been done as part of the PDEV project, in which case the existing annotation needs to be reviewed. If the BNC does not have sufficient data for that term, refer to the enTenTen corpus.
2. Produce a list of patterns and implicatures for that verb, as used in 'general' (BNC) English. If an entry already exists in PDEV, check these against the supporting data and annotation.
3. Carry out CPA for that verb on a random, 250-line (or as many as available, if fewer than 250) sample of the PPPP corpus, noting explicitly the entities that commonly feature as Agents and Patients. Then either select suitable semantic types to represent these from the CPA Ontology or create new ones to be added to the PPPP Killing Ontology. (The samples taken from the PPPP corpus for each verb contribute the overall Killing Verb Dataset, the dataset used in this project.)
4. Produce a provisional list of patterns and implicatures. The patterns from the BNC/PDEV project may already be satisfactory, but new patterns may also occur in the PPPP data. If they do, take another random sample of 100 lines, if available, and annotate them as above.

[36] http://pdev.org.uk/#onto

5. Finalise the list of PPPP patterns and implicatures.
6. Compare the patterns and implicatures from the two corpora, along with the more specific types of entities which constitute the semantic types.
7. Once steps 1-6 have been carried out for all verbs and the PPPP Killing Ontology is stable, revise all patterns, implicatures and Ontological nodes, and adjust, if necessary.

The drawback of opting for a 'natural', data-driven and corpus-specific Ontology is that it needs to be built and altered gradually over time whilst carrying out CPA on the data. The CPA Ontology was therefore used as an initial starting point for the PPPP Killing Ontology, as discussed in more detail in Section 4.3.3.

Taking a lexicographical approach entails a holistic approach to meaning; for verbs such as *destroy* and *sacrifice* the non-killing-related senses are considered to be just as important as the 'killing' ones. Their patterns, arguments and other features were therefore analysed in the same way as all other instances.

In standard CPA, such as that of the PDEV, the analyst is not interested in semantic types that correspond to thematic roles such as agent and patient, and instead reports the semantic types that fill clause role slots, such as subject and object. As this study is specifically concerned with killing, and those involved (the killer and those killed), it made more sense to annotate Agent and Patient rather than grammatical subject and object, given that the subject and object are inverted in a passive construction.

4.3.2 Data annotation

To carry out CPA-assisted discourse analysis on the Killing Verb Dataset (KVD) – the totality of all of the 'killing' verb concordances sampled from the PPPP corpus – it was necessary to find a suitable annotation environment. The adapted *Sketch Engine* tagging platform used for the PDEV was designed for purely lexicographical purposes, and so was insufficient for the analysis carried out in this project. I opted instead to use Microsoft Excel, due to its availability, intuitive interface and potential to be customised without specialist programming knowledge. Concordance results for verbs were generated using

AntConc[37] by loading the POS-tagged version of the PPPP corpus, setting the concordance window as wide as possible, searching for verb-only hits of the term in question, and then exporting the results to a .txt file with tabs on either side of the node. The .txt file was then loaded in a macro-enabled Microsoft Excel template file (.xltm) into which I had built a custom tagging platform; once imported, the concordance data was automatically arranged by way of macros under column headers (left context, node, right context, filename) along with extra columns for annotating various features of the data. The 'rand()' function of Excel was used to generate random samples of concordance lines, and an '=IF' formula to automatically derive the text type from the filename data. The embedding of a macro button in the template made it possible to open, in a separate program, the full texts from which concordance lines were taken, and this was crucial in determining the meaning in many cases.

In CPA, concordance lines are only annotated with one piece of information: the pattern number. For the purposes of this project, it was necessary to take this annotation further and to undertake an exploratory analysis of the potentially relevant features of 'killing' language which might be able to shed light on the trends, and perhaps even motivations, behind different lexical choices. Each concordance line was therefore analysed for the features that follow, each of which was recorded in a separate column in the Excel spreadsheet. All illustrative examples in the following subsections are taken from the PPPP corpus.

4.3.2.1 Pattern

CPA is the first step of analysis for each verb. Patterns are first established for 'general' language, i.e. using a sample from the BNC, and these patterns were used as a guide when doing CPA on the Killing Verb Dataset (KVD). I should reiterate here that the KVD is not treated as a corpus but as a dataset – a set of instances, i.e. concordance lines; see Fig. 4.6 for an illustration of the data.

In some cases, general/BNC patterns had already been recorded in the PDEV, and in those instances my task was to check over the PDEV concordance and corresponding pattern entries and decide whether I agreed with them. Even in the cases where the previous

[37] http://www.laurenceanthony.net/software/antconc/

annotator was me, the tagging was problematised and evaluated. Patterns were noted in a separate file, and the pattern number recorded under the ‘Pattern’ column. This is also the column used for marking ‘noise’, such as meta-linguistic instances (e.g. *Instead of ‘killing' or ‘shooting' or whatever, we'd use ‘culling' or ‘dispatching’*), POS-tag errors (e.g. *chickens are being bred to grow to slaughter weight in less than six weeks*), and otherwise untaggable instances, such as ungrammatical constructions or concordances with missing information (e.g. headers: *Part 3 Trading Income / 115 Amount of receipt if old animal slaughtered under disease control order*). These were marked ‘m’, ‘x’ and ‘u’, respectively, and excluded from the final data set. Such instances were also excluded from the BNC/PDEV samples and pattern distributions adjusted accordingly.

4.3.2.2 Voice

Given the recognition in the literature of the effect of grammatical voice on the construal of events, as discussed in Chapter 3, each instance was marked according to whether it was expressed in the active (‘a’) or passive (‘p’) voice.

4.3.2.3 Agent

This research is interested in the discursive representation of participants implicated in acts of killing. Under the ‘Agent’ column I therefore recorded the noun phrase in the text that referred to the *killer*, or otherwise the doer of the action, since not all verb instances were used in a ‘killing’ sense. I use ‘Agent’ with a capital ‘A’ to signify that I am not using ‘agent’ in the traditional sense (i.e. to confer specific qualities such as intention, volition and animacy) but in a sense similar to Dowty’s (1991) Proto-Agent and Cruse’s (1973) ‘performer of an action’ understanding of agency. ‘Agent’ is therefore the part of the text that refers to the entity that ‘performs’ the action; in an active construction, this is the grammatical subject, and in a passive construction, the grammatical object. If the Agent-referential noun phrase was an anaphoric or cataphoric reference, e.g. ‘he’ or ‘the man’, then this was noted, followed by an underscore and the resolved identity of the Agent, e.g. ‘he_dog’. If the Agent was elided, typically as a result of a passive construction, then the Agent value was recorded as ‘X’ followed by an underscore and resolved identity, e.g. ‘X_slaughterer’. On the rare occasion that the identity could not be determined or reasonably inferred, then ‘X_X’ was used. This textual evidence did not form a key part of the analysis (CPA deals in semantic types rather than noun phrases, explicitly), but was useful when it came to deciding on an appropriate semantic type as well as calculating the Referential Distance (below).

4.3.2.4 Agent Referential Distance (ARD)

As established in Chapter 2, the concepts of distance and concealment are highly relevant to the topic of killing. Inspired by Givón and colleagues’ (1983) use of referential distance to measure topic continuity in discourse (Chapter 3), I opted to record the distance between participant references in the text. The Agent Referential Distance (ARD) is the number of clause boundaries between the immediate Agent reference and the closest sufficiently disambiguating mention of the same Agent, where a clause is considered to be a subject and a predicate. As with “Agent”, I use initial-letter capitals to mark this type of Referential Distance in contrast with the original. This is only loosely based on Givón’s referential distance, which was not interested in how explicit or unambiguous references are (ambiguity was handled differently), but in how continuous they are, and so accepted potentially ambiguous references, such as pronouns, as referential tokens. In this study, only *sufficiently disambiguating* references are accepted. A coreferential noun phrase is ‘sufficiently disambiguating’ if it provides enough explicit evidence for the annotator to select a semantic type from the Ontology. For example, the phrase *the pigs* implies the semantic type *PIG*, but the word *they* does not give enough information for the annotator to make a decision. If the identity of the Agent is made explicit in the immediate clause, the score is ‘0’ (for Givón, the minimum score was ‘1’ since he was measuring continuity). Givón only used ‘lookback’, while I use both ‘lookback’ and ‘lookahead’, so the window is five clauses either side of the node. If the distance is greater than the maximum of five clauses (for Givón it was 20, both arbitrary cut-off points), or if the identity is never revealed and/or world knowledge is required to identify the Agent, it is marked ‘NF’ (not found). Below are some examples, with the node in bold, the disambiguating Agent reference underlined, clause boundaries marked //, and zero-anaphors marked Ø:

(4.1) <u>A crazed teen</u> *held a sick Facebook party just hours after // Ø* **murdering** *his parents with a hammer.* (ARD = 1)

(4.2) *New Zealand and Australia today called for* <u>*a Japanese whaling fleet*</u> *// Ø to return to port a day after // it set off for the southern ocean whale sanctuary // Ø vowing // Ø to* **slaughter** *more than 1,000 whales.* (ARD = 4)

(4.3) *Around 1.3 billion pigs are* **slaughtered** *annually for meat worldwide.* (ARD = NF)

Given that slaughtering is typically carried out by slaughterhouse workers, we can assume that this is the intended referent in (4.3). However, this isn't specified in the text and such an inference requires world knowledge about industrial animal-killing practices. Since the aim of this exercise is to assess the visibility of surface references, examples such as this are marked 'NF'. As shown in (4.2), catenative chains (e.g. *vowing to slaughter*) were not grouped together but broken down into their distinct processes.

4.3.2.5 Agent-ont-1 and Agent-ont-2

For the purposes of creating a hierarchical Ontology similar to that of the CPA Ontology, Ontological[38] information for the Agent and Patient of each instance was initially recorded as two values: 'ont-1' and 'ont-2'. 'Agent-ont-1' denotes Ontological information for the Agent at the more general level, e.g. *HUMAN*, *ANIMAL*, *PROCESS*, *INSTITUTION*, etc. 'Agent-ont-2' provides more specific ontological information, if available, e.g. *FARMER*, *DOG*, *PROCEDURE*, *GOVERNMENT*. In many cases, the value is the same for 'ont-1' and 'ont-2', e.g. simply *HUMAN*, due to a lack of specific or pertinent information. Having the Ontological information at two levels of generality made it easier to create the PPPP Killing Ontology (PKO) later, as it provided evidence for which nodes tend to belong under which, hierarchically. See 4.3.3 for more on the PKO.

In the line taken as Example 4.3 in the previous section, revisited below in (4.4), the value for 'Agent' is *X_slaughterer*, because although the Agent is not mentioned we can infer

[38] I continue to differentiate between the philosophical 'ontology' and the semantic 'Ontology' by way of initial-letter capitalisation.

(square brackets) that the killing is carried out by professional slaughterers and not by just any humans. The value for 'Agent-ont-1' is the general semantic type of *HUMAN* and the value for 'Agent-ont-2' is the more specific semantic type of *SLAUGHTERER*:

(4.4) *Around 1.3 billion pigs are* ***slaughtered*** *annually [by slaughterers] for meat worldwide.*

In (4.5), the value for 'Agent' is *a cyanide spill*, the value for 'Agent-ont-1' is *EVENTUALITY*, and the value for 'Agent-ont-2' is *EVENT*:

(4.5) <u>*A CYANIDE spill*</u> *has* ***wiped out*** *wildlife in a tributary of the Danube.*

As described in Section 4.3.3, all nodes in the Ontology are recorded in the singular. Whether the Agent or Patient is encoded as singular or plural is recorded elsewhere: in the 'number' columns.

4.3.2.6 Agent Number (AN)

Informed by findings in the literature suggesting that violence is legitimised using deindividuating language (Chapter 3), and in order to gather more information on number and individuation in the data, the Agent Number (AN) was recorded. Plural instances were marked 'Pl'; collective noun phrases (e.g. *family*, *species*) were marked 'Col'; and singular/individual references were denoted with 'In'. The value 'MN' was used for non-count, mass nouns (e.g. *money*, *sugar*) and 'NS' for 'not specified', i.e. cases where the number could not be reasonably inferred.

4.3.2.7 Patient

As with the Agent, the part of the text referring to the Patient (or *killed*, or otherwise affected entity), was noted. Again, I use a capital 'P' to denote a looser understanding of patienthood than is formalised in most of the thematic role literature. The 'Patient' here is simply the 'done-to', the affected party, the Proto-Patient (Dowty, 1991). In an active construction, this is the grammatical object, and in a passive construction, this is the grammatical subject. If the Patient-referential noun phrase was an anaphoric or cataphoric reference, e.g. 'her' or 'it', then this was recorded, followed by an underscore and the resolved identity of the Patient. If the Patient was elided, e.g. in an active construction without an object, then the value for 'Patient' would be an 'X' followed by an underscore and the resolved Patient identity. If the identity could not be determined or reasonably inferred, it was marked 'X_X', as in the example below. The PPPP Killing Ontology features a 'semantic type' (not a true ST, rather an Ontological node that can be selected by the analyst) of 'X' for such cases.

(4.6) *Well, all animals, like, the ones that* ***kill****, they kill to eat, don't they*

It might be argued that the elided Patient in (4.6) can be inferred, from our world knowledge, to be *ANIMAL*, given that many animals kill other animals to eat them. But to do so would be to impose a specificity that is not present in the text and is not invoked by the intrinsic semantic properties of the verb *kill*. This is different from *slaughter*, which denotes a very specific type of killing event in certain contexts.

4.3.2.8 Patient Referential Distance (PRD)

As with ARD, the Patient Referential Distance (PRD) is the number of clause boundaries (a clause is considered a subject and predicate) between the immediate Patient reference and the closest sufficiently disambiguating mention of the same Patient. Some examples are given below, disambiguating Patient references underlined, node in bold, and zero anaphors marked Ø.

(4.7) *They thought // <u>the bird</u> was a witch // and Ø had summoned the tempest // so they* ***killed*** *it.* (PRD = 2)

(4.8) *Both <u>Arctic Foxes and Red Foxes</u> are* ***murdered*** *by anal electrocution.* (PRD = 0)

(4.9) *wonderful, got <u>deer</u>, // but after a while, they started // Ø eating the trees // and Ø doing damage, // so they had to be* ***culled****, // so we cull a few* (PRD = 4)

4.3.2.9 Patient-ont-1 and Patient-ont-2

The values for Patient-ont-1 and Patient-ont-2 follow the same premise as those for Agent-ont-1 and Agent-ont-2.

In (4.10), the value for 'Patient' is *as many immune cells as possible*, the value for 'Patient-ont-1' is the general ST of *PHYSICAL OBJECT* and the value for 'Patient-ont-2' is the more specific ST of *CELL*:

> (4.10) *Thus it would be of great benefit for pathogens to infect and* ***kill*** *as many immune cells as possible for a successful infection.*

4.3.2.10 Patient Number (PN)

As with Agent Number (AN), the Patient Number (PN) was a means of recording the relationship between expressions of Patient individuation and other factors in the construal of 'killing' events. The same values, 'Pl' (plural, countable), 'Col' (collective), 'In' (singular), 'MN' (mass noun) and 'NS' (not specified), were used for the PN.

4.3.2.11 Context

Intuitively, and from literature such as that reviewed in Chapter 2, we know that the fate of animals in human society depends heavily on the context in which they exist or into which they are placed by humans, as opposed to their inherent properties. For this reason, I decided to record a value for 'Context'. This meant that, along with the Ontological information denoting the type of animal (or human, or other entity), there would also be some information on the setting, place or purpose of the event against which to triangulate linguistic data on acts of killing. Context, with a capital "C", is therefore a rough indication of the material *circumstances* in which the killing takes place, and is closely linked to the *place* of the killing. The various Contexts were built up gradually during the course of the annotation and refined into the following list:

- 'Lab', for killing that takes place for scientific purposes, e.g. of animal test subjects;

- ‘Animal industry’, for the killing of animals for their flesh, fur and other commodities;
- ‘Farming’, for killing that takes place in arable farm settings, e.g. of ‘pests’ that pose a threat to crops;
- ‘Entertainment’, for instances involving animals used for entertainment purposes, such as animals whose roles as entertainers have come to an end;
- ‘Work’ for animals used as workers, e.g. dogs used by the Police;
- ‘Wild’, for killing that takes place in a ‘wild’ environment as opposed to a controlled one;
- ‘Domestic’, for the killing of a pet or, rarely, killing that takes place in the home;
- ‘War’, for the killing of humans and animals as a direct result of war; and
- ‘General’, for events that do not happen in any one particular context, or happen in multiple contexts at once. This category also serves as a sort of catch-all bin for ill-fitting instances, especially those which do not refer to killing.

Evidence for the Context might be derived in part from the text type (e.g. a scientific journal article might suggest that the context is ‘lab’); the actors involved (e.g. if the killer is a hunter then the context is likely to be ‘wild’); the verb itself (the verb *slaughter* might invoke the context ‘animal industries’ while the verb *put to sleep* might lend itself to ‘domestic’); and any extra information inferable from the text.

Deciding how to classify the Context was not always straightforward. In difficult cases, the following criteria were used as deciding factors in the order given below:

Place > purpose (of killing) > circumstances (of living) > source / text type

For example, in the case of a hunter killing an animal in the wild for entertainment, the place will take precedence over the purpose of killing, resulting in the context of ‘wild’ and not ‘entertainment'. Where the place of killing is not mentioned and the source is e.g. a journal article, but the purpose and circumstances point to, e.g. animal agriculture, rather than animal experimentation, then these factors will take precedence over the source, in this case resulting in a Context of ‘animal industries’ rather than ‘lab’.

4.3.2.12 Notes

A 'notes' column at the end of the annotation was used for recording any thoughts, questions and observations on the data, including possible new additions or other amendments to the Ontology.

Fig. 4.6 shows a screenshot of the full annotation platform with a sample of the annotation. The values that were populated automatically and did not require manual tagging are in grey, and notes are marked in red.

open file

left context	node	right context	pat	file	a/p	agent	ARD	AN	gent-ont1	agent-ont2	patient	PRD	PN	atient-ont1	ient-ont2	context	text type	notes
tibodies the animal host is either repeatedly bled or	sacrificed	. Antibody production is a major business, involving	1	cmpgnDrhdwi	p	X_researc	nf	ns	human	researcher	the animal h	1	in	animal	animal	lab	campaign literature	
ıse of laboratory animals. </p> The implants were	harvested	and used for histological analysis at 4 and 8 weeks	4	jrnlCryblg063.	p	X_researc	nf	ns	human	researcher	the implants	0	pl	physical ob	tissue	lab	journal article	
d:: individuals born, deprived of freedom and finally	killed	in order to obtain a product for our consumption. <	1	cmpgnAnmlql	p	X_slaught	nf	ns	human	slaughterer	individuals_	4	pl	animal	animal	animal ind	campaign literature	
ıat is the fun? I am well aware that it is necessary to	cull	animals and in my home country Sweden they shoc	1	MO-088.txt	a	X_hunters	nf	ns	human	hunter	animals	0	pl	animal	animal	wild	MO data	necessary t
said:: "`` This is a disaster for us -all our stock will be	slaughtered	. "" </p> Meanwhile, government experts were co	1	nwsSun007.tx	p	X_human	nf	pl	human	human	all our stock	0	col	animal gro	animal	animal ind	news	stock
. During 2003-2004 in excess of 16, 000 cattle were	slaughtered	in the Northern Ireland TB programme ((see replac	1	jrnlVtrnry068.	p	X_human	nf	pl	human	human	16,000 cattl	0	pl	animal	cow	animal ind	journal article	
they were only ten weeks old. Sadly Danny had to be	put to sleep	when he as only six, and afterwards it was just me	3	MO-006.txt	p	X_vet	nf	ns	human	vet	Danny_cat	5	in	animal	cat	domestic	MO data	
mM when the OD600 reached 1. 0. The culture was	harvested	3 h later and the cells were resuspended with shaki	4	jrnlFshshl018.	p	X_researc	nf	ns	human	researcher	the culture	0	mn	stuff	bacteria	lab	journal article	
vo-monthin vivo disc restoration, porcine were then	sacrificed	to harvest the whole IVD tissue for their chondroge	1	jrnlBmtrls036	p	X_researc	nf	ns	human	researcher	porcine	0	pl	animal	pig	lab	journal article	
ı a smooth homogeneous paste at 4 Ã‚Â° C. This was	harvested	by diluting in ice-cold PBS (final volume 5ml) and	4	jrnlVnrypr074	p	X_researc	nf	ns	human	researcher	this_a smoo	1	mn	stuff	stuff	lab	journal article	
ɜre are projects, like in The States, where they're not	killed	and also, I mean, look, we can't disrupt the whole e	1	fcsgrpAnmlrg	p	X_farmer	nf	pl	human	human	they_wolves	3	pl	animal	wolf	wild	focus group	
im off he bit him, so my parents vowed he had to be	put down	as they didn't want Pippin biting my brother or I.	7	MO-100.txt	p	X_vet	nf	ns	human	vet	he_dog	nf	in	animal	dog	domestic	MO data	
keeps such a close watch that/that she manages to	destroy	the workers' eggs almost as soon as they're laid. Th	1	brdcstUndrgr	a	she_bee	nf	in	animal	bee	the workers	0	pl	physical ob	egg	wild	broadcast	manages t
ɔllapsed. Many of the workers whose eggs are being	destroyed	by the queen start to attack her. The onslaught is bı	1	brdcstUndrgr	p	the queer	0	in	animal	bee	eggs	0	pl	physical ob	egg	wild	broadcast	
ɔrtoise in existence, The rest of his kind were mostly	wiped out	by whalers and buccaneers in the 18th and 19th ce	1	brdcstGlpgs0	p	whalers a	0	pl	human	hunter	the rest of h	1	pl	animal gro	tortoise	wild	broadcast	
traps before. I do dislike slugs and snails and have	put down	pellets. I would like to go on safari but never have	5	MO-046.txt	a	I_human	1	in	human	human	pellets	0	pl	stuff	poison	domestic	MO data	
that launch immune and inflammatory responses to	destroy	the invaders. The interaction of TLRs with PAMPs re	1a	jrnlFshshl018.	a	X_cells of	4	pl	physical ol	cell	the invaders	3	pl	physical ob	stuff	general	journal arti	
what's to come? Anyone who sees something die or	killed	, you're going to have some type of emotional react	1	brdcstKllct00	p	X_X	nf	mn	X	X	something	1	in	physical ob	animate	general	broadcast	something
IX1-transduced or control-transduced cells and then	sacrificed	24 hours later for bone marrow collection. The bon	1	jrnlExprmt027	p	X_researc	nf	ns	human	researcher	mice	0	pl	animal	mouse	lab	journal article	
a recent survey, many sick cats and dogs are being	put down	because their owners cannot afford available treatr	7	nwsDlyml098	p	X_vet	nf	ns	human	vet	many sick ca	0	pl	animal	animal	domestic	news	
estation. Virtually all ((?99. 5 %)) of the adults were	killed	and egg production was almost completely halted v	1	jrnlVnrypr126	p	X_researc	nf	ns	human	researcher	virtually all	2	pl	animal	flea	lab	journal article	
t change a dog's behaviour the ultimate option is to	put to sleep	. " Florence is the mother of Dottie, who was orig	3	nwsDlymrr05	a	X_human	3	ns	human	human	X_a dog	2	in	animal	dog	domestic	news	
esia and he saw the forest and how we use, how we	destroy	the forest and the animals. <CA:: Oh, I've heard, I'n	1a	fcsgrpAnmlrg	a	we_huma	0	pl	human	human	the forest ar	0	pl	physical ob	physical o	wild	focus grou	
AL That's where my hate for rats comes from. MAL I	put down	"food chain", obviously being a butcher, they're all	2	fcsgrpBtchrs0	a	I_butcher	0	in	human	butcher	food chain	0	mn	abstract en	informatio	general	focus group	
Respondent: And you think well it's, you know, you'd	ut the phone dow	sometimes and you'd be absolutely shaking becaus	4	nckstrK011.tx	a	you_hum	0	ns	human	human	the phone	0	in	physical ob	artifact	general	dogs transcripts	
ad to get back to make the decision or have the dog	put to sleep	. His liver had swelled, so I said,?Put the dog to slee	3	nckstrK017.tx	p	X_vet	nf	ns	human	vet	the dog	0	in	animal	dog	domestic	dogs transcripts	
anasia and tissue collection </head> All cats were	sacrificed	2 days after the last infusion using an overdose of t	1	jrnlMlclrg027	p	X_researc	nf	ns	human	researcher	all cats	0	pl	animal	cat	lab	journal article	
e patient samples in which the recipient mice were	sacrificed	at different time points, there was a consistent incr	1	jrnlExprmt02	p	X_researc	nf	ns	human	researcher	recipient mi	0	pl	animal	mouse	lab	journal article	
ıce the licence was granted in March 2013. This was	put down	to " confusion " on the part of the circus, despite th	3	cmpgnCaps02	p	X_circus	nf	in	institution	business en	this_lack of	2	in	eventuality	event	entertainm	campaign	circus
due to severe enteritis of the ewe and needed to be	sacrificed	accounting for the only maternal death in the study	1	jrnlBmtrls038	p	X_researc	nf	ns	human	researcher	one sheep	0	in	animal	sheep	lab	journal arti	needed to
d kept falling over, so I took him to the vets and they	put him down	. I was devastated. My boyfriend works long hours,	7	MO-101.txt	a	they_the	1	pl	human	vet	him_hamste	nf	in	animal	hamster	domestic	MO data	
called Meat is Murder is about animals about to be	slaughtered	and is very disturbing and usually brings a tear to m	1	MO-028.txt	p	X_slaught	nf	pl	human	slaughterer	animals	0	pl	animal	animal	animal ind	MO data	
you for what you are rather than challenging you or	putting you dowr	. And they are more forgiving! Other animals'lack of	10	MO-085.txt	a	X_pet	3	in	animal	animal	you_owner	5	ns	human	human	domestic	MO data	

Fig. 4.6: Example data annotation in Excel

4.3.3 The Ontology

The Ontology developed in this project, the PPPP Killing Ontology (PKO), is based on the CPA Ontology (CPAO), which was developed during the course of the DVC project[39], referred to elsewhere as the 'PDEV project'. The CPA Ontology[40], introduced in Chapter 3, is a shallow ontology of 254 nodes, each one a semantic type (ST) which represents a logical construct to which the members of a lexical set are linked, e.g. the type [[Beverage]] to which the arguments *a cup of tea*, *a pint*, *some water*, etc., are linked. (Note that I use double square brackets to denote STs from the CPAO and italicised, upper-case text to denote STs from the PKO.) Although it is a widely applicable Ontology of 'general' English, based on BNC data, the CPAO is still corpus-specific and is therefore not necessarily appropriate for use on more thematic language data. For this reason, it was used as an initial starting point in this project and was gradually altered and adapted to fit the data until a new Ontology, the PKO, was established. Like the CPAO, it is 'faithful' to the data upon which it is based, in this case the Killing Verb Dataset derived from the PPPP corpus.

4.3.3.1 The CPA Ontology

The CPA Ontology is organised hierarchically into ten levels, with [[Anything]] and [[Not Connected]] the nodes at the highest level, and then [[Entity]], [[Eventuality]], [[Group]], [[Part]] and [[Property]] at the next level, and so on. The CPAO is illustrated, fully expanded, in Fig. 4.7. Due to space limitations, the CPAO has been arranged into four columns, each one continuing from the previous one. The first three levels of the Ontology are emboldened for emphasis and are formatted as follows: ***FIRST LEVEL***, **SECOND LEVEL**, **Third Level**.

[39] http://rgcl.wlv.ac.uk/research/dvc-disambiguation-of-verbs-by-collocation/

[40] http://www.pdev.org.uk/#onto

4.3.3.2 The PPPP Killing Ontology

The PPPP Killing Ontology (PKO) is very similar to the CPAO, but differs in a few ways:

- It is more specific than the CPAO, to the effect that many of the entities that would normally be encoded in PDEV entries as semantic roles, e.g. [[Human = Butcher]], are readily available in the PKO as semantic types, e.g. *BUTCHER*;
- It is visibly more animal-orientated and less concerned with human affairs than the CPAO;
- It is flatter and shallower than the CPAO, with just six levels rather than ten.

The PKO is identical in size, with 254 nodes (including *X*, for recording 'no Agent' or 'no Patient') and *OTHER*, for the rare (n=22, 0.7% of all arguments) or anomalous cases of unclassifiable or ungeneralisable arguments, e.g. the noun phrase *Overfishing, natural mortality and weather conditions* (a combination of an *ACTIVITY*, an *ABSTRACT ENTITY* and a *STATE OF AFFAIRS*). As with the CPAO, all nodes are recorded in the Ontology in the singular. There are similar high-level nodes, such as *ANYTHING*, *ENTITY*, and *EVENTUALITY*, and they feature in a similar order. The PKO is presented in Fig. 4.8 in the same way as the CPAO (Fig. 4.7).

ANYTHING
| **ENTITY**
| | **Abstract Entity**
| | | Concept
| | | | Proposition
| | | | | Narrative
| | | | Rule
| | | | | Permission
| | | | Dispute
| | | | Information
| | | Information Source
| | | | Document
| | | | | Agreement
| | | | Language
| | | | | Number
| | | | Broadcast
| | | | Medium
| | | | Radio Program
| | | | Recording
| | | | TV Program
| | | | Numerical Value
| | | | | Money Value
| | | | | Quantity
| | | | Psych
| | | | | Attitude
| | | | | Emotion
| | | | | Goal
| | | | Resource
| | | | | Asset
| | | | | | Deficit
| | | | | | Money
| | | | | | Reputation
| | | | | | Time Period
| | | | Time Period
| | | | | Vacation
| | | | Obligation
| | | | Opportunity
| | | | Power
| | | | Privilege
| | | | Responsibility
| | | | Time Point
| | | | Uncertainty
| | **Energy**
| | | Wavelength
| | | | Light
| | | | Signal
| | | | Sound
| | | Force
| | | Heat
| | **Physical Object**
| | | Animate
| | | | Animal
| | | | | Cat
| | | | | Cow
| | | | | Dog
| | | | | Fetus
| | | | | Horse
| | | | | Primate
| | | | Human
| | | | | Deity
| | | | | Fetus
| | | | | Ghost
| | | | | Self
| | | | Bird
| | | | Cetacean
| | | | Fish
| | | | Insect
| | | | Snake
| | | | Spider
| | | Inanimate
| | | | Artifact
| | | | | Artwork
| | | | | | Movie
| | | | | | Picture
| | | | | Beverage
| | | | | | Alcoholic Drink
| | | | | | | Wine
| | | | | | | Water
| | | | | Building
| | | | | | Cinema
| | | | | | Theater
| | | | | Device
| | | | | | Software
| | | | | Document
| | | | | | Agreement
| | | | | Food
| | | | | | Meat
| | | | | Garment
| | | | | | Footwear
| | | | | Machine
| | | | | | Vehicle
| | | | | | | Road Vehicle
| | | | | | | | Bicycle
| | | | | | | | Car
| | | | | | | | Motorbike
| | | | | | | | Truck
| | | | | | | Water Vehicle
| | | | | | | | Boat
| | | | | | | | Ship
| | | | | | | Plane
| | | | | | | Train
| | | | | | Computer
| | | | | Weapon
| | | | | | Bomb
| | | | | | Firearm
| | | | | | Projectile
| | | | | Ball
| | | | | Ceramic
| | | | | Container
| | | | | Drug
| | | | | Engine
| | | | | Flag
| | | | | Furniture
| | | | | Image
| | | | | Medium
| | | | | Musical Instrument
| | | | | String
| | | | Light Source
| | | | | Flame
| | | | Location
| | | | | Building
| | | | | | Cinema
| | | | | | Theater
| | | | | Light Source
| | | | | | Flame
| | | | | Nat. Landsc. Feature
| | | | | | Watercourse
| | | | | | | Waterway
| | | | | | Hill
| | | | | | Land
| | | | | Route
| | | | | | Waterway
| | | | | Aperture
| | | | | Area
| | | | Stuff
| | | | | Fluid
| | | | | | Liquid
| | | | | | | Beverage
| | | | | | | | Alcoholic Drink
| | | | | | | | | Wine
| | | | | | | | Water
| | | | | | | Water
| | | | | | Vapour
| | | | | | | Air
| | | | | | | Gas
| | | | | | | Smell
| | | | | Solid
| | | | | | Material
| | | | | | | Cloth
| | | | | | | | Thread
| | | | | | | Glass
| | | | | | | Metal
| | | | | | | Wood
| | | | | | Dust
| | | | | | Soil
| | | | | Blemish
| | | | | Structure
| | | | Plant
| | | | | Tree
| | **Particle**
| | **Self**
| **EVENTUALITY**
| | **Event**
| | | Activity
| | | | Action
| | | | | Decision
| | | | Performance
| | | | | Broadcast
| | | | | Movie
| | | | | Mus. Performance
| | | | | Radio Program
| | | | | TV Program
| | | | | Theatr. Performance
| | | | Speech Act
| | | | | Agreement
| | | | | Command
| | | | | Offer
| | | | | Question
| | | | | Request
| | | | Investigation
| | | | Mental Activity
| | | | Plan
| | | Process
| | | | Weather Event
| | | | | Wind
| | | | | | Storm
| | | | | Precipitation
| | | | Disease
| | | | Explosion
| | | | Fire
| | | | Procedure
| | | | Radiation
| | | | Wave
| | **State of Affairs**
| | | System
| | | | Currency
| | | Illness
| | | Relationship
| | | Temperature
| **GROUP**
| | **Human Group**
| | | Institution
| | | | Business Enterprise
| | | | Self
| | **Vehicle Group**
| | | Water Vehicle Group
| | **Animal Group**
| | **Physical Object Group**
| **PART**
| | **Language Part**
| | | Name
| | | Phrase
| | | Word
| | **Music Part**
| | | Chord
| | | Tone
| | **Physical Object Part**
| | | Body
| | | | Body Part
| | | | | Foot
| | | | | Hair
| | | | | Head
| | | | | Limb
| | | | | Sense Organ
| | | | Building Part
| | | | | Room
| | | | Plant Part
| | | | | Tree Part
| | | | | | Branch
| | | | Vehicle Part
| | | | | Engine
| | | | Surface
| | **Speech Act Part**
| | | | Speech Sound
| | | Word
| | | Undefined
| | **Document Part**
| | **Movie Part**
| | **Recording Part**
| **PROPERTY**
| | **Cognitive State**
| | | Skill
| | **Role**
| | | Human Role
| | **Visible Feature**
| | | Colour
| | | Shape
| | **Character Trait**
| | **Injury**
| | **Institution Role**
| | **Pace**
| | **Use**
| | **Weight**
NOT CONNECTED

Fig. 4.7: The fully-expanded CPA Ontology, adapted from http://pdev.org.uk/#onto

```
ANYTHING
| ENTITY
| | Abstract Entity
| | | Asset
| | | Concept
| | | Proposition
| | | Dispute
| | | Energy
| | | Force
| | | Heat
| | | Information
| | | Life
| | | Time Period
| | Physical Object
| | | Animate
| | | | Human
| | | | | Beekeeper
| | | | | Fur Farmer
| | | | | Gamekeeper
| | | | | Hunter
| | | | | Land Manager
| | | | | Landowner
| | | | | Lord
| | | | | Minister
| | | | | Pest Controller
| | | | | Poacher
| | | | | Police Officer
| | | | | Breeder
| | | | | Politician
| | | | | Researcher
| | | | | Sailor
| | | | | Slaughterer
| | | | | Soldier
| | | | | Sportsperson
| | | | | Thief
| | | | | Trapper
| | | | | Vet
| | | | | Vivisectionist
| | | | | Broadcaster
| | | | | Zookeeper
| | | | | Builder
| | | | | Butcher
| | | | | Conservationist
| | | | | Driver
| | | | | Farmer
| | | | | Fisher
| | | | Animal
| | | | | African Hedgehog
| | | | | Ant
| | | | | Bass
| | | | | Baboon
| | | | | Badger
| | | | | Bat
| | | | | Bear
| | | | | Beaver
| | | | | Bee
| | | | | Big Cat
| | | | | Bird
| | | | | Bird of Prey
| | | | | Bison
| | | | | Bluefin Tuna
| | | | | Boar
| | | | | Bowhead Whale
| | | | | Budgerigar
| | | | | Buffalo
| | | | | Butterfly
| | | | | Buzzard
| | | | | Caribou
| | | | | Carp
| | | | | Cat
| | | | | Catfish
| | | | | Chicken
| | | | | Chimpanzee
| | | | | Clam
| | | | | Cod
| | | | | Cow
| | | | | Crab
| | | | | Crocodile
| | | | | Deer
| | | | | Dingo
| | | | | Dinosaur
| | | | | Dog
| | | | | Dolphin
| | | | | Duck
| | | | | Eel
| | | | | Elephant
| | | | | Elk
| | | | | Fish
| | | | | Flatworm
| | | | | Flea
| | | | | Flounder
| | | | | Fox
| | | | | Gerbil
| | | | | Gharial
| | | | | Giraffe
| | | | | Goat
| | | | | Goldfish
| | | | | Goose
| | | | | Great Tit
| | | | | Great White Shark
| | | | | Grouper
| | | | | Grouse
| | | | | Guinea Pig
| | | | | Hamster
| | | | | Hare
| | | | | Hawk
| | | | | Hedgehog
| | | | | Hedgesparrow
| | | | | Hen Harrier
| | | | | Horse
| | | | | Humpback Whale
| | | | | Insect
| | | | | Jellyfish
| | | | | Krill
| | | | | Lion
| | | | | Lionfish
| | | | | Lizard
| | | | | Macaque
| | | | | Magpie
| | | | | Mammoth
| | | | | Mink
| | | | | Mite
| | | | | Mole
| | | | | Mosquito
| | | | | Moth
| | | | | Mouse
| | | | | Mussel
| | | | | Octopus
| | | | | Orangutan
| | | | | Otter
| | | | | Owl
| | | | | Penguin
| | | | | Pig
| | | | | Pigeon
| | | | | Piranha
| | | | | Poultry
| | | | | Quail
| | | | | Rabbit
| | | | | Rainbow Trout
| | | | | Rat
| | | | | Raven
| | | | | Red Kite
| | | | | Reindeer
| | | | | Rhino
| | | | | Sailfish
| | | | | Salmon
| | | | | Sardine
| | | | | Sea Bass
| | | | | Sea Urchin
| | | | | Seabreem
| | | | | Seahorse
| | | | | Seal
| | | | | Shark
| | | | | Sheep
| | | | | Shrimp
| | | | | Skylark
| | | | | Slug
| | | | | Snake
| | | | | Sole
| | | | | Spider
| | | | | Squirrel
| | | | | Starling
| | | | | Stingray
| | | | | Stoat
| | | | | Swan
| | | | | Termite
| | | | | Thylacine
| | | | | Tick
| | | | | Tiger
| | | | | Tilapia
| | | | | Tortoise
| | | | | Trout
| | | | | Tuna
| | | | | Turkey
| | | | | Vole
| | | | | Whale
| | | | | Whale Shark
| | | | | Wild Boar
| | | | | Wolf
| | | | | Worm
| | | | | Zebra
| | | | Plant
| | | | | Tree
| | | | Other Organism
| | | | | Bacteria
| | | | | Microorganism
| | | | | Virus
| | | | | Spirit
| | | | | Embryo
| | | | Animal Fetus
| | | | Deity
| | | Artifact
| | | | Boat
| | | | Building
| | | | Plane
| | | | Weapon
| | | | Trap
| | | | Document
| | | Body
| | | Body Part
| | | Plant Part
| | | Stuff
| | | | Cell
| | | | Chemical
| | | | Gene
| | | | Liquid
| | | | Meat
| | | | Poison
| | | | Tissue
| | | | Food
| | | Location
| | | | Area
| | | | Park
| | | | Nat. Landsc. Feature
| | | | Reef
| | | | Slaughterhouse
| | | | Zoo
| | | | Earth
| | | | Environment
| | | | Estate
| | | | Woodland
| | | | Home
| | | | Land
| | | Egg
| | Self
| EVENTUALITY
| | Event
| | | Activity
| | | | Action
| | | | Fishing
| | | Process
| | | | Procedure
| | | Fire
| | | Implosion
| | | Disease
| | | Weather Event
| | | Meteorite
| STATE OF AFFAIRS
| | Conditions
| | Temperature
| | System
| | | Ecosystem
| HUMAN GROUP
| | Institution
| | | Bus. Enterprise (Animal)
| | | Bus. Enterprise (Other)
| | | Industry
| | | Organisation
| | | Government
| | | Military
| | | Ministry
| ANIMAL GROUP
X
OTHER
```

Fig. 4.8: The fully-expanded PPPP Killing Ontology

The most noticeable difference between the Ontologies is the treatment of animals. In the CPAO there are thirteen animal-related STs, and not all of them are classified in the same way: cats, cows, dogs, foetuses, horses and primates are listed under the superordinate of [[Animal]], while birds, cetaceans, fish, insects, spiders and snakes all have their own nodes at the same level as [[Animal]]. This reflects the nature of the BNC data to refer to most animals either rarely or homogenously, the exception being 'common' animals such as cats, dogs, horses, etc., as well as the tendency of natural language to construe other types of animals, such as birds, fish and insects, as not strictly 'animal'. The creators of the CPAO were mindful of the discrepancy between scientific and folk categorisations of the more-than-human world, and this explains the way the CPAO has been structured in this respect. The PPPP Killing Ontology, on the other hand, is very flat when it comes to specific nonhuman animal descriptors; all are grouped on the same level. There is also far more variety and specificity of animal types: 135 in total, and in some cases multiple nodes for the same kinds of animals, e.g. *TROUT* and *RAINBOW TROUT*.

The PKO is visibly less abstract and more materially-orientated than the CPAO. The *ABSTRACT ENTITY* section is far smaller than that of the CPAO, and *PHYSICAL OBJECT* a great deal larger. Specifically, the *ANIMAL* part of the PKO is the most dominant, and other nodes are also more animal-orientated, such as *FISHING*, *SLAUGHTERHOUSE*, and *TRAPPER*. The CPAO, on the other hand, is noticeably anthropocentric: the buildings mentioned are cinemas and theatres; there are sections devoted to money, vehicles and artistic performances; and at the deepest point of the Ontology is [[Wine]], which features twice: once under [[Artifact]] and again under [[Stuff]]. In some cases the same nodes feature in both Ontologies but in different positions, e.g. *DOCUMENT*, which is listed as both an abstract entity and a physical object in the CPAO, but only as a physical object in the PKO; and *DEITY*, which in the CPAO is an honorary type of [[Human]] but in the PKO is a more general *ANIMATE*. There is also the case of *MEAT*, which in the CPAO is classed as [[Food]] and in the PKO is categorised as *STUFF*. This reflects the different nature of the two data samples: the BNC, which revolves around human activities such as eating and drinking; and the PPPP 'killing' samples, in which 'meat' is typically *butchered* or *despatched* rather than *cooked* or *eaten*. These might also be explained in part by personal bias, such as my personal rejection of 'meat' as food, as well as differences in lexicographic judgement, e.g. of how to classify an entity such as a deity.

For an ST to be included in the final PKO, which was built up gradually during the annotation process and eventually refined, it had to be something that was not satisfactorily accounted for by any of the already-existing nodes. If it was deemed pertinent that the Agent was, for example, a *MINISTER*, and not simply a *HUMAN*, then a new ST was created for that purpose. Given the critical and animal-orientated nature of this research, I was also wary of ‘lumping’ distinct animal types into more general ones, hence the large number of highly specific animal nodes in the PKO. The exceptions to this were *DOG*, which includes all references to specific dog breeds, such as *German Shepherd* and *Rottweiler*; and *COW*, which was used for all mentions of cows (in the lay sense), including *cattle*, *heifer*, *steer*, *calf*, *dairy cows*, and so on. This was due to the need for some degree of generalisability and control of the Ontology, as well as – in the case of *COW* – my commitment to resisting, where practicable, the construal of animals as biological commodities. *POULTRY* is unfortunate, but unavoidable without overgeneralising, e.g. as *BIRD*, or – without sufficient evidence – speculating, e.g. as *CHICKEN* or *TURKEY*. Both would be inaccurate and would flout the principle of remaining faithful to the data. Despite my attempts to be principled, however, my own bias, as well as my research focus on human-animal relations, is evident in the lack of variety for plants; all plant types, such as *wheat*, *cattails*, *kelp*, and *shrubs*, are homogenised in the PKO under *PLANT*.

4.3.4 Evaluation of the annotation

In order to evaluate the reliability and validity of the annotation scheme, i.e. how well it reflects the “truth” of the data (Artstein and Poesio, 2008), it was necessary to carry out an interannotator agreement test. For this I hired a second annotator, paid for by the Arts and Humanities Research Council[41] via the North West Consortium Doctoral Training Partnership[42]. This second annotator was a fellow doctoral student in linguistics, who also uses corpus linguistic methods and who had previously been trained in Hanks’ ‘standard’ CPA. The annotator received specific training from me over a number of sessions on the annotation scheme used in this project, including the overarching context, rationale and

[41] https://ahrc.ukri.org/

[42] http://www.nwcdtp.ac.uk/

research questions. Annotation guidelines (Appendix B) were provided and discussed in detail, and the annotator was given a sample of 100 lines to annotate in an Excel environment with all previous annotation removed. This comprised 25 lines randomly selected from the KVD samples of four of the 'killing' terms: *murder*, *slaughter*, *sacrifice* and *harvest*. For each of these terms, the BNC-derived (i.e. PDEV) patterns were provided with the instruction that they be used as a guide and not necessarily as set patterns for that sample. The features to be annotated were reduced from the original 13 (listed in 4.3.2) to nine: Pattern, Voice, Agent-ont-2, ARD, Agent Number, Patient-ont-2, PRD, Patient Number and Context, with a column provided for any notes. The four features that were dropped were Agent and Patient (the relevant noun phrases in the text); and Agent-ont-1 and Patient-ont-1, the general-level Ontological types for the Agent and Patient. This because these features were not used explicitly in the final analysis; they were required mainly for the construction of the PPPP Killing Ontology. For each of the final nine features, the annotator was asked to be select a value from a drop-down menu of a pre-defined set of labels, e.g. Agent-ont-2 and Patient-ont-2 there was a drop-down menu containing all nodes in the Ontology. For Agent Number and Patient Number the possible choices were 'In', 'Pl', 'Col', and so on. The exception was 'Pattern', which was left open. The annotator was instructed to add or amend patterns as and when necessary.

Halfway through the annotation process we met to discuss any queries, and at the end of the annotation we discussed any major disagreements. If there had been a mistake or a deviation from the annotation guidelines, that source of disagreement was amended, while others were left intact. Agreement levels were calculated using a basic agreement coefficient based on some of the most popular metrics described in Artstein and Poesio's (2008) comprehensive survey, namely Bennett et al.'s (1954) *S*, Scott's (1955) π and Cohen's (1960) κ, taking the simplest form of calculation (coefficient *S*) but with some weighting included as per some of the other measures. As such, agreement was found for each feature using the standard (as used in all of the abovementioned coefficients) calculation of

$$\frac{A_o - A_e}{1 - A_e}$$

where A_o is the observed agreement and A_e is the expected agreement, i.e. the agreement that we would expect to occur simply by chance. This expected agreement was calculated, following S, as

$$A_e = \sum_{k \in K} P(k|c^1) \cdot P(k|c^2) = \frac{1}{k}$$

where $k \in K$ refers to the set of possible values, or labels, for that feature; $P(k|c^1)$ is the probability of the first coder c^1 assigning one of these labels, k; and $P(k|c^2)$ is the probability for the second coder, c^2. These probabilities will be different for each feature, depending on the number of possible labels; for the feature 'Voice', for instance, there are just two possible labels, 'active' and 'passive', and so the expected agreement is 0.5. For Agent-ont-2 and Patient-ont-2, on the other hand, there are 254 nodes to choose from in the Ontology and therefore the random chance of agreement is much smaller. The reason this approach might be considered 'basic' is because each coder is assigned an equal probability of choosing a given category, i.e. their individual distributions are not factored in to the overall calculation, and each category is also considered to be as likely as the next. The rationale for not taking a more complex approach to measuring the interannotator agreement, involving e.g. individual coder distributions and adjusted probabilities, is that the aim of this exercise was to measure the basic validity of the annotation scheme. To submit this type of semantic data to more detailed – and arguably still problematic – statistical testing felt unnecessary. This coefficient is therefore considered a somewhat naïve but nonetheless principled and reproducible approach to calculating interannotator agreement.

As is standard, an agreement on a case between Coder 1 and Coder 2 was marked '1' and a disagreement '0'. However, given that some disagreements are not as 'punishable' as others, e.g. the distance between *HUMAN* and *FARMER* is not as great as that between *HUMAN* and *ABSTRACT ENTITY*, a basic form of weighting was used for the Agent-ont-2 and Patient-ont-2 values: where an exact match was found, the score was 1; where the agreement was found only at the general level (the first five levels of the Ontology, as in the case of *HUMAN* and *FARMER*) the score assigned was 0.75; otherwise the score was 0.[43] On the same basis, the scores for ARD and PRD were also weighted: where there was an exact agreement, the score was 1; where there was a disagreement of just one, i.e. the difference between a '3' and a '4', the score was 0.75; for two, 0.5; for three, 0.25; and

[43] This difference score was calculated by first converting all Ontology nodes to alphanumeric codes that specify the precise location of each node in the Ontology (see the interannotator agreement data in Appendix C for examples). Doing this meant that distance between semantic types could be calculated quickly and accurately.

for a greater disagreement, 0. This means, for example, that where one annotator marked a ‘2’ and the other a ‘5’, the agreement score would be ‘0.25’. The ARD and PRD label ‘NF’ (maximum score) was converted to ‘6’ for the purposes of this test.

The final agreement score – an average of the chance-corrected agreement scores for all of the nine features – was 0.88, with a standard deviation of 0.06. Agreement scores for the individual features are listed in Appendix C, showing their raw agreement scores (all of the scores added up and divided by the number of items, i.e. 100) as well as their final, chance-corrected agreement scores. Agreement is measured on a scale of 0 to 1, where ‘0’ means no agreement and ‘1’ means perfect agreement. There is no consensus on what is to be considered an ‘acceptable’ or ‘good’ agreement score. Artstein and Poesio (2008) cite Krippendorff (2004) who, like many others, considers 0.8 to be the standard cut-off point for an acceptable score. There is an acknowledgement, however, that annotation of discourse segments, particularly of a semantic or pragmatic nature, is far more prone to disagreement than other types of linguistic annotation, and that the use of weighting is also problematic since there is no set approach for determining appropriate weights (Artstein and Poesio, 2008).

4.4 Summary of Data and Methods

The final dataset analysed in this project is summarised in Table 4.8. The Killing Verb Dataset (KVD) is only comprised of the concordance samples listed under ‘PPPP sample’, a total of 1,682 instances. The BNC samples, used as reference, were either accessed through the PDEV platform, powered by Sketch Engine, or in the absence of a PDEV entry taken directly from the BNC (via CQPweb) and exported into Excel. In the case of *euthanise*, there was insufficient evidence in the BNC and so the reference sample was taken from the enTenTen15 corpus. Given that *assassinate* did not feature at all in the PPPP corpus, nor consequently the KVD, it could not be analysed in comparison with the rest of the KVD data and was effectively excluded from all comparative studies. The values here refer to the number of concordance lines remaining after POS-tag errors (‘x’), untaggable lines (‘u’) and metalinguistic instances (‘m’) were removed. It should be noted that, for the purposes of analysis, *euthanise* is used to represent all spelling forms (*euthanise*, *euthanize*, *euthanase*), and the same goes for *dispatch* (*dispatch*, *despatch*).

