

# Towards Interspecies Sustainability: The Future for Thoroughbreds and Thoroughbred Racing

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*Thesis with published works*

A thesis submitted in fulfilment of the requirements  
for the degree of Doctor of Philosophy

# Thesis Statement of Originality

This thesis has not been submitted for any other degree or purposes. I certify that the intellectual content of this thesis is the product of my own work and that all assistance received in preparing this thesis and its sources have been acknowledged.

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# Abstract

The international thoroughbred racing industry is increasingly vulnerable to public scrutiny due to its horse welfare record. At the same time, the industry is concerned about its sustainability. The interface of welfare and sustainability however offers little for the horses because of a disconnect between dominant conceptions of sustainability and the protection of animals arising from an anthropocentric orientation of most conceptualisations of sustainability. This study investigates the interface of animal protection and sustainability, a realm of great relevance for animal geographies. It develops a theory of interspecies sustainability and applies it to the horseracing industry. The role of one aspect of this theory, naturalness, is explored further as it plays a salient role in the thoroughbred racing and breeding discourse.

Nine industry and seven animal advocacy informants in senior roles from Australia, the US and the UK, have been interviewed using semi-structured interviewing and photo-elicitation. Broadly, the two groups' differences in conceptualising sustainability, welfare and naturalness follow patterns of contrasting worldviews as expressed in reductionism versus holism, techno-bio-medical control of animal bodies versus the protection of animal integrity, and a downplaying and naturalising of violence committed against the horses versus a recognition of the de-naturalisation of the horses' life-worlds and its impact on them. Eight analytical layers were identified in the intersecting discourse of sustainability and animal protection, of which two have transformational sway to advance interspecies sustainability. This study seeks to raise conceptual awareness to identify at what layers a particular discourse takes place, to unveil industry co-option of the conceptual space of sustainability and animal protection, and to assist animal advocacy and policy development guided by a paradigm of interspecies sustainability for animal protection.

# Publications and Conference Presentations

The publications completed during candidature and submitted as part of this thesis are listed below in the order they appear in the text to assist in guiding the reader through the thesis structure and to reflect the evolution of the thesis. This also reflects the order the manuscripts have been published in.

At the time of thesis submission for examination, the manuscript included in Chapter 6 had been submitted for review to the journal but had not yet been published. Since thesis examination, the manuscript has been published. The manuscript is now included in its published version in Chapter 6. Some revisions had been made in response to the reviewers' comments, but those revisions did not change any of the substance of the article, the findings or the conclusions. The previously submitted manuscript is included in Appendix 1.

The presentations given during candidature as part of this research are also listed in chronological order starting with the earliest to reflect the evolution of the works. They are grouped by invited international presentations, and presentations given at international and regional conferences.

## Publications Included in this Thesis

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### *In Chapter 3:*

Bergmann, Iris. 2015. Sustainability, thoroughbred racing and the need for change. *Pferdeheilkunde (Equine Medicine)* 31: 490–498. <https://doi.org/10.21836/PEM20150509>.

### *In Chapter 4:*

Bergmann, Iris. 2019. He Loves to Race – or does He? Ethics and Welfare in Racing. In *Equine Cultures in Transition: Ethical Questions*, ed. Jonna Bornemark, Petra Andersson, and Ulla Ekström von Essen, 117–133. Routledge Advances in Sociology. Milton Park, Abingdon, Oxon; New York, NY: Routledge. <https://doi.org/10.4324/9781351002479-9>.

### *In Chapter 5:*

Bergmann, Iris M. 2019. Interspecies Sustainability to Ensure Animal Protection: Lessons from the Thoroughbred Racing Industry. *Sustainability* 11: 5539. <https://doi.org/10.3390/su11195539>.

### *In Chapter 6:*

Bergmann, Iris M. 2020. Naturalness and the Legitimacy of Thoroughbred Racing: A Photo-Elicitation Study with Industry and Animal Advocacy Informants. *Animals* 10(9): 1513. <https://doi.org/10.3390/ani10091513>.

## Invited International Conference Presentations

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Bergmann, Iris. 2015. Sustainability as a framework for Thoroughbred protection – why and what does it entail? *Pferdeheilkunde (PHK) Forum: Business and Ethics of Racing and the Role of the Veterinarian*, Palais Biron, Baden-Baden, Germany, 28-30 August 2015.



Bergmann, Iris. 2015. What is the nature of the welfare model for Thoroughbreds espoused by the Thoroughbred racing industry? An analysis of key documents published by selected industry bodies. *Pferdeheilkunde (PHK) Forum: Business and Ethics of Racing and the Role of the Veterinarian*, Palais Biron, Baden-Baden, Germany, 28 August 2015.

Bergmann, Iris. 2017. Breeding, Racing & the Wider World: New perspectives; Sociology, Psychology, Sustainability and Equine Welfare. *International Thoroughbred Breeders Federation Annual Congress*, Cape Town, 6 January 2017.

## Other International Conference Presentations

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Bergmann, Iris. 2015. Thoroughbred racing and the sustainability of welfare concepts. *International Minding Animals Conference 3 (MAC3)*, Jawaharlal Nehru University (JNU), New Delhi, 13-20 January.

Bergmann, Iris. 2016. Mental models of thoroughbred welfare and the future of thoroughbred racing. Equine Cultures in Transition – Human-horse relationships in theory and practice: changing concepts of interaction and ethics, *Conference of the Centre for Studies in Practical Knowledge*, Royal Swedish Academy of Agriculture and Forestry, Stockholm, Sweden, 27-29 October 2016.

## Regional Conference Presentations

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Bergmann, Iris. 2014. Sustainability and Animal Protection – How do they intersect, where do they collide? Critical Animal Studies in the Asia-Pacific, *Institute for Critical Animal Studies Oceania Conference*, Abbotsford Convent, Melbourne, 26-27 April 2014.

McManus, Phil; Davison, Aidan; Roberts, Sue; McGreevy, Paul; Ruse, Karen; Bergmann, Iris and Graham, Raewyn. 2014. The many worlds of jump racing: thoroughbreds, conflicting values and media discourse. *Institute of the Australian Geographers/New Zealand Geographical Society Conference*, University of Melbourne, Melbourne, 30 June-2 July 2014.

Bergmann, Iris. 2014. Sustainability, the Animal and the Anthropocene. *Institute of the Australian Geographers/New Zealand Geographical Society Conference*, University of Melbourne, Melbourne, 30 June-2 July 2014.

Bergmann, Iris. 2015. Sustainability, animal protection and thoroughbred racing. Animal Publics