Term	BNC sample	PPPP sample	No. of patterns
assassinate	226	0	1
butcher	34	27	3
cull	97	170	5
destroy	244	197	4
dispatch	235	35	4
euthanise	250*	48	1
exterminate	50	14	2
harvest	180	211	4
kill	966	201	18
murder	475	29	3
put down	458	211	22
put to sleep	68	57	5
sacrifice	240	212	4
slaughter	201	208	4
wipe out	231	62	4

Table 4.8: The final dataset. *Reference sample for *euthanise* taken from enTenTen15.

To summarise the main steps to analysis taken in this project:

- 'Killing' terms were sourced from dictionaries and other lexicons and reduced to a manageable set of fifteen using a combination of selection criteria;
- Random samples of 250 lines (or as many as available) were extracted from both the BNC (enTenTen in the case of *euthanise*) and the PPPP corpus for each of the terms;
- CPA was carried out on these samples and patterns derived from the BNC samples were used as a guide when analysing the PPPP data;
- The PPPP samples were also annotated for a range of features, such as grammatical voice, 'Context', the Agent, the Patient, and referential distance;
- An Ontology of semantic types, the PPPP Killing Ontology, was developed over the course of the annotation, modelled on the BNC-derived CPA Ontology;
- The annotation scheme was submitted to an interannotator agreement test;
- The results of the annotation were analysed quantitatively by comparing, e.g. referential distance scores and prevalence of certain semantic types across 'killing' terms;

- The quantitative results were then analysed in more depth via a CPA-assisted, or corpus-lexicographical, discourse analysis;
- Finally, the effectiveness of CPA as a discourse analysis tool was evaluated, taking the results and the overall process into account.

In the three chapters that follow, I present the results of the analyses. Following these is a concluding chapter with a discussion and critical reflection on the findings, both methodological and substantive.

5 Finding the Killer, Naming the Victim

5.1 Introduction

As discussed in the preceding chapters, recurring themes of the literature around animal-killing were distance and concealment, both in terms of physical, geographical distance and relational, ontological distance. Slaughterhouses in the UK and other countries are often hidden from view and their internal processes obfuscated; even in a tightly controlled working environment, the person responsible for the killing remains ambiguous. A review of discourse analyses on this and related topics found that representations of violence and killing consistently feature legitimation devices, whether through construal of the victim as 'killable' or passive, or by distancing the perpetrator from the act. This chapter details findings in terms of grammatical voice and Referential Distance and the roles these devices play in the concealment, backgrounding and reframing of 'killing' events and their participants. In doing so, it addresses RQs 1 and 2, commenting on the key themes of distance and concealment as well as the construal of the involvement of different types of participants in acts of killing.

The chapter is structured as follows. Section 5.2 is split into two main parts: one reporting on Agent Referential Distance (ARD) and the other on Patient Referential Distance (PRD). These terms, explained in Chapter 4, are revisited and discussed below. Section 5.3 addresses the use of voice, specifically active and passive voice, and how this contributes to the distancing of Agents and Patients. The causative voice is also discussed with reference to the terms *put down* and *put to sleep*, which were found to be distinct from the other 'killing' terms in this respect. Finally, in Section 5.4, the findings of this chapter are summarised and discussed, and it is concluded that distance is achieved through a variety of means and with a range of potential motives, which are not necessarily easy to infer. As well as (high and low) Referential Distance, in combination with – sometimes created through – the use of (active and passive) voice, distance can also be achieved through use of subtly ambiguous 'killing' terms, particularly those with other, non-killing senses. Corpus Pattern Analysis (CPA) is used in places to tease out these more nuanced aspects of meaning.

5.2 Referential Distance

Referential Distance was calculated for both the Agent and the Patient in all 1,682 lines of the Killing Verb Dataset (KVD). As described in Chapter 4, this required counting the number of clauses between the immediate mention of the Agent or Patient and its nearest *sufficiently disambiguating* token or noun phrase, up to five clauses either side. This process was based on Givón and associates' (1983) work in topic continuity, mentioned in Chapters 3 and 4, which involved counting the number of clauses between references to a given discourse topic. Givón was interested in the continuity (distance between references), persistence (length of coreferential chain) and ambiguity (interference from other potential references in the immediate environment) of a topic, on the assumption that a highly topical entity will have low referential distance, high persistence and low ambiguity. This study, however, is concerned only with the degree of ease with which participants (i.e. killers and those killed) can be located and identified in the immediate context of a 'killing' verb, and it is not a huge conceptual leap to consider that the referential distance measure, originally used to assess continuity in discourse, might also be useful for this purpose. Of the original three, referential distance is the only measure adapted and employed here. The hypothesis in this case is that the greater the Referential Distance, i.e. the further one has to read in order to successfully disambiguate the referent (the Agent or the Patient), the greater the perceived detachment from the action, given that the predicator represents the discursive nexus of the event. A low Referential Distance[44] might therefore be considered an act of foregrounding, and a high Referential Distance an act of backgrounding.

Previous studies used only 'lookback', while this study uses both 'lookback' and 'lookahead' in an attempt to aid location efforts, given that thresholds are already low: a Referential Distance greater than four clauses is considered to be 'high', and anything greater than five is placed in the same category as 'unresolvable', i.e. no mention

[44] As with 'Agent' and 'Patient', I use a capital 'R' and a capital 'D' to differentiate my adapted 'Referential Distance' from the original referential distance.

anywhere in the text. In addition to that, referential tokens are only classed as such if they are considered to be sufficiently disambiguating (e.g. *the dog* signals the semantic type *DOG*; *the farmer*, semantic type *FARMER*; *his son*, semantic type *HUMAN*). Traditionally, referential distance considers potentially ambiguous pronouns (e.g. *it*, *he*) as eligible nearby anaphoric references, while in this case they are only considered eligible if they enable the annotator to confidently select a semantic type, i.e. disambiguate the referent's identity. This adaptation of the measure means that although we can refer to the findings of e.g. Brown (1983) that humanness is a positive predictor of low referential distance and low 'ambiguity' (interference from other potential references), they cannot be compared like-for-like with the Referential Distance results in this study.

5.2.1 Agent Referential Distance (ARD) results

5.2.1.1 ARD at a glance

Figure 5.1 shows the overall findings from the Killing Verb Dataset (KVD) in terms of Agent Referential Distance (ARD). The degree of referential distance, which was graded as being 'low' (no clauses or one clause), 'medium' (two to four clauses) or 'high' (five clauses or more / unresolvable) is indicated by pattern type: grid squares for 'low', stripes for 'medium' and solid colour for 'high'.

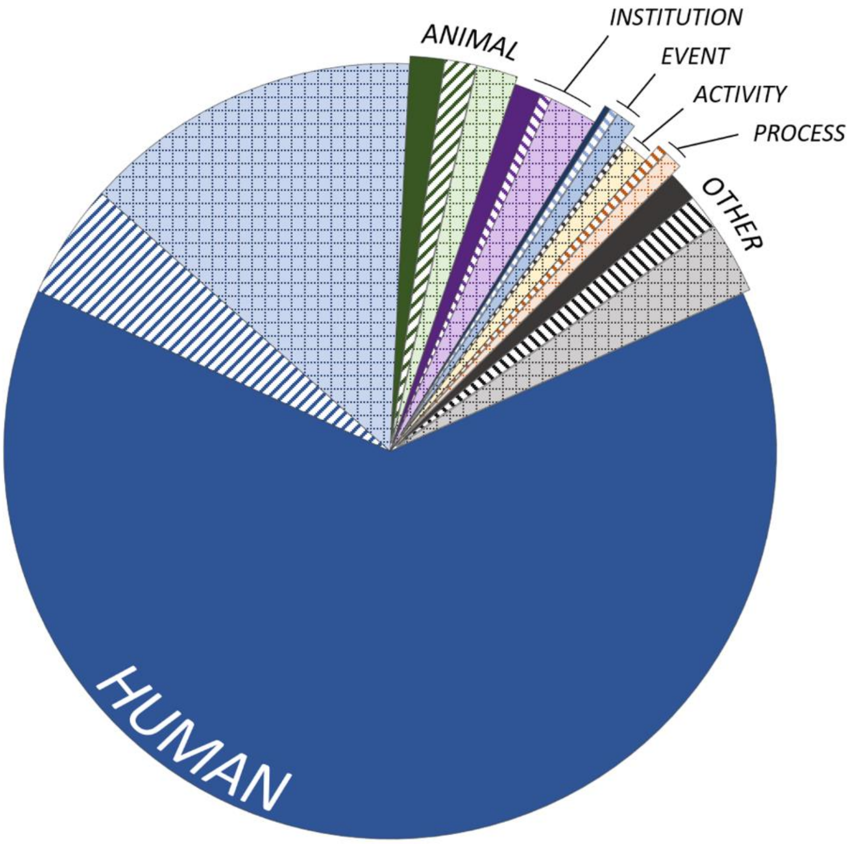

Fig. 5.1: The proportions of the most commonly occurring types of Agents and their Agent Referential Distance (ARD) as found in the KVD. Solid colour indicates a high ARD, stripes a medium ARD, and grid squares a low ARD.

I am aware of the potential pitfalls of using pie charts for data visualisation purposes and this chart is not intended as a means of comparing the precise proportions of the smaller segments. Instead, Figure 5.1 demonstrates the clear dominance of *HUMAN* as an Agent, and within *HUMAN* the dominance of high ARD scores. The semantic type *HUMAN* makes up the vast majority of all Agents in the data – 83% – while the next most frequent type, *ANIMAL*, features as the Agent in a very small proportion of the data: just 4% of all instances. This emphasis on human agency is perhaps to be expected, given what we already know about the effects of humanness on topicality (Givón, 1983) and animacy (Yamamoto, 1999; Sealey, 2018), as discussed in Chapter 3; human actants are more likely than nonhumans to be the topic, the agent, and the grammatical subject.

Most striking in the chart is the contrast between Agent types in terms of their distribution of high, medium and low ARD scores. Each 'slice' represents a semantic type acting as Agent, and is divided into three segments: one in solid colour, representing the proportion of high ARD scores for that Agent; one in stripes, indicating the proportion of medium

ARD scores; and another with grid squares which represents the proportion of low ARD scores. The exceptions to this are *ACTIVITY* and *PROCESS*, for which there were no instances of high ARD and therefore they have only two segments: medium ARD and low ARD. Three-quarters (77%) of the *HUMAN* Agent instances entail a high ARD score, whereas the distribution of ‘high’, ‘medium’ and ‘low’ is far more evenly spread for other types of agent. In fact, *HUMAN* is the only agent label – other than *X*, the label assigned in the event of total elision of the Agent NP (i.e. Agent not mentioned and not inferable) – for which the proportion of high ARD instances is greater than those of medium and low ARD instances. This is in spite of the fact that first- and second-person pronouns (*I*, *you*, *we*) were considered to belong unambiguously to humans by default, unless there was available evidence to the contrary, and these were typically assigned an ARD of 0, which would be expected to have an overall lowering effect on the average *HUMAN* ARD. Examples of HUMAN Agents with high ARD are given in (5.1-5.3, Table 5.1). ‘High ARD’ means that the sufficiently disambiguating mention of the Agent was five or more clauses from the immediate clause of the verb in question (in bold).

#	Excerpt	Corpus	Subcorpus
5.1	*if foxes are a pest, there are better ways to* ***cull*** *them than chase them on horseback and let dogs rip them to shreds*	PPPP	MO data
5.2	*A THOROUGHBRED horse may have to be* ***destroyed*** *after breaking his leg when “spooked” by children on micro scooters.*	PPPP	News
5.3	*Only DNA testing can reveal the species of the nonhuman animal who was* ***murdered*** *for that item.*	PPPP	Campaign literature

Table 5.1: Corpus examples 5.1-5.3

Fig. 5.1 tells us that wherever an Agent was *HUMAN*, the disambiguating Agent referent was most likely to be either absent or otherwise hard to locate, often due to agentless passive constructions, and the same could not be said for any other Agent type. Why is this, when human referents are supposedly heavily referenced in English? One possible explanation is that the KVD, like the PPPP corpus from which it was sampled, is heavily skewed in favour of journal article texts. Academic writing, particularly scientific journal article writing, is known for its impersonal tone, achieved through use of the passive voice and omission of the doer of the action – generally humans, as they are the ones conducting the experiments and writing the articles – which might explain why there are so many *HUMAN* Agent instances in the KVD and also why so many of these have a high ARD score. Figures 5.2 and 5.3, below, show the breakdown of ARD proportions for all Agents across text types in the KVD, first as a proportion of that text type (Fig. 5.2) and then in real terms (Fig. 5.3).

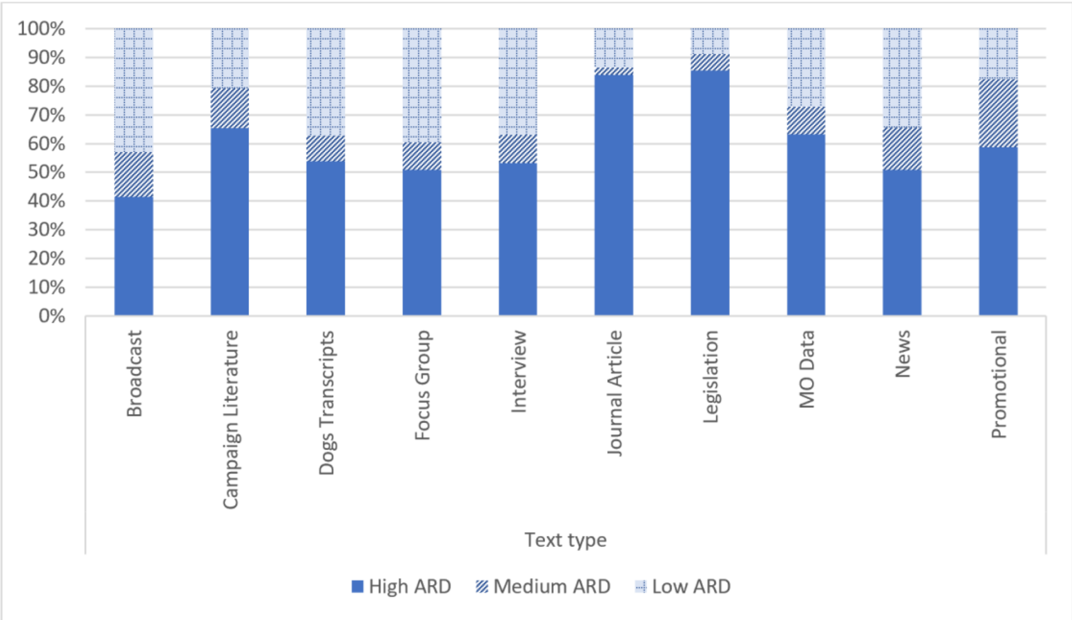

Fig. 5.2: Proportions of high, medium and low ARD (for all Agents) by text type

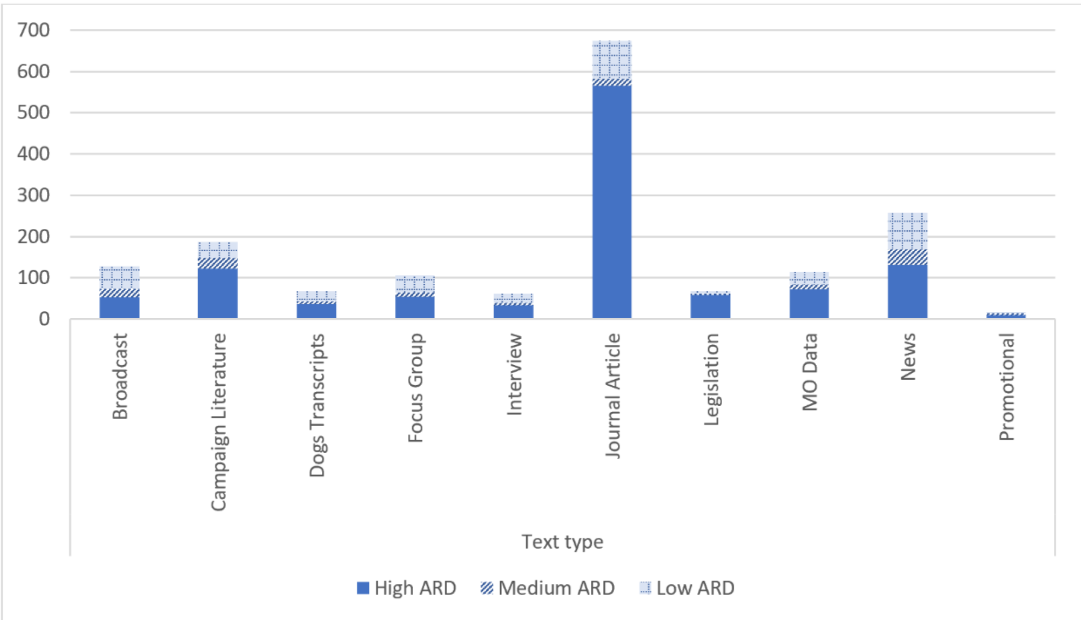

Fig. 5.3: Incidence of high, medium and low ARD (for all Agents) for each text type

From Figures 5.2 and 5.3 we can see that the journal article data does indeed feature a very high proportion of high ARD instances – as do legislative texts – and they also constitute a very large part of the overall dataset: 40%. This could explain the predominance of *HUMAN* Agents in the KVD as well as their tendency to have a high ARD score. To test this theory, all journal article instances were removed from the data, leaving 1,008 concordance lines, and the same ARD chart produced again. Figure 5.4 shows the proportions of Agents and their ARD when data taken from journal article texts is excluded.

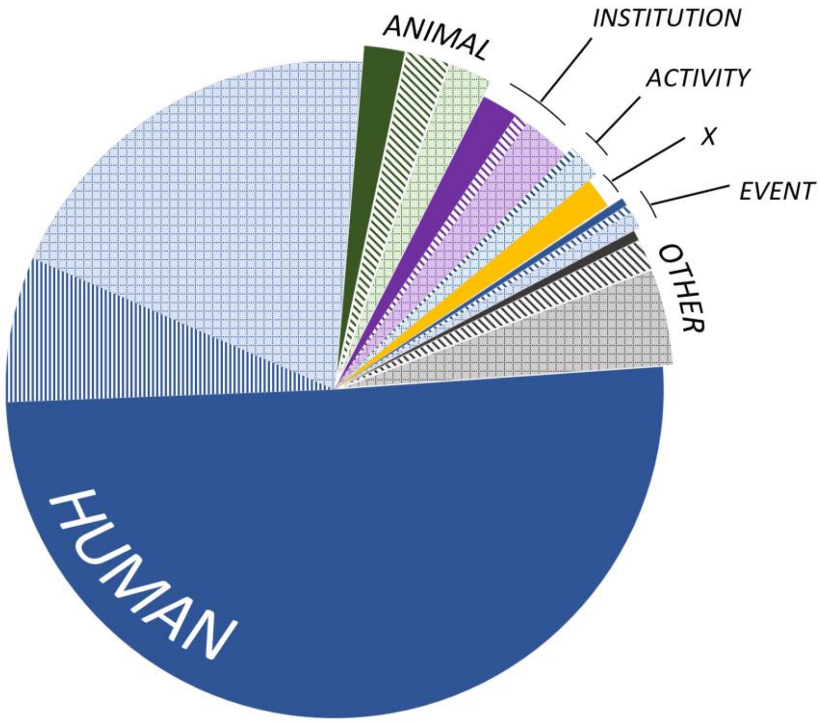

Fig. 5.4: The proportions of the most commonly occurring types of agents and their ARD when journal article texts are excluded from the data

Though removing all journal article instances makes some difference to the composition of the *HUMAN* ARD proportions, particularly the 'high ARD' cases, we can see that the 'high ARD' segment for *HUMAN* (in solid, dark blue) still accounts for the majority (65%) of all *HUMAN* agent cases, and once again *HUMAN* is the only agent type, other than *X* (i.e. no Agent), to have a greater proportion of high ARD scores than medium or low ones. Humans now comprise 77% of all Agents – down from 83% – meaning that the high proportion of journal article texts does play some role in the dominance of *HUMAN* Agents but does not satisfactorily account for it, and this probably is simply a case of humans being the most common topic, agent and subject in English (Chapter 3).

Returning to the full dataset, still unanswered is the question of why *HUMAN* is the only Agent type to favour high ARD scores over medium and low ones. Clearly the journal article texts contribute quite significantly to the high ARD cases for *HUMAN*, but in their absence the data still told the same story. One difference between Figures 5.3 and 5.4 that we might comment on is the loss of *PROCESS*, with only medium and low ARD scores, replaced in Fig. 5.4 by the aforementioned *X*, automatically a high ARD score. This difference suggests that journal article texts have a tendency to construe processes as Agents and are less likely to omit or suppress such Agents that cannot be reasonably inferred from the context (unlike the human author and scientist, whom the reader expects). This makes sense when we consider that scientific journal articles often report on physical processes taking place, such as diseases killing other entities or biological systems taking effect (as in Examples 5.4 and 5.5 in Table 5.2, Agent NPs underlined), and that scientists are expected to disclose – at least once in the document – the exact methods by which they conducted their experiments. Example 5.6 illustrates this discrepancy between explicitness of references: the doer of the *harvesting* is entirely suppressed, while the details of the rest of the procedure are made explicit.

#	Excerpt	Corpus	Subcorpus
5.4	*It is noteworthy that <u>the Thai strains used in this study</u>* ***killed*** *quails faster than chickens, while Ck / Yamaguchi killed chickens faster*	PPPP	Journal articles
5.5	*or to inhibit their generation so that <u>defence mechanisms of the body</u> can then* ***destroy*** *them.*	PPPP	Journal articles
5.6	*The colonies were* ***harvested****, resuspended in sterile 0.9% NaCl and fixed with formaldehyde (final concentration 1%) for 1h at 20°C.*	PPPP	Journal articles

Table 5.2: Corpus examples 5.4-5.6

In other words, we might hypothesise that humans are not mentioned explicitly in many instances simply because we take the human subject (agent, topic) for granted.

5.2.1.2 ARD across 'killing' terms

Looking at the results from a different angle, verb by verb[45], we see a similar picture emerging: the proportion of *HUMAN* Agents is moderately positively correlated (R^2 = 0.58) with the proportion of high-ARD cases, as shown in Figure 5.5.

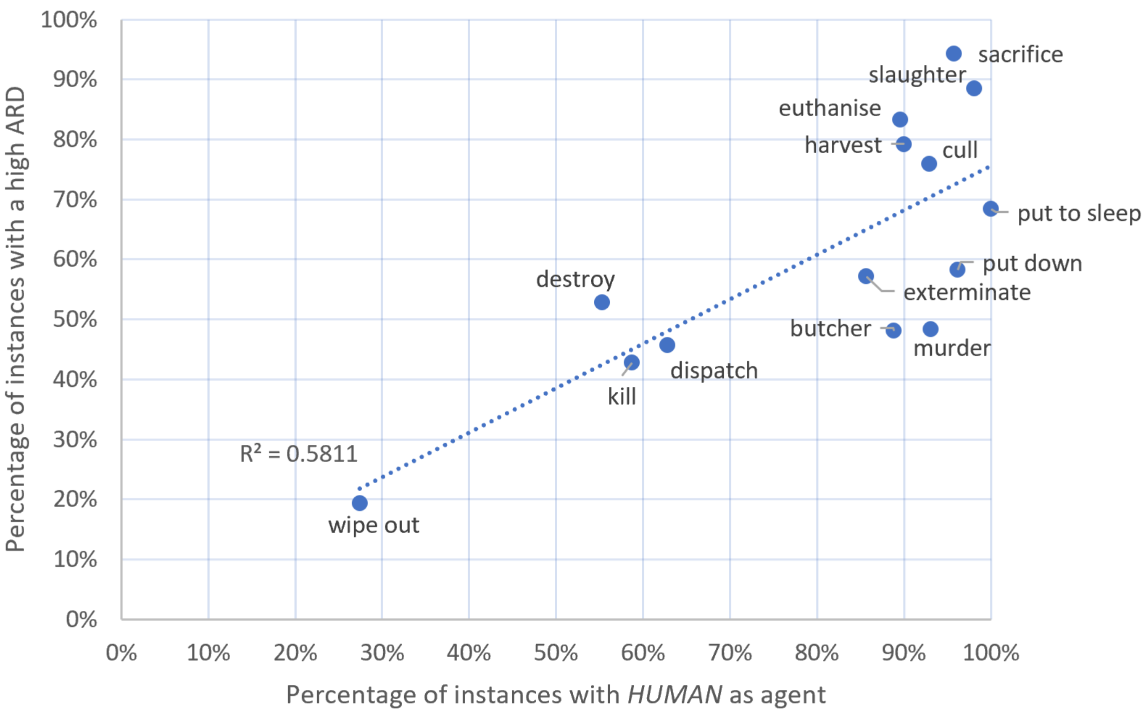

Fig. 5.5: Relationship between the percentage of *HUMAN* Agents and the percentage of high ARD instances across all 'killing' terms

It appears that, generally speaking, as the proportion of *HUMAN* Agents increases, so too does the proportion of Agents with high referential distance (ARD) scores. For some terms, the proportions of human-as-Agent and high ARD are almost equal, e.g. *destroy*

[45] As explained in Chapter 4, *assassinate* did not feature at all in the PPPP corpus and so is excluded from these comparative corpus experiments.

(55% *HUMAN*, 53% high ARD), *euthanise* (90%, 83%) and *sacrifice* (96%, 94%). In other cases, the proportions are very different, e.g. *butcher* (89%, 48%), *exterminate* (86%, 57%), *murder* (93%, 48%), *put down* (96%, 58%) and *put to sleep* (100%, 68%). In these cases there is a discrepancy of at least 20 percentage points between the percentage of *HUMAN* Agents and the percentage of Agents with a high ARD score.

The first thing to note about these high-discrepancy terms is that they tend to be the ones with smaller sample sizes. *Exterminate*, *butcher* and *murder* have the smallest sample sizes of all the verbs in this study (excluding *assassinate*, which did not feature at all in the PPPP corpus and so could not be compared with the others), with 14, 27 and 29 concordance lines, respectively. These could therefore be interpreted as i) potentially unreliable (anomalous) results due to a lack of sufficient data, perhaps owing to the fact that the main source of data was scientific journal writing, a genre that does not favour such terms as *exterminate*, *butcher* and *murder*; (ii) a result of the semantic nature of the verbs themselves; or (iii) a combination of these. *Put down* and *put to sleep* are discussed later in this chapter.

5.2.1.3 **Exterminate, butcher *and* murder**

The verb *exterminate* overwhelmingly denotes a *HUMAN* activity. Of the 14 *exterminate* instances, 12 have the Agent of *HUMAN*; of the remaining two, one is attributed to an *EVENT* (Example 5.7, Table 5.3) and the other to *X*, i.e. no inferable Agent (Example 5.8). Eight lines out of the total 14 have an ARD of 'NF', meaning that the disambiguating reference is either further than five clauses either side of the immediate reference clause, or is not mentioned at all and requires outside knowledge to be inferred. These small frequencies make it difficult to comment authoritatively on *exterminate*, but it could be that in the six cases where there is a low or medium ARD (as in 5.9 and 5.10), this short Referential Distance has the purpose of making the perpetrator more visible, and perhaps the reader is being intentionally reminded of the Agency of those responsible.

#	Excerpt	Corpus	Subcorpus
5.7	*But 65 million years ago, a great disaster overtook the Earth. Whatever its cause, a great proportion of animal life was **exterminated***	PPPP	Broadcast
5.8	*The gharials that we filmed with their babies were nearly **exterminated** in the 1970s when they lost most of their natural habitat.*	PPPP	Broadcast
5.9	*As the environment changes increasingly quickly, are we to **exterminate** every species that strays from its traditional and allotted boundaries and thrives in the new environment?*	PPPP	Campaign literature
5.10	*Often, due to the devastation caused by commercial fishing (an estimated 90% of large fish populations have been **exterminated** in the last 50 years)*	PPPP	Campaign literature
5.11	*Mindless thug Jason Trevor Godsiff **murdered** the seals while he was on his way home from work on a building site*	PPPP	News
5.12	*A CRAZED teen held a sick Facebook party just hours after **murdering** his parents with a hammer*	PPPP	News

Table 5.3: Corpus examples 5.7-5.12

Butcher and *murder*, like *exterminate*, carry strong connotations of violence and brutality, and they are also predominantly *HUMAN*-enacted: 93% for *murder* and 89% for *butcher*. In the case of *murder*, it could be argued that the short distance between the Agent tokens (as in 5.11 and 5.12) was, as with *exterminate*, a deliberate attempt to draw attention to the killer(s) for their behaviour.

For *butcher*, on the other hand, there are other factors at play. One is that *butcher* does not necessarily imply killing, but can also refer to the carving up of already-dead animals, which has different moral implications. If we look at the definition of *butcher* as given in the PDEV[46], similar to the one found in Oxford Dictionaries[47], the main sense of *butcher* is ambiguous: "to slaughter <u>or</u> cut up an animal" (underline added for emphasis). This means that even when *butcher* is used to mean 'to kill [a living animal]', it can also be interpreted as meaning 'to cut up [a carcass]'. That this ambiguity is of

[46] http://pdev.org.uk/#browse?q=butcher;f=A;v=butcher

[47] https://en.oxforddictionaries.com/definition/butcher

presumably little or no concern to most users of English – who would otherwise find ways of distinguishing these two acts through different terminology – demonstrates an example of speciesism inherent in our language, a collective indifference to the status of the *butchered* animal as either a living being or an inanimate object. Another consequence of this vagueness is a subtle, almost imperceptible distancing of the killer from their actions. Did the actor doing the 'butchering' kill an animal or did they merely cut the animal's carcass into pieces? Perhaps the listener does not really want to know.

Far from being considered taboo, *butchering* is often presented (by butchers and others involved in the commodification of animals) as a respectable and wholesome vocation (see 5.13 and 5.14, Table 5.4). This creates a somewhat contradictory picture in the data: *butcher* being used negatively to express brutality and immorality in some instances, and *butcher* being used neutrally – or perhaps even positively – to describe a standard business practice in others. In fact, *butcher* was one of only two verbs in this study to present a pattern of usage in the PPPP sample that was not seen in the BNC reference data (but exists, as an obscure sense, in the OED[48]): an intransitive use of *butcher*, with the pattern "*HUMAN butcher* [NO OBJ]" and the implicature "*HUMAN* works as a butcher". 5.15 and 5.16 are examples of this pattern. Perhaps it is worth noting that in all such cases, *butcher* appears in the present perfect continuous, e.g. *I've been butchering*. The patterns for *butcher*, and all of the other verbs, are listed in Appendix D.

#	Excerpt	Corpus	Subcorpus
5.13	*we decided to take the plunge and set up our own farm butchery to* ***butcher*** *and sell our own cattle.*	PPPP	Promotional
5.14	*The carcasses are hung properly (at least 3 weeks in the case of the beef) and then* ***butchered*** *with care*	PPPP	Promotional
5.15	*I'm 42 and I've been* ***butchering*** *since I was 15*	PPPP	Focus group
5.16	*I don't remember it as a luxury food, it's always been affordable when I've been* ***butchering***.	PPPP	Focus group

Table 5.4: Corpus examples 5.13-5.16

48 http://www.oed.com/view/Entry/25325?rskey=oGyvG9&result=2#eid

Reframing *butcher* as an intransitive verb – literally *redefining* it – effectively erases the Patient from the event. The animal being *butchered* has gone from being ontologised as a thing – a body part – to being de-ontologised altogether; he or she becomes a victim of ontological violence as well as physical violence. This is an example of Adams' (1990) concept of the "absent referent", the erasing of any mention of the once-living animal.

It is worth noting, however, that in around half of the lines for *butcher* (13 out of 27), the ARD was still 'high', and the majority of these enacted by *HUMAN* Agents (the remaining two are *ANIMAL*, anthropomorphic examples from television broadcast transcripts). In some cases, those who might wish to present this event as a morally neutral one, e.g. butchers and 'meat' retailers, still opt to remove the Agent altogether by using the passive voice (e.g. 5.17, Table 5.5). It is difficult to gauge whether such examples are attempts at distancing, which would imply a sense of guilt and shame, or whether – more likely – the author is simply conforming to norms of describing standard manufacturing processes, implying an indifference to the violence inherent to such a product. In other cases, *butcher* appears to be used in the passive for describing an unfortunate event that takes place and whose Agent is unknown, or perhaps best left unmentioned (5.18 and 5.19).

#	Excerpt	Corpus	Subcorpus
5.17	*it is "hung" and matured to give maximum flavour and texture before being **butchered** on the shop premises*	PPPP	Promotional
5.18	*Sharks are being targeted, **butchered** for their fins. There are worrying parallels with the sea-cucumber boom*	PPPP	Broadcast
5.19	*Perhaps he will meet the same fate as the horses on the facing page and be **butchered** for the human food chain.*	PPPP	Campaign literature

Table 5.5: Corpus examples 5.17-5.19

5.2.1.4 ARD summary

Agent Referential Distance, like all quantitative measures, requires closer investigation in order to establish its potential motives and functions in discourse. What is clear, however, is that *HUMAN* comprises the vast majority of all Agents in the data and, unlike other Agent types, is positively correlated with high (<4 clauses) ARD. Reasons for this are not always obvious; in some cases it appears to be an attempt to distance the Agent from their actions, and in other cases it is difficult to isolate such motives from adherence to genre norms, such as the use of impersonal tone in academic writing. Although these findings cannot be compared like-for-like with those of Givón and colleagues due to different criteria for eligible references, one would not expect such dramatically different results as have been found here, particularly in terms of human Agent suppression.

5.2.2 Patient Referential Distance (PRD) results

5.2.2.1 PRD at a glance

In the same way as for ARD, Fig. 5.6 shows the proportions of the most commonly occurring Patient types as well as their Patient Referential Distance (PRD) distributions. The same key is used as before: solid colour segments for 'high' PRD, striped segments for 'medium' PRD and gridded segments for 'low' PRD.

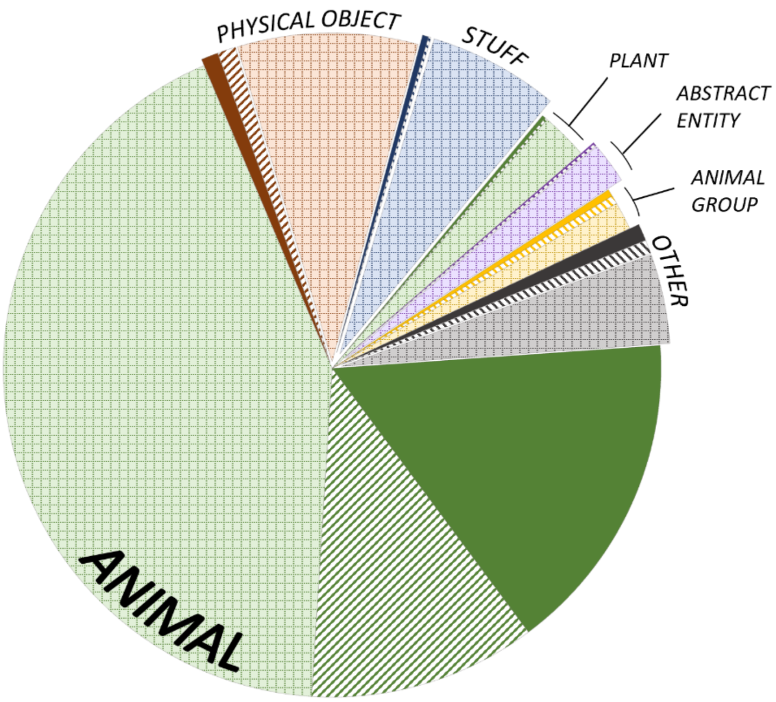

Fig. 5.6: The proportions of the most commonly occurring types of Patients and their PRD as found in the KVD. Solid colour indicates a high PRD, stripes a medium PRD, and grid squares a low PRD.

As seen in Figure 5.6, the information related to Patients and their referential distance is very different from that of the Agents and their ARD scores. *ANIMAL* is the Patient in 70% of all instances, and the majority of these (61%) have a low PRD. There is a similar trend across the other main Patient types, though with an even stronger tendency towards low PRD (gridded segments): 84% for *PHYSICAL OBJECT*, 94% for *STUFF*, 89% for *PLANT*, and 92% for *ABSTRACT ENTITY*. *ANIMAL GROUP* has a similar PRD distribution to *ANIMAL*, with a 'low PRD' majority of 67%. *ANIMAL* and *ANIMAL GROUP* also have slightly greater 'high PRD' proportions than the other Patient types: 23% and 17%, compared with 8%, 4%, 7% and 3% for *PHYSICAL OBJECT*, *STUFF*, *PLANT* and *ABSTRACT ENTITY*, respectively. Given that *HUMAN* features as the Agent in most cases, we should perhaps expect that the Patients in these instances will be *ANIMAL* victims, i.e. of killing. However, this chart also shows that – after the killing of animals – events involving Patients of *PHYSICAL OBJECT* and *STUFF* are the next most common, indicating non-killing events (as in the examples in Table 5.6). As described in Chapter 4, all senses of the verbs – not only 'killing' senses – were taken into account in the analysis in order to build up a full semantic profile of each of the terms being investigated. Non-killing senses account for 21% of all instances in the KVD.

#	Excerpt	Corpus	Subcorpus
5.20	*He can't afford to **put down** his camera for a second.*	PPPP	Broadcast
5.21	*Every week the butchery **despatches** dozens of orders to local village shops in the area*	PPPP	Promotional

Table 5.6: Corpus examples 5.20-5.21

The fact that the animate Patient types – *ANIMAL* and *ANIMAL GROUP* – have higher proportions of 'high PRD' scores than the inanimate types suggests that, once again, the previous findings on animacy and reference have been contradicted here.

The proportions of PRD across text types are quite different to those of ARD; Fig. 5.7 gives the ARD and PRD proportions side by side, using the same 'high', 'medium' and 'low' formatting as before (solid, striped, gridded).

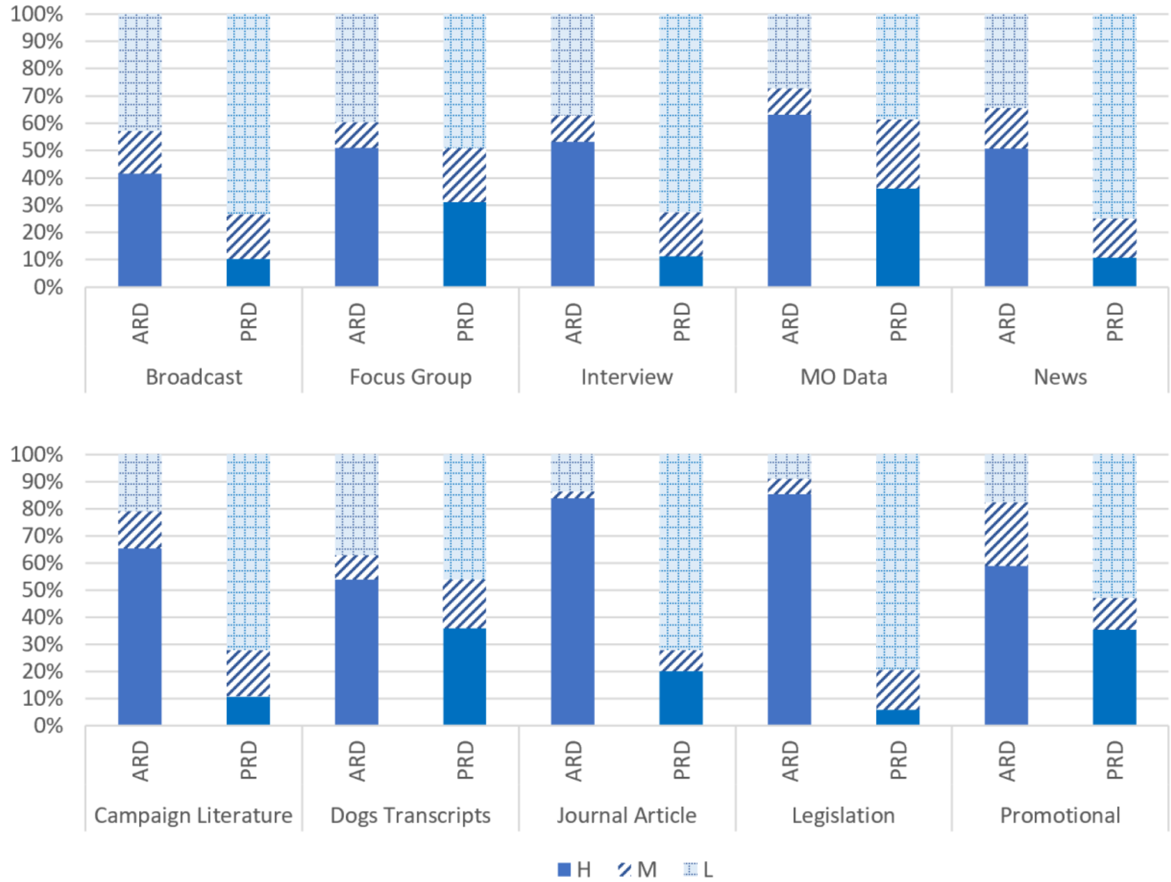

Fig. 5.7: Proportions of ARD and PRD scores across text types; solid colour indicates 'high', stripes indicate 'medium' and gridded squares indicate 'low' scores.

For some text types, there appears to be something of an inverse relationship between the ARD and PRD. This would suggest that it is not simply a case of ARD scores generally being higher and PRD scores generally being lower across the board, but that in some cases, where there is a large proportion of high ARD instances we might also expect to find a similar proportion of the data with low PRD scores. This appears to be true for the campaign literature, the journal article texts, the legislative texts, and, to a lesser degree, the interview data and the promotional texts (shown on the bottom row of Fig. 5.7). However, the same cannot be said for the reverse: a greater proportion of low ARD scores does not seem to entail a greater proportion of high PRD scores for that text type. For the five text types across the top of Fig. 5.7, an R^2 coefficient test found no correlation between proportion of high ARD and low PRD, but for the five text types across the bottom, there was a strong positive correlation ($R^2 = 0.78$). This relationship – if it is a relationship – could be attributed to i) recurrent grammatical constructions common to particular text genres; ii) certain types of events commonly reported in particular discourses; iii) certain types of Agents and Patients that tend to occur in those texts, for whom there is a particular Agent-Patient dynamic; or iv) some other factor. However, given that this correlation applies only to some of the text types and not to others, it is difficult to say with confidence whether ARD and PRD are dependent variables at all.

5.2.2.2 PRD across 'killing' terms

Given that *ANIMAL* is the Patient type that features most frequently in the data, its average PRD was tracked across all 'killing' terms. Table 5.7 shows the *ANIMAL* average compared against the average for all Patient types for each term. The 'difference' score was obtained by dividing the *ANIMAL* average by the overall average and subtracting 1; a negative (-) score indicates a lower-than-average result and a positive (+) score a higher-than-average one.

Term	**Average PRD score**	**Average *ANIMAL* PRD score**	**Difference score**
wipe out	1.10	0.90	-0.18
butcher	2.19	1.85	-0.16
dispatch	2.20	2.14	-0.03
cull	1.67	1.65	-0.01
euthanise	1.83	1.83	0.00
exterminate	0.79	0.79	0.00
slaughter	1.19	1.20	+0.01
put to sleep	3.47	3.50	+0.01
kill	1.70	1.81	+0.07
sacrifice	1.92	2.06	+0.07
murder	0.93	1.11	+0.19
put down	2.27	2.98	+0.31
destroy	1.08	1.66	+0.54
harvest	0.84	1.82	+1.17

Table 5.7: Average *ANIMAL* PRD scores compared against average PRD scores for all Patient types across the 'killing' terms, ordered by 'difference' score from negative through to positive

Looking at Table 5.7, we can see that in most cases the average *ANIMAL* PRD differs very little from the average for all Patients – likely because *ANIMAL* is generally the most common Patient type and will heavily influence the overall average PRD – but there are some cases in which *ANIMAL* has a higher-than-average PRD: *harvest*, *destroy*, and, to a lesser extent, *put down*. In the cases of *butcher* and *wipe out*, it is slightly below average; *butcher*, as we know, is very explicit about the participants involved, and in the case of *wipe out* the main Patient type is not *ANIMAL* but *ANIMAL GROUP* (48%), which had an average PRD of 1.6. Given the findings in the topic continuity literature, we might expect animate Patients, such as *ANIMAL*, to have lower PRD scores than other types of Patients. This warrants a closer look at the terms with especially high 'difference' scores: *harvest* and *destroy*.

5.2.2.3 **Harvest *and* destroy**

At first glance, it appears that *harvest* and *destroy* are terms which might be used to refer to killing when there is a desire to place more distance than usual between the act of killing and its *ANIMAL* Patient. However, looking at Table 5.7, we see that while the *ANIMAL* PRD scores for *harvest* and *destroy* are higher than the average PRD for all Patient types in those particular verb samples, they are not particularly high compared with the average *ANIMAL* PRD scores across the board. In other words, it is not that the *ANIMAL* Patients have an especially high PRD in the *harvest* and *destroy* samples, but that there are other senses and, consequently, other Patient types associated with these verbs which entail relatively low PRD scores, bringing down the average for that verb and creating a high 'difference' score. In fact, the *harvest* and *destroy* samples have the smallest proportions of 'killing' instances out of all the terms in this study: 49% for *harvest* and 34% for *destroy*. This is due to Patients such as *STUFF* being *harvested* and the tendency for *destroy* to refer, in a non-killing sense, to *PHYSICAL OBJECT*.

Whether PRD is dependent upon the nature of the participants – as suggested by Givón and others, i.e. human/nonhuman, animate/inanimate – or the nature of the process, i.e. killing/non-killing, is difficult to judge from the data in this study; the PPPP corpus is animal-themed and the verb selection is killing-orientated, and this results in a tendency for animals to appear in killing-related constructions rather than in non-killing ones. However, the data in this study suggests that animate subjects and objects, such as humans and animals, do not yield lower Referential Distance scores by virtue of their intrinsic human or animate properties alone, whether acting as Agent or as Patient. Again, this is not in line with previous findings on topic continuity and animacy, and suggests that perhaps other factors, such as the text type and the nature of the process itself, can also dictate, to some degree, the distance between references in the text. Some discrepancies are to be expected, however, given that Brown, Givón and colleagues were interested in topic continuity rather than in explicitness of identity, and as such were less discerning about the ability of a noun phrase to disambiguate the identity of its referent and more focused on its role as a link in a coreferential chain.

5.2.2.4 PRD summary

PRD appears to behave very differently from ARD and the two were found, for some text types, to have an inverse relationship. Just as *HUMAN* was by far the most common Agent type, *ANIMAL* was found to be the Patient in the majority of cases, which is to be expected given the nature of the corpus and the research questions being investigated. However, contrary to previous studies on referential distance, the animate Patients were found to be more likely to have high PRD scores than the inanimate patient types. Whether this is motivated by a desire to obfuscate the victim when describing an act of killing cannot be confirmed without a closer look at the data, and even then it is difficult to accurately attribute such motivations from the text alone. In any case, we can say with confidence that, overall, animate Patient types such as *ANIMAL* are placed in positions of greater distance than other, inanimate Patients, and this is not necessarily what we would expect from the topic continuity literature.

5.3 Voice

The most direct route to a high or low referential distance is through the use of voice, notably the use of the passive to dislocate (or ‘suppress’) the Agent from their actions and, in some cases, to bring the Patient to the fore by making them the topic and grammatical subject. This section summarises the main findings from this project in terms of voice, focusing on the use of active and passive voice.

5.3.1 Active and passive voice at a glance

The active and passive voice are well documented for their use in foregrounding and backgrounding event participants, respectively, as discussed in Chapter 3, and the KVD proved to be no exception. The passive/active ratio of all KVD instances is illustrated in Figure 5.8, broken down by text type.

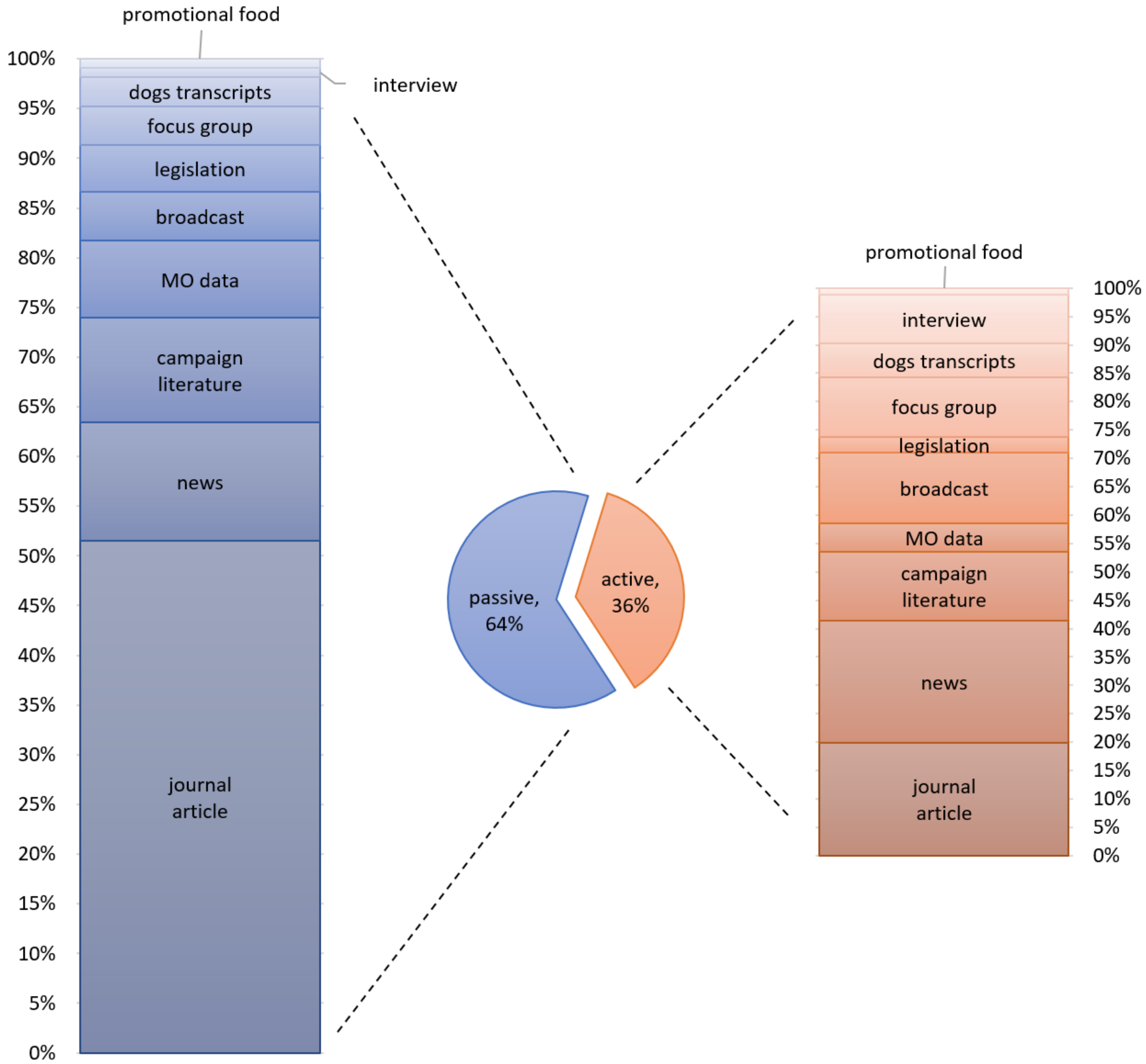

Fig. 5.8: The proportions of active and passive use in the KVD, broken down by text type

We can see from Fig. 5.8 that the majority (64%) of all instances in the KVD are expressed in the passive voice, and around half of these passive observations come from journal article sources. If we remove the journal article data from the calculation, for comparative purposes, the passive/active ratio across all data becomes almost equal: 52% to 48%. As predicted, the academic texts were dense with passive constructions, and this explains the high proportion of 'high ARD' scores for journal article texts. It may also explain why – as illustrated in Fig. 5.7 – for text types such as journal articles, legislation and campaign literature, there was an apparently inverse relationship between high ARD and low PRD; in passive constructions the Agent is backgrounded, while the Patient becomes the subject and usually the topic, thus placing more focus on their identity and, presumably, resulting in a lower PRD. The following section explores this relationship between voice and Referential Distance.

5.3.2 Voice and Referential Distance

The relationship between (passive) voice and (high) Agent Referential Distance (ARD) is illustrated in Figures 5.9 and 5.10, first across text types and then across 'killing' terms.

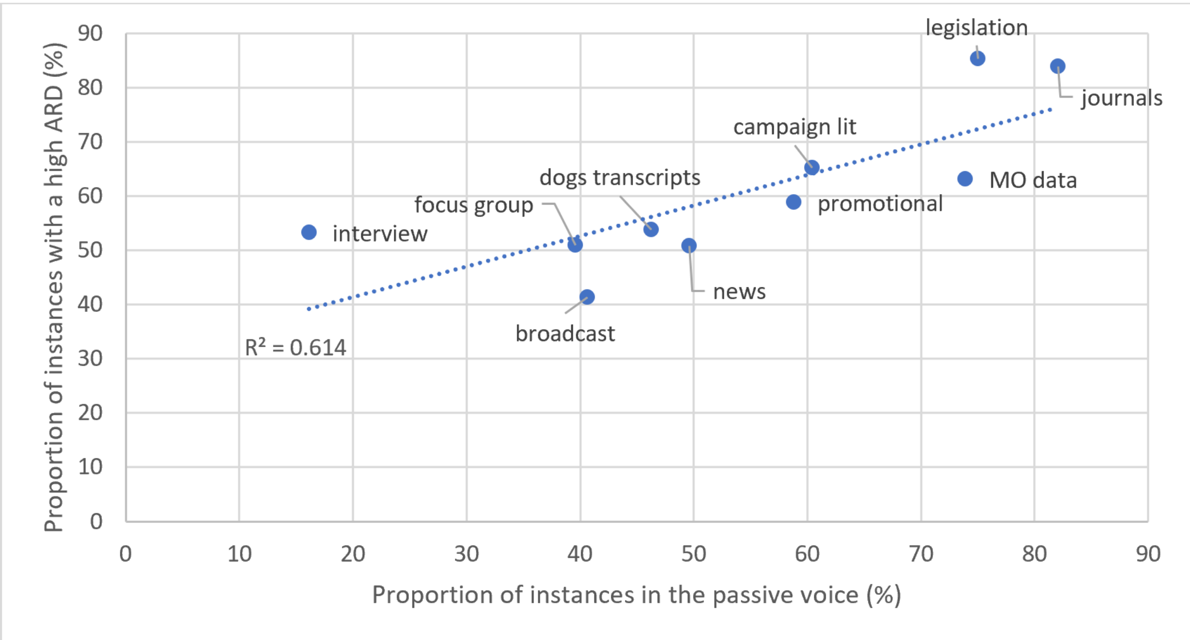

Fig. 5.9: The relationship between (passive) voice and (high) ARD across text types

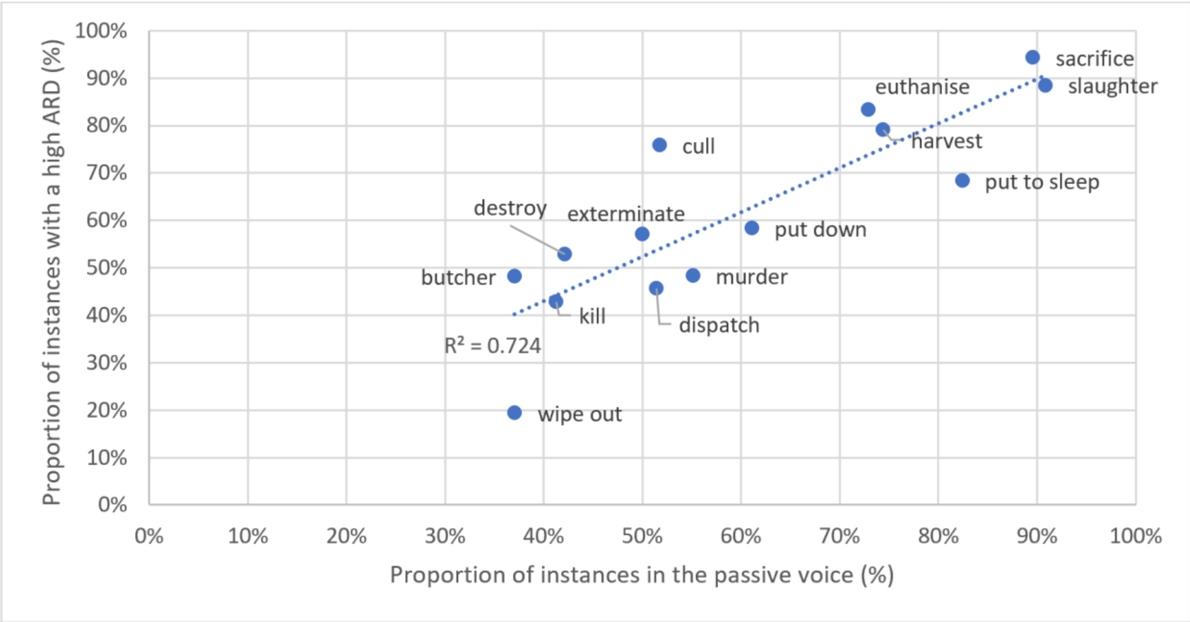

Fig. 5.10: The relationship between (passive) voice and (high) ARD across ‘killing’ terms

Looking at Figures 5.9 and 5.10, we can see that there is a moderate positive correlation (R^2 = 0.61) between use of the passive voice and incidence of high ARD for text types, and a strong positive correlation (R^2 = 0.72) between these variables when it comes to ‘killing’ terms. This suggests that use of the passive voice does indeed increase ARD, through Agent backgrounding and suppression. When the same graphs were plotted for use of passive voice and incidence of high PRD, on the other hand, there was no correlation (R^2 = 0.01 and 0.08 for text types and ‘killing’ terms, respectively). We would surely expect a negative correlation here, given that passive constructions foreground the Patient by making them the grammatical subject. This suggests that while the passive voice is a reliable measure of Agent explicitness (or lack thereof), it does not have any consistent effect on the Patient in terms of explicitness of identity and emphasis. It also demonstrates that it is possible for an entity to be the grammatical subject, e.g. of a passive construction, and still be fairly ambiguous in identity. To explore this further, the following section takes six ‘killing’ terms as short case studies and examines their incidence of active, passive and causative voice, and how these contribute to, or account for, distance.

5.3.3 Active, passive and causative

5.3.3.1 Kill *and* wipe out

Kill and *wipe out* are unusual ‘killing’ terms: they are both more likely, in the KVD, to be used in the active than in the passive voice (58% active for *kill*; 63% for *wipe out*) and they have the lowest average ARD scores of all verbs in this study; in other words, their Agents are more explicit. Both terms are used to refer to the killing of humans as well as animals, and they are also examples of ‘killing’ terms that have non-killing senses. In fact, *kill* was found to have 18 distinct patterns in the BNC sample, including “*ACTIVITY* or *DRUG kill* [NO OBJ]” (as in *speed kills*), “*BODY PART kill HUMAN*” (as in *my leg’s killing me*) and fixed idiomatic phrases, such as “{if looks could} *kill* [NO OBJ]”. However, only four of these 18 patterns were present in the KVD, and all but two lines referred to acts of literal killing. Similarly, all lines of the *wipe out* PPPP sample referred to acts of (mass) killing (‘mass killing’ verbs are discussed in Chapter 7).

The most likely explanation for the low rate of passive voice and the (consequential) low ARD scores for *kill* and *wipe out* is that they are not very *specific* ‘killing’ terms; connotations of (im)morality are dependent on context. Animals *kill*; processes *kill*; humans and institutions *kill* too (Examples 5.22-5.24, Table 5.8). *Killing* is more palatable and less nuanced than, say, *murder*. Sometimes it is desirable; the decision to *kill* a virus, for instance, does not pose a moral problem. *Wiping out* can be softened, too; humans and events don’t *wipe out* animals or other humans, so much as animal *groups* and human *groups*, deindividuated mass Patients (Chapter 7). When this is considered a negative situation, it makes sense to expose the participants with little referential distance (5.25). When *wiping out* is not considered to be a moral issue, the necessity to create distance might not be felt (5.26). The result, either way, is a low Referential Distance.

#	Excerpt	Corpus	Subcorpus
5.22	*Male bears can and do **kill** and eat small cubs.*	PPPP	Broadcast
5.23	*this killer gene is selective for **killing** cancer cells," said Professor Vivek Rangnekar, who led the research.*	PPPP	News
5.24	*if someone is a meat eater they should be prepared to **kill** an animal for the meat*	PPPP	MO data
5.25	*We should not **wipe out** entire species as has happened in the past.*	PPPP	MO data
5.26	*when they start eating trees and this, that and the other, the Forestry Commission will come in and just **wipe out** as many as necessary*	PPPP	Focus group

Table 5.8: Corpus examples 5.22-5.26

Given that they are less specific terms, *kill* and *wipe out* are also enacted by a wide range of Agents. Table 5.9 shows that *kill*, *destroy* and *wipe out* top the list of terms when ranked by diversity of Agents. As we know from Section 5.2, *HUMAN* Agents tend to invoke high ARD scores, so if there is competition from other semantic types for the 'Agent' slot then it is plausible that the average ARD might be lower as a result.

Term	No. of Agent types	Agents (frequency)	Average ARD
kill	18	*HUMAN* (118), *ANIMAL* (23), *PROCESS* (10), *INSTITUTION* (8), *ACTIVITY* (7), *STUFF* (7), *EVENT* (5), *HUMAN GROUP* (4), *ARTIFACT* (3), *STATE OF AFFAIRS* (3), *X* (3), *ANIMATE* (2), *ENERGY* (2), *MICROORGANISM* (2), *ANYTHING* (1), *EVENTUALITY* (1), *LOCATION* (1), *PHYSICAL OBJECT* (1)	3.22
destroy	15	*HUMAN* (109), *ANIMAL* (33), *EVENT* (12), *PHYSICAL OBJECT* (10), *ACTIVITY* (7), X (7), *EVENTUALITY* (5), *PROCESS* (4), *ABSTRACT ENTITY* (2), *ARTIFACT* (2), *STATE OF AFFAIRS* (2), *ANIMAL GROUP* (1), *INSTITUTION* (1), *LOCATION* (1), *PLANT* (1)	3.63
wipe out	14	*HUMAN* (17), *EVENT* (7), *PROCESS* (6), *ACTIVITY* (5), *ANIMAL* (5), *X* (5), *HUMAN GROUP* (4), *EVENTUALITY* (3), *PHYSICAL OBJECT* (3), *ANIMAL GROUP* (2), *INSTITUTION* (2), *MICROORGANISM* (1), *OTHER* (1), *STUFF* (1)	1.89
dispatch	5	*HUMAN* (22), *INSTITUTION* (8), *EVENTUALITY* (3), *ANIMAL* (1), *X* (1)	3.29
harvest	5	*HUMAN* (190), *INSTITUTION* (12), *ANIMAL* (4), *PHYSICAL OBJECT* (4), *ABSTRACT ENTITY* (1)	4.92
sacrifice	5	*HUMAN* (203), *ANIMAL* (4), *INSTITUTION* (3), *ABSTRACT ENTITY* (1), *HUMAN GROUP* (1)	5.71
slaughter	5	*HUMAN* (204), *ACTIVITY* (1), *ANIMAL* (1), *ANIMATE* (1), *INSTITUTION* (1)	5.43
butcher	3	*HUMAN* (24), *ANIMAL* (2), *INSTITUTION* (1)	3.33
exterminate	3	*HUMAN* (12), *EVENTUALITY* (1), *X* (1)	3.93
put down	3	*HUMAN* (203), *INSTITUTION* (6), *ANIMAL* (2)	3.85
cull	2	*HUMAN* (158), *INSTITUTION* (12)	4.71
euthanise	2	*HUMAN* (43), *INSTITUTION* (5)	5.33
murder	2	*HUMAN* (27), *INSTITUTION* (2)	3.45
put to sleep	1	*HUMAN* (57)	4.49

Table 5.9: 'Killing' terms and their Agents, ordered by number of different Agent types

Where the Agent is not *HUMAN*, and where a term is not inherently negative in connotation, it is reasonable to assume that less effort might be made to distance the Agent from their actions by use of passive voice and (other means of) high Referential Distance.

5.3.3.2 Sacrifice *and* slaughter

Sacrifice and *slaughter* are the two verbs with the highest average ARD scores and the highest proportions of passive voice (90% passive for *sacrifice*, 91% for *slaughter*). *Sacrifice*, unlike *slaughter*, features some (n=14) examples of non-killing senses in the PPPP sample: "*HUMAN 1 sacrifice SELF* or {REFLDET[49] life} (for *HUMAN 2*)" (e.g. *she sacrificed her life for him*) and "*HUMAN sacrifice ENTITY = VALUED*" (e.g. *flavour was sacrificed for profit*). Interestingly, there were a few cases in the PPPP data in which the subject of these senses was not the typical *HUMAN* but an *ANIMAL*; these lines are considered anthropomorphic exploitations of the norm rather than examples of new patterns. Overall, however, the vast majority (93%) of the *sacrifice* sample denoted killing, specifically the killing of animals by humans as described in journal article texts. In all but two of these instances (shown in Table 5.10), the ARD was the maximum score of 'NF', the absent Agent being inferred to be either a researcher (n=188) or a commercial slaughterer (n=8) from the broader context. Although Examples 5.27 and 5.28 have sufficient disambiguating information in their immediate contexts to infer the identity of the killer (i.e. *SLAUGHTERER*), it is telling that in these examples *sacrifice* features in postmodifying clauses that form part of the larger NP (underlined) of which the animal Patient is head. In other words, the act of killing is backgrounded.

#	Excerpt	Corpus	Subcorpus
5.27	*ELISA was standardized to know the status of Map in <u>larger number[s] of buffaloes **sacrificed** in these slaughterhouses</u>.*	PPPP	Journal articles
5.28	*<u>the animals **sacrificed** at cottage slaughterhouses</u> were driven from farmers' herds in the Agra region*	PPPP	Journal articles

Table 5.10: Corpus examples 5.27-28

Slaughter tells a similar story. In some cases, the *slaughtering* is carried out by an individual or group of individuals in a callous or brutal attack (e.g. 5.29, Table 5.11), but

[49] REFLDET = reflexive determiner

in most cases (87%), the data reports on *slaughtering* carried out by professional slaughterers, researchers or farmers – humans who kill animals as part of their job – whose disambiguating referent was either further than five clauses from the immediate referent or not explicitly mentioned at all. The fact that *sacrifice* and *slaughter* are both very specific 'killing' terms, in certain contexts – *sacrifice* a term used to refer to the killing of animals who have been experimented on, when the Context (Section 4.3.2.11) is 'lab'; and *slaughter* a term used to refer to the killing of animals for their flesh, typically involving exsanguination, when the Context is 'animal industries' – meant that the Agent identities were inferable even though they were almost never mentioned at any point in the text. In some cases the precise human role was too ambiguous, e.g. in the case of animals being *slaughtered* in an outbreak of disease (e.g. 5.30, Table 5.11), especially in non-British systems whose processes may be different to those in this country (e.g. 5.31), or when researchers report on the *slaughtering* of animals who may have been killed by slaughterers at a slaughterhouse, or by researchers in a lab, or by someone else in a different role at a different type of location (e.g. 5.32). In these cases the Agent was noted as simply *HUMAN* rather than the more specific *SLAUGHTERER* or *RESEARCHER*. In most cases, however, the unmentioned human killer of animals used in scientific experiments was labelled *RESEARCHER*, unless evidence suggested otherwise. Example 5.33 is a typical journal article result: the inferred Agent is *RESEARCHER* and ARD is 'NF'.

#	Excerpt	Corpus	Subcorpus
5.29	*We will not stand idly by while our native wildlife is* ***slaughtered*** *at whim, political or otherwise*	PPPP	Campaign literature
5.30	*During 2003-2004 in excess of 16,000 cattle were* ***slaughtered*** *in the Northern Ireland TB programme*	PPPP	Journal articles
5.31	*On this occasion, the H5N1 influenza viruses were eradicated by* ***slaughtering*** *all poultry in the live bird markets of Hong Kong.*	PPPP	Journal articles
5.32	*bison that exit park boundaries are hazed back into the park or captured and* ***slaughtered*** *based on their numbers and brucellosis serostatus*	PPPP	Journal articles
5.33	*On the third day of supplementation, three birds from each group were* ***slaughtered*** *for measuring the colonization of bacteria in the gut.*	PPPP	Journal articles

Table 5.11: Corpus examples 5.29-5.33

Given what the literature had to say on slaughtering and slaughterhouses (Chapter 2), I was prepared to have some difficulty in locating the Agents of *slaughter*. However, I did not expect that the identity of the slaughterer – the person responsible for the killing – would be as elusive in the text as in the slaughterhouse itself. Even in non-academic writing, where there are not the same constraints of genre and style, *slaughtering* is an overwhelmingly passive phenomenon with almost no named culprits. Perhaps *slaughter* simply has such specific connotations, unlike terms such as *kill* and *wipe out*, that it is not considered necessary to name the killer. Even pro-animal campaign literature (see Table 5.12) can be seen suppressing these *slaughtering* Agents, even if this is done with the intention of foregrounding the victims. Authors of these texts are probably unaware that they are potentially colluding in the oppressive representation of animals that they oppose, by effectively concealing the Agents and construing deliberate acts of violence as something that *happens*.

#	Excerpt	Corpus	Subcorpus
5.34	*Around 1.3 billion pigs are* ***slaughtered*** *annually for meat worldwide.*	PPPP	Campaign literature
5.35	*In the case of fetal karakul lamb fur, the ewes are* ***slaughtered*** *up to 30 days before natural delivery.*	PPPP	Campaign literature
5.36	*As soon as hens pass their peak and start laying fewer eggs than before, they are* ***slaughtered****. <u>This happens</u> to all hens, including free-range and organic*	PPPP	Campaign literature

Table 5.12: Corpus examples 5.34-5.36

There was one example in the data (5.37, Table 5.13) of a *SLAUGHTERER* being explicitly mentioned – for reasons of clarification, in a legislative document – and six examples of a slaughterer being implied (e.g. 5.38), in a similar way to 5.27 and 5.28 in Table 5.10. In other cases, I was led down the garden path: *slaughtered by* was followed not by an Agent but by the method of killing (e.g. 5.39 and 5.40, Table 5.13). *Sacrifice* dealt the same red herring (e.g. 5.41 and 5.42). In these scientific journal article instances, in which the author is typically also the Agent of the action being described, my impression is not that the writers were deliberately attempting to draw attention away from their own Agency (or culpability), but that they were adhering strictly to academic writing conventions, i.e. impersonal tone through the use of nominalisation and passive voice.

#	Excerpt	Corpus	Subcorpus
5.37	*(a) in relation to a slaughterer, means cattle, sheep or pigs* ***slaughtered*** *by the slaughterer in that period*	PPPP	Legislation
5.38	*Animals were* ***slaughtered*** *at a commercial slaughterhouse after reaching the weight of 109kg.*	PPPP	Journal articles
5.39	*The calves were* ***slaughtered*** *by intravenous administration of pentobarbital on the 4th, 6th, 9th, 14th and 21st days after inoculation.*	PPPP	Journal articles
5.40	*On day 29, the birds were* ***slaughtered*** *by cervical dislocation.*	PPPP	Journal articles
5.41	*All pigs were* ***sacrificed*** *by bolt pistol followed by exsanguination.*	PPPP	Journal articles
5.42	*All subjects were sacrificed by decapitation between 0900 and 1100.*	PPPP	Journal articles

Table 5.13: Corpus examples 5.37-5.42

Though the distancing of the author – the human Agent – is to be expected in academic journal writing, particularly in the sciences, it is also conventional that the text be clear and explicit in all other aspects. In many cases, however, the identities of the animals being killed were described in vague (5.43), distant (5.44), ambiguous (5.45) and deanimalising (5.46) terms; see Table 5.14. In some texts the animal was named once – at the very start of the document – and then never explicitly referred to again. The means by which they were killed were also sometimes obfuscated, as in the ambiguous *slaughter* cases. *Slaughter* and *sacrifice* were particularly time-consuming verbs to annotate, since a lot of time was spent having to read long passages of scientific journal articles to resolve ambiguous Patient referents. *Who* do they do it to?

#	Excerpt	Corpus	Subcorpus
5.43	*All animals were **slaughtered** at the age of 31 weeks*	PPPP	Journal articles
5.44	*for each infected farm, one farm is **slaughtered** pre-emptively*	PPPP	Journal articles
5.45	*Some animals were **sacrificed** immediately as a seasonal control*	PPPP	Journal articles
5.46	*Specimens were **sacrificed** by an overdose of benzocaine (4% in acetone)*	PPPP	Journal articles

Table 5.14: Corpus examples 5.43-5.46

Journal article texts in this data, given that they tend to report on experiments conducted on animals, have a particular tendency to objectify animals, rendering them as tools, components, resources – as 'means to an end'. The word *sacrifice*, itself, implies that the animals are killed in the name of something higher and more important than them, for a purpose – or higher power – to which humans have no choice but to submit. Both *slaughter* and *sacrifice* are examples of procedural 'killing' terms; they are carried out in official contexts for 'important' and 'necessary' purposes. It makes sense, then, that scientific experimentation inflicted on animals should be framed in this way – as routine, unavoidable, and ultimately worthwhile – and that the animals should continue to be construed in distant, vague and ambiguous terms in order to preserve this narrative of necessity.

5.3.3.3 Put down *and* put to sleep

Put down and *put to sleep* serve similar communicative purposes when it comes to killing (animals), but behave in slightly different ways. In both cases, the Context is typically 'domestic', though they also feature in 'entertainment' and 'work' (as discussed further in Chapter 6). The animals being *put down* or *put to sleep* tend to be pets, specifically dogs and cats (53% overall[50]), but there are also instances of horses (9%[51]) and, rarely, some 'wild' animals such as lions, whales and seals (2%[52]). The main difference between the two terms is their polysemy: *put to sleep* has five senses, only one of which occurs in the PPPP sample; *put down* has 22 senses, ten of which are found in the PPPP sample. These patterns and their implicatures are given in Tables 5.15 and 5.16, respectively (*pv* stands here for 'phrasal verb' as per PDEV standard notation). The high number of possible senses of *put down* perhaps explains why its average ARD score (3.85) is slightly lower than that of *put to sleep* (4.49); it does not always refer to an act of killing, and this is reflected in the KVD. It may also be a result of slight differences in connotation. In both cases, however, the average PRD is notably high; *put down* and *put to sleep* have the highest average PRD scores for *ANIMAL* out of all of the 'killing' terms, as shown in Table 5.7.

#	% BNC sample	% PPPP sample (KVD)	Pattern	Implicature
1	11.76	0.00	*pv ACTIVITY | STUFF* ***puts*** *HUMAN* ***to sleep***	*ACTIVITY* or *STUFF* causes *HUMAN* to become so sleepy that they fall asleep
2	20.59	0.00	*pv HUMAN 1* ***puts*** *HUMAN 2* ***to sleep***	*HUMAN 1 = Parent* puts *HUMAN 2 = Child* into bed so that they might fall asleep
3	45.59	100.00	*pv HUMAN* ***puts*** *ANIMAL* ***to sleep***	*HUMAN* kills old, infirm or unwanted *ANIMAL*
4	14.29	0.00	*pv ANYTHING* ***puts*** *HUMAN* ***to sleep***	*HUMAN* finds *ANYTHING* very boring
5	7.35	0.00	*pv HUMAN 1* ***puts*** *HUMAN 2* ***to sleep***	*HUMAN 1 = Doctor | Anaesthetist* administers anaesthesia to *HUMAN 2 = Patient* in order to carry out a medical procedure

Table 5.15: CPA patterns and their implicatures for *put to sleep*, as found in the BNC and PPPP samples

[50] n=101 for *put down*; n=41 for *put to sleep*

[51] n=17 for *put down*; n=6 for *put to sleep*

[52] n=5 for *put down*, n=1 for *put to sleep*

#	% BNC sample	% PPPP sample (KVD)	Pattern	Implicature
1	43.45	4.74	*pv HUMAN* | *ANIMAL* ***puts down*** *PHYSICAL OBJECT*	*HUMAN* | *ANIMAL* stops holding *PHYSICAL OBJECT* and places it somewhere in the immediate vicinity
2	13.32	8.06	*pv HUMAN* ***puts down*** *INFORMATION* | THAT-CLAUSE ({on paper})	*HUMAN* records *INFORMATION* by writing it down or typing it out
3	8.95	4.27	*pv HUMAN* | *INSTITUTION* ***puts*** *EVENTUALITY* | *STATE OF AFFAIRS* ***down*** {to} *ANYTHING*	*HUMAN* | *INSTITUTION* attributes *EVENTUALITY* | *STATE OF AFFAIRS* to *ANYTHING*
4	8.73	0.95	*pv HUMAN 1* ***puts*** {the phone | the telephone} ***down*** ({on} *HUMAN 2*)	*HUMAN 1* ends telephone call with *HUMAN 2* (before *HUMAN 2* has finished speaking)
5	5.02	14.22	*pv HUMAN* ***puts down*** *STUFF* | *ARTIFACT*	*HUMAN* lays out *STUFF* | *ARTIFACT* on the ground in a purposeful way
6	3.49	0.00	*pv HUMAN* | *INSTITUTION* ***puts down*** *ACTIVITY*	*HUMAN = Political* | *INSTITUTION = Government* | *Army* uses force to bring an end to *ACTIVITY = Revolt* by *HUMAN GROUP*
7	2.84	64.45	*pv HUMAN* ***puts down*** *ANIMAL*	*HUMAN* kills old, infirm or unwanted *ANIMAL*
8	2.40	0.00	*pv HUMAN* ***puts down*** *MONEY*	*HUMAN* pays a portion of *MONEY*, usually as a deposit for something
9	2.18	0.95	*pv HUMAN 1* ***puts*** *HUMAN 2* | *NAME* ***down*** ({for *ACTIVITY* | *RESOURCE*})	*HUMAN 1* adds *NAME* of *HUMAN 1* | *HUMAN 2* to a list in order to formally register that *HUMAN 1* | *HUMAN 2* is interested in taking part in *ACTIVITY* or would like to receive *RESOURCE*
10	1.97	0.47	*pv HUMAN 1* ***puts down*** *HUMAN 2*	*HUMAN 1* criticises *HUMAN 2*
11	1.97	0.47	*pv HUMAN* ***puts*** REFLDET {foot} ***down***	*HUMAN* insists on a particular course of action, despite opposition
12	1.09	1.42	*pv HUMAN* | *HUMAN GROUP* | *INSTITUTION* ***puts down*** *PROPOSITION*	*HUMAN* | *HUMAN GROUP = Political* or *INSTITUTION = Government* officially requests that *PROPOSITION* be considered and a decision made on it
13	1.09	0.00	*pv HUMAN* ***puts*** REFLDET {foot} ***down***	*HUMAN = Driver* makes an effort to drive *VEHICLE* faster
14	0.66	0.00	*pv HUMAN* ***puts down*** {roots}	*HUMAN* becomes settled and established in new environment, typically a new home
15	0.44	0.00	*pv HUMAN* [MODAL] ([NEG]) ***put*** {book} ***down***	*HUMAN* feels compelled to continue reading something
16	0.44	0.00	*pv* SPORTS *HUMAN 1* ***puts down*** *HUMAN 2*	*HUMAN 1 = Wrestler* pins *HUMAN 2 = Wrestler* to the ground
17	0.44	0.00	*pv* SPORTS *HUMAN* ***puts down*** {catch}	*HUMAN = Cricketer* drops cricket ball whilst trying to catch it
18	0.44	0.00	*pv HUMAN 1* | *VEHICLE* ***puts*** *HUMAN 2* | *HUMAN GROUP* ***down*** [Adv[Location]]	*HUMAN 1 = Driver* stops *VEHICLE* and lets *HUMAN 2* | *HUMAN GROUP* out at *LOCATION*
19	0.22	0.00	*pv PLANE* ***puts down***	*PLANE* lands
20	0.22	0.00	*pv HUMAN* ***puts down*** *PLANE*	*HUMAN = Pilot* lands *PLANE*
21	0.22	0.00	*pv HUMAN* ***puts*** REFLDET {head} ***down***	*HUMAN* focuses their efforts on a particular task
22	0.20	0.00	*pv HUMAN* | *INSTITUTION* ***puts down*** {marker}	*HUMAN* | *INSTITUTION* makes clear what they intend to do

Table 5.16: CPA patterns and their implicatures for *put down*, as found in the BNC and PPPP samples

Put down and *put to sleep* are both euphemistic 'killing' terms, typically reserved for pets and other animals being killed in seemingly regrettable circumstances. These terms are sometimes used to 'soften' the act of killing being described (e.g. 5.47, Table 5.17), or to construe it as something necessary (5.48) and, in some cases, kind (5.49).

#	Excerpt	Corpus	Subcorpus
5.47	*the decision was made to* ***put*** *the little fella* ***to sleep***	PPPP	Campaign literature
5.48	*apparently he'd got kidney trouble and then he started making all kinds of messes and so she had to have him* ***put down***	PPPP	Dogs transcripts
5.49	*If the horse isn't right for rehoming, be brave, do the right thing and have him* ***put down*** *humanely.*	PPPP	Campaign literature
5.50	*Sheriff Patrick Davies ordered cops to find Storm and have him* ***put down*** *by a vet.*	PPPP	News

Table 5.17: Corpus examples 5.47-5.50

Most interesting about these terms is their relatively high incidence of the causative voice (18% of *put down*; 30% of *put to sleep*[53]); see examples underlined in Table 5.17. Aside from the objectifying effect this has on the animal, i.e. as burdensome possession in need of a service, this construction also creates a greater distance between the Agent and the Patient by increasing the valency. If we consider these constructions as catenative chains, the owner of the animal is the Agent, the initiator of this "irreversible process" Pachirat (2011). The additional use of the deontic modal *had to* at the start of this construction (n=6 for *put down*, n=9 for *put to sleep*) reinforces the sense of regret and simultaneously serves to minimise any notions of volition. Given that use of such language was found to be proportionately greater for *put to sleep* than for *put down*, it might be possible to say that, of the two terms, *put to sleep* is slightly more sentimental in connotation.

[53] 25/136 lines for *put down* (Pattern 7 only); 17/57 lines for *put to sleep* (Pattern 3 only / all lines)

In both cases, the killing is almost always carried out by a vet, though the vet is rarely mentioned explicitly; 5.50 (Table 5.17) is one of those few (n=6) cases. The association of *put down* and *put to sleep* with pets and, consequently, vets, is perhaps so strong that their naming is typically seen as unnecessary, in the same way that the construction "[human] was sentenced" does not require the clarification "by a judge" (Hanks, 2013: 285). Even in instances such as 5.51 (Table 5.18), where the animal owner is placed in the position of Agent in an active, non-causative construction, the reader can be fairly sure that the owner is not carrying out the killing themselves. In light of this, there might be an argument for changing the 'killing' implicatures of *put down* and *put to sleep* (Patterns 7 and 3, respectively) to instead read, "*HUMAN* kills <u>or causes to be killed</u> an old, infirm or unwanted animal" so as to cover examples of this syntax. However, since CPA entries are driven by norms, and the norm in this case is for animal owners to *have* the animal *put down* or *put to sleep*, in a causative construction, or otherwise for the animal to *be put down* or *put to sleep*, in a simple passive construction, such an amendment would not be justified. One that perhaps could be justified is the inclusion of the semantic role of 'vet', e.g. "*HUMAN = Vet* kills old, infirm or unwanted animal", in the same way that the verb *sentence* invokes the agent *HUMAN = Judge*. However, unlike *sentence*, the terms *put down* and *put to sleep* are not reserved for killing carried out by trained professionals, even if that is usually the case, and the ambiguity that the current definition provides is not coincidental; these terms are often used to connote necessity, regret or a kindness, and not necessarily to specify a professional act of killing. Decisions such as these are not always clear-cut, and are the reason that CPA is described as involving "a great deal of lexicographic art" (Hanks, 2004: 88).

#	Excerpt	Corpus	Subcorpus
5.51	*it's the humans that are suffering not the calf and it's the same with people* ***putting*** *their pets* ***to sleep*** *- it's the people who suffer, not the pet*	PPPP	Interviews
5.52	*I think the most horrific thing I've ever had to do is have my first two police dogs* ***put to sleep****.*	PPPP	Dogs transcripts
5.53	*Having to have the 1st staffy* ***put down*** *was so painful for my parents they said that they would not have another dog*	PPPP	MO data

Table 5.18: Corpus examples 5.51-5.53

The examples in Table 5.18 exemplify another effect of the use of *put down* and *put to sleep*: in ‘peaceful’ acts of killing such as these, the event is described as a source of pain and suffering not for the animal but for the human, construing them as the victim and thus detracting from the victimhood of the individual being killed. Death is not necessarily considered to be bad for animals, unlike humans – as discussed in the ethics literature (Chapter 2) – and even for animals who are cared about, such as pets, their killing is typically framed in terms of the loss of companionship on the part of the human, rather than the loss of life on the part of the animal. This attitude is summarised in the CPA implicature for these patterns: an animal who is put down or put to sleep is one who is *old*, *infirm* or *unwanted*. An unwanted animal is as eligible for killing as one who is suffering, because of the current paradigms – legal and cultural – in which animals exist as the property of humans. Again, whether or not such killings are “bad" for animals is no simple question, but what cannot be denied is that any harm construed by *put down* and *put to sleep* is consistently centred around the human and not the Patient of the killing. It is perhaps relevant that the causative construction, “*had* [companion animal] *put down* / *put to sleep*” is graphically reminiscent of the pseudo-passive, non-causative construction, “*had* [unfortunate event] *done* (to me)”.

5.4 Conclusion

Givón’s measure of topic continuity was not intended to be employed in the way it is here, and the differences in approach and research interests have naturally produced quite different findings in terms of Referential Distance. Nonetheless, his and others’ work on topicality in English – along with that of Yamamoto (1999) on animacy and referential expressions – provide a point of reference from which to consider the potential implications of high or low Referential Distance, especially where humans are concerned. We know from the literature that we should not be surprised to find a large proportion of *HUMAN* Agents. Less predictable is the high Referential Distance associated with *HUMAN* Agents and *ANIMATE* Patients, whom we would expect to have lower Referential Distance and therefore lower ambiguity, even when taking into consideration that my application of Referential Distance is more discerning (requires more explicit naming) than that of Givón and colleagues. This investigation into Referential Distance suggests that referential behaviour is not necessarily inherent to semantic types themselves, but is also potentially attributable to the processes in which these actors participate. This is difficult to establish, however, without undertaking a more comprehensive comparison of different participants involved in a range of events of varying kinds.

ARD and PRD were found to behave very differently as features, sometimes even in opposition, and this reflected the unequal relationship between *HUMAN*, which accounted for the vast majority of Agents, and *ANIMAL*, which constituted the vast majority of Patients. *ANIMAL* was, on the whole, placed in positions of greater Patient Referential Distance than inanimate Patients were, and this often had the result of detracting from their victimhood, in the same way that *HUMAN* Agents in positions of high Referential Distance are literally and figuratively distanced from their actions. Conversely, cases where Agents and Patients have lower Referential Distance might be perceived as attempts to be deliberately explicit: to expose the intentions of the Agent and draw attention to the suffering of the Patient. This could explain why the same verb, being used in the same sense, might be deployed with varying degrees of Referential Distance in order to meet the ideological needs of the speaker or writer. Some cases, however, are arguably driven by the norms and constraints of the text domain and genre, such as conventions of style in academic writing. In other cases, it may simply be that the speaker does not feel the need to mitigate such events, and this can manifest as either a low Referential Distance – i.e. an explicit, immediate mention of an unproblematic Agent or Patient – or as a high Referential Distance, such as in the form of a truncated passive construction whose absent Agent requires no explanation.

In many cases, especially for verbs such as *sacrifice* and *slaughter*, unravelling the act of killing begins to feel like a murder mystery: the killer is so far away that all leads run cold. In others, they are hidden in plain view; terms like *wipe out*, *sacrifice*, *butcher*, *put down* and *put to sleep* create a subtle *semantic* distance even when the more obvious Referential Distance remains low. *Wipe out*, which takes as its object argument not *ANIMAL* but *ANIMAL GROUP*, provides distance by anonymising its victims; individuals are rendered a homogenous mass, as discussed in Chapter 7. *Sacrifice* evokes connotations of sacredness and necessity, so that those who are *sacrificed* might be viewed as useful means to an end rather than victims of appropriation and killing. *Butcher*, in its transitive form, can refer either to killing or cutting, and this ambiguity, rather than creating confusion, fits appropriately within a speciesist lexicon. In its intransitive form, *butcher* erases the animal altogether, their absence unremarkable to the hearer, who is now not engaged in a discussion of killing but of a vocation. In constructions such as this, the focus shifts towards the human and away from the animal. *Put down* and *put to sleep* are two more examples of such anthropocentrism; their 'killing' implicatures, which are the same despite having slightly different connotations, remind us of the moral and legal status enjoyed by the most beloved animals in society: as companions deserving of life only when they are young, healthy and wanted, and whose quiet deaths are only truly harmful to their human owners.

Unsurprisingly, then, we see that the distance and concealment that surrounds animal killing – particularly in the context of animal agriculture and other animal-orientated industries – also manifests in linguistic forms of distancing, some of which are less obvious, and potentially more powerful, than others. If animal advocates are to resist speciesist language, it will involve a concerted effort to close these literal and figurative gaps and to focus particularly on those terms that are semantically rather than syntactically obfuscating. In the chapter that follows, I turn my attention to another key theme of this project, closely related to distance: the interaction between space, place, and killing/meaning events.

6 The Wrong Place at the Wrong Time

6.1 Introduction

Place and space are recurring themes in the literature surrounding both animals and language. Viewed through the lens of *assemblage* (described in Chapters 2 and 3), this begins to makes sense: in a world of flux and endless becomings, where networks are continuously being created and recreated, all entities take on a dynamic, processual quality, bound up in their spatial contexts. Naturally, this extends to the subjects under investigation here: acts of killing and acts of meaning. Meaning, like killing, is an *event*, (Section 3.7.3), and as with all events there are specific contributing factors (or 'actors', in the Latourian sense) that come together to make the event what it is. In this chapter I analyse the cooccurring evental features of all 1,682 instances in the Killing Verb Dataset (KVD), paying particular attention to place, space and 'Context', a feature introduced in Chapter 4. The politics of sight also play a key role here, and as such I make a deliberate effort to present the 'bigger picture' of the data in a visual format, where possible.

The chapter is structured as follows. Section 6.2 is centred around a map of Contexts, which presents the data in terms of events taking place across contextual 'spaces'. The triangulated factors are the Agent, the Patient, and the Context of each 'killing' event, and although the input data was textual, i.e. concordance lines from the KVD, the features encoded during the annotation reflect an appreciation of the simultaneously material and semiotic nature of the data. The resulting analysis is therefore an examination of the whole assemblage: the material act of killing (or not, as the case may be, given that not all 'killing' verb instances refer to killing), and the textual trace of a discursive act of meaning. Section 6.3 features another map, this time of text types, and in the ensuing subsections it is analysed and discussed in terms of events across text types, or 'text-spaces', as they may well be called. In this analysis, verbs are represented by their individual patterns, derived using CPA. The chapter concludes in Section 6.4 with a brief discussion of the relationship between space, place, context and event. The RQs explicitly addressed by this chapter are RQs 2 and 2a – concerning representations of the involvement of participants in acts of killing, and how stable such representations are across domains, respectively – but the chapter also contributes, less directly, to RQs 1 and 3, given that it seeks to comment on the key themes of space, visibility and assemblage, and given that CPA was utilised in the generation of pattern numbers.

6.2 Mapping across Contexts

As described in Chapter 4, each instance (concordance) in the Killing Verb Dataset (KVD) was assigned a 'Context' value during the annotation process. Similar to the development of the Ontology, the Contexts were developed and refined over the course of the annotation, and were assigned depending on a number of factors, including the inferred place, purpose and circumstances of the event. In deciding to which Context an instance belonged, priority was given to place (e.g. in a lab, in a slaughterhouse), followed by the purpose of the killing (e.g. for entertainment, for profit), the circumstances of living (e.g. as a pet, as a 'working' animal), and the source or text type (e.g. scientific journal article, promotional text). This has made it possible to arrange the data from a spatial perspective, where Contexts constitute spaces – or 'zones' – in which the killing/meaning events take place. I refer to killing/meaning events as such because killing events and meaning events are considered here to be distinct but nonetheless inextricable; they are part of the same material-semiotic assemblage. Arranging the data in such a way enables me to survey, from a bird's-eye view, many cooccurring evental attributes at once: the Agent semantic type, the Patient semantic type, the Context (a mixture of circumstantial features), and how common such clusters of features are.

Figure 6.3 maps out all 1,682 of the killing/meaning events across the nine Context zones – 'animal industries', 'domestic', 'entertainment', 'farming', 'general', 'lab', 'war', 'wild' and 'work' – and represents multiple instances of the same type of event. This was achieved by assigning each of the 56 general-level semantic types (e.g. *HUMAN*, *ANIMAL*, *STATE OF AFFAIRS*) with a unique numerical value between 3 and 58, so as to fit comfortably within an x-y graph with axis values from 0 to 60, and then plotting the Agents along the x-axis and the Patients along the y-axis. Numbers were assigned by simply ordering the semantic types alphabetically and then numbering them in ascending order; for example, the semantic type *ARTIFACT* is represented by the number 10, *ASSET* by the number 11, *BODY*, 12, *BODY PART*, 13, and so on. The type *ANIMAL*, which would have been number 6, had to be assigned a different number (23) as it was so prevalent in the data that its points on the chart were overlapping the y-axis and affecting legibility (and this is also why no types were assigned a number below 3 nor above 58). Using a bubble chart (see e.g. Fig. 6.1), it was possible to plot the combinations of different types of Agents and Patients and at the same time depict the frequencies of these types of events. So, where the Agent was *HUMAN* (31) and the Patient was *ANIMAL* (23), for example, this event could be plotted with the coordinates (31, 23) and the 'bubble' that appears in that spot is of a size relative to the frequency of that type of Agent-Patient pairing.

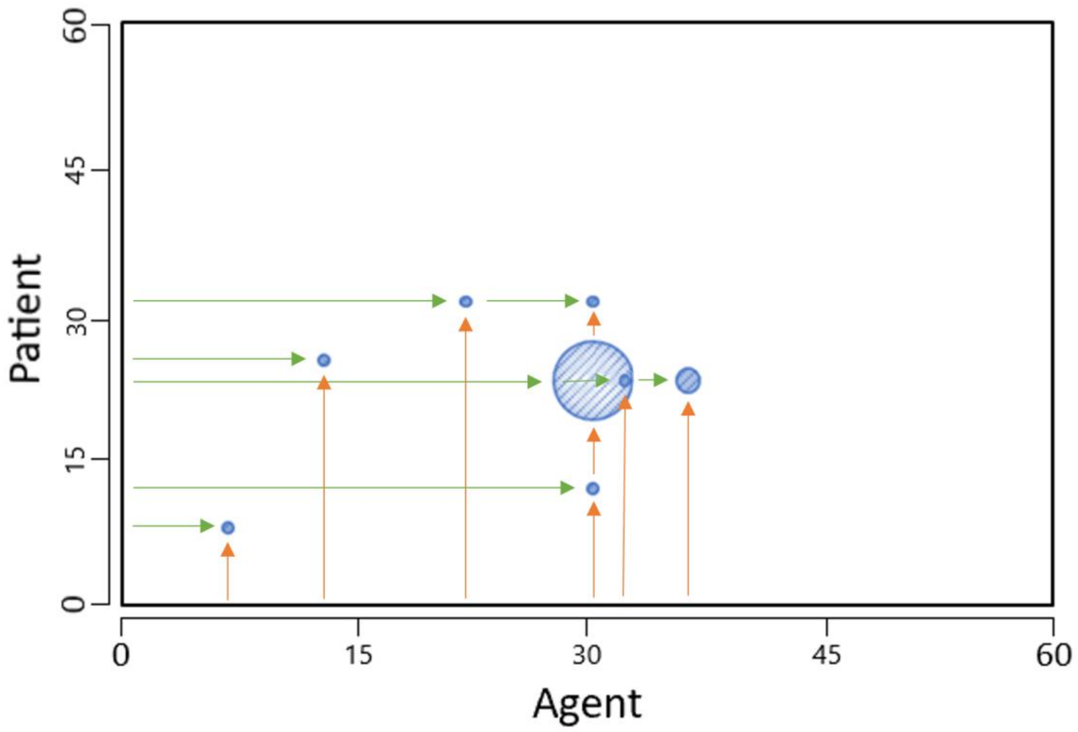

Fig. 6.1: The bubble chart for the Context 'entertainment', with arrows illustrating the meeting of Agents (x-axis) and Patients (y-axis)

Fig. 6.1, above, demonstrates how Agent (x-axis) and Patient (y-axis) semantic types, having been assigned numerical axis values, can be depicted as 'meeting' or 'crossing paths' in a standard x-y bubble chart. The orange vertical lines show the path of the Agent while the green horizontal lines mark the path of the Patient. The point of meeting is punctuated by a bubble whose size represents the raw frequency of that type of event, i.e. events with the same kind of Agent semantic type and the same kind of Patient semantic type. As an example, Fig. 6.1 represents all events in the data that were tagged as belonging to an ‘entertainment’ Context. The same chart is reproduced with more detailed annotation in Fig. 6.2, below.

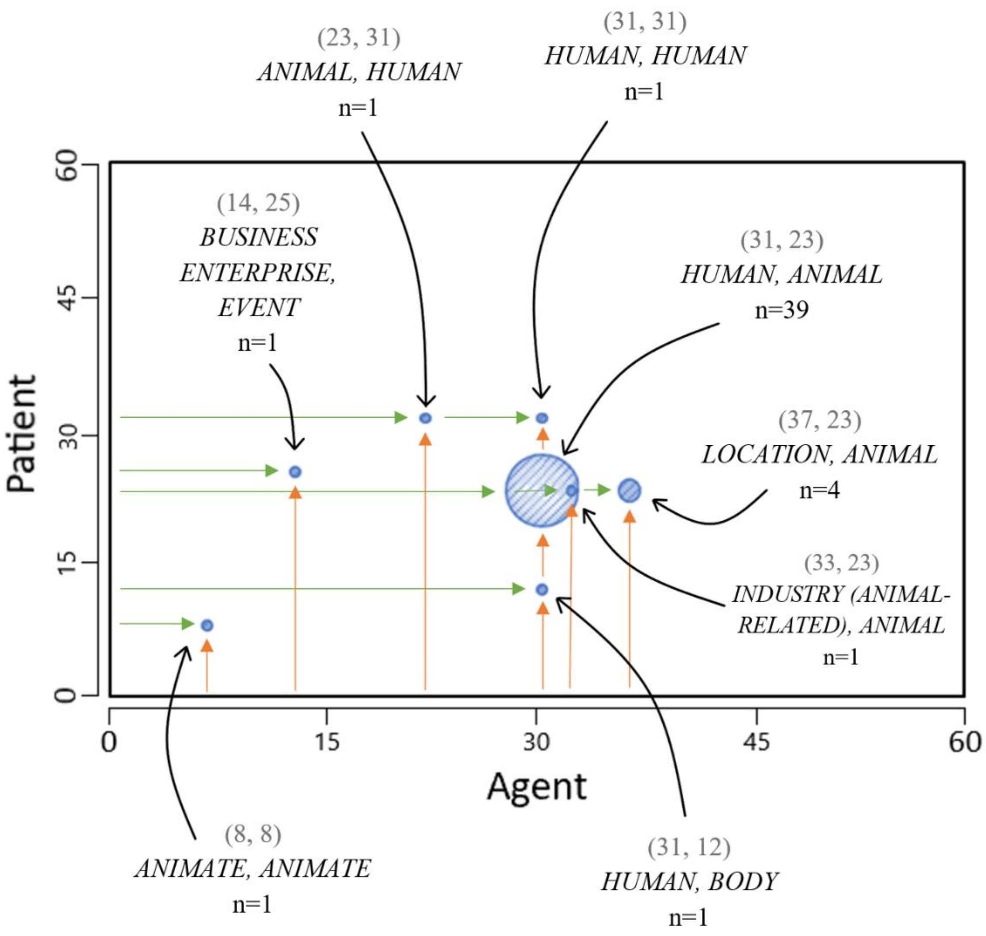

Fig. 6.2: The bubble chart for the Context ‘entertainment’, labelled with Agent-Patient information

Fig. 6.2 is the same as Fig. 6.1, but with labels to show which semantic types are entailed by the data points in the chart. Most of these are singular in frequency, and the highest in frequency is clearly the *HUMAN-ANIMAL* pairing represented by the large bubble near the centre of the chart at (31, 23). This reflects the 39 instances tagged as ‘entertainment’ that involve a *HUMAN* Agent and an *ANIMAL* Patient, as in Examples 6.1 and 6.2 in Table 6.1. Less predictable are pairings like *BUSINESS ENTERPRISE-EVENT* (n=1) and *HUMAN-HUMAN* (n=1), which are both examples of non-killing senses of verbs in use (6.3 and 6.4).

#	Excerpt	Corpus	Subcorpus
6.1	*The bull in the ring, fulfilling his nature in a fight to the death, defies the well-meaning human critics who would prefer to* ***kill*** *him ignominiously in an abattoir.*	PPPP	News
6.2	*Although I love to see horses exercising and running when they want to, I hate to see them whipped in races and being* ***put down*** *after injuring themselves at a jump.*	PPPP	MO data
6.3	*Inspectors of circus Mondao confirmed in November that the lead vet for the circus had not visited a tour site since the licence was granted in March 2013. This was* ***put down*** *to "confusion" on the part of the circus*	PPPP	Campaign literature
6.4	*He would genuinely* ***destroy*** *me. Like every tennis player, the racquet they choose is vital to performance.*	PPPP	Broadcast

Table 6.1: Corpus examples 6.1-6.4

The chart in Fig. 6.3, below, is essentially nine individual x-y bubble charts of this nature, which altogether account for all instances in the KVD. As above, the point where an Agent and Patient meet constitutes a killing/meaning event, and the size of the bubble that marks that point is indicative of the frequency of that Agent-Patient pairing within that Context.[54] Along the left-hand side of each of the nine zones is a stacked bar chart denoting the proportions of different 'killing' verbs used in that context; a key at the bottom of Fig. 6.3 indicates which colour corresponds to which verb.[55] This is separate data and is not related to any of the particular points on the chart; it is merely a way of incorporating more information in the same space.

[54] For reasons of clarity, only the bubbles with a size greater than n=5 were labelled with information, with the exception of the 'war' Context which had very low frequencies.

[55] Verbs which constituted <5% of instances in a Context were assimilated under the category of 'other'.

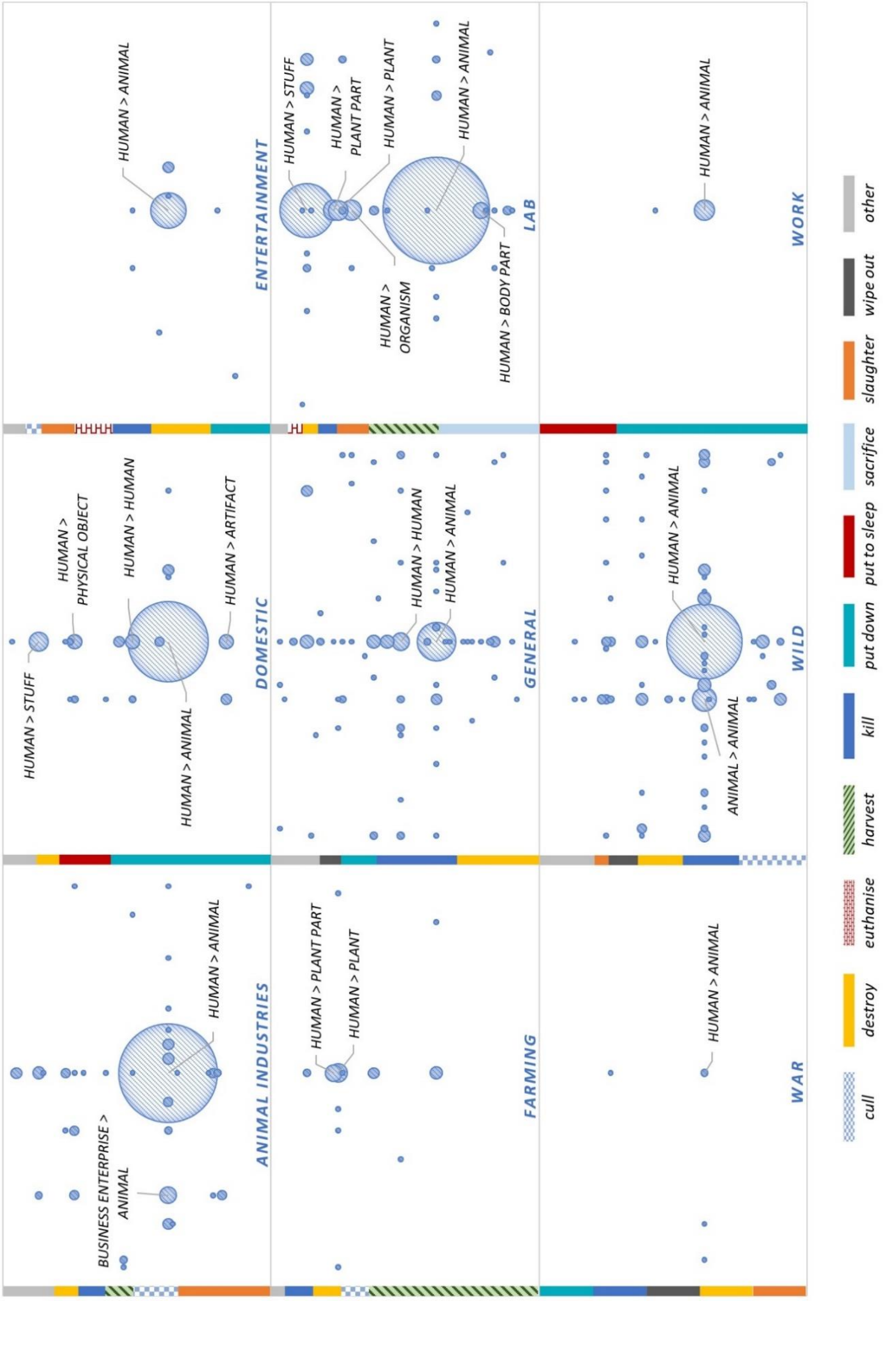

Fig. 6.3: The distribution of all Agent-Patient (general) semantic type pairings across the nine Contexts

This approach makes it possible to observe, at a glance, the sorts of conditions under which specific types of events tend to take place, as well as the most commonly occurring verbs. It is important to note, however, that in the interests of clarity, the rectangular zones in Fig. 6.3 are depicted as being of equal size rather than as of a size relative to their proportion of the data. Some Contexts were very scarce – 'war' and 'work', for instance, which make up just 1.13% of the data, collectively – while others clearly dominate, namely 'animal industries' (21%) and 'lab' (30%). This is unsurprising, given the journal-heavy composition of the PPPP corpus. Some of the Contexts are also less coherent than others; 'general', for instance, has points scattered throughout the space, rather than having a tight cluster of events around a particular point, and this is to be expected.

As can be seen in Fig. 6.3, the relationship of *HUMAN* > *ANIMAL* (i.e. a *HUMAN* Agent paired with an *ANIMAL* Patient) is present in all Contexts – though less so in the Context 'farming', which denotes arable farming rather than animal farming – and is especially dominant in 'animal industries' and 'lab'. In most of the zones we also see a vertical clustering of points running roughly down the centre; this is due to where *HUMAN* (Agent) falls on the x-axis. This central, vertical line demonstrates a consistent presence of human Agency within that context, particularly noticeable in 'animal industries', 'domestic', 'general', 'lab' and 'wild'. This is rivalled, to some degree, in the 'domestic' and 'wild' zones. In these Contexts, the vertical line of bubbles that runs parallel to the *HUMAN* line, slightly to the left of the centre, is that of the *ANIMAL* Agent. Clearly, animals are described as having more Agency within a home/domestic context (i.e. as pets) and when in the 'wild' (e.g. as predators) than they are in other situations. In a way, the dispersion of data points in these Context zones suggests a slightly less imbalanced power relation between humans and animals in these domains, though clearly – from the size of the *HUMAN* > *ANIMAL* bubble – humans still appear to hold far more power overall.

In the subsections that follow, each Context is briefly discussed in relation to its visual representation in Figure 6.3, starting with 'animal industries' in the upper left-hand corner and ending with 'work' in the bottom right-hand corner.

6.2.1 Animal industries

'Animal industries' was the Context label assigned to all 'killing' events which were clearly situated in a context of animal exploitation for profit. In this particular zone, reproduced in isolation in Fig. 6.4, we see two main vertical lines of Agency: one belonging to *HUMAN*, running down the middle of the zone, and the other belonging to *BUSINESS ENTERPRISE* on the left-hand side. These lines – marked with orange dashed lines on Fig. 6.4 – both intersect the path of the *ANIMAL* Patient on the y-axis (marked with a green dashed line). Predictable though such an outcome is, this serves as a clear, visual representation of how the *ANIMAL* can become implicated in a context dominated by humans and animal-exploiting businesses.

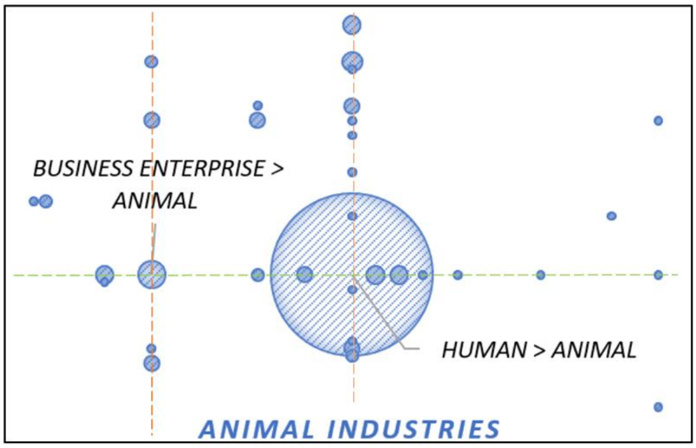

Fig. 6.4: The 'animal industries' Context zone in isolation, Agent and Patient lines highlighted

Unsurprisingly, the most frequently occurring verb in 'animal industries' is *slaughter*, seen in 34% of cases, followed by *cull* (17%), *harvest* (11%) and *kill* (11%). Such findings are in line with what we already know about the role of animals within the industrial complex, i.e. as Patients and as *done to*, rather than as Agents or as *doers*. Specifically, they are Patients of systematic and procedural forms of killing, such as *slaughtering*, which has specific connotations in animal-killing industries. They are also treated as resources or stocks to be exploited, hence the presence of *harvest*.

6.2.2 Domestic

In the ‘domestic’ zone we see a similar pattern of human dominance to that of ‘animal industries’; see Fig. 6.5 for this Context in isolation. This is probably due to the fact that cases were classified as ‘domestic’ when they related to human homes and other human property, such as pets, but the types of verbs, or processes, that occur here are very different from other Contexts: mainly *put down* (60%) and *put to sleep* (19%), which is what we might expect. Other verbs that feature are *destroy* (e.g. of pets, of inanimate objects in the home, 8%), *euthanise* (of pets, 4%) and *murder* (of humans by their family members, 3%). It is worth bearing in mind that not all ‘killing’ verb instances in the KVD refer to killing (in fact, only 79% of the data, overall), and that is evident here in the interactions with inanimate Patients, e.g. *HUMAN* > *STUFF* (n=12; see Example 6.5, Table 6.2), *HUMAN* > *PHYSICAL OBJECT* (n=7, e.g. 6.6), *HUMAN* > *ARTIFACT* (n=7, e.g. 6.7), and *ANIMAL* > *ARTIFACT* (n=4, e.g. 6.8), amongst others.

#	Excerpt	Corpus	Subcorpus
6.5	*I have seen mice in the garden and once they got into the loft here and we had to* ***put down*** *poison, though I don't like doing that.*	PPPP	MO data
6.6	*She's* ***put*** *her bag* ***down*** *and she was going mad, she was saying “oh leave her, she's alright”, I said “no, she's not going through your bag”*	PPPP	Dogs transcripts
6.7	*She said “no, it's not a stray, it was mine”, she says “but we can't have it” and* ***put*** *the phone* ***down****.*	PPPP	Dogs transcripts
6.8	*He's got a rubber ring which is about the only thing he hasn't managed to* ***destroy*** *and that ball there which is good.*	PPPP	Dogs transcripts

Table 6.2: Corpus examples 6.5-6.8

These Patients could all be grouped under the umbrella semantic type of *PHYSICAL OBJECT*, but slightly different types of *PHYSICAL OBJECT* can activate different senses of a verb, especially in the case of *put down*, as demonstrated by (6.5-6.7); to *put down*

STUFF, e.g. food or poison (*put down*, Pattern 5 in Appendix D) has a different meaning to e.g. *put down PHYSICAL OBJECT* or *put down ARTIFACT* (*put down*, Patterns 1 and 4, Appendix D). This perhaps explains why, although we see the Patient *STUFF* appearing along the *HUMAN* Agent line in Fig. 6.3, we don't see *STUFF* as something with which *ANIMAL* interacts where these verbs are concerned.

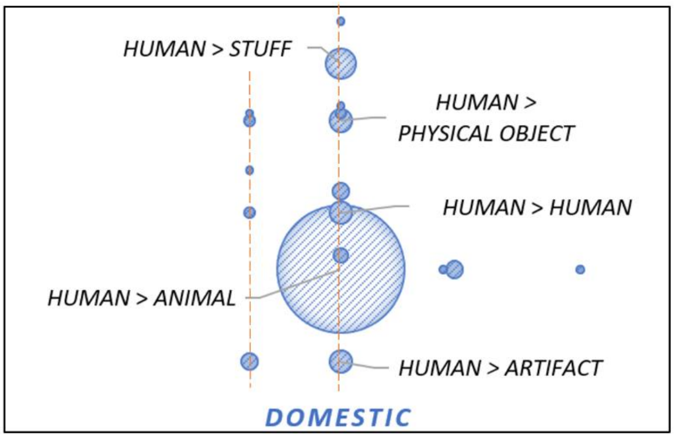

Fig. 6.5: The 'domestic' Context zone in isolation, Agent lines highlighted

There are also two instances of *ANIMAL* as Agent and *HUMAN* as Patient, given in Table 6.3.

#	Excerpt	Corpus	Subcorpus
6.9	*your house pet can often be the one to cry on, the one who accepts you for what you are rather than challenging you or **putting** you **down**.*	PPPP	MO data
6.10	*"I can't believe this dog has nearly **killed** my son and hasn't been destroyed."*	PPPP	News

Table 6.3: Corpus examples 6.9-6.10

Overall, however, it cannot be ignored that the main activity taking place under 'domestic' circumstances is that of *HUMAN* killing *ANIMAL* (n=189), typically a vet *putting down* or *putting to sleep* a pet. This does not imply that, in these cases, the killing is taking place in the home, but simply that the animals being killed are cohabiting pets and as such these events were labelled ‘domestic’.

6.2.3 Entertainment

‘Entertainment’, used to label instances of killing involving animals used for entertainment purposes, is a much smaller Context than most, accounting for just 2.9% of all instances in the data. The zone is reproduced in isolation in Fig. 6.6.

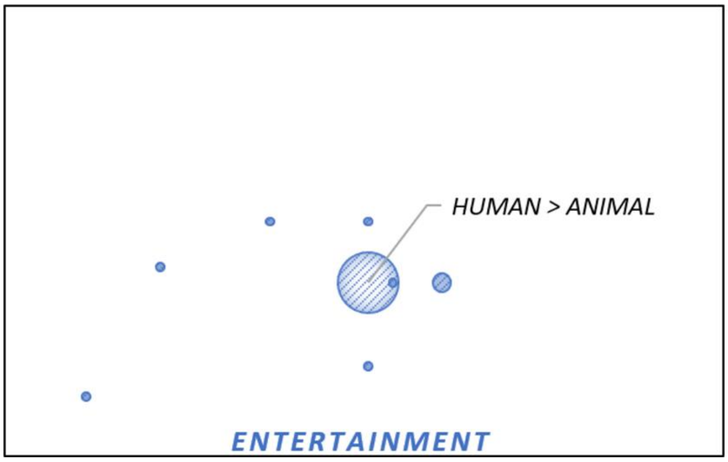

Fig. 6.6: The ‘entertainment’ Context zone in isolation

Again, the main ‘killing’ interactions we see here are between humans and animals (n=39), where *HUMAN* is the Agent and *ANIMAL* is the Patient. There is also a small cluster just to the right of the centre, representing four instances of *LOCATION > ANIMAL* (as in the examples in Table 6.4). It is perhaps worth mentioning that in both of these cases, the Agent is not named explicitly but is referred to metonymically (“zoos”, rather than “people working in zoos”), creating a semantic distance of the kind discussed in Chapter 5. In some cases, as in Example 6.11, the mention of the ‘zoo’ was not only semantically distant but also syntactically distant, and had to be inferred from further reading.

#	Excerpt	Corpus	Subcorpus
6.11	*Tellingly, [zoos]* ***culling*** *animals for these purposes are not ruled out.*	PPPP	Campaign literature
6.12	*Because as you know zoos* ***euthanize*** *loads of animals but this one was highly public*	PPPP	Interviews

Table 6.4: Corpus examples 6.11-6.12

The verbs seen in this Context are varied, including *put down* (22%), *destroy* (22%), *kill* (14%), *euthanise* (14%) and *slaughter* (12%). The Patients – or victims – of 'entertainment' are mainly those used in sports, e.g. horses (n=21), but also more 'exotic' animals kept in enclosures, such as tigers, giraffes and whales, who are killed by humans when they are no longer fit for (human) purpose. There is also one example of a *HUMAN destroying* another *HUMAN* – in tennis (see Pattern 2 of *destroy* in Appendix D) – and one of an *ANIMAL killing* a *HUMAN*, the animal being a killer whale and the human a trainer at SeaWorld.

'Entertainment' is relatively sparse, despite the fact that animals quite often feature as objects of entertainment: in recreational hunting and fishing, for example. However, those cases were instead classified as 'wild', for the reasons described in Chapter 4 and revisited in Section 6.2.8.

6.2.4 Farming

'Farming', not to be confused with animal-related farming (classed under 'animal industries'), refers to 'killing' events that take place within the context of arable farming. This explains why the incidence of *HUMAN* > *ANIMAL* is very small (n=5) in this Context, and instead we see mainly *HUMAN* > *PLANT* (n=10), and *HUMAN* > *PLANT PART* (n=9), the most commonly used verb being *harvest* (63%). In two cases a *HUMAN harvests* a *LOCATION*, as in Example 6.13 in Table 6.5. All of these findings are quite self-explanatory; arable farming involves the harvesting of plants, plant parts, and locations. The 11% of cases which involve *culling*, i.e. of *ANIMAL* by *HUMAN*, represents the instances where farmers or hunters kill animals that threaten their crops or encroach on their land; see e.g. 6.14 and 6.15.

#	Excerpt	Corpus	Subcorpus
6.13	*Harvest method also can influence bird use with lower species richness in fields* ***harvested*** *using methods that strip seeds from the rice plant ("stripper- headers") than in those harvested by conventional means*	PPPP	Journal articles
6.14	*after a while, they started eating the trees and doing damage, so they* <u>*had to be*</u> ***culled****, so we cull a few and there's just a few to be culled*	PPPP	Focus group
6.15	*they're taking the crop. If there wasn't the volume of pigeons then they wouldn't be* <u>*needed to*</u>*, you know,* ***cull*** *them, shall we say*	PPPP	Focus group

Table 6.5: Corpus examples 6.13-6.15

'Farming' represents a commercial context in which animals are not themselves the product – as they are in 'animal industries' – but are nonetheless killable for posing a threat to the farmer's financial interests. The deontic modal verbs, underlined in 6.14 and 6.15 in Table 6.5, demonstrate the sense of obligation imposed on the farmer to kill animals who enter into that space. In 6.15 there is an emphasis on the fact that *culling* is dependent on, even induced by, some bothersome property of the animal in question. *Harvest* and *cull* are discussed in detail in Chapter 7.

6.2.5 General

'General', the zone at the centre of Fig. 6.3, isolated in Fig. 6.7, demonstrates the usual strong trend of *HUMAN* agency, represented by the vertical line of bubbles running down the middle. *HUMAN* > *ANIMAL* is still by far the most commonly occurring relationship in this Context (n=45), if we can call this a Context. 'General' was used to classify instances that did not fit into one of the other eight categories, or otherwise referred to ‘killing’ events that take place – or can take place – in a wide range of contexts or even several contexts at once. Often, this can be explained by the fact that the event in question is not one of killing, and therefore falls outside of the main theme of the data, e.g. 6.16 and 6.17 in Table 6.6. This is reflected in the presence of verbs such as *destroy* (31% of the ‘general’ Context), *put down* (13%) and *wipe out* (8%). It can also be the case that it is not a specific, past event that is being reported on – like an attack in the wild or a scientific experiment in a lab – but rather a general, habitual or hypothetical activity that is perhaps closer in nature to a state of affairs than an event (e.g. 6.18 – 6.20). ‘General’ also includes instances that do not have any specific place, motive or purpose, as in 6.21. In some cases there was simply not enough evidence in the text and the context was too ambiguous to be categorised in any other way. ‘General’ is, in some ways, a catch-all bin for ill-fitting cases, which is unavoidable in analyses such as this.

#	Excerpt	Corpus	Subcorpus
6.16	*A pilgrimage around the sacred mountain is believed to* ***wipe out*** *the sins of a lifetime, increasing the chance of a better rebirth.*	PPPP	Broadcast
6.17	*he was writing fascinating articles which were* ***despatched*** *home and appeared day by day in the Gloucester Citizen*	PPPP	Campaign literature
6.18	*It is estimated that 50,000 badgers are* ***killed*** *on our roads every year*	PPPP	Campaign literature
6.19	*I’m using my car every day, that’s* ***destroying*** *the world*	PPPP	Focus group
6.20	*so do you think that it is kind of anthropomorphising the fox, treating it as a worthy opponent, as opposed to just an animal that can be* ***killed***	PPPP	Interviews
6.21	*Nicholas was stabbed at random in the back of the head. A man* ***murdered*** *him without any reason.*	PPPP	News

Table 6.6: Corpus examples 6.16-6.21

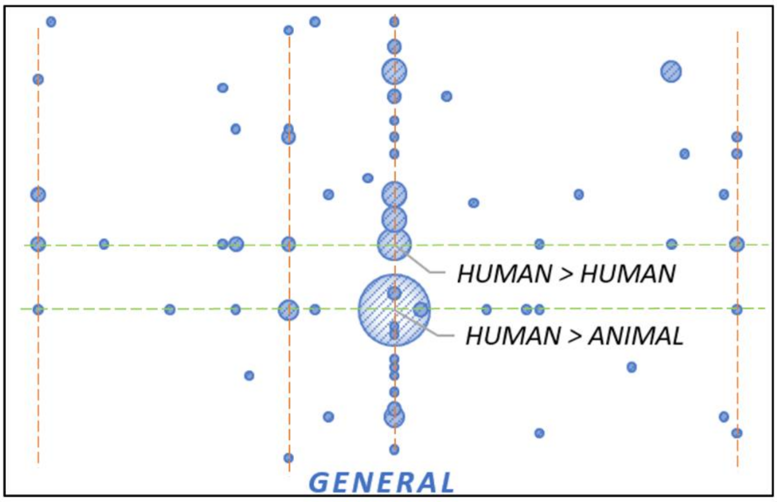

Fig. 6.7: The ‘general’ Context zone in isolation, Agent and Patient lines highlighted

Looking at ‘general’ in Fig. 6.7, we see there are several Agent lines emerging (marked with dashed orange lines): on the far left-hand side is the line representing the Agent *ACTIVITY*, such as the car-driving in (6.19); just left of the centre is the line for *ANIMAL* Agency, typically referring to animals who are not ‘domestic’ but not necessarily ‘wild’ and as a result fall under ‘general’; in the middle we have the usual *HUMAN* line of Agency, and as we can see these are typically *HUMAN* > *ANIMAL* events but also – unique to this context – some *HUMAN* > *HUMAN* instances too; and finally on the far right-hand side is the line representing the Agent *X*, i.e. no Agent mentioned or inferable from the text. What is most distinctive about ‘general’ is the presence of a *HUMAN* Patient line. The fact that we see *HUMAN* as a consistent Patient in ‘general’ is the result of a number of factors: i) given the animal-killing theme of the PPPP corpus (and the KVD as a result), many of these *HUMAN* Patient cases are instances of non-killing verb senses, hence falling outside of the other, killing-orientated contexts; ii) humans who fall victim to acts of violence and killing do not tend to do so within the other contexts found in this study, since these are human-controlled domains of animal exploitation, leaving ‘general’ as the only viable category for such instances; and iii) the settings and motivations associated with the killing of humans are different from and far more varied than those associated with the killing of animals.

6.2.6 Lab

'Lab' is the most commonly occurring Context of all, present in 30% of all instances in the KVD. This is unsurprising, given the high volume of scientific journal article data in the PPPP corpus (and consequently the KVD), and the fact that 96% of all 'lab' occurrences come from journal article texts. Incidence of *ANIMAL* Agency in the 'lab' Context is predictably tiny (n=5); this zone of the data is dominated by *HUMAN* acting upon *ANIMAL* (n=331). Animals are not the only Patients construed in lab-based activities, however. We also see *HUMAN* Agents combining with *STUFF* (n=86), *ORGANISM* (n=13), *PLANT* (n=13), *PLANT PART* (n=12) and *BODY PART* (n=8); see Table 6.7 for examples.

#	Excerpt	Corpus	Subcorpus
6.22	*The 100ml induced culture pellet was **harvested** by centrifugation at 11,000rpm for 15min.*	PPPP	Journal articles
6.23	*Leaves of A. saligna were randomly and manually **harvested** from different parts of both young and mature leaves during the dry season*	PPPP	Journal articles
6.24	*Embryo intestines were **harvested** in 3 days.*	PPPP	Journal articles

Table 6.7: Corpus examples 6.22-6.24

The high number of 'part' Patients (e.g. *BODY PART*, *PLANT PART*, *STUFF*), as seen in the examples in Table 6.7, explains the high proportion (26%) of *harvest* occurrences. 'Lab' is also strongly associated with the verb *sacrifice*, discussed in Chapter 5, which constitutes 37% of this section of the data, compared with <5% in all other contexts. *Slaughter* is present in 12% of all 'lab' cases, and – like *sacrifice* – this reflects the official, procedural nature of lab-based activities, killing being no exception.

Seemingly negligible in such a large Context are the 28 instances of *euthanise* (out of the 48 lines for *euthanise* in the entire KVD). Although it is used in much the same way as *slaughter* and *sacrifice* (e.g. *euthanised by cervical dislocation*, *euthanised for tissue* *collection*), it is striking that the animals *euthanised* in a 'lab' Context include *DOG* (n=6), *MOUSE* (n=6), *GOAT* (n=4), *COW* (n=2), *SHEEP* (n=2), *CAT* (n=1), *RABBIT* (n=1) and *GUINEA PIG* (n=1). These are the kinds of animals that humans either keep as pets or might otherwise have personal contact with. The six instances of *DOG*, distributed across three journal article texts, represent half of all occurrences of *DOG* in a 'lab' Context. The other six *DOG* Patients in 'lab', which all come from one journal article, are not *euthanised* but *sacrificed*. When dogs are killed for animal experimentation purposes, then, their deaths are either construed as an act of 'euthanasia', or as an act of 'sacrifice'. This is notably different from how most animals killed for experimentation are discursively represented.

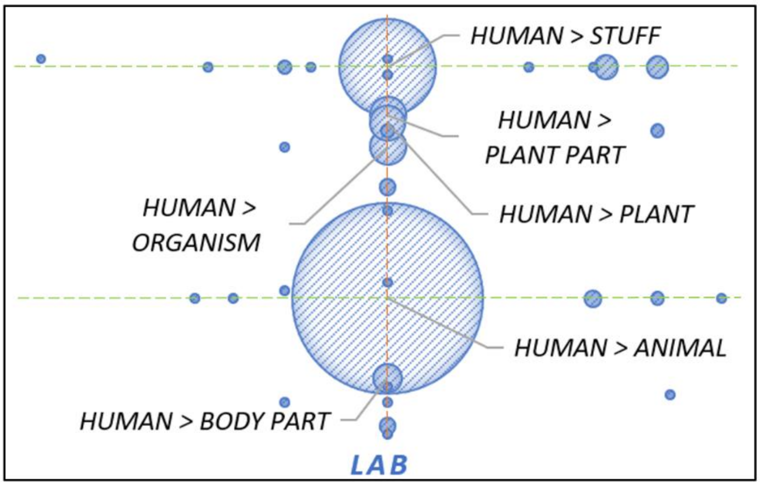

Fig. 6.8: The 'lab' Context zone in isolation, Agent and Patient lines highlighted

As well as the familiar horizontal line of *ANIMAL* Patients, just below the centre of the 'lab' zone, we can also see a line near the top of the zone, marked by a green dashed line in Fig. 6.8, representing the instances of *STUFF* as Patient. *STUFF* is acted upon by *HUMAN*, as we already know, but it is also affected by Agents such as *PROCESS* (n=6), other *STUFF* (n=5), and *ANIMAL* (n=2), amongst others. In the same way that the 'animal industries' Context clearly depends on the presence of *ANIMAL* Patients, as shown by the horizontal line of *ANIMAL* points, so too is the 'lab' Context one that clearly revolves around the use of resources and materials, judging by the persistence of the *STUFF* Patient line. That the *ANIMAL* and *STUFF* lines are comparable in this zone is reflective of the role of the *ANIMAL* in a lab setting – as another kind of *STUFF* or resource to be used.

6.2.7 War

‘War’ is the least represented Context in this data, found in just five ‘killing’ instances. There might be an argument for subsuming these few cases under one of the other Contexts, given this low frequency. However, these events are closely tied to circumstances with a distinct setting, purpose, participants and political context – namely war. With such a small sample of such data it is difficult to comment generally on the language pertaining to ‘killing’ events in war contexts. In the five instances available here, we see two horses riding into battle – one *slaughtered*, the other *killed*; lion cubs *put down* “owing to war conditions”; animals *wiped out* by a civil war in Mozambique; and a mention of humankind *destroying* land with bombs. The lack of ‘war’ data, in comparison with ‘animal industries’ and ‘lab’, reflects the nature of the PPPP corpus as an animal-orientated source of linguistic data, compiled at a time when wars (involving animals) were not being widely discussed in news, journal articles or other general discussions in this country.

6.2.8 Wild

‘Wild’ was the most problematic category in terms of annotation. Given that the main criterion for deciding on the context of an event represented in the data, as described in Chapter 4, was *place*, followed by *purpose* (of killing), *circumstances* (of living), and finally *source* (text type), events that take *place* in the wild but for specific *purposes* (e.g. hunting for pleasure, killing ‘wildlife’ to meet social or financial demands) are difficult to classify. It is interesting, however, that by analysing the context in this predominantly place-orientated way, we see that simply being ‘in the wild’ can have radical implications in terms of actors and events.

Unlike other Contexts – apart from ‘domestic’ and ‘general’, to some degree – the *ANIMAL* in ‘wild’ has a vertical line of Agency that can almost rival that of *HUMAN*. Of course, the ‘wild’ is still dominated by humans killing animals, and *HUMAN* > *ANIMAL* is the most commonly occurring dynamic in this Context (n=168), but the second most frequent is *ANIMAL* > *ANIMAL* (n=18), a relationship found only in ‘wild’ and, to a lesser degree, in ‘general’ (n=4). *ANIMAL* is the Agent in a range of events, as can be seen from the number of bubbles along the *ANIMAL* Agent line (the leftmost orange dotted line) in Fig. 6.9. The Patients in these events include *EGG* (n=5), *LOCATION* (n=5), *PLANT* (n=3), *PLANT PART* (n=3), *PHYSICAL OBJECT* (n=2) and *HUMAN* (n=2), amongst others. Conversely, as shown by the long, horizontal dotted green line of *ANIMAL* as Patient, just below the centre of Fig. 6.9, we know that animals in the ‘wild’ are also affected (predated upon?) by an equally diverse range of Agents: *HUMAN* (n=168), *ANIMAL* (n=18), *EVENT* (n=6), *LOCATION* (n=6), *ACTION* (n=5), *ORGANISATION* (n=5), *WEATHER* (n=4), *X* (n=4), *ACTIVITY* (n=2), *ARTIFACT* (n=2), *DISEASE* (n=2), *GOVERNMENT* (n=2), and more.

That there should be more variability in terms of Agents and Patients in the ‘wild’, compared with more controlled, homogenous environments such as ‘lab’, is unsurprising. Fig. 6.3 shows, however, that not only are interactions in the ‘wild’ more varied – as they are in ‘general’ – but certain entities are consistently more productive, both as Agent and as Patient, demonstrated by the intersecting Agent and Patient lines in Fig. 6.9. There are no other Contexts in which *ANIMAL* is comparable with *HUMAN* in terms of the reach of its Agency across the zone. The fact that the Patient line for *ANIMAL* is just as long and spread out suggests that, while animals pose more of a threat to other entities in the wild, so too are animals at risk of a wide range of ‘killing’ eventualities. Nonetheless, the greatest threat to *ANIMAL* is still *HUMAN*.

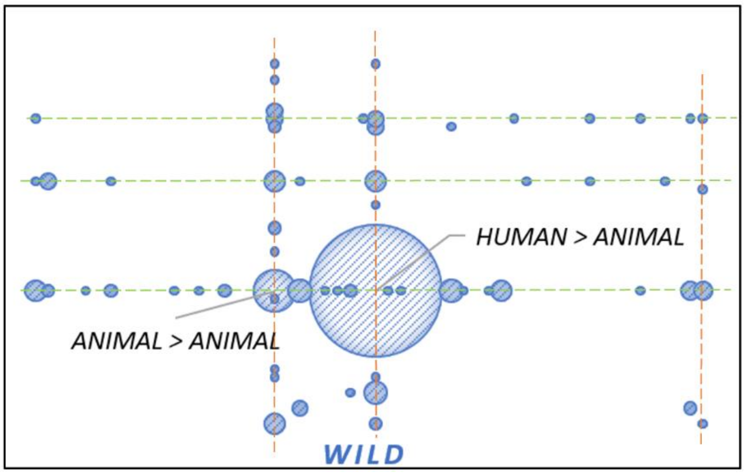

Fig. 6.9: The ‘wild’ Context zone in isolation, Agent and Patient lines highlighted

The two horizontal green lines in the top half of Fig. 6.9 represent the Patient types of *PLANT* and *LOCATION*. This is a predictable finding, given that a ‘natural’ environment such as ‘wild’ will feature ‘natural’ Patients, as in Examples 6.25 and 6.26, Table 6.8. The third Patient line is that of *ANIMAL* (6.27).

#	Excerpt	Corpus	Subcorpus
6.25	*But although this process created the Sea of Cortez, it will also* ***destroy*** *it.*	PPPP	Broadcast
6.26	*As the kelp is* ***wiped out****, so too is the crucial bio-diversity of these waters.*	PPPP	Broadcast
6.27	*there are some snakes that not only use their venom to* ***kill*** *their prey but have also found a way of using it to deter their enemies without even biting them.*	PPPP	Broadcast
6.28	*At last, after their 4,000-mile Journey, the humpback whales can feed. They* ***harvest*** *krill, shrimps that begin to swarm here as soon as the ice retreats.*	PPPP	Broadcast
6.29	*Bovine tuberculosis, caused by Mycobacterium bovis, was first identified in free-ranging Michigan wildlife when a hunter* ***harvested*** *a grossly-lesioned white-tailed deer*	PPPP	Journal articles

Table 6.8: Corpus examples 6.25-6.29

The occurrence of verbs like *cull* (25%) and *wipe out* (11%) paints a picture of the *HUMAN* attempting to exert control in wild spaces. Incidence of the verb *destroy* (17%) points to the destruction of natural features, not only by *HUMAN* but also by *ANIMAL*, *EVENT* and *X* (no Agent, represented by the vertical dashed line on the far right-hand side of Fig. 6.7). The presence of *kill* (21%) is indicative of general, multi-directional acts of killing in the wild; *kill*, as discussed in Chapter 5, is the least specific and most widely-applicable of all of the ‘killing’ terms.

It is interesting to note that the high proportion of *PLANT* Patients in ‘wild’ does not invoke a similarly high proportion of the verb we would expect: *harvest*. Instead, this relatively low incidence of *harvest* (3%) is reserved for *ANIMAL* Patients (as in Examples 6.28 and 6.29, Table 6.8), while *PLANT* is *destroyed*, *killed* and *wiped out*. ‘Wild’ is a clear example of how the roles of familiar entities change with their environment: *PLANT*, a Patient typically *harvested* in human-controlled environments, becomes a natural feature, just like a *LOCATION*, or a freely existing natural phenomenon. *ANIMAL* takes on a unique status: that of free agent, in some cases exerting power over their environment in anthropomorphic ways (e.g. 6.28); but also that of natural feature and resource, similar to *PLANT* and *LOCATION* (e.g. 6.29, Table 6.8). These parallelisms – *ANIMAL* as human-like Agent, and *ANIMAL* as plant-like Patient, as natural feature – are reflected visually in the parallel Agent and Patient lines of Figure 6.9.

6.2.9 Work

With just 14 data points, 'work' is a small and very specific Context, referring to 'killing' events that take place either in a work environment (as a direct result of one's job) or affecting those whose circumstances of living are work-dependent. All but one (Example 6.30 in Table 6.9, a case of *put down*, Pattern 2) of these 14 instances involve humans killing animals, specifically dogs, and there are only two verbs found in this Context: *put down* (71%) and *put to sleep* (29%). These dogs are typically police dogs, guard dogs or guide dogs, but there are also two mentions of hunting dogs being put down (6.31 and 6.32).

#	Excerpt	Corpus	Subcorpus
6.30	*if clients don't interact with her then I would* ***put*** *it* ***down*** *that they, you know, they do that.*	PPPP	Dogs transcripts
6.31	*when they're incapable of doing the job anymore with the rest of them we* ***put*** *them* ***down****.*	PPPP	Interview
6.32	*If fox-hunting was banned, literally thousands of Foxhounds would be* ***put down****.*	PPPP	News

Table 6.9: Corpus examples 6.30-6.32

Despite the fact that fox hunting is not a 'work' environment, and the killing of foxhounds may well take place in a domestic environment, the animals' circumstances of life and death are inextricably linked to their purpose, i.e. to fulfil a job created by humans. As with 'war', the 'work' Context is small and its borders may be fuzzy, but its circumstances are distinct enough to warrant a Context in its own right.

6.2.10 Summary

Philosophically speaking, the map of Contexts in Figure 6.3 could be seen as a problematic illustration of human-animal relations, in the same sense that the term 'human-animal relations' does not accurately convey a situation where humans are consistently found to be exerting their power over other animals across a range of spaces and contexts (cf. Wadiwel, 2015). By plotting Agents and Patients on axes and noting where they 'meet' and 'cross paths', there is a danger of construing the Patient as a willing participant, as though an equal force of causality and intentionality is being exerted by both parties. After all, a correspondence analysis such as this one illustrates co-occurrences of features in neutral, mutual terms; they are data relationships. Is it right to conceptualise the dynamic between a killer and their victim as a 'relationship'?

If we consider these events as assemblages, or actor-networks, we can recognise them as arrangements of cooccurring features. Each of these features is critical to the assemblage: the Agent (themselves an assemblage), the Patient (another assemblage), spatiotemporal features, and so on. No two data points are the same; I have grouped them here under similar types of events (similar actants, e.g. *HUMAN > ANIMAL*; similar circumstances, e.g. in a Context of animal commodification) because this is a useful way of identifying trends and patterns, not because 'a human is a human' or 'stuff is stuff'. Taking assemblage thinking to its logical conclusion, one could argue that everything is temporary and in flux, and as such no two entities are the same. Heraclitus famously claimed that change is ever-present; we cannot step in the same river twice. We do not even need to fully commit to this view of becoming to accept that every event that takes place is a unique arrangement of elements, and that each of those elements is indispensable. In this way, it is possible to appreciate the role of the patient in a violent event without insinuating that the victim is somehow to blame, or that they invited such treatment; their presence simply *matters* to the outcome. They unfortunately co-construct the event, which is immanent to its arrangement of parts.

An important aspect of the Contexts map is that it does not chart a linear chain of causality, although the labelling of Agent-Patient pairings using a 'more than' symbol (e.g. *HUMAN* > *ANIMAL*) implies direction of action. The 'Agent' as marked here is the doer of the action being described, but from an assemblage point of view, they are just one participant in a network of distributed agency. Agency – not to be conflated here with intentionality – is also exerted by other actants in the assemblage 'mixture', even if they are not marked as 'the Agent'. In this case we can trace what looks to be evidence of Agency on the part both of the Patient and of the Context – Agency in the material-semiotic sense – but it is difficult to comment on the extent of their causal power. This analysis reminds us that animals are consistently oppressed in contexts of commodification, regardless of the commodity; where financial interests are involved, such as in animal industries, laboratory settings and arable farms, we can expect *ANIMAL* to represent a Patient, and not an Agent. There are *ANIMAL* Agents in less structured settings, such as in the home and the 'wild', but they are still far more likely to feature as Patient. Whether the Context influences the action, or whether in some ways the action constructs the Context, there appears to be a clear relationship between a space, its purposes, its inhabitants and its processes. In many ways, it seems that an animal in one place truly does *become* a different animal in another.

6.3 Mapping across Text Types

In the previous section, killing/meaning events were mapped across Context zones, exploring the role of Context – a mixture of place, purpose and circumstance – in Agent/Patient 'killing' assemblages. In this section, I consider texts as spaces, and map killing/meaning events across the text types – or as I call them, text-spaces – that feature in the KVD (as a result of being derived from the PPPP corpus). Events are denoted here by specific CPA verb patterns, rather than verbs in general. By focusing on the most prominent verb patterns within each text type, we can begin to get an idea of the sorts of events – or meanings – that are consistently being reproduced in those text-spaces.

First, it makes sense to get an idea of the distribution of the different text types in the PPPP corpus, and how well these genres are represented in the Killing Verb Dataset (KVD). As noted above, and as seen in Table 6.10, journal articles are by far the most dominant text type, comprising around two-thirds of the PPPP corpus. They still represent the largest text type in the KVD, but are not as common as would be expected. Legislation is another underrepresented genre in the KVD. News, campaign literature, MO data, focus groups and interview transcripts, on the other hand, are all more than twice as prevalent in the KVD than would be expected from the composition of the PPPP corpus. Given that the data was sampled by searching for 'killing' verbs within the PPPP corpus, this result might reflect a stronger preoccupation with killing in certain text types – which could be true for the news and campaign literature genres – or it may reflect a tendency of certain texts to be more verb-heavy than others; for example, if the same processes might in other text types be encoded using nominalisations. If this is the case, it could explain the lower representation of journal article and legislative texts and the higher representation of spoken-language subcorpora such as the focus group and interview transcripts.

Text type	% of PPPP corpus	% of KVD
Journal articles	65.72	40.07
News	5.38	15.34
Campaign literature	3.54	9.75
Broadcasts	7.08	7.61
MO data	2.02	6.84
Focus groups	2.64	6.30
Legislation	7.23	4.04
Dogs transcripts	3.57	3.98
Interviews	1.82	3.69
Promotional food websites	1.00	1.01

Table 6.10: The distribution of text types across the PPPP corpus and the dataset used in this project

Similar to the Contexts map in Figure 6.3, the text types map (Figure 6.10) provides an 'aerial view' of all 1,682 instances that make up the KVD. This time, the data is arranged by text type, and the zones are sized proportionately, rather than uniformly. This is because the size of each zone represents the number of instances of a specific verb pattern within a text type, making it possible to compare proportions of verb patterns within a specific text type as well as across the rest of the dataset.[56] Verb patterns are indicated

[56] This was not possible to do with the Contexts map because there were some Contexts, such as 'war' and 'work', that were too small in size to be able to demonstrate the data clearly.

using verb names with subscript numbers, e.g. *destroy*$_1$ for Pattern 1 of *destroy*, and *put down*$_5$ for Pattern 5 of *put down*. Raw frequencies are listed alongside the verb patterns. Patterns whose frequencies are lower than 5 within a text type are unlabelled on the map; the full list of verb pattern frequencies across text types is given in Appendix E.

In the following subsections, each area of the Contexts map is discussed in terms of its most frequent verb patterns, and in some cases the verb patterns that are noticeably absent. Examples are provided where relevant, and the main findings summarised at the end.

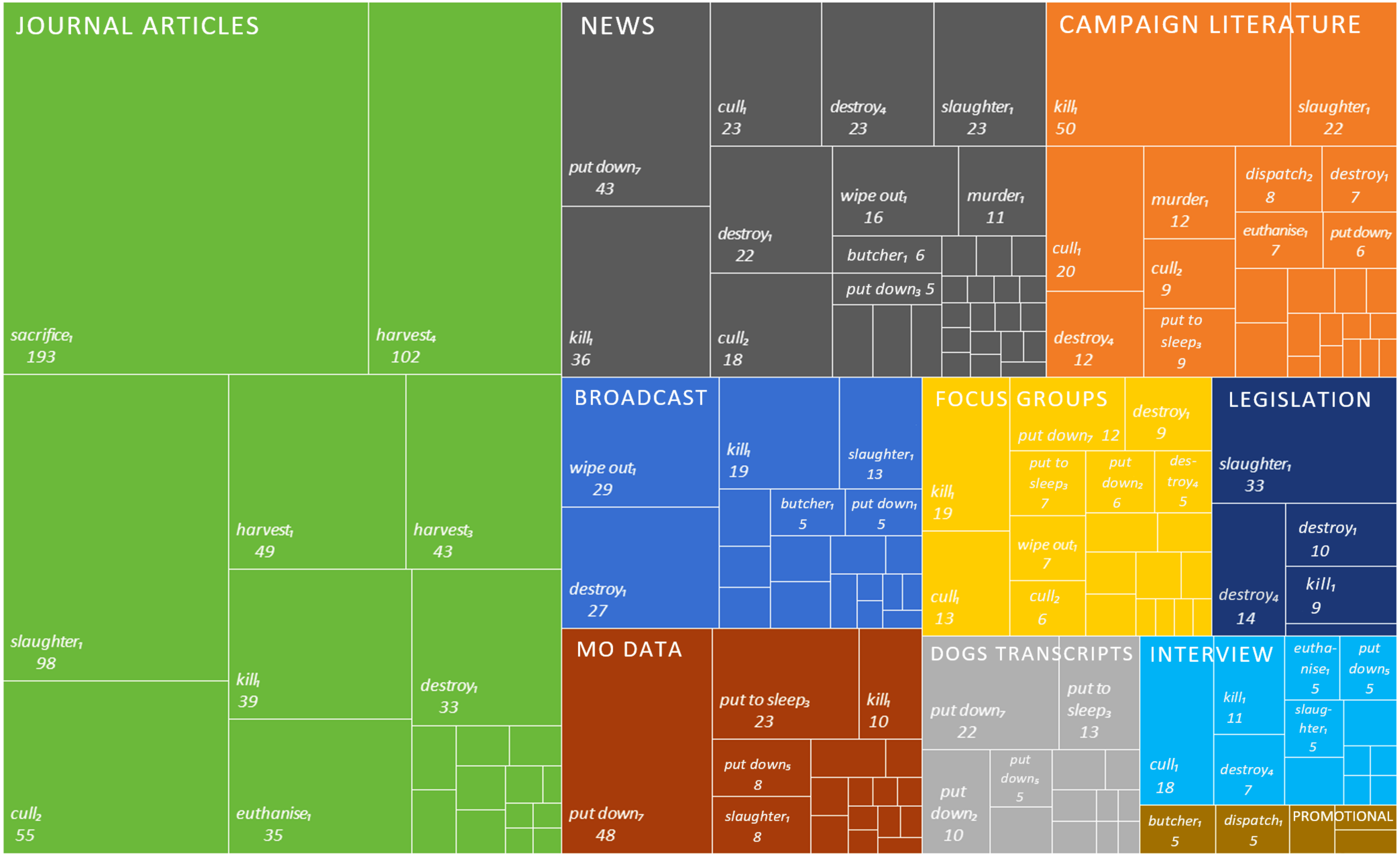

Fig. 6.10: The distribution of verb patterns across text types

6.3.1 Journal articles

The journal article data – which comprises 40% of the dataset – dominates the text-type landscape in Fig. 6.10. The most prominent patterns found here are *sacrifice*$_1$, in which a human kills an animal (traditionally for the benefit of a deity, but in this case for research purposes); *harvest*$_4$, the removing of a body part for use in research, in which it is not always clear whether killing has taken place; and *slaughter*$_1$, the killing of an animal by a human "for a purpose" (see Appendix D for all verb patterns and their implicatures). Other verb senses that feature heavily in this section are *cull*$_2$, used to describe the killing of unwanted farmed animals by, or on behalf of, farmers (see Example 6.33, Table 6.11); *harvest*$_1$, which refers to the cutting down and gathering of plant crops (6.34); and *harvest*$_3$, which denotes the killing of animals – usually fish – by humans, to be used as food (6.35). *Kill*$_1$, *destroy*$_1$ and *euthanise*$_1$ also feature with roughly equal frequency. All of these patterns are evidence of the kinds of preoccupations one would expect in a laboratory context: those of using, selecting, dissecting and *sacrificing* – to a higher purpose.

#	Excerpt	Corpus	Subcorpus
6.33	*Ewes were* ***culled*** *for failure to conceive at least 2 consecutive years, old age and due to health problems.*	PPPP	Journal articles
6.34	*Mature maize was* ***harvested*** *after 27 weeks of growth and stover was chopped to 10-20 cm pieces.*	PPPP	Journal articles
6.35	*In recreational fisheries, some fish are* ***harvested****, but many more are released*	PPPP	Journal articles

Table 6.11: Corpus examples 6.33-6.35

As a genre of high referential distance (see Chapter 5) and with relatively strict discursive conventions, it makes sense that the journal article texts be devoid of more emotive verb senses encoded as e.g. *murder*$_1$, *butcher*$_2$, *put down*$_7$ and *put to sleep*$_3$, and that distribution of verb patterns be fairly consistent across the domain.

6.3.2 News and broadcasts

The next largest text-type area in Fig. 6.10 is that of news articles. Here we see a predominance of *put down*$_7$, i.e. the killing of unwanted (typically domestic) animals by humans (see Example 6.36, Table 6.12), followed closely by *kill*$_1$, which can refer to the killing of any living creature. There is also a high representation of *cull*$_1$, the sense that refers to the mass killing of animals by humans (6.37); *destroy*$_4$, denoting the (usually official and sanctioned) killing of an animal by a human (6.38); *slaughter*$_1$, another nod to official procedure (6.39); and *destroy*$_1$, which refers not to killing but to the damaging of inanimate objects (6.40).

#	Excerpt	Corpus	Subcorpus
6.36	*The corgi was **put down**, to the Queen's great distress, the day after the attack.*	PPPP	News
6.37	*Maff has estimated that 12,500 badgers will be **culled** at 10 sites over a five-year period.*	PPPP	News
6.38	*A dog that mauled a schoolgirl is to be **destroyed** on the orders of a sheriff.*	PPPP	News
6.39	*The British pig industry was plunged into crisis yesterday when tens of thousands of pigs were ordered to be **slaughtered** after the spread of the most severe outbreak of swine fever in 30 years.*	PPPP	News
6.40	*The nation's fishing industry has also been hit, with many boats **destroyed** or carried inland by the tsunami.*	PPPP	News

Table 6.12: Corpus examples 6.36-6.40

Other high-frequency verb patterns found here are *cull*$_2$, the killing of unwanted farmed animals (6.41, Table 6.13); *wipe out*$_1$, the eradicating of a human or animal group, by a wide range of possible causes (6.42); and *murder*$_1$, which refers mainly, but not exclusively, to the killing of humans by other humans (e.g. 6.43 and 6.44). Again, these preoccupations are to be expected: news articles report on events that are of public concern, either because they are shocking (as in the cases of *murder*$_1$, *kill*$_1$, *destroy*$_1$ and *wipe out*$_1$), or because they are the result of some official, procedural, decision-making process (e.g. *put down*$_7$, *cull*$_1$, *cull*$_2$, *destroy*$_4$ and *slaughter*$_1$).

#	Excerpt	Corpus	Subcorpus
6.41	*A SLAUGHTERMAN may have caught foot-and-mouth after* ***culling*** *animals with the disease.*	PPPP	News
6.42	*A CYANIDE spill has* ***wiped out*** *wildlife in a tributary of the Danube.*	PPPP	News
6.43	*Hadley, 17, is accused of* ***murdering*** *his parents before dumping their bodies under a pile of files inside a locked bedroom.*	PPPP	News
6.44	*Mindless thug Jason Trevor Godsiff* ***murdered*** *the seals while he was on his way home from work on a building site*	PPPP	News
6.45	*If hunters have already* ***wiped out*** *some of Salu's rarest animals, the forest's future is uncertain.*	PPPP	Broadcast
6.46	*Their home has been* ***destroyed*** *and their young will inevitably die out in the open.*	PPPP	Broadcast

Table 6.13: Corpus examples 6.41-6.46

Just south of the news section in Fig. 6.10, in the broadcast transcripts, we see similar examples of ‘newsworthy’ events: *wipe out*$_1$, *destroy*$_1$, *kill*$_1$ and *slaughter*$_1$. Broadcast transcripts, however, lack some of the more personal and emotive terms found in the news, such as *put down*$_7$ and *murder*$_1$, and place greater emphasis on actions of mass violence and physical destruction, e.g. *wipe out*$_1$ (6.45) and *destroy*$_1$ (6.46); see Table 6.13.

Interestingly, despite its prevalence in the news texts, the broadcast transcripts do not mention *culling* at all. Perhaps this reflects the fact that news texts are more anthropocentric (of relevance to, or for the benefit of, humans), while broadcasts cover more ‘natural’, ‘wild’ phenomena.

6.3.3 Campaign literature

In the top right-hand corner of the chart in Fig. 6.10 are the campaign literature texts, which make up 9.75% of the dataset. Again, we see a mixture of 'official' killing verb senses (*kill*$_1$, *slaughter*$_1$, *cull*$_1$, *destroy*$_4$; e.g. 6.47 and 6.48, Table 6.14), as well as more emotive terms (*murder*$_1$, *put to sleep*$_3$, *euthanise*$_1$, *put down*$_7$; e.g. 6.49 and 6.50), with a focus on the killing of animals. The most frequently occurring verb sense is *kill*$_1$, which perhaps simply reflects the general purpose of the genre: to convey the plight of oppressed animals, and to draw attention to the fact that animals are being killed, regardless of the method used.

#	Excerpt	Corpus	Subcorpus
6.47	*When the milk production of enslaved cows on factory farms decreases, the cows are **killed** and their skins are made into leather.*	PPPP	Campaign literature
6.48	*Out of sight from the Aintree crowd and the BBC Television cameras, he too was **destroyed**.*	PPPP	Campaign literature
6.49	*The skin industry is as responsible as the flesh industry for the millions of nonhuman animals **murdered** for their skin and flesh who endure the horrors of factory farming before being transported to the slaughterhouse.*	PPPP	Campaign literature
6.50	*There was nothing that could be done for her and she was **put to sleep** at the scene.*	PPPP	Campaign literature

Table 6.14: Corpus examples 6.47-6.50

An unexpected verb here is *dispatch*$_2$, which refers to the deliberate killing of an animal by a human. Of the eight campaign literature instances of *dispatch*$_2$, five (6.51-6.55, Table 6.15) are modified by the adverb *humanely*, which is not to be expected from animal advocates given that it serves to soften or justify acts of killing by implying that they are done nicely. These all come from different texts, yet they all refer to the killing of snared animals by trappers, gamekeepers and other professional animal killers. It seems as though this phraseology has been borrowed, perhaps uncritically, from animal snaring guidelines and the language of snare proponents.

#	Excerpt	Corpus	Subcorpus
6.51	*In theory, targeted predators captured in snares are meant to be humanely* ***dispatched*** *by estate employees.*	PPPP	Campaign literature
6.52	*If the captured animal has been seriously injured it must be humanely* ***despatched*** *using a firearm, as described above.*	PPPP	Campaign literature
6.53	*It suggests the marksmen make all efforts to recover and humanely* ***despatch*** *wounded birds.*	PPPP	Campaign literature
6.54	*The purpose of free running snares is to hold the target animal alive until the operator returns within a daily period to humanely* ***dispatch*** *it, usually by shooting.*	PPPP	Campaign literature
6.55	*Foxes should be* ***dispatched*** *quickly and humanely by a shot from a rifle, shotgun or pistol and the body disposed of responsibly e.g. by burying.*	PPPP	Campaign literature

Table 6.15: Corpus examples 6.51-6.55

Coupled with a euphemistic verb like *dispatch*, "humane" or "humanely" further increases the semantic distance between the agent and the moral implications of their actions. This is the kind of construction that animal advocates need to resist rather than reproduce.

6.3.4 MO data and dogs transcripts

The Mass Observation (MO) data and dogs transcripts zones at the bottom of the chart represent more personal territory: in these instances, respondents were asked for their thoughts on animals and animal-related topics. For the MO data – which consists of responses to the question "What do animals mean to you?" and other related subquestions – this preoccupation with personal interests can be recognised in domestic and pet-related terms such as *put down*$_7$ (6.56, Table 6.16) and *put to sleep*$_3$ (6.57), as well as *put down*$_5$

(i.e. to *put down* food or poison; see Example 6.58 in Table 6.16). There are also references to animal industries, prompted by the respondents' reflections on their own use of animals as food, e.g. *kill*$_1$ (6.59) and *slaughter*$_1$ (6.60). Evidently, as seen in these final two examples, such reflections prompted expressions of guilt and obligation towards the animals killed for human consumption.

#	Excerpt	Corpus	Subcorpus
6.56	*When Dad told him off he bit him, so my parents vowed he had to be* ***put down*** *as they didn't want Pippin biting my brother or I.*	PPPP	MO data
6.57	*A couple of years ago we had to have Sophie* ***put to sleep*** *(kidney failure) but she had lived to ripe old age.*	PPPP	MO data
6.58	*I would then* ***put*** *them* ***down*** *some fresh milk and at least some of them would come for a stroke.*	PPPP	MO data
6.59	*If I am having meat or poultry I want to know it has been reared and* ***killed*** *as humanely as possible.*	PPPP	MO data
6.60	*I am a meat eater, but I transfer my guilt and try not to think about how the animals are* ***slaughtered*** *for food.*	PPPP	MO data
6.61	*and I was like, yeah alright we'll* ***put*** *him* ***down*** *and then I saw the name and it was like*	PPPP	Dogs transcripts
6.62	*He doesn't seem to like breakfast first thing, I kept* ***putting*** *it* ***down*** *and no, didn't want to know*	PPPP	Dogs transcripts

Table 6.16: Corpus examples 6.56-6.62

The dog owners who contributed to the dogs transcripts data have similar preoccupations: *put down*$_7$, *put to sleep*$_3$, *put down*$_2$ (i.e. to *put* something *down* on paper; 6.61), and again *put down*$_5$ (to *put down* e.g. food or water; 6.62).

In both of these text types, the most frequently used verb patterns are *put down*$_7$ and *put to sleep*$_3$, reflecting the (expected) interest in animal companions, particularly dogs. Absent from both of these sections of the map is the less sentimental killing term used for domestic animals, *destroy*$_4$, as well as more technical terms like *harvest* and *euthanise*.

6.3.5 Focus groups

The focus group transcripts are fairly general and varied in topic: respondents were recruited based on their occupations, group membership, and so on (e.g. farmers, hunters, vegans), and they were asked to discuss a range of pre-defined topics. The results of this can be seen in the verb patterns on the chart in Figure 6.10; *kill*$_1$, *cull*$_1$, *cull*$_2$, *wipe out*$_1$ and *destroy*$_1$ indicate more general topics of human-animal relations and questions of groups or species rather than individuals (6.63-6.65, Table 6.17). *Put down*$_7$, *put to sleep*$_3$ and *destroy*$_4$ refer to stories of animal ownership, i.e. of pets (see 6.66 and 6.67), while *put down*$_{22}$, i.e. 'to write down on paper', is a reference to completing the focus group tasks (6.68).

#	Excerpt	Corpus	Subcorpus
6.63	*when do we decide that it's okay to **kill** the mites on our eyelashes but it's not okay to **kill** a small ant or a spider or something*	PPPP	Focus group
6.64	*I don't think anybody at this table wants to **wipe** things **out**, but they, but things have to be **culled** and deer especially do quite a lot of damage so they have to be **culled***	PPPP	Focus group
6.65	*I know we're **destroying** the world and **destroying** habitats but we're actually conscious of that, aren't we*	PPPP	Focus group
6.66	*I thought pitbulls had to be **destroyed***	PPPP	Focus group
6.67	*I actually, well we agreed to have her **put down** on my birthday last year so technically that's a day to really never forget now*	PPPP	Focus group
6.68	*I **put down** "food chain", obviously being a butcher, they're all there, aren't they?*	PPPP	Focus group

Table 6.17: Corpus examples 6.63-6.68

The variety of 'killing' terms present in this subcorpus perhaps reflects the diversity of stances represented by the participants; some statements are more general and emotionally detached, while others are much more personal.

6.3.6 Interviews

The 'interview' portion of the KVD is of a similar nature to that of the focus group transcripts, but it is evident that the responses were generally less personal and more professional and authoritative: interviewees were usually discussing their fields of expertise rather than their personal lives, and predominantly used terms with greater semantic distance and with less personal connotations, e.g. *cull*$_1$, *kill*$_1$, *destroy*$_4$, *euthanise*$_1$ and *slaughter*$_1$ (Examples 6.69-6.73, Table 6.18). *Put down*$_5$ is a reference to 'pest-control' techniques (6.74).

#	Excerpt	Corpus	Subcorpus
6.69	*In culling you know we, if we were **culling** things properly and we don't always do that, badgers boar etcetera, if we were **culling** things properly we would have given consideration to the population dynamics of those animals*	PPPP	Interviews
6.70	*If you do **kill** all the dogs in Bucharest then more will simply come in from the surrounding areas*	PPPP	Interviews
6.71	*I know that elephants have got another decade and when we **destroy** them they could all be gone.*	PPPP	Interviews
6.72	*Interestingly in veterinary practice the biggest thing you get presents for or gifts is **euthanasing** an animal*	PPPP	Interviews
6.73	*This would be aimed at farmers and smallholders so they're already looking for somewhere to **slaughter** their animals so they don't need convincing that the animals need to be **slaughtered** but a lot of smallholders will place importance on the ethics side of it*	PPPP	Interviews
6.74	*you know, so you've got- someone's got rats in the house, then the last thing you should do is **put** poisons **down**.*	PPPP	Interviews

Table 6.18: Corpus examples 6.69-6.74

While the MO exercise provoked personal reflection ("I am", "I want", "my guilt") and the focus groups involved discussions of ideas ("I don't think", "I thought", "aren't they"), the interview data seems to revolve around the imparting of knowledge from a position of authority ("I know that", "this would be", "the last thing you should do"). Differences in modality, while not the focus of this study, would evidently be a fruitful line of enquiry.

6.3.7 Legislation

Unsurprisingly, the legislation texts feature the most official and least personal 'killing' verb senses of all of the text types, and the limited number and relative evenness of frequency of the 'killing' terms demonstrates a tight coherence of genre. *Slaughter*$_1$, *destroy*$_4$ and *kill*$_1$ relate to animal-killing practices (see 6.75 and 6.76, Table 6.19), while *destroy*$_1$ refers to instances of damage inflicted on physical entities (see 6.77). In several cases, the line between *destroy*$_4$ and *destroy*$_1$ becomes blurred, and living beings are subtly coerced into taking on the status of "things". This is explored in Chapter 7.

#	Excerpt	Corpus	Subcorpus
6.75	*The Scottish Ministers must pay compensation, of such amount as they may prescribe by order, in respect of— (a) any livestock* ***slaughtered****, or other thing* ***destroyed****, in accordance with a restriction notice*	PPPP	Legislation
6.76	*The register must specify, in relation to each person named, the descriptions of animals that the person is competent to* ***kill*** *and the methods of killing that the person is competent to use to* ***kill*** *each such animal.*	PPPP	Legislation
6.77	*In particular, the Scottish Ministers may-- (a) cause to be* ***destroyed*** *any semen, egg or embryo which has not been* ***destroyed*** *as required under section 36P*	PPPP	Legislation

Table 6.19: Corpus examples 6.75-6.77

Entirely absent from the 'legislation' sample are uses of *butcher*, *cull*, *dispatch*, *euthanise*, *exterminate*, *murder*, *put down*, *put to sleep*, *sacrifice* and *wipe out*.

6.3.8 Promotional food texts

Finally, the smallest area on the 'map' in Fig. 6.10 is that of promotional food texts: websites advertising animal-derived food products. Predictably, the main processes involved are *butcher*$_1$ (the cutting up of animals' bodies to be processed for food orders; see 6.78) and *dispatch*$_1$ (in the sense of packaging and delivering orders to customers; see 6.79). The three instances of *sacrifice*$_3$ found here are not the 'killing' sense of *sacrifice* as used in the journal article texts (*sacrifice*$_1$), but refer to the prioritising of certain aspects of food products (e.g. 6.80).

#	Excerpt	Corpus	Subcorpus
6.78	*Angus Trotters was established in 1997 when we decided to take the plunge and set up our own farm butchery to* ***butcher*** *and sell our own cattle.*	PPPP	Promotional
6.79	*Goods will be* ***dispatched*** *within three days of receipt of order.*	PPPP	Promotional
6.80	*The proper, old-fashioned, true flavour of traditional pork has been* ***sacrificed*** *over the years as supermarkets have encouraged farmers to raise faster growing and much less tasty breeds of pig.*	PPPP	Promotional

Table 6.20: Corpus examples 6.78-6.80

Naturally, this subcorpus sample does not feature any emotive 'killing' terms that might remind the reader (consumer) of the moral value of animals or the suffering they have endured, e.g. *put down*, *put to sleep*, *euthanise* and *murder*.

6.3.9 Summary

Aside from visually illustrating the distribution of text types and their verb patterns across the KVD, Fig. 6.10 also serves as an example of the "shimmering" nature of words and their meanings (Hanks and Jezek, 2008; discussed in Chapter 3). Not only do we see a shimmering of verb patterns, i.e. certain patterns appearing in one space and dropping out in another, but also a shimmering of the kinds of nouns that feature with verbs in those patterns, as found by Hanks and Jezek (2008.). For example, the verb in the pattern *put down*$_5$ – meaning to 'lay something down purposefully' – takes as its direct object a *trap* or a *snare* in 'campaign literature'; a *bowl* or *food* in 'dogs transcripts'; *bait* or *poison* in 'interview'; and a combination of these in 'MO data'. *Destroy*$_1$ – the kind that denotes damage inflicted on physical objects – applies to *nests* and *eggs* in 'broadcast' and 'campaign literature'; *habitats*, *the world*, and *ecosystems* in 'focus group'; and *tissues*, *cells* and *pathogens* in 'journal articles'. Not only are we seeing text types leaning towards particular verb senses, but it also seems that specific members of semantic types selected by a verb vary according to the text. So, just as "membership of the lexical set changes from verb to verb" (Hanks and Jezek, 2008: 399), so too it changes from text type to text type, or from a spatial perspective of textual environments, from text-space to text-space.

Some genres are more distinctive and homogenous than others – journal articles and legislative texts, for example – and this is reflected in the types and frequencies of their verb patterns. News, broadcast and campaign literature texts share some common discursive agendas, such as the dissemination of information to an audience, but each have their own specific topics and aims, as exemplified by the differences in verbs. More 'personal' text types, such as the MO data and the dogs transcripts on the one hand, and the focus group and interview transcripts on the other, occupy a cline of emotive/distant text-spaces, some with more specific concerns (e.g. the *putting down*$_7$ of pets in 'MO data' and 'dogs transcripts') and others with more general concerns (e.g. the *killing*$_1$ and *culling*$_1$ of animals in 'focus group' and 'interview'). The promotional food texts represent a tiny proportion of the dataset, but they, too, have a distinct discursive style and agenda.

Analysis of the data in Figure 6.10 demonstrates degrees of instability of word meanings. Verb patterns may be taken as evidence of verb senses, although they do not directly correspond on a one-to-one basis with them. Thus, they are a convenient shorthand for different types of meaning events, but, as seen here, these events are heavily dependent upon their context. Understanding texts as spaces enables a spatial conceptualisation of meaning, whereby the meaning event is shaped by and, to a degree, shapes its environment, itself a key element of the meaning assemblage. More homogenous texts with narrowly defined discursive conventions, e.g. legislative texts, represent more stable environments for meaning events. That is, they are more likely to allow for the repeated reproduction of similar assemblages over and over again. These meaning events are more stable than, say, those found in focus group transcripts, which are less predictable and less likely to be characterised by the (loose) nature of the text-space. This may also mean that the processes and entities described within these text-spaces are afforded corresponding degrees of ontological freedom; the mention of a sheep in a journal article text, for example, is almost certainly to be one of a sheep as a resource, while a reference to a sheep in an interview transcript or in a news text could potentially refer to a wide range of ontological classifications. If we consider all meaning events to be rhizomatically connected, it makes sense that meanings from one domain can seep into others; the boundaries are fuzzy and permeable, and the connections between them reciprocal.

6.4 Conclusion

The direction of causality between a space, its inhabitants, and the events in which they participate is not clear-cut. Based on the evidence presented here, it is plausible that there is no one, main driving factor in an event, and that the Agent and the space are no more relevant than the Patient, the circumstances, the instrument, or any of the other heterogeneous elements in the assemblage; all elements matter to the outcome. In terms of text-spaces, we can say that while some texts are more constricting than others in terms of assemblage (phraseology) production, all texts have some powers of determination, and as such a kind of Agency in the event. Each killing/meaning event can be considered unique, though some share enough features in common to be classed as the same kind. This enables the empirical analysis of material events as well as messy, natural-language data, and does not preclude an assemblage-aware reading of the findings.

With these factors in mind, it is perhaps uncontroversial to argue that elements of assemblages are prone to *becoming* – to becoming a killer, a victim, a product, a person

– both as a result of, and resulting in, specific contextual features such as space, place and action. Causality is complex and non-linear, and as uncovered in the analysis in this chapter, there is some evidence of actors – and processes – taking on a different nature, becoming different entities, from one space to the next. An act of killing, we might argue, is not solely the product of the killer's intention and agency, but is co-produced by the other actors involved. We should be careful of following this line of thinking to the point of 'victim-blaming' or of relieving actors of their responsibilities and moral obligations. Nonetheless, we are left with a new understanding of the kind of distributed agency and co-constructed event proposed by material semiotics, and this provides a fresh perspective on acts of killing and acts of meaning.

I now turn my attention from agency to individuation, and from spaces to boundaries. In the next and final analysis chapter, CPA takes a central role in the demarcating of verb patterns and the identification of subtly deindividuating language.

7 Death and Destruction

7.1 Introduction

Taken for granted in Animal Studies is the fact that animals are objectified, effectively ontologised as ‘things’ rather than as individuals. But how exactly is this achieved in language? And how does such language produce this effect? Beyond anecdotal observations by e.g. Jepson (2008) and Trampe (2017), and with the exception of lengthy treatments on ecofeminism (e.g. Adams, 1990) and ecolinguistics (e.g. Stibbe, 2015), remarkably little has been written on the precise mechanisms by which language can construe animals as person-like or thing-like. Chapters 2 and 3 surveyed a range of literature and found that personhood, with its related (linguistic) concepts of animacy, agency and individuation, is highly relevant to the perceived moral value of an entity, as well as the legitimacy of acts of killing. In this chapter I take the results from the data annotation related to grammatical number – Agent Number and Patient Number – as a starting point for a close, critical, CPA-assisted analysis of five of the ‘killing’ terms in this project: *harvest*, *cull*, *exterminate*, *wipe out* and *destroy*. I also take a look at *assassinate* in the BNC alone, given that it does not feature in the KVD, and evaluate its implications in terms of Patient individuation and, consequently, Patient killability. In making extensive use of CPA in discourse analysis, this chapter directly addresses RQs 1 and 3. It concludes, based on the evidence presented, that CPA is a reliable and robust method of lexical analysis which has much to offer the (critical) discourse analyst.

7.2 Humans, Animals and Number

Killability is bound up in traditional, humanistic understandings of what it means to be a ‘person’, and as such entails judgements on the presence of certain person-like qualities. The proposed criteria for personhood vary wildly, and are ultimately the qualities one would expect to find in a normal, adult *human*: agency (of the traditional kind), subjectivity, and autonomy, for example. As described in Chapter 2, there have been difficulties in attributing such qualities to certain types of humans, e.g. the unborn foetus (a ‘potential person’) and adult humans in a permanent vegetative state (‘former persons’). There are some nonhuman animals who arguably do possess many of these qualities, as is becoming clearer from scientific inquiry, and this poses a potential threat to the commonly held view of human-person equivalence.

A basic requirement of qualities such as agency and autonomy is a sense of individuation, whose relationship with the related concepts of animacy and agency has been corroborated by linguists as well as philosophers. Animacy is positively associated with overt expression of number and countability, and negatively associated with plural, especially mass, expressions of number (Dahl and Fraurud, 1996; Grimm, 2018; Corbett, 2000). Explicit discussions of animacy, agency and individuation with regard to the representations of humans and other animals are provided by Yamamoto (1999), Stibbe (2006) and Sealey (2018). In short, it can be argued that the cline between an individuated person and a mass-like thing represents a cline of moral worth, or in other words, a cline of killability.

Individuation, marked linguistically through number and countability, was therefore chosen as the focus of the corpus-lexicographical discourse analysis presented in this chapter. The annotation procedure described in Chapter 4 involved recording, amongst other features, whether the actant (event participant) was encoded linguistically as singular, plural, mass, collective, or of unspecified number. These results are given in the following section.

7.2.1 Human and animal actants

The analysis presented in Chapter 5 revealed that the majority of Agents in the data are *HUMAN*, and that the most common Patient type is *ANIMAL*. In fact, despite the Killing Verb Dataset (KVD) being sampled from an animal-themed corpus, humans still dominate the semantic landscape: human actants feature – whether as *HUMAN* or *HUMAN GROUP*, Agent or Patient – 1,434 times in the KVD, compared with animals (*ANIMAL* and *ANIMAL GROUP*) who feature as actants, collectively, 1,287 times. The breakdown of these actants is given in Table 7.1, according to their thematic role (Agent or Patient) and number (Singular, Plural, Collective, Mass Noun, and Not Specified). The annotation scheme is described in detail in Chapter 4, but to summarise: ‘Singular’ was assigned to entities expressed in grammatically singular, countable form, e.g. *a dingo, my son*; 'Plural' was the label given to entities expressed in the plural, countable form, e.g. *wildebeests*, *hundreds of birds*; 'Collective' was used for collective (also countable) nouns, e.g. *the family, a species*; and 'Mass Noun' was to mark all non-countable nouns, e.g. *meat, connective tissue*. 'Not Specified' was a label assigned when the plurality was not inferable: for entities not explicitly mentioned in the text, as in the case of intransitive active constructions (e.g. *I've been* ***butchering*** *since I was 16*); for generic entities without a specific number (e.g. *You can* ***kill*** *yourself saving forests or chimps*); or more typically in passive constructions where the Agent is elided and its plurality is not satisfactorily inferable (e.g. *Colonies were* ***harvested*** *in phosphate-buffered saline*).

	Human actants				**Animal actants**			
Semantic type	*HUMAN*		*HUMAN GROUP*		*ANIMAL*		*ANIMAL GROUP*	
Thematic role	Agent	Patient	Agent	Patient	Agent	Patient	Agent	Patient
Singular	138	20	0	0	28	284	0	0
Plural	391	9	8	3	40	801	3	14
Collective	0	0	9	3	0	0	5	107
Mass Noun	0	0	0	0	0	0	0	0
Not Specified	850	3	0	0	2	3	0	0
Subtotals	1,379	32	17	6	70	1,088	8	121
Total	**1,434**				**1,287**			

Table 7.1: The plurality and Agency of human and animal actants in the KVD

As can be seen, the semantic types *HUMAN GROUP* (realised as e.g. *we*, *mankind*) and *ANIMAL GROUP* (e.g. *groups of pigs*, *some species*) are far less common than their 'individual' *HUMAN* and *ANIMAL* counterparts, and their plurality is intrinsically linked to their semantic value. Groups entail multiple entities and therefore are plural, and if they are expressed in a singular form then it must be as a collective noun, hence the lack of 'singular' instances for these types. We can also see that none of the four semantic types in Table 7.1 are encoded as mass nouns in the data, as is to be expected; when animals are referred to as 'meat', for example, this incurs an ontological shift (i.e. to *STUFF*, as opposed to *ANIMAL* or *ANIMAL GROUP*). This raises questions about the nature of plurality itself and how it is linguistically encoded. Is not *everything* multiple, complex, a mesh of assemblages? What does it 'mean' when one entity is expressed as countable and another entity – in many respects very similar – is construed as mass, for instance? As argued by Grimm (2018), the countability of nouns is not determined by the inherent ‘real-world’ properties of their referents, but rather multiple, interacting factors, one of which is the way these real-world entities are experienced and *perceived* by language users. This explains why the same entities are individuated differently across languages, and even in some cases within them (see Chapter 3).

There is an asymmetry between the human actants and the animal ones in Table 7.1. Humans are most likely to feature with an unspecified plurality (n=853), followed by plural (n=400), followed by singular (n=158). Animals, on the other hand, is most likely to feature in the plural form (n=841), followed by singular (n=312), followed by unspecified (n=5). In terms of thematic roles, 97.4% of human actants feature as the Agent, while for animal actants it is the other way around: 93.9% are Patients. These results are no doubt influenced by the fact that the KVD is heavily skewed in favour of journal article texts (as a result of the PPPP corpus composition), which are written by humans and which represent experiments carried out by humans, but which do not tend to specify, in writing, the plurality of the Agent of each particular process. Following the findings in Chapters 5 and 6, however, we should be wary of attributing too much to this fact. Considering causality in a complex and non-linear way, we can appreciate that these results are the product of multiple interacting factors: the actants, the process, and the text (or text-space), amongst others. Taking the journal articles out of the equation, for argument’s sake, we see a similar picture as before: for human actants, the most common number label is still ‘not specified’ (n=371), followed by plural (n=284), followed by singular (n=149); and animal actants are still predominantly plural (n=432), followed by singular (n=286), and finally unspecified (n=5). *HUMAN* now features as Agent 96% of the time, while 91.8% of all animal instances are as Patient. Clearly, the journal article data is responsible for the majority of the ‘unspecified’ human instances in the KVD, but it does not account for all of them, nor does its omission lead to a change in the ranking of human or animal actant number classifications. Similarly, the Agent/Patient dominance for humans/animals, respectively, is mitigated slightly but the overall trend persists.

7.2.2 Patient Number

Table 7.2 summarises the distribution of labels assigned for Patient Number (PN) across ‘killing’ terms in the Killing Verb Dataset. Just one in four Patients (23.6%) was expressed in the standard singular form (e.g. *the dog, a pet bird, it*). 61.7% were encoded in the standard plural form (e.g. *cows*, *the specimens*, *mice*), 7.4% as collective nouns (e.g. *local shoals*, *our native wildlife*, *stock*), and 6.4% as mass nouns (e.g. *serum*, *poison*, *plasma*). In 14 cases (<1% of KVD), the PN was not specified, due to – as described above – the direct object of an active construction being absent or elided (e.g. *a kind of gut response, just* ***kill***, ***kill***, ***kill***) or the direct object being generic or ambiguous (e.g. *False widows look like black widows but instead of* ***killing*** *you just give you a nasty bite*).

Sample	Singular	Plural	Collective	Mass Noun	Not Spec.
butcher	7 (25.9%)	11 (40.7%)	0 (0%)	5 (18.5%)	4 (14.8%)
cull	7 (4.1%)	147 (86.5%)	16 (9.4%)	0 (0.0%)	0 (0%)
destroy	68 (34.5%)	96 (48.7%)	19 (9.6%)	11 (5.6%)	3 (1.5%)
dispatch	12 (34.3%)	20 (57.1%)	2 (5.7%)	1 (2.9%)	0 (0.0%)
euthanise	12 (25.0%)	34 (70.8%)	2 (4.2%)	0 (0.0%)	0 (0.0%)
exterminate	0 (0.0%)	7 (50.0%)	7 (50.0%)	0 (0.0%)	0 (0.0%)
harvest	4 (1.9%)	125 (59.2%)	28 (13.3%)	54 (25.6%)	0 (0.0%)
kill	47 (23.4%)	137 (68.2%)	9 (4.5%)	3 (1.5%)	5 (2.5%)
murder	14 (48.3%)	15 (51.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
put down	140 (66.4%)	49 (23.2%)	1 (0.5%)	20 (9.5%)	1 (0.5%)
put to sleep	48 (84.2%)	8 (14.0%)	0 (0.0%)	0 (0.0%)	1 (1.8%)
sacrifice	16 (7.6%)	177 (83.9%)	8 (3.8%)	10 (4.7%)	0 (0.0%)
slaughter	18 (8.7%)	170 (81.7%)	20 (9.6%)	0 (0.0%)	0 (0.0%)
wipe out	3 (4.8%)	38 (61.3%)	17 (27.4%)	4 (6.5%)	0 (0.0%)
KVD overall	397 (23.6%)	1037 (61.7%)	125 (7.4%)	108 (6.4%)	14 (0.8%)

Table 7.2: Plurality of Patient references across 'killing' terms in the Killing Verb Dataset (KVD). Percentages relate to the sample specified in the left-most column.

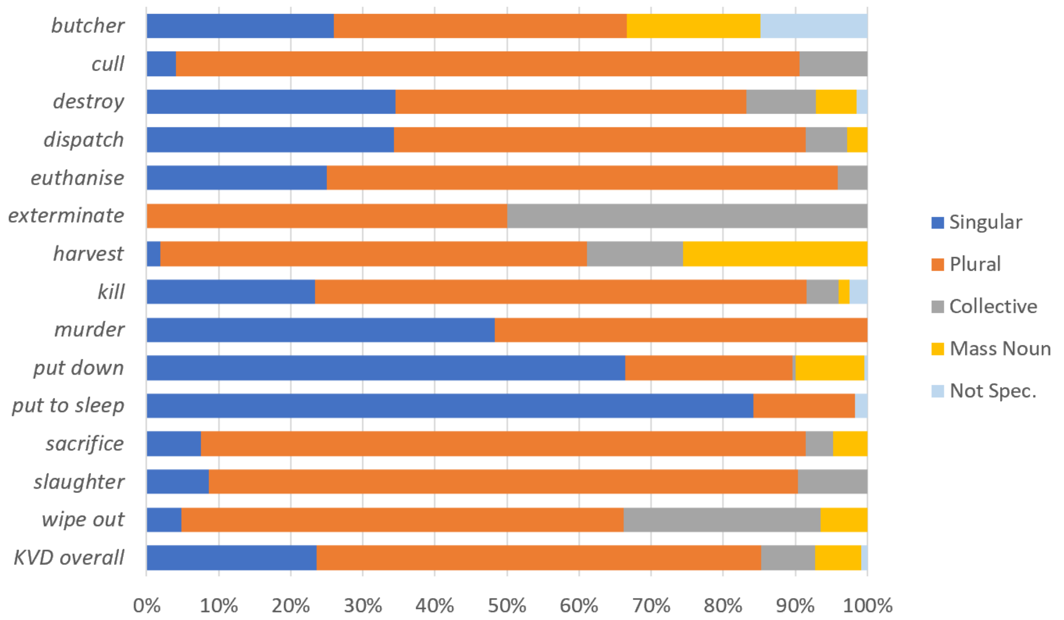

Fig. 7.1: A stacked bar chart representing the data in Table 7.2

The data in Table 7.2, presented more visually in Fig. 7.1, gives an idea of how differently the verbs behave when it comes to Patient Number. The terms that stand out as having particularly high proportions of singular Patients, for example, are *put to sleep* (84.2% singular) and *put down* (66.4%). *Murder* also ranks highly, with almost half (48.3%) of all Patients expressed in the singular. These results are not surprising, given what we know about the types of animals typically *put to sleep* and *put down*: individuals, usually family pets, referred to as ‘him’, ‘her’, or by their given name (see Chapter 5). *Murder* victims also tend to be specific individuals, and in this (admittedly small) sample, more than a third (n=11) of Patients were *HUMAN*, which no doubt played a part in the Patient Number results. Of interest here, then, are the terms with very low incidence of singular Patients: *harvest*, just 1.9% singular, and *exterminate*, with no singular Patients at all. These are both discussed in more detail later in the chapter.

The majority (61.7%) of Patients in the KVD were encoded as plural, countable nouns, and this was a fairly consistent finding across the ‘killing’ terms, with the exception of *put to sleep*, *put down*, and to a lesser extent, *butcher* and *destroy*. *Put down* and *put to sleep* are clear-cut: most of their Patients are singular entities (individuals) so they have far fewer examples of plural Patients. *Butcher* is a small sample (n=27) and, as discussed in Chapter 5, is often used in a non-killing sense, hence its relatively high proportions of Patients with ‘mass noun’ and unspecified plurality. *Destroy* is another verb with a strong non-killing component, and is examined in more detail in Section 7.5. Especially high proportions of plural Patients are seen in *sacrifice* and *slaughter*, which is to be expected, given that these verbs feature prominently in the journal article data which reports the killing of multiple animals. Sometimes this is done in groups; one in ten *slaughter* Patients was expressed as a collective noun. The highest proportion of plural Patients, however, is seen in *cull*, and this is explored in Section 7.3.2.

Collective nouns occupied the role of Patient in relatively few cases: just 7.4% of the KVD. It is surprising, then, to see terms like *exterminate* and *wipe out* exhibiting much higher proportions of ‘collective’ Patients: 50% and 27.4%, respectively. They are investigated in depth in Section 7.4. Similarly infrequent are ‘mass noun’ Patients, absent altogether from *cull*, *euthanise*, *exterminate*, *murder*, *put to sleep* and *slaughter*. Mass nouns cannot denote individuals; they are characterised by their lack of individuation. That they should feature at all as arguments of ‘killing’ verbs is worthy of our attention, as is the case for *butcher*, *put down* and *harvest* in particular.

Least frequent of all – almost negligible – are the Patients whose plurality is unspecified. As shown in Table 7.2, these are found, in very small numbers, for the verbs whose Patient arguments are either more general than others (e.g. *kill*, *destroy*) or absent altogether, as in the intransitive Pattern 3 of *butcher* (n=4), discussed in Chapter 5).

In the sections that follow are closer examinations of *harvest*, *cull*, *exterminate*, *wipe out* and *destroy* using CPA, based on their tendency to (de)individuate Patients according to the Patient Number results. It is interesting to note that these five terms had some of the lowest average Patient Referential Distance (PRD) scores in the analysis presented in Chapter 5.

7.3 *Harvest* and *Cull*

7.3.1 *Harvest*

The *Pattern Dictionary of English Verbs* (PDEV) reports four patterns for the verb *harvest*, and all four were also present in the KVD sample. Table 7.3 gives the patterns, their primary implicatures and their distributions across both samples: that of the PDEV[57] (taken from the BNC) and that of the KVD (taken from the PPPP corpus).

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	81.11	27.01	*HUMAN* ***harvest*** *PLANT = Crop*	*HUMAN* cuts down and gathers *PLANT = Crop* when *PLANT* is ready for use
2	5.00	1.42	*HUMAN* ***harvest*** *LOCATION*	*HUMAN* gathers foodstuff from *LOCATION*
3	11.11	22.75	EUPHEMISM *HUMAN* ***harvest*** *FISH | ANIMAL*	*HUMAN* kills *FISH | ANIMAL* for use as food
4	2.78	48.82	BIOCHEMISTRY, JARGON *HUMAN* ***harvest*** *BODY PART*	*HUMAN* removes *BODY PART* for research or transplanting

Table 7.3: The CPA-derived patterns and implicatures for *harvest*

57 http://pdev.org.uk/#browse?q=harvest;f=A;v=harvest

The first thing to note is the difference in pattern distribution: there is a clear bias in the PPPP data towards the ‘animal agriculture’ and ‘laboratory’ senses (Patterns 3 and 4) as opposed to the ‘crop farming’ sense (Patterns 1 and 2). This represents a shift from plant-killing to animal-killing, which is to be expected, given the thematic priorities and journal-heavy composition of the PPPP corpus. In fact, the pattern that is the least frequent in the BNC sample – Pattern 4, a jargonistic term from the domain of biochemistry – is the most common *harvest* pattern in the PPPP sample. This makes sense when we consider that 93.4% of *harvest* instances come from scientific journal article data, and this is worth bearing in mind when analysing results from the KVD.

To provide some etymological background, the noun *harvest* can be traced back, via the Old English *hærfest* ‘autumn’ to the Proto-Indo-European root **kerp-* meaning ‘to gather, pluck, harvest’, also seen in the Latin *carpere* ‘to cut, divide’ and the Greek *karpos* ‘fruit’[58]. The earliest examples of its use as a verb date back to the 15th century, but it wasn’t until the mid-20th century that it began to take animals and cells as object arguments[59]. Given that the original BNC is now several decades old, it might be argued that some of the differences in pattern distribution seen in Table 7.3 are indicative of language change over time. This is unlikely, however, given the skewed nature of the KVD sample and the fact that mainstream language norms do not tend to change that quickly (Hanks, 2013: 93).

7.3.2 Harvesting stuff

Around half (49%) of all *harvest* lines in the KVD are Pattern 4, for which the implicature is “*HUMAN* removes *BODY PART* for research or transplanting”. Predictably, Patients include *CELL* (n=43), *STUFF* (n=24), *BACTERIA* (n=13) and *TISSUE* (n=11), all of which – other than *STUFF* – are semantic types unique to the PPPP Killing Ontology (see Chapter 4) as a result of their prevalence in the KVD. Given that these instances come from academic journal articles, they are almost exclusively expressed in the passive voice and typically followed immediately by prepositional phrases of means, such as *by*

[58] https://www.etymonline.com/word/harvest#etymonline_v_41666

[59] https://www.oed.com/view/Entry/84423?result=2&rskey=DbLey7&

centrifugation, *from the dish*, and *with a micropipette*. *Harvesting* is just one of many processes described in the Pattern 4 instances; the most frequent collocate of *harvested* is the word *and* (n=21), underlined in Examples 7.1-7.3 in Table 7.4. Similar are the cases (n=8) in which it is part of a list of processes, followed by a comma (as in Example 7.4). The act of harvesting is not necessarily the focus in these instances; it is just one part of a string of events. The reader is presumed to be more interested in the methods of harvesting, or what happens after the harvesting, than the harvesting itself.

#	Excerpt	Corpus	Subcorpus
7.1	*Plasma was* ***harvested*** *<u>and</u> stored as in Experiment 1.*	PPPP	Journal articles
7.2	*Leucocytes were* ***harvested*** *<u>and</u> washed twice in HBSS.*	PPPP	Journal articles
7.3	*Left and right flank skin tissues were* ***harvested*** *<u>and</u> fixed in 10% buffered formalin for 3h and then transferred into an 80% alcohol solution.*	PPPP	Journal articles
7.4	*Kidney cortex, medulla, and thoracic aorta were immediately* ***harvested****, cleaned, frozen immediately in liquid nitrogen, and stored at -70°C until used.*	PPPP	Journal articles
7.5	*Reeds (*Phragmites australis *(Cav.) Trin. ex Steud.) and other plants are* ***harvested*** *<u>in the Sultan Marshes</u> <u>by local people for commercial and domestic uses</u>.*	PPPP	Journal articles
7.6	*Mature maize was* ***harvested*** *<u>after 27 weeks of growth</u> and stover was chopped to 10-20 cm pieces.*	PPPP	Journal articles
7.7	*Leaves of A. saligna were randomly and manually* ***harvested*** *<u>from different parts of both young and mature leaves</u> <u>during the dry season</u> and prepared for SC assays*	PPPP	Journal articles
7.8	*Control sections were* ***harvested*** *<u>with the same harvester used in years 1 and 2</u>, whereas macerated sections were* ***harvested*** *<u>with a Lexion 500 series harvester</u>*	PPPP	Journal articles

Table 7.4: Corpus examples 7.1-7.8

Patterns 1 ("*HUMAN harvest PLANT = Crop*", with the implicature, "*HUMAN* cuts down and gathers *PLANT = Crop* when *PLANT* is ready for use") and 2 ("*HUMAN harvest LOCATION*", with the implicature, "*HUMAN* gathers foodstuff from *LOCATION*") are syntagmatically very similar to Pattern 4: emphasis is typically placed on where, when, how and why the harvesting takes place (e.g. Examples 7.5-8, Table 7.4), signalled by use of prepositional phrases to the right-hand side of the node (underlined). This is perhaps attributable to the fact that, in these cases, *harvest* does not denote an act of killing but rather of gathering, in the traditional sense of the word, and as such the act of harvesting is not particularly notable.

Harvest, like *butcher*, is ambiguous: we cannot say for sure whether killing is involved where Patterns 1, 2 and 4 are concerned. Referents categorised as *PLANT* and *PLANT PART* can survive being *harvested*, and in many cases they do, but whether or not the harvesting is fatal is presumably of little importance to most speakers and hearers. Similarly, in *harvesting* cells, plasma, and other entities classified as *BODY PART*, their status as living or not is unclear; they are being removed from a body that is either still living or has previously been killed, and in any case such details are not the focus of a *harvest* proposition which takes a *PART* or *STUFF* as its object argument. This prompts some difficult questions regarding the lives of cells, bacteria, plants and other 'stuff'; what is it about these kinds of lives that means a loss thereof is seemingly uncontroversial?

7.3.3 Harvesting animals

As noted above, *harvest* is an ancient word with roots in the plucking and gathering of fruit, and is still predominantly – in the reference corpus data – a term applied to the collecting of plants and plant parts. That *harvest* can also be extended to denote the killing of certain animals tells us something fundamental about the speakers' perceptions of those animals and their status as individuals. There are many animals who are not *harvested*, for instance, according to the data as well as our intuition: dogs, horses, and pigs, for example. The types of animals that feature as Patients of Pattern 3 of *harvest* – henceforth *harvest*$_3$ – are mainly marine animals (78%), typically denoted by the term *fish*. Such animals are generally small and tend to coexist in groups, and, perhaps as a result of this, they are deindividuated by English speakers in a number of ways: their deaths are discussed in terms of weight, rather than number of individuals (cf. Despret, 2016); distinction is often not made between the singular, plural and non-countable forms of the noun (e.g. *fish*, *krill*, *salmon*; cf. Stibbe, 2012); and these nouns are also unmarked arguments of 'amassing' verbs such as *harvest*. This is analogous to the way plants, plant matter and other mass-like, insentient entities are construed, and *harvest* provides plenty of examples of this; a quarter of its Patients are encoded as mass nouns.

Harvest$_3$ presents similar problems to the other patterns: when animate Patients are involved, we cannot say for certain whether *harvest* means "kill" or whether it means "gather". In some cases, this is disambiguated by context (Examples 7.9-11, Table 7.5) but in others (e.g. 7.12-14) this is unclear, and no attempt is made to clarify the distinction. In 7.9, for instance, we can understand *harvest* to mean "gather" because it is coordinated with the verb *kill*; it would not make sense to talk about killing twice. In the case of 7.10, we can safely assume again that this is an act of gathering rather than killing, because the excerpt describes how the shrimps, having been *harvested*, are then placed in tanks and fed twice daily. The preposition *from* is also an indicator of gathering here. Example 7.11 is less obvious, but similar to (7.9) we can assume that the writer does not intend to use two terms to describe the same action, so in *retain and harvest* it is likely that *harvest* refers to killing and not to gathering. The fact that consumption is cited as a reason for *harvesting* also supports this assumption; the shrimps are intended to be killed. Examples 7.12-7.14 do not provide such cues for disambiguation; even if they involve *stock* and *fishermen,* we do not know for sure whether the *harvesting* done at this stage is of the 'gathering' kind or the 'killing' kind.

#	Excerpt	Corpus	Subcorpus
7.9	*The use of gear types (e.g. trawl, gill-nets etc.) that **harvest** and kill sharks non-selectively would render size limit management measures ineffective.*	PPPP	Journal articles
7.10	*About 500 shrimps **harvested** from the Marine Station adjacent to our university were shipped to our laboratory. Shrimps were placed in concrete tanks (2m×6m) at room temperature (28±0.5°C). During the 2 weeks acclimation period, shrimps were fed twice daily with a formulated shrimp diet*	PPPP	Journal articles
7.11	*As indicated above, some anglers retain and **harvest** fish for consumption. However, other anglers release some component of their catch for various reasons.*	PPPP	Journal articles
7.12	*In the base specification, a country was counted as an owner of the stock if any of the species is **harvested** in that country's waters.*	PPPP	Journal articles
7.13	*Under species-specific quotas fishermen are unwilling to **harvest** larger quantities of the low-price species; ecological competition is maintained at a costlier level.*	PPPP	Journal articles
7.14	*Historically, most of the commercial salmon catch has been **harvested** by the coastal fisheries in the Gulf of Bothnia*	PPPP	Journal articles

Table 7.5: Corpus examples 7.9-7.14

The use of collective and mass terms such as *species*, *stock* and *catch*, modified by partitives such as *most of*, *some component of*, and *larger quantities of*, further deindividuate the animals being *harvested*, for many of whom the outcome of said *harvesting* is already unclear. As argued in the case of *butcher* (Chapter 5), the inherent ambiguity in cases such as these demonstrates a collective indifference towards the fates of many nonhuman animals and is another speciesist feature of the lexicon.

Harvest effectively coerces (cf. Pustejovsky, 1995; Hanks, 2013) its Patients into the roles of crops and resources. This is especially explicit in the examples in Table 7.6, both of which refer to their Patients (fish) using inanimate, mass nouns.

#	Excerpt	Corpus	Subcorpus
7.15	*The original motivation for the law is likely to avoid* ***harvesting*** *the protein productivity of oceans at lower trophic levels, and thus to avoid adverse effects on marine productivity.*	PPPP	Journal articles
7.16	*for any given number of players, the extra effort they put forth will only go to* ***harvesting*** *the additional growth rather than reducing the stock.*	PPPP	Journal articles

Table 7.6: Corpus examples 7.15-7.16

In these cases, the fish being *harvested* are not even the *living* commodities – the *livestock* – they are typically construed to be, but rather abstract concepts of economics: *productivity* and *growth*. These are not typical arguments of *harvest* and are marked ‘3.a’ (‘anomalous’; see Chapter 4), but these exploitations of the norms of *harvest* are a clear example of the permeability of semantic boundaries and how easily they might be crossed.

Other animal types *harvested*$_3$ in the KVD (n=7) can be categorised as: animals targeted by hunters (*ELK*, *DEER*, *PIGEON*), those killed for their flesh or fur (*INSECT*, *MINK*) and lab test subjects (*GOAT*). While these are all permissible examples of Pattern 3, some of them are less central and prototypical than others. The *ELK*, *DEER* (x2) and *PIGEON* instances all come from the same journal article text in which hunters are described as *harvesting* animals who pose a tuberculosis threat; these are not stereotypically *harvestable* animals (small and numerous), other than *PIGEON*, and nor is the motive (disease control) particularly *harvest*$_3$-like. Given that they are all from the same text, these instances are not especially generalisable and could be considered anomalous rather than norms. The *INSECT*, on the other hand, in this case referring to *dragonfly nymphs*, is being killed for typical *harvest*$_3$ reasons – to be used as food – but is not an animal usually killed and eaten by most humans, as suggested by the text (see Example 7.17, Table 7.7). *MINK* fulfils most of the *harvest*$_3$ Patient criteria: mink(s) are relatively small animals, their individual status threatened by the ambiguous morphology of the singular/plural forms of the noun as well as a general lack of human-mink interactions on an individual basis. In this case (Example 7.18), however, the use of *harvest* could be seen as a euphemistic attempt to mitigate the perceived wrongness of the act of killing by creating semantic distance (Chapter 5), rather than because *MINK* is a typical *harvest*$_3$ Patient. The sentiment expressed in Example 7.18 gives some support to this hypothesis.

#	Excerpt	Corpus	Subcorpus
7.17	*Nowhere else in the world are dragonfly nymphs **harvested** like this. Back home, Geng spreads his catch on the roof to dry. This being China, nothing edible will be wasted.*	PPPP	Broadcast
7.18	*You know, we **harvest** them [mink], but we like them too, and this kind of thing just breaks your heart.*	PPPP	Campaign literature
7.19	*(In case of a herd subjected to a pre-reproductive harvesting schedule, maximum proportional offtake rate can be calculated as [100×(−1)]/ λ, if population growth rate is greater than or equal to 1). Potential population growth rates were between 38 (mating season 3) to as much as 84% (mating season 6) lower than optimal offtake rates determined by the herd productivity assessment procedure. Similarly, an offtake policy that **harvests** an equal proportion of individuals <u>from each stage class</u> would result in offtake rate levels of only 16 (mating season 6) to 56% (mating season 3) of those determined by non-linear programming. Hence, optimizing herd structure and culling policy with respect to energetic efficiency resulted in stationary state stage abundances that maximized net reproductive rates, and therefore offtake per time unit.*	PPPP	Journal articles

Table 7.7: Corpus examples 7.17-7.19

GOAT is another unexpected Patient type (Example 7.19, Table 7.7), and understanding its use in this context requires extensive reading beyond the immediate concordance environment. Despite the expanded context in this example, we are still many lines away from seeing an explicit mention of goats. In fact, the word *goats* features just 13 times in the entire article, despite its being around 7,000 words long and titled, “Assessing the effect of controlled seasonal breeding on steady-state productivity of pastoral goat herds in northern Kenya”. As becomes clear from this excerpt, goats do not matter as individuals here but as *herds, populations, proportions, units*. The Agent of the verb is also unexpected: *an offtake policy,* rather than the human initiators and enforcers of said policy. Not only does this exemplify the kind of distancing – both syntactic and semantic – discussed in Chapter 5, but it is also an example of the routine deindividuation, the 'massifying', of animal Patients. The use of the prepositional phrase, underlined in (7.19), adds to the construal of the Patient as a kind of *STUFF* by mirroring the structure typically seen in Patterns 1, 2 and 4, which place more emphasis on the method of gathering (i.e. *from LOCATION*) than any killing entailed.

7.3.4 Animals harvesting stuff

Despite having its origins in peaceful, arable farming practices, *harvest* represents a powerful display of human dominance over the Other. The Patient is rendered passive, impotent and ultimately removable, and any presumed resistance on the part of *harvested* animals is entirely suppressed. This is a form of ontological violence and a privileging of human actors over all others. It is surprising, then, to find four examples of *ANIMAL* and *ANIMAL GROUP* in the Agent position of *harvest*, shown in Table 7.8.

#	Excerpt	Corpus	Subcorpus
7.20	*At last, after their 4,000-mile journey, the humpback whales can feed. They **harvest** krill, shrimps that begin to swarm here as soon as the ice retreats.*	PPPP	Broadcast
7.21	*Baboons have powerful jaws and huge canines, ideal for cracking shells. Timing is an essential skill if you're to **harvest** all the food that becomes available at one time or another around a coast.*	PPPP	Broadcast
7.22	*A hitchhiker makes one ant's job much harder. And this isn't even grass. A single colony **harvests** half a ton of grass a year, more than any other animal on these plains.*	PPPP	Broadcast
7.23	*The output from SPUR can be selected to include estimates of rainfall runoff, soil loss, soil organic-matter content, plant production, forage selected and **harvested** by livestock and wildlife, animal weight and gain, and net economic return.*	PPPP	Journal articles

Table 7.8: Corpus examples 7.20-7.23

The first three of these examples come from broadcast transcripts, specifically 'wildlife' documentaries narrated by David Attenborough. There is a temptation to dismiss these as instances of Attenborough's signature anthropomorphic style (Sealey and Oakley, 2013), and there is language in these examples that could be considered anthropomorphic: the use of *you're* in 7.21, as discussed in Sealey and Oakley (2013); and the words *job* and *hitchhiker* in 7.22. Is harvesting an activity exclusive to humans? I would argue not; nonhumans have surely been gathering and eating plant parts for even longer than humans have. Yet, there is something about the word *harvest* that suggests a kind of *organised* behaviour, and perhaps Attenborough is priming the viewer for this with the word *job* in 7.22. This 'organised' element is captured to a degree in the PDEV entry for $harvest_1$, which specifies a prototypical direct object of *PLANT = Crop*, rather than simply *PLANT*, thus incorporating the notion of cultivation. This is not to say that animals do not organise themselves (as in the case of the *colony* in 7.22) or intentionally select and harvest their food (as claimed in 7.23) but it does suggest that normal language may not comfortably accommodate this. In 7.20 and 7.21 the *harvested* entities are animals, making these anomalous instances of Pattern 3 (marked '3.a'), while 7.22 and 7.23 are anomalous instances of Pattern 1 (marked '1.a').

7.3.2 *Cull*

If *harvest* is a verb of mass, *cull* is a verb of plurality. *Cull* has the highest proportion of 'plural' Patients in the KVD, and, like *harvest*, its origins are not in killing but in collecting: *cull* is a descendent of the Old French *coillier* and the Latin *colligere* 'collect'[60]. Table 7.9 lists the patterns found for *cull* in the PDEV, along with their primary implicatures and the distributions of these patterns in the PDEV[61] (taken from the BNC) and the KVD (taken from the PPPP corpus).

[60] https://www.oed.com/view/Entry/45650?result=4&rskey=xgDDY3&

[61] http://pdev.org.uk/#browse?q=cull;f=A;v=cull

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	25.77	47.06	*HUMAN = Hunter* **cull** *ANIMAL GROUP = Wild*	*HUMAN = Hunter* reduces the size of *ANIMAL GROUP = Wild* by killing selected members of it
2	9.28	52.94	*HUMAN = Farmer* **cull** *ANIMAL = Farm Animal*	*HUMAN = Farmer* kills or removes *ANIMAL = Farm Animal* because it is too old or ill to breed
3	47.42	0.00	*HUMAN* **cull** *ANYTHING = Concept | INFORMATION | INFORMATION SOURCE*	*HUMAN* gathers a range of *ANYTHING = Concept | INFORMATION | INFORMATION SOURCE* from a wide selection
4	15.46	0.00	*HUMAN* **cull** *ARTIFACT = Plural*	*HUMAN* selects a range of *ARTIFACT = Plural* to form a collection
5	2.06	0.00	*HUMAN* **cull** *DOCUMENT*	*HUMAN* reads *DOCUMENT* very carefully in order to find and select specific information

Table 7.9: The CPA-derived patterns and implicatures for *cull*

Once again, there are quite dramatic differences in pattern distribution: the pattern found most frequently in the PDEV sample (Pattern 3) does not appear once in the KVD, nor do Patterns 4 and 5. These are the non-killing, and often abstract, senses of *cull*, as opposed to the concrete, killing senses entailed in Patterns 1 and 2, which are found with almost equal frequency in the KVD.

Although they refer to processes of killing, as opposed to selecting or gathering, Patterns 1 and 2 – henceforth *cull*$_1$ and *cull*$_2$ – retain some of the original sense of 'curation' associated with culling. This is demonstrated in the form of justifications for killing; animals are killed because their presence (in the group, the area, the farm, and so on) is damaging to the overall design. Quite often this is literally an issue of aesthetics, whether in terms of landscape features or to preserve the population of a favoured species. In other cases, the *culling* is done to protect human financial interests. In just over half (53%) of all *cull* instances, explicit justificatory language could be found in the immediate concordance environment. These were found fairly evenly across both patterns – in 48% of *cull*$_1$ and 58% of *cull*$_2$ instances – and included words and phrases such as *need to be*, *had to be*, *because*, *necessary*, *due to*, *so*, *requirement*, and [*to* + INF] constructions. Examples are given, justificatory language underlined, in the examples in Table 7.10.

#	Excerpt	Corpus	Subcorpus
7.24	*You can **cull** deer and there are <u>justifications</u> for **culling** deer and you know you can **cull** other animals and I can say there are <u>justifications</u> to do it for wildlife*	PPPP	Interviews
7.25	*it bred, wonderful, got deer, but after a while, they started eating the trees and doing damage, <u>so they had to be</u> **culled***	PPPP	Focus group
7.26	*Lameness is the third most common <u>reason</u> for **culling** dairy cows, after reproductive problems and mastitis*	PPPP	Journal articles
7.27	*No we're saying it's not you know that it's part of, whether it's hunting or shooting or **culling** badgers or killing squirrels or whatever it is, it's all part of <u>necessary</u> management.*	PPPP	Interviews
7.28	*It's a balance, isn't it, it's a balance basically and if we get overrun with foxes they <u>need</u> **culling** and just <u>to get that happy balance</u>.*	PPPP	Focus group

Table 7.10: Corpus examples 7.24-7.28

Example 7.28 encapsulates the essence of *cull*$_1$; animals who exist in undesirably high numbers are a problem, their killing a positive solution for reaching “that happy balance”. The use of the demonstrative “that” presents the idea of the “happy balance” as a specific and apparently shared notion of an ideal state of co-existence.

The language used in the above examples also suggests that the killers reject their culpability; these animals *need culling*, and as such it is unavoidable. In some cases, particularly in the *cull*$_2$ instances from journal article texts, the justifications are even framed in such a way that the animals are portrayed as being somehow culpable for their own *culling* through their (lack of) actions or attributes, signalled by the preposition *for* (see 7.29-31, Table 7.11).

#	Excerpt	Corpus	Subcorpus
7.29	*Ewes were **culled** <u>for</u> failure to conceive at least 2 consecutive years, old age and due to health problems.*	PPPP	Journal articles
7.30	*it was observed that ovarian cysts are present in approximately 10% of sows that were **culled** <u>for</u> fertility problems*	PPPP	Journal articles
7.31	*initial semen collection for progeny sampling occurred at 11-16 months of age during which approximately 5% of purchased young sires were **culled** <u>for</u> poor semen production/quality.*	PPPP	Journal articles

Table 7.11: Corpus examples 7.29-7.31

In many of these *cull*$_2$ examples, however, we are faced with the same ambiguity seen in many of the other verbs, and it is unclear whether *cull* always refers to killing, or whether it might refer to a non-fatal exclusion from the group of animals being studied or used for breeding; Examples 7.29-31 are potentially ambiguous in this sense. Examples 7.32 and 7.33 in Table 7.12 make this distinction between killing and removing clearer as the word *culled* here could not feasibly be replaced with *killed*; animals cannot be killed "due to … sudden death", nor killed and then "sold as animals good for production and reproduction purposes".

#	Excerpt	Corpus	Subcorpus
7.32	*In most cases, gilts were **culled** due to vaginal discharge, sudden death and leg problems*	PPPP	Journal articles
7.33	*Other adult does were **culled** to maintain a stable herd and sold as animals good for production and reproduction purposes.*	PPPP	Journal articles
7.34	*If I was talking about **culling** <u>things</u>, we wouldn't be **culling** <u>things</u> unless we understood the population*	PPPP	Interviews
7.35	*In culling you know we, if we were **culling** <u>things</u> properly and we don't always do that, badgers boar etcetera, if we were **culling** <u>things</u> properly we would have given consideration to the population dynamics of those animals*	PPPP	Interviews
7.36	*I don't think anybody at this table wants to wipe <u>things</u> out, but they, but <u>things</u> have to be **culled** and deer especially do quite a lot of damage*	PPPP	Focus group

Table 7.12: Corpus examples 7.32-7.36

Again, the fact that *cull* might mean anything from ‘remove’ to ‘kill’, with presumably little consequence to the hearer where it falls along that cline, is suggestive of an indifference towards the fate of *culled* animals. Perhaps we should not be surprised, then, that animals are repeatedly referred to as *things* in the context of ‘culling’. The first two of these, 7.34 and 7.35 in Table 7.12, come from the same interview transcript and are the words of broadcaster Chris Packham. He reflects, in his interview, on the expectations of viewers that as a passionate naturalist he ought to be opposed to positive representations of “culling”, but he does not appear to mark his repeated and oppressive use of the word *things*. We also see, in Example 7.36, the argumentation of *things* with the phrasal verb *wipe out*, another term of ‘removal’. *Wipe out* and *exterminate* are examined together in the following section.

7.4 Exterminate and Wipe out

While *harvest* and *cull* have overtones of collection, curation and control, *exterminate* and *wipe out* both convey a sense of mass removal and eradication. *Exterminate* can be traced back to its Latin roots of *ex* 'beyond, out of' and *termine*, ablative of *termen* 'boundary, limit', combined in *exterminare* 'to drive out'[62]. *Wipe out* is self-explanatory: a combination of *wipe* from the old English *wipian* 'to wipe, cleanse', and the adverb *out*[63], lending a sense of cleanliness and the removal of undesirable entities. There is also a shared notion of boundaries, space and place; similar to *harvest* and *cull*, which involve direct engagement with a specific place, *exterminate* and *wipe out* refer to the ridding of a space of a certain group of entities, the driving of said entities beyond its boundaries.

7.4.1 *Exterminate*

After *assassinate*, for which there were no examples in the PPPP corpus, *exterminate* has the smallest sample in the KVD with just 14 concordance lines. It also had the lowest average Patient Referential Distance (PRD) score of all verbs (see Chapter 5) and, as shown in Table 7.2, no examples of a singular Patient. *Exterminate* has two patterns, according to the PDEV[64], but only one of these was present in the PPPP corpus – unsurprisingly, the sense that relates to animals. Table 7.13 gives the patterns of *exterminate*; the mention of 'a particular locality' in the primary implicature of Pattern 1 reflects the intrinsic sense of space and place.

[62] https://www.etymonline.com/word/exterminate#etymonline_v_14116

[63] https://www.etymonline.com/word/wipe#etymonline_v_10786

[64] http://pdev.org.uk/#browse?q=exterminate;f=A;v=exterminate; I deviate slightly from the PDEV pattern and implicature for *exterminate₁* to reflect the plurality of the data (corroborated by both the BNC sample and the PPPP corpus sample)

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	44.00	100.00	*HUMAN | EVENTUALITY* ***exterminate*** *ANIMAL GROUP | PLANT GROUP*	*HUMAN | EVENTUALITY* causes the death of an entire population of an *ANIMAL GROUP | PLANT GROUP* in a particular locality
2	56.00	0.00	*HUMAN GROUP 1* ***exterminate*** *HUMAN GROUP 2*	*HUMAN GROUP 1* deliberately and systematically kills *HUMAN GROUP 2*

Table 7.13: The CPA-derived patterns and implicatures for *exterminate*

Exterminate is a classic example of a 'killing' verb that is used differently for humans and animals, even when both senses refer unambiguously to an act of killing. One might ask, as I did on first glance, what the difference is between the *exterminating* of a human and the *exterminating* of a nonhuman animal, given that in both instances the result is that the Patient is killed. In Table 7.13, we can see that there are two distinct kinds of argumentation. In Pattern 1, henceforth *exterminate*$_1$, the Agent is typically a *HUMAN* or an *EVENTUALITY* while the Patient is an *ANIMAL GROUP* or a *PLANT GROUP*. In Pattern 2, henceforth *exterminate*$_2$, the Agent and Patient are both a *HUMAN GROUP*, and the implicature suggests a deliberateness and systematicity. In *exterminate*$_1$, no such intentionality is necessarily supposed. The data corroborates this distinction; examples of *exterminate*$_1$ are presented in Table 7.14 (Examples 7.37-7.39), and examples of both patterns from the BNC (due to the absence of Pattern 2 in the KVD) are presented further down the table, to allow comparison. Examples of Pattern 2 can be seen from 7.42 onwards.

#	Excerpt	Corpus	Subcorpus/ Genre
7.37	*Australian land managers using modern technologies such as helicopters and military assault rifles are incapable of* ***exterminating*** *current nuisance species such as feral pigs, buffaloes and donkeys*.	PPPP	Journal articles
7.38	*The elephants, rhinos and hippos were driven into southern Europe by the ice, then* ***exterminated*** *about 40,000 years ago when modern humans arrived.*	PPPP	News
7.39	*But 65 million years ago, a great disaster overtook the Earth. Whatever its cause, a great proportion of animal life was* ***exterminated***.	PPPP	Broadcast
7.40	*Bobcats need a range of about 60 square miles per male, and they have already been* ***exterminated*** *from parts of the eastern and central United States*.	BNC	Science periodical
7.41	*Beauty depends on the multitude of its land owners; for were Grasmere the property of one person, he might* ***exterminate*** *the wood in a spring; but fifty men are seldom in one humour*.	BNC	Biographical book
7.42	*Allied troops advancing into Germany from the west, had liberated, by 13th. April 1945, the concentration camps at Belsen and Buchenwald, revealing to the world the appalling truth of the Nazi's endeavour to* ***exterminate*** *the Jewish race*.	BNC	History book
7.43	*Why, in any case, should the Cro-Magnons have felt the slightest urge to* ***exterminate*** *the Neanderthals (with whom it is thought they could have interbred)?*	BNC	Science book
7.44	*`'The Serbs, brutal as they are,'' you write, `'are not* ***exterminating*** *Muslims as the Nazis* ***exterminated*** *the Jews.''*	BNC	Economics periodical
7.45	*Developers hired murderers to* ***exterminate*** *Indians while in the coastal cities a pro-Indian movement gathered strength*	BNC	Science book

Table 7.14: Corpus examples 7.37-7.45

It appears that animals may be *exterminated* by a range of Agents, including events (coded as *EVENTUALITY*), and it is normal to talk about the *extermination* of animals in the passive, where the Agent is either unknown or backgrounded. In 7.39 (Table 7.14), for example, the enactor of the *extermination* is presented vaguely (*a great disaster*), and its specific cause is unknown (*whatever its cause)*. In 7.38 we are told that the animals were killed *when modern humans arrived*, implying that the Agent is not a *HUMAN GROUP*, but an *EVENT* (a subtype of *EVENTUALITY*): the arrival of the humans. An *EVENT* is something that happens, rather than something that acts with intention. When humans are *exterminated*, on the other hand, there is a specific agenda, usually political, and the Agent is named explicitly (*the Cro-Magnons, the Serbs, the Nazis*). In this sense, both the Agent and the Patient are individualised to a greater degree than their nonhuman equivalents. Another obvious difference in patterning is that *ANIMAL GROUP* features as a Patient in the same pattern as *PLANT GROUP* (7.41), while *HUMAN GROUP* belongs to a pattern of its own.

Similar to the case of *slaughter*, in which the verb may be applied differently to humans and to other animals to refer to an act of killing, the distinction between the two patterns of *exterminate* highlights differences in implicature. The primary implicatures are given in Table 7.13, but if these patterns had *secondary* implicatures (as some in the PDEV do), they might allude to the fact that, in Pattern 1, the *ANIMAL GROUP* or *PLANT GROUP* is living in 'the wild', and that, in Pattern 2, the *HUMAN GROUP* is understood to be killed *on the basis of* their group membership. In other words, *the Nazis exterminated the Jews* precisely because of their Jewish identity, and the *developers hired murderers to exterminate the Indians* due to their being Indian, making the subsequent clause about *a pro-Indian movement* entirely cohesive. This means that some information about the motive is encoded in the verb, in the case of the human-applicable sense. *Exterminate*, when applied to humans, signals that the group identity of the humans involves is a key motive in the killing, and the choice of *exterminate* draws attention to this political dimension. Where *slaughter* is concerned, the extra information encoded in the human-applicable sense relates to other elements of the killing: "an egregiously malevolent agent, an innocent patient … and a context of exceptional brutality" (Jepson, 2008: 142).

7.4.2 *Wipe out*

Wipe out has similar connotations to *exterminate* and has a similarly low incidence of singular Patients (n=3), but has a much broader set of potential arguments. Table 7.15 presents the CPA-derived patterns of *wipe out*.

#	% BNC sample	% PPPP sample (KVD)	Pattern	Implicature
1	97.40	100.00	*pv EVENTUALITY | ENTITY 1* ***wipe out*** *GROUP | ENTITY 2*	*EVENTUALITY | ENTITY 1* completely removes or destroys *GROUP | ENTITY 2*
2	0.43	0.00	*pv HUMAN = Surfer* ***wipe out*** [NO OBJ]	*HUMAN = Surfer* is capsized by a wave while surfing
3	1.73	0.00	*pv EVENTUALITY* ***wipe out*** *HUMAN | INSTITUTION*	*EVENTUALITY* causes *HUMAN | INSTITUTION* to go bankrupt
4	0.43	0.00	*pv EVENTUALITY* ***wipe out*** *HUMAN*	*EVENTUALITY* causes *HUMAN* to feel very tired

Table 7.15: The CPA-derived patterns and implicatures for *wipe out*

As perhaps ought to be expected, the patterns that revolve around exclusively human affairs – in this case Patterns 2, 3 and 4 – do not feature at all in the PPPP corpus, nor in the KVD as a consequence. There may be an argument for splitting the very large Pattern 1 into two more fine-grained patterns, given that the *wiping out* of a *GROUP*, e.g. of living beings, and the wiping out of an *ENTITY*, e.g. memories, arguably involve very different processes and outcomes; one involves killing and the other does not. This is a judgement to be made by the analyst or lexicographer, and there is no hard-and-fast rule for how this should be done. Although I see a semantic (and moral) distinction between the killing of e.g. a group of humans and the erasure of an abstract entity such as an idea, or – less commonly – a natural landscape feature such as a forest, the pattern boundary is exceptionally fuzzy where *wipe out* is concerned. Examples (7.46-55) present examples from both sides of this hypothetical boundary – some taken from the BNC, as the PPPP corpus had very few examples of abstract instances.

#	Excerpt	Corpus	Subcorpus/ Genre
7.46	*I personally think that if there was an animal that came up to our level, I think we'd just* ***wipe*** *them* ***out*** *completely.*	PPPP	Focus group
7.47	*In the 1950s, myxomatosis, which was deliberately spread around the country as a control measure,* ***wiped out*** *90 per cent of rabbits in the UK and Europe.*	PPPP	Campaign literature
7.48	*In the last two centuries, bowheads were almost* ***wiped out*** *by commercial whalers, and are notoriously wary of humans.*	PPPP	Broadcast
7.49	*You've only got to look at Ebola, right, if you got a new super strain of Ebola, it could soon* ***wipe out*** *half the planet's population*	PPPP	Focus group
7.50	*There are many beautiful animals, important to the planet. We should not* ***wipe out*** *entire species as has happened in the past.*	PPPP	MO data
7.51	*As the kelp is* ***wiped out****, so too is the crucial bio-diversity of these waters.*	PPPP	Broadcast
7.52	*Mildew is too prevalent and persistent to be* ***wiped out*** *completely, but those three factors are the key to helping our roses to resist it.*	BNC	Leisure book
7.53	*Benjamin Laird, chairman of Hallgarth's governors, said several measures had been taken to weed out the culprits, but admitted: "We will never* ***wipe out*** *the problem 100 per cent. Every school has its trouble-makers."*	BNC	World affairs periodical
7.54	*It will be devastating whatever happens. If the industry absorbs it, it will* ***wipe out*** *virtually all profits.*	BNC	Leisure broadcast
7.55	*He would never be able to* ***wipe out*** *completely the pain of his hurt pride, but henceforward he would never be able to think of Clare in any honourable way.*	BNC	Fiction book

Table 7.16: Corpus examples 7.46-7.55

Despite the fact that some of these examples in Table 7.16 refer to killing, while others don't, the common threads are undeniable: Agents are diverse, Patients are group-like or mass-like, and there is no inherently positive or negative connotation to the process of *wiping out*. If we were to divide these cases into two groups, then, where might 7.51 fall? Mildew is not like a *HUMAN GROUP* or *ANIMAL GROUP*, but it is also not like an abstract entity such as *profits*, and there *is* killing involved. In this instance it falls under the general category of *ENTITY*. Example 7.51 demonstrates the generalised nature of *wipe out*: *kelp* (a *PLANT*) is *wiped out* alongside *bio-diversity* (a *STATE OF AFFAIRS* or an *ASSET*, depending on the coder's outlook). Unless we are talking about the creative use of a word, as in jokes and wordplay such as *fruit flies like a banana*, we can expect two entities occupying the same argument slot of a verb to be activating the same meaning (Hanks, 2013: 72). In this case, it means that both the *kelp* and the *biodiversity* are participants in the same kind of *wiping out*. Is it possible to 'kill' *biodiversity*? Intuitively, I would say not. This raises some questions in terms of where to place the pattern boundary; if *wipe out* has the potential to mean 'kill' but ultimately means 'eradicate' – which sometimes, but not always, involves killing – then it becomes difficult to justify having two separate patterns here.

Another key observation on the examples in Table 7.16 is that *wiping out* appears to be a quantifiable process. Entities may be *wiped out* "completely" (7.46), "virtually" (7.54), "almost" (7.48), or in some other proportion: "90 per cent" (7.47), "100 per cent" (7.53), "half" (7.49), and so on. In other words, *wipe out* is an example of a predicator that entails "incremental themehood" (Dowty, 1991); the affected entity is an 'incremental theme' in that it can be acted on partially as well as wholly. The example given by Levin and Rappaport Hovav (2005: 93) is the eating of an apple: each subpart of the apple that is eaten corresponds to a subpart of the event of eating the apple, and as such the eating of the apple is incremental and the apple itself is an incremental theme. Krifka (1992) would call this a "gradual patient", while Tenny (1992) inverts the direction of causality, describing the argument or noun phrase as "measuring out" the event, as opposed to the verb entailing a particular kind of argument. A material-semiotic reading would posit that both interpretations are valid; an incremental theme is both created by, and co-creates, the process in which it participates.

However we conceptualise this relationship between a verb and its arguments, killing is not something that can be done incrementally. The killing is either accomplished or it is not; there is no partial killing of a being – at least, not according to the folk understandings of killing and dying with which we are concerned here. What *can* be done incrementally, however, is the diminishing or erasing of a group by means of killing its individual members. *Wipe out* is an example of this kind of process. Not only does it have the effect of erasing members' individuality by ontologising them as parts of a whole, rather than as singular and well-individuated entities, but it also makes their mass killing comparable with other, non-killing, processes of eradication. Whatever is *wiped out* is done so broadly and incrementally, and any individual acts of killing entailed in this process are not the focus of what is being described here.

Given that Pattern 1 is so broad and general, encompassing so many different kinds of entities and outcomes, one might ask what makes Patterns 2, 3 and 4 so special. Why are they, in contrast, so specific and fine-grained? Examples of these, taken from the BNC, are given in Table 7.17.

#	Excerpt	Corpus	Subcorpus/ Genre
7.56	*When I **wiped out**, it felt like going through a car-wash without a car.*	BNC	Leisure book
7.57	*Incorporation would not prevent the firm from being **wiped out**, only its owners.*	BNC	Commerce and finance periodical
7.58	*By the end of that month Charlie was almost **wiped out** and once again unable to pay the rent.*	BNC	Fiction book
7.59	*He's normally **wiped out** after nursery.*	BNC	Spoken conversation

Table 7.17: Corpus examples 7.56-7.59

Pattern 2, exemplified in 7.56, has the intransitive pattern, *HUMAN = Surfer* ***wipe out*** *[NO OBJ]*, and a very specific meaning: “to be capsized by a wave while surfing”. This is clearly a pattern in its own right.

Patterns 3 and 4, while related to the basic sense of destruction encoded in Pattern 1, have specific semantic types as their Patients (as opposed to general semantic types such as *GROUP* and *ENTITY*) and with them come specific entailments. When an *EVENTUALITY wipes out* an *INSTITUTION*, as in Pattern 3 (7.57), it does not necessarily mean that the *INSTITUTION* was completely removed or destroyed, but that it was severely financially damaged. This financial damage may well lead to the destruction of the *INSTITUTION* as a whole, but that is not the focus of this kind of *wiping out*. Again, we can check this by testing the verb sense on both Patient NPs in 7.57: *the firm* and *its* *owners*. Both entities must be affected in the same way, unless we are dealing with creative exploitations of language, which I find not to be the case here. Rather than both entities here being *wiped out* in the sense of being “removed or destroyed” (feasible for *the firm*, less so for *its owners*), it is more likely that they are being *wiped out* in the sense of being “bankrupted” (feasible for both). When an *EVENTUALITY wipes out* a *HUMAN* (not a *HUMAN GROUP*), it typically means one of two things: that the *HUMAN*, like the *INSTITUTION*, was made bankrupt (Pattern 3 again; see Example 7.58); or that the *HUMAN* became very tired as a result of the *EVENTUALITY* (Pattern 4; Example 7.59). Distinguishing between these two senses requires context. The cues here are *unable to pay the rent* in 7.58, which primes us for the financial sense of the verb, and *normally … after nursery* in 7.59, suggesting that it is a repeated, habitual event and that the referent is a toddler, rather than a financially responsible adult.

For these reasons, the decision to split *wipe out* along the pattern boundaries given in Table 7.15 is maintained to be a defensible one. To *wipe out* a group of humans or animals is morally very different from *wiping out* an abstract entity such as memories, but there is a semantic commonality between these two that is not found between the other patterns. Any ‘killing’ aspect is not made explicit by *wipe out*; instead, the emphasis is placed on the extent to which the Patient is incrementally affected. The reference to place and space, entailed in the *out* of *wipe out,* suggests that there is an emphasis on “removing” or “doing away with” that is intrinsic to this verb.

7.5 Destroy

Destroy is a similar case to *wipe out* in several ways. It has four patterns, according to the PDEV[65], and these are given in Table 7.18.

[65] http://pdev.org.uk/#browse?q=destroy;f=A;v=destroy

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	88.11	65.99	*ENTITY 1 | EVENTUALITY* **destroy** *ENTITY 2 | STATE OF AFFAIRS*	*ENTITY 1 | EVENTUALITY* damages *ENTITY 2 | STATE OF AFFAIRS* until it is completely ruined
2	7.37	0.51	*HUMAN 1 | HUMAN GROUP 1* **destroy** *HUMAN 2 | HUMAN GROUP*	*HUMAN 1 | HUMAN GROUP 1* utterly defeats *HUMAN 2 | HUMAN GROUP*
3	1.64	0.00	*ENTITY | EVENTUALITY* **destroy** *HUMAN*	*ENTITY | EVENTUALITY* ruins *HUMAN* emotionally or spiritually
4	2.87	33.50	*HUMAN* **destroy** *ANIMAL | FETUS*	*HUMAN* kills unwanted *ANIMAL | FETUS*

Table 7.18: The CPA-derived patterns and implicatures for *destroy*

In this instance, the most commonly occurring pattern is the same in both samples – Pattern 1 – while there is a notable difference in the distributions of Patterns 2, 3 and 4. Unsurprisingly, the patterns that are concerned with exclusively human affairs, Patterns 2 and 3, which relate to e.g. a defeat in sport (exemplified in 7.60, Table 7.19) or the emotional or spiritual damage suffered by a human (7.61), respectively, are far higher in frequency in the BNC sample. Pattern 4, on the other hand, which denotes the killing of animals by humans (exemplified in 7.62), is dramatically higher in the PPPP sample. Pattern 1, which could arguably be split into two to reflect the physical/abstract divide, is similar to Pattern 1 of *wipe out*. It includes a wide range of potential arguments, and any acts of killing entailed in the *destroying* are not foregrounded. There are, however, two clear groups of Patients for Pattern 1, henceforth *destroy*$_1$: on the one hand, physical, typically inanimate, objects such as buildings and artefacts; and on the other, abstract entities or states of affairs such as relationships, systems, and mental states. Examples of *destroy*$_1$ are given in Examples 7.63-7.68, Table 7.19.

#	Excerpt	Corpus	Subcorpus/ Genre
7.60	*He would genuinely **destroy** me. Like every tennis player, the racquet they choose is vital to performance.*	PPPP	Broadcast
7.61	*Leaving the children will **destroy** me.*	BNC	Fiction book
7.62	*HUNDREDS of dangerous dogs were seized by police and **destroyed** last year, it was revealed yesterday.*	PPPP	News
7.63	*But the belief that you open all the cages and **destroy** all the laboratories to stop all animal testing tomorrow is difficult.*	PPPP	Interviews
7.64	*The Deaf Institute in Bath was totally **destroyed**, and all records were lost.*	BNC	Social sciences book
7.65	*A moth which **destroys** the trees' leaves has spread across large areas.*	PPPP	News
7.66	*That really does **destroy** everyone's image of T-Rex wandering around and looking for dead animals.*	PPPP	Broadcast
7.67	*Everything he does he throws his heart and soul into it and it just completely **destroyed** his confidence.*	BNC	Arts book
7.68	*What **destroys** faith is the disobedience that hardens into unbelief.*	BNC	Religion book

Table 7.19: Corpus examples 7.60-7.68

In both samples – from the PPPP corpus and from the BNC – there is a tendency for the physical object being *destroyed*$_1$ to be a location or building of some kind. In the BNC data, 37% (n=56) of the physical objects *destroyed*$_1$ are locations, e.g. *country*, *church*, *laboratory*, *land*. One in five of these instances (n=11) describes the destruction of a home of some description, e.g. *homes*, *cottage*, *houses*, *habitat*. Similarly, in the PPPP sample, 31% (n=37) of the physical entities *destroyed*$_1$ are locations, e.g. *the world*, *the forest*, *China's natural environment*, with almost half (n=16) of these lines referring specifically to the destruction of homes, e.g. *nests*, *habitats*, *badger setts*, *homes*. When we consider the etymology of *destroy*, this makes more sense: *destroy* is derived from the Old French *destruire*, in turn from the Latin *destruere*, comprised of *de-* (denoting reversal) and *struere* 'build'[66]. To *destroy*, then, is fundamentally to 'unbuild'. This explains why, even in abstract cases such as (7.66-7.68, Table 7.19), the *destroyed$_1$* entity is essentially something that has previously been built, and is now being dismantled: *faith*, *confidence*, *everyone's image of T-Rex*. This also offers an explanation as to why the physical *destroyed$_1$* entities tend to be homes and other constructed locations.

The homes and other locations found in the KVD sample have a distinctly 'natural' flavour to them, which is perhaps to be expected, given the nature of the PPPP corpus. Examples of *destroy$_1$* instances from the PDEV (BNC) sample are given in 7.69-7.74 in Table 7.20, followed by *destroy$_1$* instances from the KVD (PPPP) sample (7.75-80) for comparison. Example 7.74, taken from the BNC sample, makes explicit reference to the *natural homes* of nonhuman animals, underlined, as opposed to the unmarked (unnatural?) *homes* of humans.

[66] https://www.oed.com/view/Entry/51103

#	Excerpt	Corpus	Subcorpus/ Genre
7.69	*In 1908, an earthquake almost completely* ***destroyed*** *Messina, Sicily.*	BNC	Social sciences periodical
7.70	*The earthquake* ***destroyed*** *homes, electricity supplies, telephone lines and roads.*	BNC	World affairs periodical
7.71	*'The landlords do that,' she said, and pointed to three small cottages that had been vacated and* ***destroyed*** *within the past 24 hours.*	BNC	World affairs book
7.72	*It was also in Edessa that the oldest known church was built, then* ***destroyed*** *in A.D. 201.*	BNC	Religion book
7.73	*The lounge is virtually* ***destroyed*** *and there's a lot of smoke damage.*	BNC	World affairs periodical
7.74	*After all, one does not promote the good of elephants and chimpanzees, for example, by* ***destroying*** *their natural homes.*	BNC	World affairs book
7.75	*While insensitive development could* ***destroy*** *China's natural environment, well managed eco-tourism could provide huge benefits for China's wildlife.*	PPPP	Broadcast
7.76	*thousands of badger setts were being* ***destroyed*** *and the animals were just disappearing from whole areas of the country*	PPPP	Interviews
7.77	*I know we're* ***destroying*** *the world and* ***destroying*** *habitats but we're actually conscious of that, aren't we*	PPPP	Focus group
7.78	*Almost half the world's primate species are under threat of extinction because they are being eaten or having their homes* ***destroyed*** *by Man.*	PPPP	News
7.79	*Rising temperatures could* ***destroy*** *much of the woodland, leaving wildlife and plants exposed.*	PPPP	News
7.80	*They blamed the birds and were all set to* ***destroy*** *their nests when the local government stepped in to protect them.*	PPPP	Broadcast

Table 7.20: Corpus examples 7.69-7.80

This raises a few questions. What makes something a 'natural' home? Is a bird's nest or badger sett truly 'natural'? Why are these not considered homes in the same sense as a human-built *cottage* or *house*? 'Natural' is defined by Oxford Dictionaries as "[e]xisting in or derived from nature; not made or caused by humankind"[67], which supports my own intuition about 'natural' locations, but also presents us with some problems. Does this mean that humans are not 'natural', a part of nature? These examples seem to suggest a perceived distance between humans and the rest of nature – as corroborated by the literature around human exceptionalism, discussed in Chapter 2 – with humans exerting a kind of destructive power over other animals and their habitats, which is rarely reciprocated in the data (n=1 in the KVD, an example in which houses are *destroyed* by elephants). Interestingly, another sense of 'natural', in the same entry by Oxford Dictionaries, is taken from Christian theology: "Relating to earthly human or physical nature as distinct from the spiritual or supernatural realm". From this perspective, then, 'natural' can refer to that which relates to a 'lower' being, in contrast with a 'higher' and more spiritual one (cf. the Great Chain of Being, Chapter 2).

This 'spiritual vs. natural' dichotomy is also evident in the patterning of *destroy*. To *destroy* a human, for example, as in Pattern 3, is not to physically attack them, but to cause a kind of emotional or spiritual harm. When the fictional character in 7.61 (Table 7.19) says, *leaving the children will destroy me*, it is not implied that they will be killed or that they will cease to exist, but that they will be extremely upset. Here we find a familiar asymmetry between humans and all other animals. When we say that an animal or a group of animals has been *destroyed*, it has nothing to do with their emotional states; rather, it refers to physical harm (resulting in their deaths). In Table 7.21 are some examples of *destroy*$_1$ in which animals feature as Patient.

[67] https://en.oxforddictionaries.com/definition/natural

#	Excerpt	Corpus	Subcorpus
7.81	*that will eventually lead to acid rain, darkness, cooling, altering vegetation,* ***destroying*** *animals that would need vegetation for support and eventually killing animals that would eat animals that ate vegetation.*	PPPP	Broadcast
7.82	*"To me," says Barclay, "just knowing there are thousands of organisms being* ***destroyed*** *and not attempting to document them is ridiculous.*	PPPP	News
7.83	*Did a meteorite really* ***destroy*** *the dinosaurs?*	PPPP	Broadcast
7.84	*The Specialist Anglers' Alliance (SAA) says that otters have* ***destroyed*** *entire populations of large fish in some fisheries and have devastated stocks in hundreds more.*	PPPP	News
7.85	*Thousands of polar bear cubs could be killed by a dramatic temperature rise in the Arctic, which is melting their dens and* ***destroying*** *their food, environmentalists warn today.*	PPPP	News
7.86	*In particular, the Scottish Ministers may-- (a) cause to be* ***destroyed*** *any semen, egg or embryo which has not been* ***destroyed*** *as required under section 36P*	PPPP	Legislation
7.87	*they can't drink oil or eat money, because everything will be* ***destroyed*** *the animals, the plants, the water, the land*	PPPP	Broadcast
7.88	*a district salmon fishery board may, with the consent of all the proprietors of salmon fisheries in any river or estuary, adopt such means as they think fit for preventing the ingress of salmon into narrow streams in which they or the spawning beds are from the nature of the channel liable to be* ***destroyed****.*	PPPP	Legislation
7.89	*It's not continue on and then put the blame on the wildlife and* ***destroy*** *the wildlife as a result.*	PPPP	Interviews

Table 7.21: Corpus examples 7.81-7.89

In all of the examples in Table 7.21, the event being described is one in which animals are killed. In 7.85, for instance, *food* undoubtedly refers to animals such as seals. One might look at the list of available patterns for *destroy* and decide, then, that these examples belong with Pattern 4. Pattern 4, or *destroy*$_4$*,* refers not to the attacking or damaging of an inanimate object, such as a house, or the blow dealt to an abstract entity, such as one's confidence or marriage (*destroy*$_1$), nor does it refer to the defeating of a human group nor the emotional ruining of a human (*destroy*$_2$ *and destroy*$_3$, respectively), but to the killing of certain animals by humans. This is fundamentally different from Patterns 1, 2 and 3 in that the destroyee is not an incremental theme of the kind discussed in Section 7.4.2; that is, the destroying does not progress incrementally. There can be no partial *destroying* of an animal in this sense; the animal is either alive or dead. We will not find any qualifiers for *destroy$_4$*; an animal cannot be **totally destroyed$_4$* or **completely destroyed$_4$* or **partially destroyed$_4$*, as is the case for incremental themes such as *The Deaf Institute in Bath* (7.64) and *his confidence* (7.67), both Patients of *destroy$_1$*. *Destroying$_4$* is typically carried out by humans on dogs and horses, but is also extended to other pets, farmed animals, and indeed any animal deemed to be dangerous or unwanted. Interestingly – from the perspective of the personhood ethics discussed in Chapter 2 – it is also used to refer to the killing of human foetuses. There are two main reasons why the examples in Table 7.21 belong to Pattern 1 and not to Pattern 4, as argued below. Typical examples of *destroy$_4$* are given in Table 7.22, for reference.

#	Excerpt	Corpus	Subcorpus/ Genre
7.90	*It is estimated that as many as three quarters of a million adored pets were* ***destroyed*** *in the first week of the war.*	PPPP	News
7.91	*Wherever George could, he gave sanctuary to animals that were about to be* ***destroyed*** *or locked away in tiny enclosures.*	PPPP	News
7.92	*accordingly, the person detaining the horse may dispose of it by selling it, arranging for it to be* ***destroyed*** *or in any other way.*	PPPP	Legislation
7.93	*The Scottish Ministers must pay compensation, of such amount as they may prescribe by order, in respect of-- (a) any livestock slaughtered, or other thing* ***destroyed****, in accordance with a restriction notice*	PPPP	Legislation
7.94	*Animals thought to have had contact with the disease will be* ***destroyed*** *and farmers compensated at the full market price.*	PPPP	News
7.95	*He had been called in to* ***destroy*** *the sick cow as a favour for a friend.*	PPPP	News
7.96	*A RUNAWAY cow which swam two miles down a river may be* ***destroyed*** *for moving without a licence in Canewdon, Essex.*	PPPP	News
7.97	*all the people that were prepared to vaccinate suddenly changed their mind so we* ***destroyed*** *five million plus cows and sheep, spent four, five billion pounds on the overall cost of compensation to farmers and then the cost of the shut-down of countryside in 2001*	PPPP	Interview
7.98	*Ex-defence minister Kevan Jones spoke out after charities condemned the decision to* ***destroy*** *Brus, a Belgian Shepherd, and Blade, a German Shepherd.*	PPPP	News
7.99	*A dog that mauled a schoolgirl is to be* ***destroyed*** *on the orders of a sheriff.*	PPPP	News
7.100	*they can make any order they feel appropriate to require the owner to ensure that the dog is kept under proper control, or in extreme cases* ***destroyed****.*	PPPP	Campaign literature
7.101	*Mum Sarah Hall, 27, of Leeds, said: "I can't believe this dog has nearly killed my son and hasn't been* ***destroyed****."*	PPPP	News
7.102	*Each year we care for around 16,000 dogs at our nationwide network of 20 Rehoming Centres. No healthy dog is ever* ***destroyed****.*	PPPP	Campaign literature
7.103	*If it comes to it, hundreds of foxhounds may have to be* ***destroyed****; surly pack animals, they make very bad pets.*	PPPP	News
7.104	*One dog therapist said Florence will have to be* ***destroyed*** *if she fails to respond.*	PPPP	News
7.105	*A THOROUGHBRED horse may have to be* ***destroyed*** *after breaking his leg when "spooked" by children on micro scooters.*	PPPP	News
7.106	*the court shall order that, unless the dog is exempted from that prohibition within the requisite period, the dog shall be* ***destroyed****.*	PPPP	Legislation
7.107	*Consequently the Deer Removal Act of 1851 ordered them to be* ***destroyed*** *in the New Forest also.*	BNC	World affairs book
7.108	*At the present stage of scientific development, it is surely sad that a healthy human fetus should be* ***destroyed*** *merely because it is not of the sex the mother prefers.*	BNC	Social sciences book
7.109	*In other words, almost 90% of this proposed reduction in the true incidence of congenital abnormality at birth is to be achieved by* ***destroying*** *affected fetuses through selective, prenatal, non-voluntary euthanasia.*	BNC	Medical periodical

Table 7.22: Corpus examples 7.90-7.109

The first reason for not classifying the examples in Table 7.21 as *destroy*$_4$ is that, based on prototypical examples, demonstrated in Table 7.22, there are certain necessary conditions for *destroying* in the strict sense of killing. First, the Agent should be a human. Second, the Patient should be a nonhuman animal or a human foetus. Third, there should be a procedural, intentional or official context to the destroying. Animals and foetuses are not *destroyed*$_4$ by accident, as can happen in Patterns 1, 2 and 3, and they are typically *destroyed*$_4$ on the orders of someone; *destroying*$_4$ comes about through a decision, or number of decisions. Hence, it is common to find *destroy*$_4$ constructions such as “may have to be destroyed”, “will have to be destroyed”, “shall be destroyed”, “should be destroyed”, “ordered to be destroyed”, “is to be destroyed” and “the decision to destroy”. Given these criteria, Examples 7.81.-85 in Table 7.21 do not fit *destroy*$_4$, as although they denote the killing of animals, they do not meet the other necessary conditions.

Secondly, in instances where a predicator takes as an argument a coordinated noun phrase, such as “cows and sheep” (similar to the *kelp* and *biodiversity* example in the case of *wipe out*), we must assume that the relationship between the verb and each of these nouns or noun phrases is the same, unless we are dealing with creativity and wordplay (Hanks, 2013: 72). In the case of *destroy* taking the object argument of *the animals, the plants, the water, the land* (7.87), the verb sense must therefore be one which is applicable to all four of these entities, and the hypernym of these co-hyponyms is taken as the candidate for the semantic type: in this case, *PHYSICAL OBJECT*. The same goes for *they [salmon] or the spawning beds* in 7.88. If spawning beds cannot be killed, then it is unreasonable to assume that the verb sense activated here is *destroy*$_4$; instead, it is more reasonable to conclude that the salmon are treated here as things rather than as beings, and that the sense being activated is not that of *destroy*$_4$ but *destroy*$_1$. Example 7.89 refers to the *destroying* of *wildlife*, which typically refers to both animals and plants. This example is more contentious as both animals and plants can be killed, but since plants are not prototypical objects of *destroy*$_4$, in the sense that they are not animal-like nor foetus-like, and are not typically ordered to be killed in an official, procedural way, it is difficult to justify the classification of this instance as *destroy*$_4$. It might be that, in this case, the speaker uses “wildlife” to refer solely to animals; this is an example of a vague reference which makes precise textual analysis quite difficult.

Example 7.86, taken from a legislative document, and which refers to the destroying of *any semen, egg or embryo*, is a particularly fuzzy case. As with *the animals, the plants, the water, the land*, this argument moves along a gradual cline of animacy, though in this case from least animate to most animate. Semen is, strictly speaking, not animate, although to destroy semen is to kill the spermatozoa it contains, which *are* animate. Similarly, an egg is not necessarily animate, though it might house a developing foetus. An embryo is arguably more animate than both of these. However, in order to be able to safely classify an instance as a particular pattern, its components should satisfy the basic criteria implied by prototypical cases, and since these entities are not all animate per se, and therefore it does not necessarily refer to killing for all components of the argument, I am inclined to classify this as Pattern 1, and not Pattern 4. Some additional evidence is provided by the co-hyponymy of "eggs" and "nests" in another legislative instance of *destroy*, and by the fact that eggs are incremental themes; they can be both partially and entirely destroyed. Eggs – incidentally – were recurrent Patients of *destroy* in the KVD (n=10). Perhaps eggs typify the kind of precious, "built" entity that needs protecting: a "house" for a developing foetus, the destruction of which is worth foregrounding.

7.6 Assassinate

At this point it seems fitting to introduce *assassinate*, the verb whose absence has been consistent throughout the analyses thus far. Given that *assassinate* does not feature at all in the PPPP corpus, nor, as a consequence, in the KVD, its data in terms of frequencies and features cannot be compared with those of the other 'killing' terms in this study. Hence, it has been excluded from all Referential Distance and grammatical voice comparisons (Chapter 5), the tracing of verb senses across Contexts and domains (Chapter 6), and the analysis of number and (de)individuation devices laid out in this chapter. Here, I examine the behaviour of *assassinate* in the BNC alone, and briefly discuss its implications for animals and their recognition as individuals. Table 7.23 presents the pattern listed for *assassinate* in the PDEV.

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	100	0.00	*HUMAN 1* ***assassinate*** *HUMAN 2 = Leader*	*HUMAN 1* kills *HUMAN 2 = Leader* for political reasons

Table 7.23 The pattern and implicature from the PDEV entry for *assassinate*

Asssassinate is derived from the Medieval Latin *assassinare*, from *assassinus* 'assassin', in turn from the Arabic *ḥašīšī* 'hashish-eater'[68]. The hashish users in question were a 12th-century "fanatical Muslim sect in the mountains of Lebanon", who "had a reputation for murdering opposing leaders after intoxicating themselves by eating hashish"[69]. As can be seen from the PDEV entry in Table 7.23, there is only one recorded pattern for *assassinate*, and it specifies a human leader as the object argument, citing political reasons in the implicature.

The hashish-eating may now be obsolete, but still present in *assassinate* is a sense of planning and preparation for a specific goal or mission. In 38 of the 226 lines for *assassinate* in the BNC, there is an explicit mention of a *plan* or *plot*, exemplified in Fig. 7.2, and in 33 lines an explicit mention of an *attempt* or *trying*, exemplified in Fig. 7.3. Assassination is presented as a kind of daring, dastardly feat.

Affairs Jeffrey Davidow, claiming that the government planned to	assassinate	him. A member of the government delegation described this claim a
cording to the report the SSPV, led by Nguyen Kiet, had planned to	assassinate	a number of high-ranking officials and set off bombs near Ho Chi Mi
ee pp. 38215; 38456]. He said that Nahda activists had planned to	assassinate	Ben Ali and a number of key ministers. In a Sept. 30 statement from
d Berdyaev but rejected their Christian ideas. She joined a plot to	assassinate	Trotsky and had to flee to France. In exile she expected their first c
r had to be removed from office and he became party to a plot to	assassinate	the country's Führer. But the plot was discovered, and Bonhoeffer w
every bedroom…'). There was even supposed to be a plot to	assassinate	Gromyko by ramming a beer truck into his motorcade (and a meat t
phouët-Boigny revealed details of what he said had been a plot to	assassinate	Pope John Paul II during his visit to consecrate the basilica of Our La
congressional hearing on Oct. 8 that he was investigating a plot to	assassinate	himself, the President, US ambassador Robert S. Gelbard, and three
nterior had announced on June 11 that it had discovered a plot to	assassinate	Chamorro, Lacayo and the Army C.-in-C., Gen. Humberto Ortega Sa
NITA leadership. Both men were accused of being part of a plot to	assassinate	UNITA leader Jonas Savimbi. On March 31 it was reported t
n connection with what the authorities claimed had been a plot to	assassinate	President Zine al-Abidine Ben Ali by shooting down his plane, as par
ere made to help James II recapture his Crown, including a plot to	assassinate	William III in 1696, and in 1715 there was a rebellion in Scotland an
, briefed the cabinet and senators yesterday on an alleged plot to	assassinate	Mrs Aquino, which came to light in February. She has survived five c
e's denunciation of the State Department and of an alleged plot to	assassinate	General Brown. Rhee was encouraged by certain people in Washingt
his life, orchestrated by some of his military advisers. That plot to	assassinate	Hitler by a bomb, on 20th. July 1944, failed although he was injure
e elements in MI6 dream up hare-brained schemes like the plot to	assassinate	President Nasser of Egypt, or sending midget submarines into the Ru
to President Nixon's resignation, and the revelation of CIA plots to	assassinate	foreign leaders culminated in 1975-6 with unprecedentedly thoroug
Students held secret meetings and there were rumours of plots to	assassinate	Mussolini, but these always failed, and It was said that those involve
by Africa's 18 poorest countries. More right-wing plots to	assassinate	leaders of the African National Congress, including Joe Slovo and W
half cold-shouldered by the new courtiers. Richart, who plotted to	assassinate	the king in a brothel, was a liberal army paymaster who was passed
n prison on July 16, after serving 30 years for allegedly plotting to	assassinate	Castro. He maintained his innocence and claimed he had been willi
r. His older brother was a populist executed in 1887 for plotting to	assassinate	the Tsar, and as a teenager Lenin was drawn into the revolutionary
20 UNITA forces, claiming that MPLA-PT members were plotting to	assassinate	Savimbi, seized 11 anti-riot police officers, burned three cars and t

Fig. 7.2 Example concordance lines of *plot* to assassinate* from the BNC

[68] https://www.oxfordreference.com/view/10.1093/oi/authority.20110803095429444

[69] https://www.etymonline.com/search?q=assassin

d suicide shortly after leading an attempt in August 1972 to	assassinate	King Hassan by shooting down the royal jet [see pp. 25485
N who were opposed to negotiations. An alleged attempt to	assassinate	President Gaviria was foiled. Demonstrations aga
, frolic, and magnificent display -- apart from an attempt to	assassinate	the Tsar, who at the time was seated beside the Emperor i
s only rarely revived today. The plot concerns an attempt to	assassinate	the Roman Emperor Titus: it is foiled, but the magnanimo
n motivated by political ambition in planning an attempt to	assassinate	PNDC chairman Flt. -Lt. Jerry Rawlings. No indication was
om a hunting rifle in what police claimed was an attempt to	assassinate	Gorbachev. Early reports played down the seriousness of t
d of the bombing of a Sydney hotel in 1978 in an attempt to	assassinate	the then Indian Prime Minister, Morarji Desai, during a Co
ng that Aref had been the financial backer of an attempt to	assassinate	political and military leaders; if the plan had succeeded,
period. There were many other examples: (a) an attempt to	assassinate	future Iraqi Foreign Minister Tareq Aziz in Baghdad; (b) Ira
it before I even signed.' A year later a dramatic attempt to	assassinate	him left a smoke-trail leading back to Mr Hussein. In 1973
ne a conspiracy whereby happenings such as the attempt to	assassinate	William Black was carried out under 2 Conservative gover
, stood high in the public opinion polls after the attempt to	assassinate	him at the end of March. He and his staff had also been b
residential motorcade had been an unsuccessful attempt to	assassinate	President Carlos Andrés Pérez on Oct. 12 in the western b
omous republic (ASSR) in south-west Georgia, attempted to	assassinate	the acting President, Aslan Abashidze, and was himself sh
d on May 7 that Dieter Kaufmann, 37, who had attempted to	assassinate	Interior Minister Wolfgang Schäuble in October 1990 [see
eccentric a character as D. V. Karakozov, who attempted to	assassinate	Alexander II in 1866, had gained direct experience while s
. It would take a great deal more than flagrant attempts to	assassinate	people in Western capitals and the hardly less obvious esp
the monarchy came from the all too numerous attempts to	assassinate	Louis-Philippe. The general opinion was that the court wa

Fig. 7.3 Example concordance lines of *attempt* to assassinate* from the BNC

Another notable feature of *assassinate* is a tendency to specify time and place, e.g. *on Christmas Eve 1942*; *in Memphis on April 4, 1968*; *in Nairobi in 1969*; *in Jerusalem in July 1951*. An *assassination* is an event in the truest sense: something shocking and memorable, a rupture in the usual flow of goings on. The person *assassinated* is not simply a human, but an important one – typically a political leader, as specified in the PDEV entry – whose murder marks a significant historical event.

Assassinate, unlike the other verbs discussed in this chapter, is a term of individuation: 88% of all *assassinate* Patients in the BNC sample are singular individuals. Although there are mentions of multiple people being *assassinated* at once (e.g. *his opponents abroad*; *the Archduke Franz Ferdinand and his wife*), humans are not *assassinated* in groups or as mass entities; they are encoded as countable, plural individuals. Three exceptions were found in the sample: two figurative examples (*the enormous national faith*, *the Conservative Party*) and one case in which a group of left-wing politicians (*the entire FMLN leadership*) was threatened with assassination by a right-wing death squad in the Salvadoran Civil War. This is an anomalous case of *assassinate* being applied to a collective noun.

Assassinate has a highly specific meaning, hence having only one CPA pattern. It is also highly exclusive; not just anyone is *assassinated*. The political dimension of *assassinate* explains why the division between those who are and are not *assassinated* is not drawn along species lines, given that not all humans may be *assassinated*, but along sociopolitical lines. It also explains why animals are never *assassinated*, hence the absence of *assassinate* in the PPPP corpus. To be *assassinated*, one must be considered an opponent, someone who constitutes a (political) threat. Since animals are not considered to hold political power – they are legal objects, in most cases with the status of 'product' – they do not qualify as candidates for *assassination*. To *assassinate*, one must be capable of acting with political intent, which means that animals are also considered incapable of *assassinating* others.

7.7 Conclusion

This chapter has investigated (de)individuating 'killing' terms using CPA, and has identified some common features of animal-killing discourse. Animals, unlike humans, featured in the KVD as predominantly plural, and sometimes even as mass, entities. For verbs that can be applied to both humans and animals, such as *wipe out*, *exterminate* and *destroy*, the human-only patterns were found to be more specific when representative of killing (e.g. Pattern 2 of *exterminate*), and more abstract in nature when not (e.g. Pattern 3 of *destroy*). Humans dominate the KVD, despite the animal-orientated sampling criteria and the animal theme of the corpus from which it is derived. Humans also feature, the vast majority of the time, as Agent, while the opposite is true for animal actants. There was a consistent inconsistency among *HUMAN* and *ANIMAL* Patients, sometimes experienced as an asymmetry, and other times as zones of exclusion. Humans and animals were rarely found to coexist in the same patterns; an exception is Pattern 1 of *wipe out*, which objectified its Patients indiscriminately. *Assassinate* was the most exclusionary 'killing' term of all; not only are animals excluded from *assassination*, but so are many humans.

Animals were presented as (de)individuated and (un)killable through a number of means. *Wipe out* and *exterminate* express their Patients in terms of groups, homogenising their members and suppressing their individuality. *Wipe out* was an explicitly quantifiable process, construing its Patients as incremental themes. As we know, killing cannot be done incrementally; incremental themes are *unkillable*. In the case of *harvest*, animals were ontologised as 'stuff', either directly through lexical choices (e.g. *protein productivity*, *additional growth*), or by being grouped with inanimate or abstract entities which by definition cannot be killed, only damaged or destroyed. With *cull*, animals were simultaneously construed as passive ‘features’ to be ‘curated’, and as troublesome actors causing an undesired effect, the killing of whom is justified.

In the case of *destroy*, the animal-killing sense was encoded in a separate pattern from the rest, and this pattern was reserved for animals and (human) foetuses. As discussed in Chapter 2, both of these are examples of animate beings who *almost* qualify for personhood, but not quite. It is perhaps of relevance that the animals *destroyed*, in the ‘killing’ sense, tend to be dogs, horses and other animals who feature heavily in humans’ lives. However, the boundaries between the ‘killing’ and ‘non-killing’ patterns became blurred when animals featured alongside less animate entities, such as incremental themes, in the same argument slot (e.g. *the animals, the plants, the water, the land*). At first glance, these examples did not look particularly irregular, but the exercise of sorting concordance lines into patterns shone a light on their anomalies. Such subtleties would have been significantly more difficult to detect without the use of a precise, pattern-demarcating technique such as CPA.

The use of CPA in this analysis provided empirical evidence for the taken-for-granted notion that humans and animals are treated differently in language, and that animals are ontologised as things rather than persons. It is now possible to say, with confidence: that animals may be fatally *destroyed*, while humans are not; that *destroy* can in fact construe animals as both animate and inanimate, making them both killable *and* unkillable; that *exterminate*, applied to humans and animals, does not have the same meaning; that *wipe out* coerces its Patients into a state of incremental themehood, while *harvest* coerces its Patients into the role of passive ‘stuff’; and that *cull*, like other ‘killing’ verbs, has an ambiguity of meaning even after close textual analysis. *Assassinate*, with just one pattern, does not accommodate the kinds of ambiguity and boundary-blurring that is seen in verbs with multiple patterns. CPA therefore has the potential to empower the critical discourse analyst to say not only *what* is happening in the data for a given term, having surveyed it all and condensed it into a manageable entry, but also *how* it is happening. Seeing patterns side-by-side and being able to compare their similarities and differences makes it far easier to decide – and demonstrate – whether a ‘killing’ verb entails death, or whether it entails destruction.

8 Discussion and Conclusions

8.1 Introduction

This project has sought to shed light on human-animal relations by way of a CPA-assisted discourse analysis of 'killing' verbs. Specifically, it set out to answer the overarching research question,

> **RQ1**. What can a discourse analysis assisted by Corpus Pattern Analysis (CPA) reveal about the 'killing' verbs selected in relation to the key themes identified in the literature?

Entailed in this question are a number of assumptions, e.g. that an analysis of verbs is an appropriate method of research; that CPA will have an effect on the outcome of a discourse analysis; and that this is a subject worthy of our attention. The first half of the thesis provides extensive justification for these assumptions, as well as identifying the key themes to which RQ1 refers, notably: distance, concealment, space, visibility, assemblage and event. Expanding on RQ1 are three more questions:

> **RQ2**. How is the involvement in acts of killing, of humans and nonhumans respectively, typically represented in the extracts of discourse analysed?
>
> > **RQ2a.** Are these representations stable across the different discourse domains represented in the corpus?
>
> **RQ3**. What does CPA contribute to the task of discourse analysis?

In this final chapter I summarise and evaluate the findings of this project with reference to the literature and my original research aims. In the following sections, 8.2 and 8.3, I outline both the substantive and the methodological significance of the key findings in the project. Section 8.4 draws on these findings to provide succinct answers to the Research Questions. Sections 8.5 and 8.6 deal with the limitations and implications of the study, respectively, and Section 8.7 concludes the chapter with some recommendations for future research.

8.2 Substantive Findings

8.2.1 Distance

Distance and concealment were repeatedly cited in the literature as key instruments in the widespread oppression of animals by humans. Pachirat (2011) introduces the notion of a politics of sight, which I propose as a potential fourth prong for Nibert's (2002) Theory of Oppression, introduced in Chapter 2. For Pachirat, a politics of sight represents a positive intervention in the ongoing, nefarious occlusion of animal-killing practices. In this thesis, it featured more generally as a critical lens through which to consider (the visibility of) human-animal relations. Distance was found to manifest in quite obvious, tangible ways: during analysis, the identity of the killer was often quite literally out of sight and I would find myself expanding the context of the concordance wider and wider, eventually giving up and going direct to the source file. This was especially true for verbs like *sacrifice* and *slaughter*, which had high incidence of passive voice, and it was a common problem with the journal article texts, whose vague, obfuscating language was at odds with their precise, technical content. Slaughterers and researchers were almost never explicitly mentioned.

In some cases, distance was created through euphemism. Verbs like *dispatch*, *put down* and *put to sleep* helped to create a semantic distance in terms of the process itself; they don't *sound* like obvious acts of killing. Semantic distance was also experienced with verbs that have more than one sense, and for which the alternative, non-killing senses provide a convenient ambiguity – somewhere for the killing to hide. These were terms like *destroy*, *wipe out* and *cull*. CPA proved to be an excellent method for pinning down the troublesome cases that seem to straddle two senses, which at first glance do not appear unusual or suspicious, but on close inspection are found to be straying beyond their presumed semantic place. Sometimes, the ambiguity was not caused by separate patterns and senses, but by vagueness inherent in the verb itself. *Butcher*, for example, can refer to both the killing of someone and the carving up of their dead body, and a distinction between the two is evidently presumed unnecessary where animals are concerned. Even in cases like *put down* and *put to sleep*, reserved for the most beloved animals in society, the lexicographical entry betrays a vagueness of means and motive. The killing of an animal due to their being old or infirm is exposed, by the lexicographical entry, to be no different from the killing of an animal simply because they are unwanted by a human (see the *put down* and *put to sleep* entries in Appendix D).

Euphemistic verbs not only conceal the nature of the act, but they can also have the effect of coercing arguments into having a different semantic value. *Harvest*, for instance, coerces the Patient into taking on the quality of stuff. *Cull* imbues its arguments with a sense of collection and curation. *Sacrifice* designates its Patients with the role of tool or token, something to be used in the name of a higher cause. *Wipe out* and *exterminate* have the effect of imposing a status of *GROUP* on their Patients, and while members of a group may be killed, a group may not. *Destroy*, while it has very distinct patterns in comparison with *exterminate* and *wipe out*, for example, construes the destroyee as an inanimate entity to be damaged rather than harmed. While these observations may sound obvious and self-explanatory, the evidence provided by CPA demonstrated that they are neither. The mechanisms through which animals were rendered non-animal, or killing was rendered non-killing, were not necessarily straightforward and required close, critical examination in order to be identified.

In all of these cases, it seems there is an attempt either to obscure the act of killing itself, e.g. by creating ambiguity around the fatality of the verb, or to present the Patient as inanimate or non-living and therefore unkillable (see Section 8.2.4).

8.2.2 Culpability

Intertwined with issues of distance are questions of culpability. While it is difficult to state with confidence the precise reasons why a writer or speaker chooses to use certain language, one can comment on the effects these choices have. Uses of metonymy, for example, help to place distance between an actor and an act. When killing is carried out by an *INSTITUTION*, such as *the government*, or a *LOCATION*, such as a *zoo*, the human element of culpability is significantly backgrounded. A similar effect is created when animals are killed *by [method]*, e.g. *sacrificed by asphyxiation*. This was especially common in journal article texts, which avoid specific mentions of researcher culpability.

Culpability was also managed through expressions of justification. *Cull*, for instance, was found to have explicit justificatory language in around half of all instances; culling was presented as something that *needs* to be done. If something is necessary or unavoidable, then the culpability of the Agent is significantly diminished. The use of modal verbs and causative constructions in *put down* and *put to sleep*, e.g. *had to have him put down*, presented the act of killing as simultaneously unavoidable and distant from the speaker.

In 83% of all instances in the KVD, the Agent was inferred to belong to the semantic type *HUMAN*, but in three-quarters of these cases, it took a concerted effort (or specialised knowledge) to be able to reach that conclusion. The use of truncated passive constructions was instrumental in the backgrounding and suppressing of Agents. Given the results of original investigations into referential distance by Givón and colleagues (1983), which found human participants to be strongly associated with agency, topicality (both in terms of frequency and persistence) and low ambiguity (interference from potential candidate references), it was somewhat surprising to observe the relative absence of the human Agent of killing. The proportions of high, medium and low ARD, illustrated in Fig. 5.1 in Chapter 5, was especially striking, demonstrating that human Agents were far more likely than not to have a high ARD.

Whether this is an issue of the ontological status of the Agent, or the ontological nature of the process, is difficult to say. It is interesting to note that the verbs shortlisted for case studies in Chapter 7, based on their tendency to feature deindividuated Patients, also had some of the lowest PRD scores in the analysis in Chapter 5. One might argue that these verbs – *destroy*, *wipe out*, *cull*, *harvest* – also have strong non-killing components which will therefore entail inanimate Patients, and as such it could be either the non-killing nature of the verb sense or the inanimate nature of the Patient that brings the average PRD down, given that culpability is presumably not such an issue in these instances. However, *exterminate* has the lowest average PRD score, and all instances in its (admittedly very small) sample denote killing; it has no non-killing senses. It may be, then, that how the Patient is individuated (e.g. as mass, as a group) has a greater influence over PRD than the nature of the process itself. It might be that perceived morality and culpability are simply not a factor in PRD results. This is something that will require an in-depth study involving a range of participants and process types.

8.2.3 (In)stability

An animal in a new place is a different animal, or so suggests the literature. Similar claims have been made about words and word meaning. In Chapter 6, killing and meaning events were tracked across spaces and (con)texts to see how they might change with their environment. It was observed that animals – like all event participants – really are construed differently in different environments and under different circumstances. The 'bubbles' in Fig. 6.3 representing the convergence of different actants could be seen clustering, expanding, and spreading out in different 'zones'. Lines of Agency and Patienthood demonstrated parallels to be drawn between different kinds of entities: in a lab, *ANIMAL* becomes synonymous with *STUFF*; in 'the wild', animals play a number of roles, from free-living agent to natural feature. There were, however, elements of stability. Dogs, for instance, retained some of their 'pet' connotations even in a lab: they were never *slaughtered* or *harvested*, only *euthanised* or, in one text, *sacrificed*. Whether animals constitute products in themselves (in the Context of 'animal industries') or whether they pose a potential threat to a product, such as a plant crop (in the 'farming' Context), their lives were consistently found to be subordinated to the pursuit of profit. In every Context, even in the 'wild', humans are represented as maintaining a position of dominance over other animals.

Words, too, displayed elements of (in)stability. Most of the 'killing' terms in the study could be found in most of the text types in the KVD, but only in certain forms. When presented as their individual verb patterns established using CPA, they were found to drop in and out of sight. The same could be said for semantic types and lexical sets; while the same verb pattern might appear with the same semantic type from one domain to the next, closer analysis showed – as one might expect from Hanks and Jezek's (2008) comparisons of verbs – that members of the lexical sets associated with those semantic types also dropped in and out, or "shimmered", across text types, or text-spaces.

These findings raise complex questions around place, space, causality and structure. Consistent with the material-semiotic view that events are brought into being not by an atomistic subject or agent but by "a convergence of multiple interacting influences" (Elder-Vass, 2015: 101), the findings in this project suggest that there is no one, main driving factor in the outcome of an event, even in one as violent and deliberate as an intentional act of killing. Meaning, as argued by Hanks, is no exception, and is to be considered an event rather than an entity. While I might talk about verbs "coercing" semantic types, in the Pustejovskyan (2005) sense, this is really a shorthand for the process in which a verb and its associated arguments form an unstable alliance – an *exploitation* – that results in a change to the argument *and a change to the verb*. A *norm* would appear to be a more stable assemblage, an event that goes largely unnoticed given that it does not interrupt the status quo, the usual flow of goings on (cf. Žižek, 2015).

8.2.4 Killability

In Chapter 2, I presented a review of the literature surrounding the ethics of killing, taking into account historical factors that continue to play a role in contemporary debates. The wrongness of killing was found to be generally dependent on whether or not the victim is considered to be a person, and personhood was shown to be a highly inconsistent concept rooted in anthropocentric ideals of worth. The model of a person is essentially a (normal, adult) human, based on their possession of human-like qualities such as agency, intentionality, autonomy and self-awareness, and their capacity to do such human-like things as telling stories and making long-term plans. To be killable, then, is to be deficient in human-like traits and capacities such as these. Killability can be understood – like personhood, and the wrongness of killing – as a matter of degree, meaning that some entities will be held to be more killable than others.

In recognition of this, critical discourse analysts, as discussed in Chapter 3, have identified a number of ways in which killability is discursively constructed and the role that such language has played in facilitating and legitimising violent atrocities. In some cases, humans are dehumanised by way of comparisons with animals, such as insects, which has the effect of rendering the victim *less* person-like, and therefore *more* killable. In other cases, analogies are made that liken the victim to an inanimate object, thus creating "a discourse in which killing [is] no longer killing" (Lifton, 2000: 460). The analysis presented in Chapter 7 provided several examples of such non-killing discourse: *destroy* and *wipe out* entail incremental themehood; *cull* and *harvest* construe Patients as aesthetic features and passive foodstuff, respectively; and *exterminate* and *wipe out* reframe acts of killing as acts of removal. Euphemistic verbs such as these were found to be dangerous not because they present their Patients as *more* killable, but because they present them as *unkillable*. If a Patient is unkillable, no killing can take place. Killability and unkillability, then, are two sides of the same coin. One denies the Patient their moral value, and the other relieves the Agent of culpability. In both cases, the result is that any sense of immorality is downplayed, or even removed.

8.3 Methodological Findings

8.3.1 CPA: Rigid, robust, reflexive

CPA is a technique, but it is also a kind of framework, and as such it will necessarily have rigidity in places. In most situations, however, this is experienced as a robustness. Natural language is messy and unpredictable, and the simplicity of CPA helps to bring clarity to what appears very complicated. Human-animal relations are, it turns out, quite complicated.

Unlike many semantic frameworks, which provide a list of fine-grained, predefined labels from which the analyst must choose, at the core of CPA are not labels but types. CPA specifies a set structure for lexicographic entries, which includes (often optional) SPOCA clause constituent slots, but the entry template is constructed in such a way that any language construction, from a phrasal verb to an idiom, can be recorded and then compared with others. The slots are almost always occupied by a node from the CPA Ontology, which *is* predefined, but the analyst is free to adapt this or construct their own Ontology, as I did, based on the corpus being used. CPA is effectively a principled process of tagging and sorting based on observable similarities and differences in the data; labels are open to debate. With that said, the hierarchical Ontology, although shallow, is a source of rigidity that goes against the principles of a material-semiotic, flattened Ontology. Arguments in defence of hierarchical Ontologies were included in Chapter 4.

While CPA is in a way quite rigid and structured, it also involves – as expressed by Hanks – "a great deal of lexicographic art" (Hanks, 2004: 88). Identifying a pattern and deciding on the appropriate level of generalisation is not always an intuitive process and takes some practice. This will be easier for those with a background in lexicography or other disciplines that involve sorting and categorising, e.g. botany. Most newcomers to lexicography – myself included – are at first prone to taking too fine-grained an approach; they tend to be 'splitters' rather than 'lumpers'. CPA is not an automated approach, and although it is reassuringly simple and robust in its concept, it also requires some practice and careful considerations on the part of the analyst.

Doing CPA means constantly asking questions. Does this line belong with this pattern, or with this one? Should I lump these patterns together? Should I split this pattern into two? Why (not)? What does the data *actually* say? This practice of constantly questioning, checking, comparing and weighing up is what makes CPA a thorough and data-committed method. In the case of this project, it was in engaging with the Ontology that such questioning proved the most illuminating. Inherent biases in the Ontologies – both the CPA Ontology (CPAO) as well as in the PPPP Killing Ontology (PKO) – became clearer the more questions I asked. Why should this type of animal be given this level of specificity, but not this one? Am I unfairly conflating all *PLANT* entities? What about *FISH*? Engaging critically with the Ontology forced me to reflect on my own biases and how these might manifest in the analysis. The process of selecting an appropriate semantic type from the Ontology was also instrumental in identifying anomalous examples in the data that, at first glance, appeared quite normal.

8.3.2 Challenges and rewards

Maintaining a principled approach to the data, which seemed to shift with my outlook, was at times very difficult. In the early stages of the project, I was plagued by doubts about my own judgement. Was I analysing the surface language – the words – or was I analysing the material event being described in those words? I often felt that I was not satisfactorily describing either of these, but rather the ‘space in-between’. On learning more about material semiotics and Deleuze’s concept of ‘sense’ (Chapter 3), I realised that this *was* a legitimate problem, but one that I was now theoretically equipped to deal with. Recognising that all language is simultaneously material and semiotic allowed me to take a more balanced and consistent approach to the data. CPA was designed with lexical analysis in mind, rather than the kind of critical discourse analysis that was carried out in this project. As such, it was helpful to bolster the CPA method with supplementary theory. Other analysts may look to other theoretical ontologies.

One of the greatest assets of CPA in this project was its ability to account for all data in a sample, bar one or two ‘untaggable’ cases (e.g. POS-tag errors, ungrammatical examples, etc.). Covering all bases was not only a priority from an empirical perspective, but also in the interests of visibility; no stone should be left unturned. The effect of this kind of approach can sometimes be that – even in a project on a subject so controversial as killing – parts of the analysis are somewhat tedious. But given the commitment of this research to the data in its entirety, as well as conscious engaging in a politics of sight, such cases are not just inevitable but methodologically important. How can we know an exploitation without having established the norms? How can we see what is absent or being obscured from view without shining a light on every corner of the data? CPA proved to be a thorough, systematic and data-committed way of exposing all language in a dataset – normal and abnormal.

Disregarding for a moment the extra annotation features that were included in this project – the active/passive voice, Agent, Patient, Agent and Patient Number, Agent and Patient Referential Distance, and Context, which were included purely out of curiosity and a wish to explicitly record my decision-making process – CPA was found to be a remarkably unfussy exercise. It requires only one feature to be annotated: the pattern number. CPA-assisted discourse analysis can be carried out using only the basic CPA pattern-number annotation, as demonstrated in Chapter 7, which used Agent and Patient Number results purely as a means of shortlisting case study candidates related to the theme of (de)individuation. This project was an exploratory experiment into the potential role of CPA within a broader critical analysis of discourse and so extra features were annotated purely out of interest and as a means of determining the effectiveness of CPA alone *and* with other features. As it happens, these features produced some interesting findings, but the results also showed that standard CPA is all that is really needed for a corpus-lexicographical discourse analysis.

The analysis of features such as Referential Distance, Number, Context and grammatical voice was surprisingly time-consuming. This was mainly due to the fact that – as discussed in Chapter 5 – the identities of the key participants were often difficult to establish. Material uses of distance and concealment in animal-killing, such as the screens and doors that obfuscate the precise site of killing in a slaughterhouse, and the geographical distance placed between sites of slaughter and sites of consumption, were mirrored in the language. ARD and PRD, though labour-intensive, proved fruitful features to analyse. Identification of Context, not always clear-cut and dependent on a number of factors, required some careful thought and was another exercise that added time onto the overall annotation process. The efforts paid off, however, when in Chapter

6 I was able to map all 1,682 instances of the data across a landscape of Context ‘zones’, combining many important features of the analysis in one place. This was instrumental in demonstrating the co-constructive nature of place, space, event, participants and circumstance.

I do not mean to insinuate that CPA, in contrast, is quick and easy. While there are verbs that can be annotated with relative ease, taking perhaps an hour to annotate a 250-line sample and write up its patterns and implicatures, most verbs take quite a lot longer. This difficulty is not a reflection on the CPA method, but on the phraseological complexity of the word being analysed, which usually is not apparent until examined more closely.

8.3.3 Application of CPA

Applying CPA to this specific problem, using a specialised corpus of animal-themed discourse, demonstrated the corpus-dependence of CPA output. As described in Chapter 4, the CPA Ontology (CPAO) and specially-built PPPP Killing Ontology (PKO) were very similar, given that the latter was modelled on the former, but had quite obvious differences. The PKO, based on a specialised, animal-themed corpus, did not include several of the more abstract, human-orientated semantic types that feature in the CPAO, and instead priority was given to specific animal types. This was done to meet the needs of my project, but was not strictly necessary. Having now carried out the project, it would seem that the CPAO is quite adequate – given its general nature and broad scope – for most uses of English-language CPA. There were no patterns found to be present in the KVD that were not already present in the BNC sample, except in the case of *butcher*, which was found to occur with one extra pattern in the KVD – the intransitive Pattern 3. Even where there were noticeable differences in patterning (e.g. animal homes vs. human homes for *destroy*$_1$), the PDEV patterns themselves remained valid. This was also an argument for only basing lexicographic patterns on a large, general corpus rather than a smaller, thematic one; had I based my patterns solely on the KVD, I might claim that the primary meaning of *destroy* is ‘kill’, that humans cannot be *exterminated*, and that *murder* refers to the premeditated killing of an animal, though this may occasionally be extended to humans. The use of a separate reference corpus of general language is therefore essential in this kind of analysis.

Another finding that arose from the application of CPA was that it is not so much verbs that mattered, but rather individual verb patterns and their associated senses. The patterns of a verb are related, and sometimes blur into one another, as found in the course of this study. But different patterns, while they do not necessarily correspond on a one-to-one basis with senses, usually signal *different meanings*. As demonstrated by the analysis in Chapter 6, most verbs could be found in most text types in the KVD, but only in the form of certain patterns. Similarly, while verbs were found to feature heavily in both corpus samples – the PDEV sample of the BNC, and the KVD taken from the PPPP corpus – their patterns featured in very different distributions. Perhaps it is not enough to be talking about verbs. Perhaps a pattern-delimiting analysis, such as CPA, should be a prerequisite to discussions on verbs and their behaviour.

8.4 Answers to the Research Questions

> **RQ1**. What can a discourse analysis assisted by Corpus Pattern Analysis (CPA) reveal about the 'killing' verbs selected in relation to the key themes identified in the literature?

Some key themes identified in Chapter 2 and 3, and consequently focused on in this study, were those of distance, concealment, space, visibility, assemblage, and event. A CPA-assisted exploration of these themes proved highly illuminating, though the role of CPA in the analysis varied from case to case. Chapter 5 mainly relied on analysis of Referential Distance and grammatical voice, but CPA provided the means for a more nuanced discussion of those quantitative results. In Chapter 6, the themes of space and visibility were explored via the concept of 'Context', which did not strictly require the use of CPA, but the process of assigning Pustejovskyan semantic types, of the kind used in CPA, made the 'meetings' of actants possible to map out. The CPA-derived patterns also allowed for a tracing of "shimmering" verb behaviour across different spaces. Chapter 7 was the most direct application of CPA, and it yielded a number of important findings related to (de)individuation and (un)killability.

Invariably, CPA has demonstrated that 'killing' verbs should be considered in terms of their patterns, rather than as verbs generally. CPA has also shown that where different semantic types occur in certain argument slots, so too do different patterns and – with them – quite often, different meanings. The CPA-assisted discourse analysis presented in Chapter 7 made explicit the mechanisms by which meanings of the patterns of a verb can seep into, or even be 'borrowed' by, other patterns of the verb. This blurring of pattern boundaries is one of the ways in which nonhumans were found to be subtly coerced into a state of thinghood or (un)killability.

The analysis demonstrated that 'killing' verbs, when applied to humans, did not imply such fatal consequences as they do for animals. *Destroy*, for instance, refers to the killing of animals, while for humans it refers to an emotional damage or defeat in sport, for example. *Put down*, applied to a human, does not mean "kill" but "criticise". To *put* a baby *to sleep* is to put them to bed, not to end their life in a considerate way. Humans may be *wiped out* in a killing sense, but they may also be *wiped out* in the abstract sense of being made bankrupt or very tired.

The concrete/abstract divide between animals and humans was seen consistently throughout the study, with the resulting implication that non-fatal misfortunes that might beset humans are in some way comparable with the loss of life suffered by nonhuman animals. This is unsurprising, given what we know from the ethics literature on the perceived value of different lives. Even in cases such as *put down* and *put to sleep* – the 'killing' terms used almost exclusively for nonhuman family members – the death of the animal was presented in terms of the loss of companionship on the part of the human, rather than the loss of life on the part of the animal.

A similar dichotomy observed in the behaviour exhibited by the verbs in this study was the nature/culture divide, or in other words the idea that animals exist in the 'natural' realm, while humans hold social and political importance. Animals can be *harvested*, in the same way as 'natural' plant resources, while humans are not. (Some) humans are *assassinated,* if they hold enough sociopolitical influence, while no individual animals come close being considered such a threat to society. Some animals were described as being *murdered*, but this was generally done by campaigners wishing to emphasise the immorality of animal-killing. This was not corroborated by the BNC data, because it is not standard use of English to describe the premeditated killing of an animal in such terms. *Murder* is reserved for persons, those with social and moral relevance.

Finally, 'killing' verbs were found to be used in more vague, ambiguous ways for animals than for humans. *Exterminate*, for instance, while it can be applied to both human groups and animal groups to mean 'kill', has far more specific connotations when applied to humans and typically encodes a specific, political motive. The 'animal' pattern does not entail such details. In other cases, there was ambiguity intrinsic to the 'animal' patterns with regard to whether or not the process being described was fatal. Does *butcher* mean 'kill', or 'carve up'? Does *harvest* refer to killing, or gathering? Does *cull* mean 'kill', or 'remove'? Such distinctions do not appear to matter where the killing of nonhumans is concerned.

> **RQ2**. How is the involvement in acts of killing, of humans and nonhumans respectively, typically represented in the extracts of discourse analysed?
>
> > **RQ2a.** Are these representations stable across the different discourse domains represented in the corpus?

Annotation of the data revealed that 97% of *HUMAN* actants in the KVD featured as Agent, while 94% of *ANIMAL* actants featured as Patient. On the whole, humans were presented as 'doers', active initiators of processes, with a degree of control over a given situation. Animals were presented as passive, 'done-to' entities who are relatively powerless. While this varied to some degree across Contexts and domains, the overall trend remained the same. The implied passivity of animals, to whom things simply 'happen', has a damaging effect on their construal as victims capable of suffering. As described in Chapter 3, Coates and Wade (2007) identified four discursive operations that often feature in such accounts: the "concealing of violence", the "obfuscating of perpetrators' responsibility", the "concealing of victims' resistance", and the "blaming and pathologizing of victims". All four of these were observed to some degree in the data analysed in this study, but it was especially true that humans who act as Agent tend to have their responsibility obfuscated, either through use of distance or the concealing of violence (by e.g. construing the animal Patient as an unkillable inanimate object). Animals were, in some instances, blamed for their own killing by being represented as troublesome 'pests' or threats, whose killing is therefore unavoidable.

The analysis in Chapter 6 demonstrated that while animals are always presented as being dominated by humans, this power dynamic manifests differently in different Contexts. In the Context of 'animal industries', animals represent products. In a laboratory Context, animals are construed as 'stuff', resources to be *harvested* and *sacrificed*. In a 'domestic' Context, animals are *put down* or *put to sleep,* but this softening of the action did not stand up to scrutiny; even beloved pets are essentially property whose lives are no longer considered worthy if they are unwanted by humans. In some cases, such animals were simply *destroyed*. In other cases, like the Context of 'wild', animals were seen to occupy several roles: as agents free to exert their own power over their environments, and as 'natural' features to be *killed* or *harvested*. Humans featured rarely as Patients in the KVD, and this was either in the few cases of violence reported between humans (e.g. family members, classified as 'domestic') or as recipients of non-killing actions in the Context 'general'.

Representation of entities was therefore stable in some ways and unstable in others, and this demonstrated that while place, space and circumstances certainly influence an event, they do not determine its outcome.

RQ3. What does CPA contribute to the task of discourse analysis?

CPA, being based firmly in data, brings reliability and a degree of reproducibility to this critical discourse analysis. The process of tagging and sorting all lines in the sample creates a complete snapshot of meaning upon which to comment critically. Engaging with the semantic types in the Ontology brings into sharp focus some of the key issues dealt with in this project: how entities are conceptualised, and how this is linguistically achieved. CPA is a reflexive task, and its insistence on looking at the data helps to counter bias in some ways.

CPA facilitates the construction of lexicographic entries for words, in this case verbs, and these entries of patterns make the task of surveying the entirety of a corpus sample far easier than using concordances alone. Seeing semantic types in their patterns alongside the pattern implicatures also allows the analyst to see, at a glance, exactly what the differences in meaning between two patterns and their arguments are. The percentages of the pattern numbers also enables the analyst to make informed judgements on the prominence of a particular usage and decide whether it warrants further investigation.

One of CPA's most important contributions to the discourse analysis task is its ability to clearly pinpoint where, when and how patterns are exploited, by first demarcating the pattern boundaries. This kind of information – as opposed to the general, anecdotal observations that certain 'killing' terms are applied to inanimate objects and therefore have an objectifying effect on their patients – empowers the discourse analyst to make precise and persuasive arguments about the impact of certain language choices. Not only can a corpus-lexicographical discourse analyst make claims about that particular instance of language, as is typically the case in critical discourse analysis of a particular text or set of texts, but – if they have used a large, general reference corpus suited to lexicographic work, such as the BNC or enTenTen – then they may also make claims about the lexicon itself. In the case of this study, CPA has helped to demonstrate instances of speciesism that are inherent in the English language and not just specific to one particular text, discourse or speaker.

Finally, CPA is a powerful tool for engaging in a politics of sight. A CPA annotation of a sample of language may prove time-consuming, and often difficult, depending on the complexities of the term being investigated, but its systematicity means that no stone is left unturned; every line in a sample is accounted for. CPA has the power to expose oppressive language simply by shining a light on it.

8.5 Limitations

All corpus studies have certain limitations by virtue of the method. The data included in a text corpus is restricted to digitised texts and transcripts and this will inevitably exclude some materials of interest. The use of a concordancer also takes the text out of its wider context, committing a "violence" on the text. Given that this study was fully reliant on corpora for data, it was not possible to comment on the motivations of speakers and writers. Issues of authorial intent were especially present in Chapter 5, where the relationship between distance and perceived culpability was being explored.

Furthermore, the results are only as good as the corpus. The data used in this study was sampled from the PPPP corpus, which was compiled opportunistically and was heavily skewed in favour of journal article texts. This is taken into account during the analysis, and unexpected results that were suspected to have been caused by this imbalance were tested by removing the journals subcorpus. In some cases the PPPP sample was too small to draw authoritative conclusions on word meaning, and in these instances the reference corpus was referred to for supplementary data. In the case of *assassinate,* the reference corpus data was the only data available and it was not possible to compare the features and patterns of *assassinate* with those of the other verbs in the study, whose annotation was based on the KVD.

This was a study into 'killing' verbs, but one in five (21%) lines in the KVD was an example of a 'killing' verb being used in a non-killing sense. This was important, methodologically, for me to be able to compare killing and non-killing patterns and see where their boundaries fall, but it also means that some of the quantitative results in this thesis do not speak directly to the theme of killing. This was anticipated, indeed intended, and was discussed in Chapter 4 with regard to looking "sideways" at the research topic.

Although a great deal of this thesis is dedicated to the evaluation of CPA as a potential aid to discourse analysis, not all verbs in this study were analysed using the full corpus-lexicographical discourse analytical method showcased in Chapter 7. This was because the project had other research priorities as well as these specific methodological interests, and other methods – such as Referential Distance, analysis of grammatical voice, tracking of events across Contexts and text types – were deemed useful for those purposes. CPA has been implemented, in some way, in all parts of the study.

The outcome of the annotation in this project is no doubt heavily influenced by coder outlook. Although an interannotator agreement test was conducted, achieving a respectable overall result of 0.88, I acknowledge that my own views as an animal advocate will have played a role in some of the tagging and other methodological decisions. I make no apologies for this, given that bias is unavoidable, but feel it is necessary to raise this issue and try to keep it in mind. I, like anyone reading this, am affected by the most significant source of bias of all: being human. All language is inescapably anthropocentric, and all of the findings in this project are deeply affected by that.

8.6 Implications

This project has provided some evidence for what was already suspected but difficult to prove: the subtle and pervasive objectification of animals through language. More specifically, the method trialled here has demonstrated examples of the precise mechanisms by which animals are deontologised and their killing legitimised. This represents an empirical and defensible way for critical discourse analysts to make claims on the oppressive nature of certain kinds of language, and how this might be countered in order to help those most affected.

This study has drawn on a wide range of disciplines and theoretical positions, choosing to combine the fast-growing and influential projects of critical posthumanism, material semiotics and corpus linguistics. The result is a progressive and empirically sound methodology that can be applied to almost any subject.

In critical discourse studies, a question that tends to be asked is, “who benefits?”. In this sense, there are both positive and negative implications of the findings in this project, depending on the outlook. In the case of animal advocates – and indeed the animals themselves – the findings of this research benefit their cause by helping to explain how, and potentially why, animals are treated the way they are, and offers insights into how damaging language relating to animals might be countered. The project has provided evidence that backs up the claims often dismissed by those sceptical of animal justice, and helps to bring animal discussions into the academic domain. Those who benefit from animal exploitation, on the other hand, have the potential to be affected negatively by these findings: animal farmers, slaughterers and traders; advertisers and marketers working to obfuscate animal suffering; and those whose livelihoods and lifestyles depend upon the unquestioned subjugation of nonhumans in society. In reality, all humans enjoy the privileges of speciesism and human supremacism, in the same way that white people benefit from systemic racism and men benefit from institutionalised sexism. Of course, we must also acknowledge that all of these injustices are interconnected, and that all of us stand to benefit in the long run from tackling them equally.

8.7 Recommendations for Future Research

This project represents a preliminary exploration of corpus-lexicographical discourse analysis. The first recommendation for future research is therefore more analyses of a similar kind, applied to different research areas. Given that interesting differences in modality were encountered at several points throughout the study, investigations into ‘killing’ discourse and modality would also be worth pursuing.

Lexicographers, lexicologists and grammarians would no doubt find common ground in some of the themes explored in this work. In particular, an exploration of the Deleuzian notions of ‘sense’, preliminary ideas on pattern-as-assemblage, as well as the material-semiotic concept of distributed agency in discussions of linguistic relations, may well prove useful. The potential relationship between norms, exploitations and (in)stability could be particularly interesting to examine.

The investigation into Referential Distance, presented in Chapter 5, was also an experimental approach to incorporating novel measures in a critical discourse analysis task. My findings raise a number of questions. For one, how different should we expect the results of my Referential Distance (based on sufficiently disambiguating references) to be, compared with the original, non-discerning referential distance approach used by Givón and others? Secondly, why might humans and other animate entities feature with greater Referential Distance than their inanimate counterparts, given the original findings to the contrary? Could it be to do with the nature of the process, i.e. killing, rather than the nature of the participant? This will require a number of experiments to account for different types of entities involved in processes of varying kinds. Another interesting line of enquiry might be the effect of text types on Agent Referential Distance, when we consider, for example, that Agents of news articles might be named explicitly in one news story and then mentioned more ambiguously in the news stories that follow shortly after. We all know, for instance, that the noun phrase ‘the Yorkshire Ripper’ refers to a human man and not a combine harvester, but this is dependent upon our world knowledge based on previously published news stories. Exophoric reference and its impact on ambiguity is no doubt a fruitful area of investigation.

While this project was predominantly concerned with how different ‘killing’ verbs can be found to change their behaviour in response to different arguments, there is scope for future research into trends in the language of animal justice, specifically how this has changed and increased over time. When the new BNC is ready to use, this could be an excellent source of recent data with which to carry out a diachronic study in conjunction with the original BNC.

Observed in this study was an inconsistency between supposed views on animals and the language used to construe them. Surprisingly damaging and contradictory examples were found to have come from the subcorpus of campaign literature, in which authors of public-facing texts had uncritically adopted the language of animal-killers, presenting animals either as passive beings who do not resist their abuse, or as recipients of 'humane' treatment. My most urgent recommendation is therefore directed at campaigners, social justice advocates and professional communicators, whose roles as spokespersons afford them a degree of power and influence in public spheres. In advocating for others we have a moral duty to tell it like it is. An empirical approach, like CPA, allows us to do just that.

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Appendices

Appendix A: Full list of ‘killing’ terms

Below are all 370 of the ‘killing’ terms identified and the number of sources in which they appeared (in brackets).

abort (1), administer the coup de grace (1), annihilate (11), arrange a fatal accident (1), asphyxiate (5), assassinate (13), axe (1), bag (3), bayonet (3), beat to death (1), behead (5), blast (3), blip off (2), blitz (1), blot out (7), blow away (9), blow out the brains of (1), blow sky-high (1), blow someone's brains out (2), blow the brains out (1), blow to bits (1), bomb (1), bop (1), bowstring (1), brace (1), brain (5), bring an end to (1), bring down (2), bring down to the grave (2), bring to the block (1), bucket (1), bug out (1), bump (4), bump off (14), burke (3), burn (6), burn alive (2), burn at the stake (1), bury (1), bury alive (1), bust on (1), butcher (11), buy someone concrete galoshes (1), cap (1), carry off (4), cause the death of (2), chill (4), choke (3), chop (1), clip (2), commit genocide (1), compromise (2), condemn (2), condemn to death (2), cook (2), cool (5), cream (2), crease (3), croak (5), crucify (3), cull (2), cut (1), cut down (6), cut down on (1), cut off (2), cut someone's throat (1), cut the throat of (2), cut to pieces (5), cut to ribbons (2), deal a deathblow (2), deal a deathblow to (1), deathify (1), decapitate (3), decimate (8), decollate (3), deep-six (2), demote maximally (1), deprive of life (3), destroy (12), destroy root and branch (1), discreate (1), disembowel (1), dismember (1), dismiss with extreme prejudice (1), dispatch (13), dispose of (5), do (4), do away with (10), do for (4), do in (12), do to death (4), drain the lifeblood of (1), draw (1), draw and quarter (2), drill (3), drive to death (2), drop (2), drop the hammer (1), drown (6), dry-gulch (1), dump (3), dust (5), dust off (2), electrocute (7), eliminate (8), end (7), end someone's life (1), end the life of (3), eradicate (7), erase (9), excruciate (1), execute (11), expend (1), expunge (1), exterminate (13), extinguish (7), extirpate (7), fade (1), fell (1), fill full of holes (1), finish (5), finish off (7), fish (1), fit with a concrete overcoat (1), fit with a wooden kimono (1), fit with concrete overshoes (1), fix (1), fog (2), frag (4), frazzle (1), freeze off (1), fry (2), garrotte (5), gas (2), get (3), get rid of (7), gibbet (3), give a lethal injection (1), give no quarter (3), give one's quietus (1), give someone a wood overcoat (1), give someone his or her quietus (1), give someone the business (1), give someone the works (1), give the business (1), give the coup de grace (1), give the works (1), goof up (1), grease (4), guillotine (5), gun (1), gun down (5), guzzle (3), hack to pieces (1), hang (9), hasten someone's end (2), head (2), hit (10), hoist (1), hole (1), huff (2), hunt (2), ice (7), immolate (5), impale (3), iron out (2), jugulate (1), kayo (2), kill (12), kill off (3), kiss off (1), knife (3), knock (1), knock off (10), knock out (2), knock over (1), lance (3), lapidate (2), launch into eternity (2), lay down (1), lay hands on (2), lay low (2), lay out (2), lay violent hands on (2), let someone have it (1), liquidate (11), loop (1), lynch (5), maim (1), make an end of (3), make an end to (1), make away with (5), make go cool (1), make someone disappear (1), make to walk the plank (2), martyr (4), martyrize (3), massacre (12), maul (1), mop up (1), mow down (8), murder (12), murk (2), mutilate (2), nail to cross (1), napoo (2), neck (1), neutralize (6), nobble (1), noose (1), nuke (1), nut (2), obliterate (6), off (7), offer up (2), out (2), overlay (1), overlie (1), pay off (2), pick off (3), pickle (1), pip (1), pistol (2), plug (1), poison (7), poleaxe (1), pole-axe (1), polish off (6), pop (6), pop off (2), pot (1), pull the plug (2), pump someone full of lead (1), punch someone's ticket (1), purge (4), push (1), push away (1), push off (1), put an end to (5), put away (6), put down (7), put on ice (1), put on the spot (1), put out of existence (1), put out of one's misery (2), put out of the way (3), put somebody's lights out (1), put someone out of his or her misery (3), put to death (9), put to sleep (8), put to the sword (6), quarter (1), reduce to nothing (1), remove (5), retire (1), roast alive (2), rob of life (1), root out (1), rub out (12), run through (3), sabre (2), sacrifice (5), scalp (1), score (1), scrag (5), scratch (1), send home (1), send out of the world (2), send someone to his or her long account (1), send to kingdom come (1), send to one's account (1), send to one's Maker (1), send to the gas chamber (2), send to the scaffold (2), send to the stake (2), send west (1), set over (1), settle (4), shed blood (2), shoot (7), shoot down (5), shoot to sleep (1), shorten someone's life (2), shove over (1), show no mercy (1), sign the death warrant (2), silence (5), slaughter (11), slay (13), slay en masse (2), smear (3), smear out (1), smite (2), smite hip and thigh (2), smoke (2), smother (7), snuff (8), snuff out (6), spare none (2), spear (3), spill someone's blood (1), spill the brains of (2), spot (1), squash (1), squib off (1), stab (5), stab to death (1), stake (1), stamp out (6), starve to death (1), steep one's hands in blood (1), step on (1), stick (1), stiff (4), stifle (4), stone (2), stone to death (2), stonker (2), strangle (7), strangulate (2), stretch (4), stretch out (1), string up (2), suffocate (6), tag (1), take (2), take away (1), take care of (3), take for a ride (6), take for an airing (1), take life (1), take no prisoners (1), take out (7), take out of the box (1), take someone's life (2), take someone's life away (1), take someone's wind (1), take the life of (3), take the wind out of (1), take with you (1), tear limb from limb (1), terminate (6), terminate with extreme prejudice (1), throttle (3), tip off (2), tomahawk (1), top (7), top off (1), trim (1), turn off (2), vaporize (2), wade in blood (1), wall up (1), wash (2), waste (13), wax (4), whack (4), whack out (2), whiff (1), wipe (3), wipe from the face of the earth (1), wipe off (1), wipe off the face of the earth (2), wipe off the map (1), wipe out (12), work to death (2), wring the neck of (2), write 'finis' to (1), zap (9), zotz (1)

Appendix B: Annotation guidelines

The instances to be annotated are arranged in a random order in a KWIC format with the node (verb) in the middle, and there are columns to the right-hand side for recording information about each instance. If more context is needed, click on the file name cell and then on the 'open file' button in the top left of the spreadsheet. This will open the specified file in a notepad program.

The following **fields** need to be filled in:

- **Pattern**

Patterns for each verb are already available and these should be referred to as a guide. However, the annotator should remain open-minded to the possibility that new or different patterns might occur in the PPPP data. Refer to the 'patterns' tabs in the Excel workbook.

- **Active/passive (a/p)**

Label 'a' for 'active' and 'p' for passive.

- **Agent** and **Patient**

Type out, or select from the drop-down list, the most specific semantic type available in the ontology. For example, if the context makes it clear that the entity in question is not only a *HUMAN* but also a *FARMER*, then choose *FARMER* over *HUMAN*. If the Agent or Patient is elided and cannot be reasonable inferred, then select *X* from the drop-down list. **NB:** all semantic types are listed in the singular form. Plurality is specified separately in the Agent Number (AN) and Patient Number (PN) columns.

- **Agent Referential Distance (ARD)** and **Patient Referential Distance (PRD)**

This is the number of *clause boundaries* traversed when starting from the immediate referent and working backwards (or forwards, if closer) to find the nearest *sufficiently disambiguating* referent for either the Agent or the Patient. A clause is understood here to be a subject and a predicate. See the following examples, where clause boundaries are marked // and zero anaphors are marked Ø. Sufficiently disambiguating references are underlined. The node is in bold.

> <u>*A crazed teen*</u> *held a sick Facebook party just hours after // Ø* ***murdering*** *his parents with a hammer*. (ARD = 1; one boundary between the zero anaphor and the disambiguating reference)

> *They thought //* <u>*the bird*</u> *was a witch // and Ø had summoned the tempest // so they* ***killed*** *it.* (PRD = 2; two boundaries between the ambiguous 'it' and the disambiguating reference)

If a subordinate clause is completely traversed, count both the left and right boundaries. If a clause is nested, count any stacked clause boundaries as just one boundary. A referent is considered 'sufficiently disambiguating' if it provides enough evidence for making a selection from the drop-down list of semantic types when filling out the 'Agent' or 'Patient' field.

If the identity of the Agent is clear from the immediate referent, the score is '0'. If the distance is greater than 5, or if the identity is never revealed and/or specialist knowledge is required to identify the Agent, mark with an 'NF' ('not found').

In the following example, the 'Agent' is *SLAUGHTERER* and the 'Patient' is *PIG*. Since there is no mention here or in the surrounding context of the identity of the Agent – who we infer to be *SLAUGHTERER* – then the ARD is 'NF'. The identity of the Patient is made explicit within the same clause as the verb in question, so the PRD is '0'.

*Around <u>1.3 billion pigs</u> are **slaughtered** annually for meat worldwide.*

- **Agent Number (AN)** and **Patient Number (PN)**

Mark 'pl' for plural instances (e.g. *dogs*, *hunters*), 'in' for individuals (e.g. *she*, *the animal*) and 'col' for collective nouns (e.g. *family*, *species*). Mark 'mn' for 'not 'mass noun' (e.g. *money*, *sugar*) and 'ns' for 'not specified' (as found in some passive and to-infinitive constructions).

- **Context**

'Context' is a rough indication of the *circumstances* in which a killing takes place, and is also closely linked to the *place* in which the killing takes place. Choose from the following:

- 'Lab', for killing that takes place for scientific purposes;
- 'Animal industries', for the killing of animals for their flesh, fur and other commodities;
- 'Farming' for arable, i.e. non-animal-killing farming;
- 'Entertainment', for animals used for entertainment purposes, or animals whose roles as entertainers have come to an end;
- 'Work' for animals used as workers, e.g. dogs used by the Police;
- 'Wild', for killing that takes place in a 'wild' environment as opposed to a controlled one;
- 'Domestic', for the killing of a pet or that which takes place in and around the home;
- 'War', for the killing of humans and animals as a result of war; and
- 'General', for killing which does not happen in any one particular context.

In difficult cases, refer to the following criteria in the order they are given as priority factors:

Place > purpose (of killing) > circumstances (of living) > source / text type

For example, in the case of a hunter killing an animal in the wild in the name of entertainment, the place will take precedence over the purpose of killing, resulting in the context of 'wild' and not 'entertainment'. Where the place of killing is not mentioned and the source is e.g. a journal article, but the purpose and circumstances point to, e.g. animal agriculture, then these factors will take precedence over the source, in this case resulting in a Context of 'animal industries' rather than 'lab'.

Notes (optional)

This column is for any further information you would like to record.

Appendix C: Full interannotator agreement data

Below are the concordance lines used for the interannotator agreement test.

left context	node	right context
tegies over many years of weather; consequently, it	sacrifices	a degree of precision for generality and realism Costan:
omplete. By developing a shell, tortoises inevitably	sacrifice	speed, so they can't sprint off and take shelter in a crac
females facing energy assimilation constrains even	sacrifice	their body reserves to maintain the reproductive outpu
roduce and to give her young their best chance, she	sacrifices	her life. </p> Out of the depths comes one of the larg
it does attack, it might go for the tail, which can be	sacrificed	, instead of the head. This is a really good little find. In j
fore I've even started. Yeah, so it's like,?Why have I	sacrificed	my own...??<NC: Your independence?> Respondent: Y
t?> Respondent:... that little bit. But no, I've had to	sacrifice	some of the pride in my garden for Bert, yes. But then I
imals were driven from far off regions, the animals	sacrificed	at cottage slaughterhouses were driven from farmers' f
ow the status of Map in larger number of buffaloes	sacrificed	in these slaughterhouses. For this study, serum sample
ers and for initial conspicuous consumers willing to	sacrifice	payoffs to cooperate. But if ciliates were to group signa
ere is no practical paradox in the idea of a god who	sacrificed	himself to nourish his devotees: the God of Christians d
, for putting up with me dashing off for the day and	sacrificing	one of our few days off together for BDMLR work (agai
d there are other gravies, or like this kind of idea of	sacrificing	her beef gravy was worth doing for the sake of an anin
a martyr ". In a way she has achieved that ambition,	sacrificing	the paradise of Gombe for a succession of airport loung
or multiple within-subject comparisons, no need to	sacrifice	animals, no influence on the following histological ana
one knows how many and what species are being	sacrificed	for research and for the ornamental trade in their shell
ganism in containment should be performed before	sacrificing	the animal. If there is no serum IgG reactivity in the se
es of study the animals used for brain research are	sacrificed	to obtain tissues and protein samples. </p> Dr Odell p
bodies the animal host is either repeatedly bled or	sacrificed	. Antibody production is a major business, involving ten
described [6]. Two fetuses from each group were	sacrificed	3 weeks post transplant and the BM harvested and ana
nt from transplanted human cells was evaluated by	sacrificing	fetuses at 3 weeks post transplant and determining the
rom the fish was pooled. Two naive fish were also	sacrificed	and their serum was pooled and used for a control (se
7]. Subgroups of the primed and control fish were	sacrificed	at intervals to determine presence or absence of serum
ture was performed to obtain blood. Animals were	sacrificed	by CO2 chamber and transferred to the laminar flow ho
uses in the Agra city of North India. Buffaloes were	sacrificed	daily for production of meat to cater the needs of local
pe catchments from which communities access and	harvest	their subsistence foods, which rely on water. The most
useholds and thus most households did not plan to	harvest	much more than they needed for consumption and (2
reflecting what farmers could reasonably expect to	harvest	in 9 years of every 10 Tables 1a and 1b. Animal produc
etween being in the female or male domain by who	harvests	them and who has control over the end products. Won
harvested once a year. Now I grow many crops and	harvest	two or three times. I save and buy good things. I live a
ddition, the biology has been extended to allow for	harvesting	multiple species that are in mutualistic or predator-pre
or IN, Pacific cod are prey for IN lions;:, cod also are	harvested	. ((LS)) is no age structure in IN eight species as IN indi
and regulated and as the technology to locate and	harvest	fish in deeper waters has improved (see [25]). Also c
her hand, more targeting inputs will be required to	harvest	a mix of species that differs from the mix of individual
tal force in determining stock status and that stocks	harvested	from large or small portions of nations' waters are equa
'p> Istanbul strait mussels especially the mussels	harvested	from station 14a have been used commercially for man
protected in Michigan (MDNR, 2004), and may be	harvested	at will. Thus, even if evidence emerges that they play a
te rabbits weighing approximately 2. 2-2. 5kg were	harvested	and cultured according to procedures previously descri
d in the challenge study. </p> About 500 shrimps	harvested	from the Marine Station adjacent to our university wer
The original motivation for the law is likely to avoid	harvesting	the protein productivity of oceans at lower trophic leve
(Sigma, Missouri, USA). Infected cell cultures were	harvested	and diluted 100 times with the same medium to adjust
efore use in the different assays, the bacteria were	harvested	and washed three times in PBS by centrifugation (1400
rulent bacteria grown separately in BHI broth were	harvested	at 24h and centrifuged at 10, 000Ãƒâ€”g for 10min. The
Ã‚Â° C for 20 without agitation. Cultures were then	harvested	by centrifugation (16, 000 g) at 4 Ã‚Â° C for 30 min. Th
itional 4 to 5h at 37 Ã‚Â° C. Cultures (600ml) were	harvested	by centrifugation (4000Ãƒâ€”g, 5min, 4 Ã‚Â° C) and res
ivo disc restoration, porcine were then sacrificed to	harvest	the whole IVD tissue for their chondrogenic characteriz
mbar spine from T13 to L5 (6 IVDs / porcine) were	harvested	under aseptic conditions (Fig. 1A). Chymopapain (Sigr
s well as varying sizes of the testicular tissue pieces	harvested	. Furthermore, withdrawal of water from such tissues is
e coastal driftnet, coastal trapnet and river fisheries	harvest	both grilse and two-sea-winter salmon while the offsh
eries vary. The coastal driftnet and trapnet fisheries	harvest	together with the river fishery only for a narrow range

;ion, the H5N1 influenza viruses were eradicated by	slaughtering	all poultry in the live bird markets of Hong Kong. </p>
ıtaining infected meat. Maff said it hoped that/that	slaughtering	all the pigs from the original breeding unit would stop
hain, are a vital part of a healthy ocean. and yet we	slaughter	almost a hundred million of them every year. Their pop
emperature. Groups of four ewe lambs each were	slaughtered	and blood collected at 0 ((< 24h)), at 1 week, and at ev
h was born in the period of account in which it was	slaughtered	and did not become part of the trading stock in any oth
e the commercial grade. Many of the' failures''' are	slaughtered	for meat. Amongst those who do start racing, there is a
'e in here, the next animal that/that we're going to	slaughter	for the camp, is a reindeer. And so, quite rightly, he's h
L <inaudible>;: for Morrisons? MAL Morrisons they	slaughter	for, yeah. MAL All the empty fields were out for miles t
ce',''' Pietrain', and' Meishan' types)) were serially	slaughtered	from 25 to 115 kg live weight, for the purpose of testin
ık by nearly 20 % in two years and numbers of pigs	slaughtered	have fallen from 15.7m in 1998 to a forecast 13m this y
for the southern ocean whale sanctuary vowing to	slaughter	more than 1, 000 whales. </p> Among the targets of
ı fact it is probably the form of animal abuse which	slaughters	most animals. Nowadays commercial fishing is carried
ıter measurements </head> Groups of pigs were	slaughtered	on day 2 or 3 of week 11. On the day prior to slaughter
:eptus products </head> A total of 12 ewes were	slaughtered	on day 45 of pregnancy ((four ewes from each treatme
›f CL was observed in ewes given hCG or GnRH and	slaughtered	on day 45 of pregnancy. This result is in agreement witl
out the year as animals grow, are transported, and	slaughtered	. An annually averaged emission factor does not capture
:inents, shedding crocodile tears for the birds they	slaughter	. Ayatollah Khomeini issues an edict that/that a man wh
ıo gave a positive tuberculin skin test result)) were	slaughtered	. By comparison, 4, 189, 000 animals ((including 590, 0(
set stocked until 27 September when they were all	slaughtered	. Each sheep was identified and had worm counts carri
bovine TB in cattle in Britain, with 28, 200 animals	slaughtered	. Farmers fear that/that 40, 000 animals may have to be
; of pigs, five lots of nine pigs and then you will be	slaughtered	. Well, I know the pig farms that/that I've been on in th
soldier in its jaws, which it killed before it was itself	slaughtered	. Well, it's been a successful raid. Many of the bigger on
em to see what they make of it. Sheep need to get	slaughtered	. Will we be in the room? Oh, my God! ((HE GROANS))
ials for our clothing. Sheep and cows are bred and	slaughtered	;: foxes, mink and rabbits caged and killed, wild anima
ve the pigs been here and how long before they're	slaughtered	? TRANSLATION:: A couple of hours. They are going to g

troyed. Back to the humans it's like they killed, they	murdered	, he murdered his partner...: PP 39:: He killed. So, yes
› the humans it's like they killed, they murdered, he	murdered	his partner...: PP 39:: He killed. So, yes, it was th
ople, I mean you can befriend somebody and could	murder	you couldn't they? You never know do you? ((Interview
r. We never really recovered. When the old vet was	murdered	a few years later by thieves he'd disturbed burgling a n
; stabbed at random in the back of the head. A man	murdered	him without any reason. "'' His mum Roseanna whisp
ZED teen held a sick Facebook party just hours after	murdering	his parents with a hammer. Tyler Hadley, of Port St L
ː family home last week. Hadley, 17, is accused of	murdering	his parents before dumping their bodies under a pile o
r directors were frightened that/that they would be	murdered	in their beds, but because they were frightened that/th
so for bandit gangs, marauders who ambushed and	murdered	pilgrims and merchants passing through. There was a c
:ar Lord Mountbatten, the last Viceroy of India, was	murdered	. Then, I was a shaggy-haired 19-year old on my gap y
n's mother Lindy was convicted and later cleared of	murdering	her and has always maintained that/that a wild dog too
ure it did actually say that/that the rhino had been	murdered	and its horn had been removed, but they'd actually sho
d 90 % of foxes imprisoned in factory fur farms are	murdered	so their pelt is turned into a trim for a jacket, coat or ot
veal the species of the nonhuman animal who was	murdered	for that item. Beware of the labels! Because a labe
ms, hundreds of millions of nonhuman animals are	murdered	in the name of fashion, in the name of vanity and greed
et the hundreds of thousands of seals who are also	murdered	every year in Canada, Cape town, and other islands to s
l as knowing that/that no animal was enslaved and	murdered	for your comfort. It is also important to point out tha
ıe skin ripped off an animal who was exploited and	murdered	for human profits.
n. Killing Both Arctic Foxes and Red Foxes are	murdered	by anal electrocution. An electrode is placed into the re
lesh industry for the millions of nonhuman animals	murdered	for their skin and flesh who endure the horrors of facto
'ments. The skin / flesh industry also exploits and	murders	pigs, goats, lambs, horses, cats, dogs, snakes, deers
›olicy, massive numbers of seals will continue to be	murdered	. There is also a small market for seal oil ((both for ir
:ypies ((a psychotic condition)). The animals are	murdered	by various ways including by Anal Electrocution, Neck B
›se who don't get better tend to be' euthanised''' ((	murdered	so that/that the owner avoids''' unnecessary''' costs)).
vorked up about this infringement of their rights to	murder	small animals, members of the Alliance descended on

Printed here are the annotation results for the features assessed, as detailed in Chapter 4. Below each feature header are the values assigned by the first annotator ('1'), the values assigned by the second annotator ('2'), and the agreement score generated ('A'). For each feature, at the bottom of the table, are: the observed agreement (OA), the number of categories from which the annotators could choose (Cat), the expected agreement (EA), and the final, corrected agreement (CA), calculated using the coefficient described in Chapter 4. The average of all of these CA scores was 0.884, with a standard deviation of 0.061.

Pattern			A/P			ARD			AN			PRD			PN			Context			Agent			Patient		
1	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**	**1**	**2**	**A**
3	3	1	a	a	1	2	2	1	in	in	1	0	0	1	in	in	1	lab	lab	1	ADDAA	ADDAA	1	ABBBA	ABBBA	1
3	3	1	a	a	1	0	0	1	pl	pl	1	0	0	1	mn	mn	1	wild	wild	1	ABCBC124	ABCBC124	1	ABBGA	ABBBA	0
1	3	0	a	a	1	6	6	1	pl	pl	1	0	0	1	pl	pl	1	lab	lab	1	ABCBC70	ABCBC70	1	ABBFA	ABBFA	1
2	2	1	a	a	1	6	6	1	in	in	1	0	0	1	in	in	1	wild	wild	1	ABCBC81	ABCBC81	1	ABDAA	ABDAA	1
3	3	1	p	p	1	6	6	1	in	in	1	1	1	1	in	in	1	wild	wild	1	ABCBC19	ABCBC19	1	ABCCE	ABCCE	1
3	3	1	a	a	1	0	6	0	in	in	1	0	4	0	mn	mn	1	gen	gen	1	ABCBB	ABCBB	1	ABBAA	ACBCB	0
3	3	1	a	a	1	0	0	1	in	in	1	0	0	1	mn	mn	1	dom	dom	1	ABCBB	ABCBB	1	ABBAA	ABBBA	0
1	1	1	p	p	1	0	6	0	ns	ns	1	3	0	0.25	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC18	ABCBC	0.75
1	1	1	p	p	1	0	6	0	ns	ns	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC18	ABCBC18	1
3	3	1	a	a	1	1	1	1	pl	pl	1	0	0	1	pl	pl	1	gen	gen	1	ABCBB	ABCBB	1	ABBBA	ABBBA	1
2	2	1	a	a	1	1	0	0.75	in	in	1	0	0	1	in	in	1	gen	gen	1	ABCBG	ABCBG	1	ABDAA	ABDAA	1
3	3	1	a	a	1	1	2	0.75	in	in	1	0	0	1	in	in	1	gen	gen	1	ABCBB	ABCBB	1	ABBKA	ABBBA	0
3	3	1	a	a	1	1	3	0.5	in	in	1	0	0	1	mn	mn	1	gen	gen	1	ABCBB	ABCBB	1	ABCCG8	ABCCG8	1
3	3	1	a	a	1	3	1	0.5	in	in	1	0	0	1	in	in	1	gen	gen	1	ABCBB	ABCBB	1	ABBBA	ABCCH	0
1	1	1	a	a	1	6	6	1	pl	pl	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC	ABCBC	1
1	2	0	p	p	1	6	5	0.75	pl	pl	1	0	0	1	col	pl	0	lab	lab	1	ABCBB21	ABCBB	0.75	ABCBC	ABCBC	1
1	1	1	a	a	1	6	6	1	ns	ns	1	6	0	0	in	in	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC	ABCBC	1
1	1	1	p	p	1	6	6	1	ns	ns	1	1	1	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC	ABCBC	1
1	1	1	p	p	1	6	6	1	ns	ns	1	1	1	1	in	in	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC	ABCBC	1
1	1	1	p	p	1	6	6	1	ns	ns	1	6	0	0	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBF	ABCBF	1
1	1	1	a	a	1	6	6	1	ns	ns	1	6	0	0	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBF	ABCBF	1
1	1	1	p	p	1	6	2	0	ns	ns	1	6	0	0	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC5	ABCBC41	0.75
1	1	1	p	p	1	6	6	1	ns	ns	1	6	0	0	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC5	ABCBC41	0.75
1	1	1	p	p	1	6	6	1	ns	ns	1	5	0	0	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC6	ABCBC	0.75
1	1	1	p	p	1	6	6	1	pl	ns	0	0	0	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC18	ABCBC18	1
1a	1	0.75	a	a	1	1	1	1	col	pl	0	6	0	0	pl	pl	1	farm	farm	1	ABCBB	AEBAA	0	ABCAA	ABCBD	0
1	1	1	a	a	1	1	1	1	pl	pl	1	2	2	1	col	mn	0	farm	farm	1	ABCBB	AEBAA	0	ABCCF	ABCBD	0
1	1	1	a	a	1	1	1	1	pl	pl	1	6	5	0.75	col	pl	0	farm	farm	1	ABCBB8	ABCBB8	1	ABCBD	ABCBD	1
1	1	1	a	a	1	1	1	1	pl	pl	1	2	2	1	pl	pl	1	farm	farm	1	ABCBB	ABCBB8	0.75	ABCBD	ABCBD	1
1	1	1	a	a	1	1	1	1	in	in	1	1	1	1	pl	pl	1	farm	farm	1	ABCBB8	ABCBB8	1	ABCBD	ABCBD	1
3	3	1	a	a	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	wild	wild	1	ABCBB21	ABCBB	0.75	ABCBC	ABCBC	1
3	3	1	p	p	1	6	6	1	pl	pl	1	0	0	1	pl	in	0	wild	wild	1	ABCBB8	ABCBB	0.75	ABCBC28	ABCBC41	0.75
3	3	1	a	a	1	6	6	1	pl	ns	0	0	0	1	pl	pl	1	wild	wild	1	ABCBB9	ABCBB	0.75	ABCBC41	ABCBC41	1
3	3	1	a	a	1	6	6	1	ns	ns	1	6	0	0	pl	pl	1	ani	anim	1	ABCBB8	ABCBB	0.75	ABCBC41	ABCBC41	1
3	3	1	p	p	1	6	6	1	pl	ns	0	4	3	0.75	pl	pl	1	ani	anim	1	ABCBB8	ABCBB	0.75	ABCBC41	ABCBC41	1
3	3	1	p	p	1	6	6	1	pl	ns	0	0	0	1	pl	pl	1	ani	anim	1	ABCBB8	ABCBB	0.75	ABCBC80	ABCBC80	1
3	3	1	p	p	1	6	6	1	pl	pl	1	1	1	1	pl	pl	1	wild	wild	1	ABCBB	ABCBB	1	ABCBC87	ABCBC87	1
3	3	1	p	p	1	6	6	1	ns	ns	1	1	0	0.75	pl	pl	1	lab	lab	1	ABCBB12	ABCBB21	0.75	ABCBC91	ABCBC91	1
3	3	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB9	ABCBB	0.75	ABCBC108	ABCBC108	1
3a	3	0.75	a	a	1	6	6	1	pl	ns	0	0	3	0.25	mn	mn	1	ani	anim	1	ABCBB9	ABCBB	0.75	ADAAA	ABCBC41	0
4	4	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBE1	ABCCG1	0
4	3	0	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBE1	ABCBE1	1
4	3	0	p	p	1	6	6	1	ns	ns	1	1	1	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBE1	ABCBE1	1
4	4	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBE1	ABCCG1	0
4	4	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBE1	ABCCG1	0
4	3	0	a	a	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB	0.75	ABCCG7	ABCCG7	1
4	3	0	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB	0.75	ABCCE	ABCCE	1
4	4	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCCG7	ABCCG7	1

3	3	1	a	a	1	0	0	1	pl	pl	1	0	0	1	pl	pl	1	ani	anim	1	AEBBB	AEBBB	1	ABCBC41	ABCBC99	0.75
3	3	1	a	a	1	0	0	1	pl	pl	1	6	0	0	pl	pl	1	ani	anim	1	AEBBB	AEBBB	1	ABCBC41	ABCBC41	1
1	3	0	a	a	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB	ABCBB	1	ABCBC11	ABCBC89	0.75
1	1	1	a	a	1	6	6	1	col	ns	0	0	0	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC86	ABCBC86	1
1	1	1	a	a	1	0	0	1	pl	pl	1	3	3	1	pl	pl	1	wild	wild	1	ABCBB	ABCBB	1	ABCBC53	ABCBC53	1
1	1	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	lab	1	ABCBB21	ABCBB21	1	ABCBC107	ABCBC107	1
1	1	1	p	p	1	6	6	1	ns	ns	1	2	1	0.75	in	in	1	ani	anim	1	ABCBB23	ABCBB	0.75	ABCBC	ABCBC	1
1	1	1	p	p	1	6	6	1	pl	ns	0	0	1	0.75	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC63	ABCBC63	1
1	1	1	a	a	1	6	0	0	pl	pl	1	1	1	1	in	in	1	gen	gen	1	ABCBB8	ABCBB	0.75	ABCBC96	ABCBC96	1
1	1	1	a	a	1	1	0	0.75	in	in	1	1	1	1	pl	pl	1	ani	anim	1	AEBBB	AEBBB	1	ABCBC107	ABCBC107	1
1	1	1	p	p	1	6	6	1	ns	ns	1	0	1	0.75	pl	pl	1	lab	lab	1	ABCBB21	ABCBB	0.75	ABCBC86	ABCBC86	1
1	1	1	p	p	1	6	5	0.75	pl	pl	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC86	ABCBC86	1
1	1	1	a	a	1	4	3	0.75	pl	pl	1	0	0	1	pl	pl	1	wild	anim	0	ABCBB9	ABCBB18	0.75	ABCBC129	ABCBC129	1
1a	1	0.75	a	a	1	2	2	1	in	in	1	0	0	1	pl	pl	1	ani	anim	1	ACBBC	ACBBC	1	ABCBC	ABCBC	1
1	1	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	anim	0	ABCBB23	ABCBB	0.75	ABCBC86	ABCBC86	1
1	1	1	p	p	1	6	6	1	ns	ns	1	0	0	1	pl	pl	1	lab	anim	0	ABCBB21	ABCBB	0.75	ABCBC107	ABCBC107	1
1	1	1	p	p	1	6	6	1	ns	ns	1	1	0	0.75	pl	pl	1	lab	anim	0	ABCBB21	ABCBB	0.75	ABCBC107	ABCBC107	1
1	1	1	p	p	1	6	6	1	pl	ns	0	2	2	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC	ABCBC	1
1	1	1	a	a	1	2	3	0.75	pl	pl	1	0	0	1	pl	pl	1	wild	wild	1	ABCBB	ABCBB21	0.75	ABCBC11	ABCBC11	1
1	1	1	p	p	1	6	6	1	pl	ns	0	0	1	0.75	pl	pl	1	ani	anim	1	ABCBB	ABCBB	1	ABCBC29	ABCBC29	1
1	1	1	p	p	1	6	6	1	ns	ns	1	5	1	0	pl	pl	1	lab	anim	0	ABCBB	ABCBB	1	ABCBC107	ABCBC107	1
1	1	1	p	p	1	6	1	0	pl	pl	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB	ABCBB8	0.75	ABCBC	ABCBC29	0.75
1	1	1	p	p	1	6	6	1	ns	in	0	6	0	0	in	in	1	ani	anim	1	ABCBB23	ABCBB8	0.75	ABCBC86	ABCBC86	1
2f	1	0	p	p	1	6	6	1	ns	ns	1	3	3	1	in	in	1	wild	wild	1	ABCBC2	ABCBC2	1	ABCBC119	ABCBC119	1
1	1	1	p	p	1	6	6	1	pl	pl	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC107	ABCBC107	1
1	1	1	p	p	1	6	6	1	pl	pl	1	1	1	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC	ABCBC	1
1	1	1	p	p	1	6	6	1	ns	ns	1	1	1	1	pl	pl	1	ani	anim	1	ABCBB23	ABCBB23	1	ABCBC86	ABCBC86	1
1	1	1	a	a	1	2	3	0.75	pl	pl	1	1	1	1	in	in	1	dom	gen	0	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	a	a	1	0	6	0	in	in	1	0	0	1	in	in	1	dom	gen	0	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	a	a	1	1	3	0.5	in	in	1	0	0	1	in	in	1	gen	gen	1	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	p	p	1	0	0	1	pl	pl	1	0	0	1	in	in	1	dom	dom	1	ABCBB26	ABCBB26	1	ABCBB28	ABCBB28	1
1	1	1	a	a	1	0	0	1	in	in	1	1	1	1	in	in	1	gen	gen	1	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	a	a	1	0	1	0.75	in	in	1	0	0	1	pl	pl	1	dom	gen	0	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	a	a	1	0	1	0.75	in	in	1	0	0	1	pl	pl	1	dom	dom	1	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	p	p	1	6	6	1	ns	ns	1	1	1	1	pl	pl	1	dom	dom	1	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1	1	1	a	a	1	1	1	1	pl	pl	1	0	0	1	pl	pl	1	gen	gen	1	ABCBB26	ABCBB26	1	ABCBB	ABCBB	1
1	1	1	p	p	1	6	6	1	ns	ns	1	0	0	1	in	in	1	gen	gen	1	ABCBB	ABCBB	1	ABCBB15	ABCBB15	1
1	1	1	a	a	1	0	2	0.5	in	in	1	1	2	0.75	in	in	1	gen	gen	1	ABCBB	ABCBB	1	ABCBB	ABCBB	1
1a	1	0.75	p	p	1	5	4	0.75	ns	ns	1	0	0	1	in	in	1	wild	wild	1	ABCBB12	ABCBB18	0.75	ABCBC97	ABCBC97	1
1a	1	0.75	p	p	1	4	4	1	pl	pl	1	0	1	0.75	pl	pl	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC45	ABCBC45	1
1a	1	0.75	p	p	1	6	6	1	ns	ns	1	1	1	1	in	in	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC	ABCBC	1
1a	1	0.75	p	p	1	6	6	1	pl	pl	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC	ABCBC	1
1a	1	0.75	p	p	1	6	1	0	pl	pl	1	1	1	1	pl	pl	1	wild	wild	1	ABCBB10	ABCBB10	1	ABCBC	ABCBC105	0.75
1a	1	0.75	p	p	1	6	6	1	ns	ns	1	0	1	0.75	in	in	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC	ABCBC	1
1a	1	0.75	p	p	1	6	6	1	ns	ns	1	1	2	0.75	in	in	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC	ABCBC	1
1a	1	0.75	p	p	1	6	6	1	pl	pl	1	0	0	1	pl	pl	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC45	ABCBC45	1
1a	1	0.75	p	p	1	6	1	0	pl	pl	1	0	1	0.75	pl	pl	1	ani	anim	1	ABCBB10	ABCBB10	1	ABCBC	ABCBC	1
1a	1	0.75	a	a	1	1	1	1	in	in	1	0	0	1	pl	pl	1	ani	anim	1	AEBBD	AEBBD	1	ABCBC	ABCBC	1
1a	1	0.75	p	p	1	6	5	0.75	pl	pl	1	0	1	0.75	pl	pl	1	gen	gen	1	ABCBB23	ABCBB18	0.75	ABCBC105	ABCBC105	1
1a	1	0.75	p	p	1	6	4	0.5	pl	pl	1	4	0	0	pl	pl	1	ani	anim	1	ABCBB	ABCBB	1	ABCBC	ABCBC	1
1a	1	0.75	p	p	1	6	1	0	ns	ns	1	3	3	1	pl	pl	1	ent	ent	1	ABCBB	ABCBB	1	ABCBC63	ABCBC63	1
1a	1	0.75	a	a	1	1	1	1	in	mn	0	0	0	1	pl	pl	1	wild	ent	0	AEBBG	AEBBG	1	ABCBC	ABCBC	1

OA	0.878	**OA**	1	**OA**	0.845	**OA**	0.880	**OA**	0.820	**OA**	0.96	**OA**	0.910	**OA**	0.918	**OA**	0.868
Cat	12	**Cat**	2	**Cat**	7	**Cat**	5	**Cat**	7	**Cat**	5	**Cat**	9	**Cat**	254	**Cat**	254
EA	0.083	**EA**	0.5	**EA**	0.143	**EA**	0.200	**EA**	0.143	**EA**	0.2	**EA**	0.111	**EA**	0.004	**EA**	0.004
CA	**0.866**	**CA**	**1**	**CA**	**0.819**	**CA**	**0.850**	**CA**	**0.790**	**CA**	**0.95**	**CA**	**0.899**	**CA**	**0.917**	**CA**	**0.867**

Appendix D: All verb patterns

Assassinate

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	100	0.00	*HUMAN 1* ***assassinate*** *HUMAN 2 = Leader*	*HUMAN 1* kills *HUMAN 2 = Leader* for political reasons

Butcher

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	32.35	85.19	*HUMAN* ***butcher*** *ANIMAL | MEAT*	*HUMAN* slaughters and then cuts up *ANIMAL* in order to eat its *MEAT*
2	67.65	0.00	*HUMAN 1 | INSTITUTION* ***butcher*** *HUMAN 2*	*HUMAN 1 | INSTITUTION* savagely and callously kills *HUMAN 2*
3	0.00	14.81	*HUMAN* ***butcher*** [NO OBJ]	*HUMAN* works as a butcher

Cull

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	25.77	47.06	*HUMAN = Hunter* ***cull*** *ANIMAL GROUP = Wild*	*HUMAN = Hunter* reduces the size of *ANIMAL GROUP = Wild* by killing selected members of it
2	9.28	52.94	*HUMAN = Farmer* ***cull*** *ANIMAL = Farm Animal*	*HUMAN = Farmer* kills or removes *ANIMAL = Farm Animal* because it is too old or ill to breed
3	47.42	0.00	*HUMAN* ***cull*** *ANYTHING = Concept | INFORMATION | INFORMATION SOURCE*	*HUMAN* gathers a range of *ANYTHING = Concept | INFORMATION | INFORMATION SOURCE* from a wide selection
4	15.46	0.00	*HUMAN* ***cull*** *ARTIFACT = Plural*	*HUMAN* selects a range of *ARTIFACT = Plural* to form a collection
5	2.06	0.00	*HUMAN* ***cull*** *DOCUMENT*	*HUMAN* reads *DOCUMENT* very carefully in order to find and select specific information

Destroy

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	88.11	65.99	*ENTITY 1 | EVENTUALITY* ***destroy*** *ENTITY 2 | STATE OF AFFAIRS*	*ENTITY 1 | EVENTUALITY* damages *ENTITY 2 | STATE OF AFFAIRS* until it is completely ruined
2	7.37	0.51	*HUMAN 1 | HUMAN GROUP 1* ***destroy*** *HUMAN 2 | HUMAN GROUP*	*HUMAN 1 | HUMAN GROUP 1* utterly defeats *HUMAN 2 | HUMAN GROUP*
3	1.64	0.00	*ENTITY | EVENTUALITY* ***destroy*** *HUMAN*	*ENTITY | EVENTUALITY* ruins *HUMAN* emotionally or spiritually
4	2.87	33.50	*HUMAN* ***destroy*** *ANIMAL | FETUS*	*HUMAN* kills unwanted *ANIMAL | FETUS*

Dispatch

#	% BNC sample (PDEV)	%PPPP sample (KVD)	Pattern	Implicature
1	34.89	22.86	*HUMAN* ***dispatch*** *DOCUMENT | ARTIFACT*	*HUMAN* sends *DOCUMENT* or *ARTIFACT* to be delivered to a particular person or place
2	2.55	57.14	EUPHEMISM *HUMAN 1* ***dispatch*** *HUMAN 2 | ANIMAL*	*HUMAN 1* deliberately kills *HUMAN 2 | ANIMAL*
3	60.43	17.14	*HUMAN 1 | INSTITUTION* ***dispatch*** *HUMAN 2 | HUMAN GROUP | VEHICLE | VEHICLE GROUP*	*HUMAN 1 | INSTITUTION* sends *HUMAN 2 | HUMAN GROUP | VEHICLE | VEHICLE GROUP* somewhere to carry out a task
4	2.13	2.86	*HUMAN* ***dispatch*** *ACTIVITY*	*HUMAN* deals with *ACTIVITY* quickly and efficiently

Euthanise

#	% enTenTen sample	% PPPP sample (KVD)	Pattern	Implicature
1	100.00	100.00	*HUMAN 1 | INSTITUTION* ***euthanise*** *ANIMAL*	*HUMAN 1 | INSTITUTION* kills infirm or unwanted *ANIMAL*

Exterminate

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	44.00	100.00	*HUMAN* | *EVENTUALITY* ***exterminate*** *ANIMAL GROUP* | *PLANT GROUP*	*HUMAN* | *EVENTUALITY* causes the death of an entire population of an *ANIMAL GROUP* | *PLANT GROUP* in a particular locality
2	56.00	0.00	*HUMAN GROUP 1* ***exterminate*** *HUMAN GROUP 2*	*HUMAN GROUP 1* deliberately and systematically kills *HUMAN GROUP 2*

Harvest

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	81.11	27.01	*HUMAN* ***harvest*** *PLANT = Crop*	*HUMAN* cuts down and gathers *PLANT = Crop* when *PLANT* is ready for use
2	5.00	1.42	*HUMAN* ***harvest*** *LOCATION*	*HUMAN* gathers foodstuff from *LOCATION*
3	11.11	22.75	EUPHEMISM *HUMAN* ***harvest*** *FISH* | *ANIMAL*	*HUMAN* kills *FISH* | *ANIMAL* for use as food
4	2.78	48.82	BIOCHEMISTRY, JARGON *HUMAN* ***harvest*** *BODY PART*	*HUMAN* removes *BODY PART* for research or transplanting

Kill

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	94.19	97.01	*HUMAN* | *ANIMAL* | *PROCESS* ***kill*** *HUMAN* | *ANIMAL* | *PLANT*	*HUMAN* | *ANIMAL* | *EVENT* causes the death of *HUMAN* | *ANIMAL* | *PLANT*
2	0.99	0.00	*ACTIVITY* | *DRUG* ***kill*** [NO OBJ]	*ACTIVITY* | *DRUG* has the potential to cause death [NO OBJ]
3	1.26	0.50	*ANYTHING* ***kill*** *ABSTRACT ENTITY*	*ANYTHING* brings about the end of *ABSTRACT ENTITY*
4	0.05	0.00	*BODY PART* ***kill*** *HUMAN*	*BODY PART* is a source of physical pain for *HUMAN*
5	0.01	0.00	*ABSTRACT ENTITY* ***kill*** *HUMAN*	*ABSTRACT ENTITY* is a source of emotional pain for *HUMAN*
6	1.10	1.99	*pv* *HUMAN* | *INSTITUTION* | *EVENTUALITY* ***kill*** *GROUP* {off}	*HUMAN* | *INSTITUTION* | *EVENTUALITY* gets rid of *GROUP* completely
7	0.02	0.00	*pv* *HUMAN = Author* ***kill*** *ABSTRACT ENTITY = Character* {off}	*HUMAN = Author* brings about the fictional death of *ABSTRACT ENTITY = Character* in a novel, film, play or television show
8	0.42	0.00	*HUMAN* | *INSTITUTION* ***kill*** *ACTIVITY*	*HUMAN* | *INSTITUTION* deliberately prevents *ACTIVITY* from continuing
9	0.84	0.00	*pv* *ANYTHING* ***kill*** *ACTIVITY* {off}	*ANYTHING* puts a stop to *ACTIVITY*
10	0.26	0.00	IDIOM *HUMAN* ***kill*** {time}	*HUMAN* passes {time} while waiting for a particular event
11	0.26	0.00	IDIOM *HUMAN 1* ***kill*** *HUMAN 2* {with {kindness} | by {kindness}}	*HUMAN 1* shows excessive or false kindness towards *HUMAN 2* to detrimental effect
12	0.10	0.00	IDIOM {Curiosity} ***killed*** {the cat}	It is potentially dangerous to be too inquisitive
13	0.05	0.00	IDIOM *HUMAN* ***would kill*** [NO OBJ] {for *EVENTUALITY*} {to/INF [V]}	*HUMAN* would be willing to go to extreme lengths in order to reach some goal
14	0.16	0.00	IDIOM ***kill*** {two birds with one stone}	Solve two problems with one solution
15	0.05	0.00	IDIOM {If looks could} ***kill*** [NO OBJ]	A saying used when someone is looking angrily at someone else
16	0.01	0.00	IDIOM *HUMAN* ***kill*** *PERFORMANCE*	*HUMAN* gives *PERFORMANCE* extremely well
17	0.05	0.50	SLANG *HUMAN* ***kill*** *SELF*	*HUMAN* overexerts *SELF*
18	0.05	0.00	IDIOM {Dressed to} ***kill*** [NO OBJ]	Dressed impressively or extravagantly

Murder

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	99.37	100.00	*HUMAN 1* **murder** *HUMAN 2*	*HUMAN 1* deliberately and illegally kills *HUMAN 2*
2	0.42	0.00	INFORMAL *HUMAN* **murder** *PERFORMANCE* | *LANGUAGE*	*HUMAN* spoils *PERFORMANCE* or uses *LANGUAGE* badly due to lack of skill or talent
3	0.21	0.00	INFORMAL *HUMAN* **murder** *FOOD*	*HUMAN* consumes *FOOD* greedily and enthusiastically

Put down

#	% BNC sample	% PPPP sample (KVD)	Pattern	Implicature
1	43.45	4.74	pv *HUMAN* | *ANIMAL* ***puts down*** *PHYSICAL OBJECT*	*HUMAN* | *ANIMAL* stops holding *PHYSICAL OBJECT* and places it somewhere in the immediate vicinity
2	13.32	8.06	pv *HUMAN* ***puts down*** *INFORMATION* | THAT-CLAUSE ({on paper})	*HUMAN* records *INFORMATION* by writing it down or typing it out
3	8.95	4.27	pv *HUMAN* | *INSTITUTION* ***puts*** *EVENTUALITY* | *STATE OF AFFAIRS* ***down*** {to} *ANYTHING*	*HUMAN* | *INSTITUTION* attributes *EVENTUALITY* | *STATE OF AFFAIRS* to *ANYTHING*
4	8.73	0.95	pv *HUMAN 1* ***puts*** {the phone | the telephone} ***down*** ({on} *HUMAN 2*)	*HUMAN 1* ends telephone call with *HUMAN 2* (before *HUMAN 2* has finished speaking)
5	5.02	14.22	pv *HUMAN* ***puts down*** *STUFF* | *ARTIFACT*	*HUMAN* lays out *STUFF* | *ARTIFACT* on the ground in a purposeful way
6	3.49	0.00	pv *HUMAN* | *INSTITUTION* ***puts down*** *ACTIVITY*	*HUMAN = Political* | *INSTITUTION = Government* | *Army* uses force to bring an end to *ACTIVITY = Revolt* by *HUMAN GROUP*
7	2.84	64.45	pv *HUMAN* ***puts down*** *ANIMAL*	*HUMAN* kills old, infirm or unwanted *ANIMAL*
8	2.40	0.00	pv *HUMAN* ***puts down*** *MONEY*	*HUMAN* pays a portion of *MONEY*, usually as a deposit for something
9	2.18	0.95	pv *HUMAN 1* ***puts*** *HUMAN 2* | *NAME* ***down*** ({for *ACTIVITY* | *RESOURCE*})	*HUMAN 1* adds *NAME* of *HUMAN 1* | *HUMAN 2* to a list in order to formally register that *HUMAN 1* | *HUMAN 2* is interested in taking part in *ACTIVITY* or would like to receive *RESOURCE*
10	1.97	0.47	pv *HUMAN 1* ***puts down*** *HUMAN 2*	*HUMAN 1* criticises *HUMAN 2*
11	1.97	0.47	pv *HUMAN* ***puts*** REFLDET {foot} ***down***	*HUMAN* insists on a particular course of action, despite opposition
12	1.09	1.42	pv *HUMAN* | *HUMAN GROUP* | *INSTITUTION* ***puts down*** *PROPOSITION*	*HUMAN* | *HUMAN GROUP = Political* or *INSTITUTION = Government* officially requests that *PROPOSITION* be considered and a decision made on it
13	1.09	0.00	pv *HUMAN* ***puts*** REFLDET {foot} ***down***	*HUMAN = Driver* makes an effort to drive *VEHICLE* faster
14	0.66	0.00	pv *HUMAN* ***puts down*** {roots}	*HUMAN* becomes settled and established in new environment, typically a new home
15	0.44	0.00	pv *HUMAN* [MODAL] ([NEG]) ***put*** {book} ***down***	*HUMAN* feels compelled to continue reading something
16	0.44	0.00	pv SPORTS *HUMAN 1* ***puts down*** *HUMAN 2*	*HUMAN 1 = Wrestler* pins *HUMAN 2 = Wrestler* to the ground
17	0.44	0.00	pv SPORTS *HUMAN* ***puts down*** {catch}	*HUMAN = Cricketer* drops cricket ball whilst trying to catch it
18	0.44	0.00	pv *HUMAN 1* | *VEHICLE* ***puts*** *HUMAN 2* | *HUMAN GROUP* ***down*** [Adv[Location]]	*HUMAN 1 = Driver* stops *VEHICLE* and lets *HUMAN 2* | *HUMAN GROUP* out at *LOCATION*
19	0.22	0.00	pv *PLANE* ***puts down***	*PLANE* lands
20	0.22	0.00	pv *HUMAN* ***puts down*** *PLANE*	*HUMAN = Pilot* lands *PLANE*
21	0.22	0.00	pv *HUMAN* ***puts*** REFLDET {head} ***down***	*HUMAN* focuses their efforts on a particular task
22	0.20	0.00	pv *HUMAN* | *INSTITUTION* ***puts down*** {marker}	*HUMAN* | *INSTITUTION* makes clear what they intend to do

Put to sleep

#	% BNC sample	% PPPP sample (KVD)	Pattern	Implicature
1	11.76	0.00	pv *ACTIVITY* | *STUFF* ***puts*** *HUMAN* ***to sleep***	*ACTIVITY* or *STUFF* causes *HUMAN* to become so sleepy that they fall asleep
2	20.59	0.00	pv *HUMAN 1* **puts** *HUMAN 2* ***to sleep***	*HUMAN 1* = *Parent* puts *HUMAN 2* = *Child* into bed so that they might fall asleep
3	45.59	100.00	pv *HUMAN* ***puts*** *ANIMAL* ***to sleep***	*HUMAN* kills old, infirm or unwanted *ANIMAL*
4	14.29	0.00	pv *ANYTHING* ***puts*** *HUMAN* ***to sleep***	*HUMAN* finds *ANYTHING* very boring
5	7.35	0.00	pv *HUMAN 1* **puts** *HUMAN 2* ***to sleep***	*HUMAN 1* = *Doctor* | *Anaesthetist* administers anaesthesia to *HUMAN 2* = *Patient* in order to carry out a medical procedure

Sacrifice

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	14.58	93.40	*HUMAN 1* ***sacrifice*** *ANIMAL* | *HUMAN 2* (to *DEITY*)	*HUMAN 1* kills *ANIMAL* | *HUMAN 2* as an offering to a *DEITY*
2	8.33	0.94	*HUMAN 1* ***sacrifice*** *SELF* | REFLDET {life} (for *HUMAN 2*)	*HUMAN 1* gives up his or her own desires and ambitions, and possibly life itself, in order to benefit *HUMAN 2* or to achieve some other desirable goal
3	74.58	5.66	*HUMAN* ***sacrifice*** *ENTITY* = *Valued*	*HUMAN* gives up *ENTITY* = *Valued* in order to achieve an even more desirable goal
4	2.50	0.00	POLITICS *HUMAN 1* = *Leader* ***sacrifice*** *HUMAN 2* = *Politician*	*HUMAN 1* = *Politician* destroys the life, interests, or career of *HUMAN 2* = *Politician* for the sake of some political, commercial, or other goal

Slaughter

#	% BNC sample (PDEV)	% PPPP sample (KVD)	Pattern	Implicature
1	63.18	98.56	*HUMAN* ***slaughter*** *ANIMAL*	*HUMAN* kills *ANIMAL* for a purpose
2	30.85	1.44	*HUMAN GROUP 1* ***slaughter*** *HUMAN GROUP 2*	*HUMAN GROUP 1* kills *HUMAN GROUP 2* violently and without mercy, typically as part of a military operation, invasion, or rebellion
3	4.98	0.00	JOURNALISM, JARGON *HUMAN 1* ***slaughter*** *HUMAN 2*	*HUMAN 1* kills *HUMAN 2* violently and illegally
4	1.00	0.00	SPORTS, JOURNALISM, JARGON *HUMAN 1 = Sports Player* | *HUMAN GROUP 1 = Sports Team* ***slaughter*** *HUMAN 2 = Sports Player* | *HUMAN GROUP 2 = Sports Team*	*HUMAN 1 = Sports Player* | *HUMAN GROUP 1 = Sports Team* defeats *HUMAN 2 = Sports Player* | *HUMAN GROUP 2 = Sports Team* easily and by a large number of points or goals

Wipe out

#	% BNC sample	% PPPP sample (KVD)	Pattern	Implicature
1	97.40	100.00	pv *EVENTUALITY* | *ENTITY 1* ***wipe out*** *GROUP* | *ENTITY 2*	*EVENTUALITY* | *ENTITY 1* completely removes or destroys *GROUP* | *ENTITY 2*
2	0.43	0.00	pv *HUMAN = Surfer* ***wipe out*** [NO OBJ]	*HUMAN = Surfer* is capsized by a wave while surfing
3	1.73	0.00	pv *EVENTUALITY* ***wipe out*** *HUMAN* | *INSTITUTION*	*EVENTUALITY* causes *HUMAN* | *INSTITUTION* to go bankrupt
4	0.43	0.00	pv *EVENTUALITY* ***wipe out*** *HUMAN*	*EVENTUALITY* causes *HUMAN* to feel very tired

Appendix E: Verb patterns across text types

Journal articles	
sacrifice$_1$	193
harvest$_4$	102
slaughter$_1$	98
cull$_2$	55
harvest$_1$	49
harvest$_3$	43
kill$_1$	39
euthanise$_1$	35
destroy$_1$	33
cull$_1$	4
destroy$_4$	4
dispatch$_2$	3
exterminate$_1$	3
harvest$_2$	3
wipe out$_1$	3
sacrifice$_3$	2
cull$_3$	1
dispatch$_1$	1
put down$_1$	1
put down$_3$	1
put down$_5$	1

Campaign literature	
kill$_1$	50
slaughter$_1$	22
cull$_1$	20
destroy$_4$	12
murder$_1$	12
cull$_2$	9
put to sleep$_3$	9
dispatch$_2$	8
destroy$_1$	7
euthanise$_1$	7
put down$_7$	6
butcher$_1$	4
put down$_5$	4
exterminate$_1$	3
put down$_3$	2
sacrifice$_1$	2
wipe out$_1$	2
destroy$_2$	1
dispatch$_1$	1
dispatch$_3$	1
harvest$_3$	1
kill$_6$	1
sacrifice$_3$	1
slaughter$_2$	1
wipe out$_2$	1

News	
put down$_7$	43
kill$_1$	36
cull$_1$	23
destroy$_4$	23
slaughter$_1$	23
destroy$_1$	22
cull$_2$	18
wipe out$_1$	16
murder$_1$	11
butcher$_1$	6
put down$_3$	5
destroy$_2$	4
put to sleep$_3$	4
dispatch$_3$	3
harvest$_1$	2
kill$_6$	2
put down$_{12}$	2
dispatch$_1$	1
dispatch$_4$	1
euthanise$_1$	1
exterminate$_1$	1
harvest$_3$	1
harvest$_4$	1
kill$_{17}$	1
put down$_{22}$	1
put down$_5$	1
put down$_9$	1
sacrifice$_1$	1
sacrifice$_2$	1
sacrifice$_3$	1
slaughter$_2$	1
wipe out$_2$	1

Focus group	
kill$_1$	19
cull$_1$	13
put down$_7$	12
destroy$_1$	9
put to sleep$_3$	7
wipe out$_1$	7
cull$_2$	6
put down$_2$	6
destroy$_4$	5
butcher$_3$	4
butcher$_1$	3
murder$_1$	3
put down$_5$	3
slaughter$_1$	3
exterminate$_1$	2
destroy$_2$	1
destroy$_3$	1
dispatch$_2$	1
sacrifice$_3$	1

Broadcast	
wipe out$_1$	29
destroy$_1$	27
kill$_1$	19
slaughter$_1$	13
butcher$_1$	5
put down$_1$	5
dispatch$_2$	4
exterminate$_1$	4
harvest$_1$	4
destroy$_2$	3
harvest$_3$	3
put down$_5$	3
sacrifice$_3$	2
wipe out$_2$	2
destroy$_3$	1
dispatch$_3$	1
put down$_7$	1
sacrifice$_2$	1
slaughter$_2$	1

MO data	
put down$_7$	48
put to sleep$_3$	23
kill$_1$	10
put down$_5$	8
slaughter$_1$	8
destroy$_1$	4
cull$_1$	2
murder$_1$	2
sacrifice$_1$	2
dispatch$_3$	1
exterminate$_1$	1
kill$_6$	1
put down$_1$	1
put down$_{10}$	1
put down$_{11}$	1
put down$_3$	1
wipe out$_1$	1

Dogs transcripts	
put down$_7$	22
put to sleep$_3$	13
put down$_2$	10
put down$_5$	5
destroy$_1$	4
put down$_1$	3
kill$_1$	2
put down$_4$	2
sacrifice$_3$	2
dispatch$_2$	1
kill$_3$	1
murder$_1$	1
put down$_9$	1

Legislation	
slaughter$_1$	33
destroy$_4$	14
destroy$_1$	10
kill$_1$	9
harvest$_1$	2

Interviews	
cull$_1$	18
kill$_1$	11
destroy$_4$	7
euthanise$_1$	5
put down$_5$	5
slaughter$_1$	5
put down$_7$	4
destroy$_1$	3
cull$_2$	1
dispatch$_2$	1
put down$_2$	1
put to sleep$_3$	1

Promotional	
butcher$_1$	5
dispatch$_1$	5
sacrifice$_3$	3
destroy$_1$	2
dispatch$_2$	2

Appendix F: Examples of focus group stimulus texts

TEXT – London vegan campaigns

Pigs

This pig pictured to the right was reared on a factory farm. She has just had nine piglets, has nothing to lie on except a wire floor, and has very little movement.

She will be allowed to be with her piglets for around three weeks, and then they will be taken away. When they are taken she will fight and try and get back to them, but she will not see them again.

Within a couple weeks she will be put through another pregnancy like this. Sows commonly go through about five pregnancies before they are killed, so live their life continuously going through the agony of pregnancy in confined, barren conditions, and the agony of losing their babies at around three weeks.

Pig and piglets

This is the typical story for sows in a factory farm.

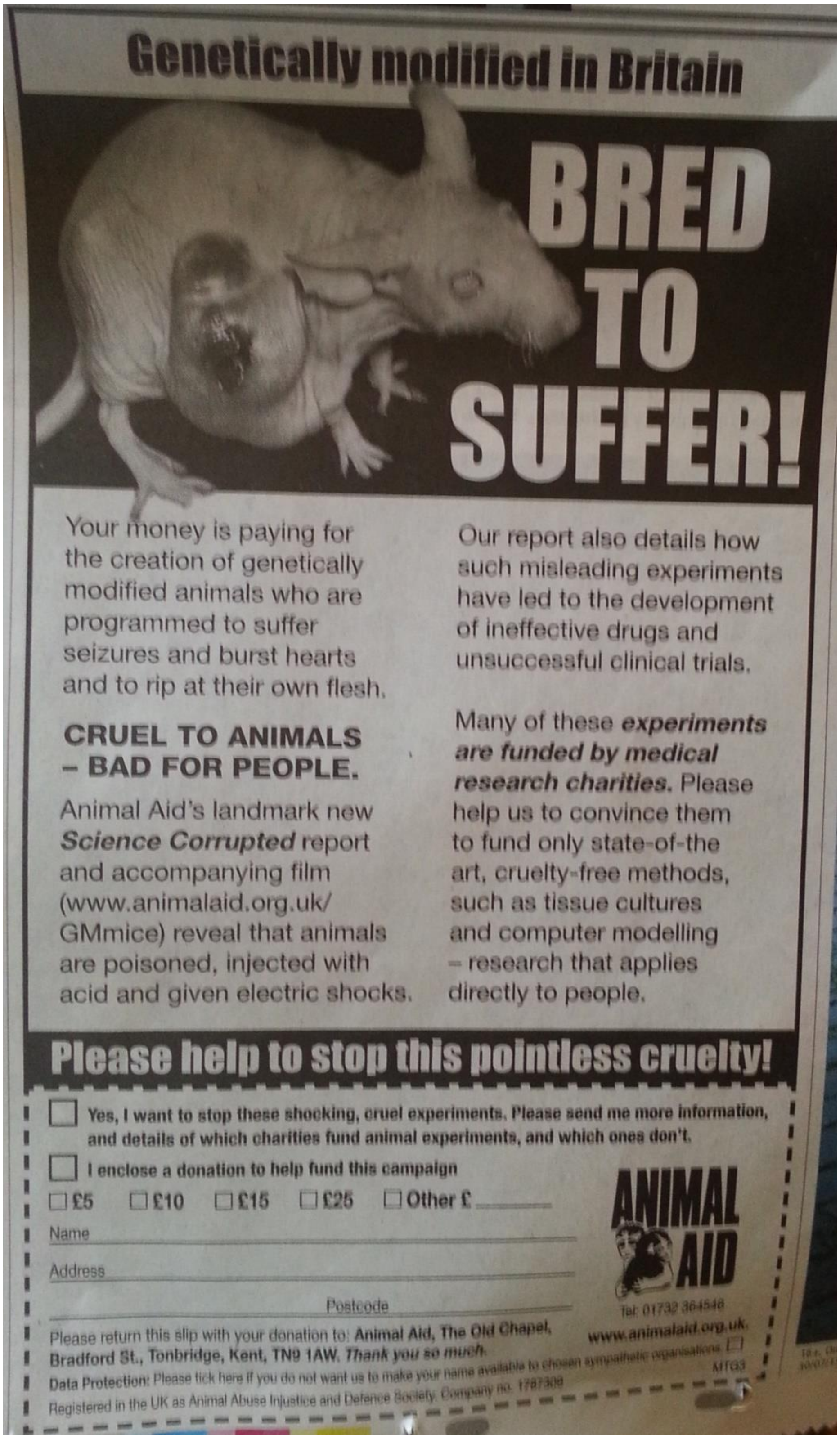
Most of the sow's babies will be reared for meat. On the factory farm they are kept in pens, inside, with little room to move and no access to fresh air or sunlight. After about five months they will be killed.

Pigs, like most animals, are killed by having their throat slit, whereupon they bleed to death. They may have been stunned beforehand with electric tongs or gas, but slaughterpeople have huge numbers of animals to kill and a set time to do the killing, so many animals are not completely stunned when the knife enters their throat. After stunning they are hoisted up in the air hanging from one leg, then their throat is slit.

To produce some meats, religion dictates that the animal may not be stunned so they are fully conscious when their throat is slit.

Website: http://www.vegancampaigns.org.uk/why-vegan/animal-cruelty

TEXT – Animal Aid advert (ran on Saturday 8 June 2013)



TEXT – Animal Welfare Foundation leaflet – Saying goodbye: The ultimate kindness (What you need to know about euthanasia)

The ultimate kindness

Virtually every pet owner would prefer their pet to die in its sleep because nobody wants to make the decision to end a life. This is a perfectly normal human reaction but unfortunately natural deaths are rarely as peaceful and pain-free as we picture them. Euthanasia, or putting animals to sleep, is without doubt the kindest way to a dignified end for your pet.

[…]

The phrase 'the ultimate kindness' may sound like a cliché but try to remember that it is true. Allowing your pet a pain-free and dignified end is possibly the kindest thing you will ever do for them. Feeling safe in that knowledge can really help you to come to terms with it.

[…]

Grieving

There is no easy or quick way to get over the loss of a much-loved pet but there is some excellent help around. Ask your vet or search online for advice and do remember that it helps to talk to friends, family and other pet owners. Sharing your grief, talking about your pet and trying to remember the many wonderful times you shared with them will help enormously.

TEXT – Countryside Alliance leaflet – Hunting Act 2004: The Case For Hunting

THE DIFFERENCE BETWEEN PEST CONTROL AND WILDLIFE MANAGEMENT

Many of those opposed to hunting with dogs accept the need for pest control, while condemning what they perceive to be the 'sport' of hunting. Such a view fails to understand that hunting involves pest control, wildlife management and recreation. The recreation element pays for the management and pest control function and is irrelevant in animal welfare terms.

The aim of population management should be to maintain healthy and balanced populations of wild mammals at levels which can be sustained by their local environment, and which are acceptable to farmers, landowners and the overall balance of all other wildlife.

Pest control, in contrast, is about efficiency and maximising numbers killed. When the reason for killing a wild animal is cited as being 'pest control', then welfare can be compromised, as biologist Dr Nick Fox stated in a report in 2003: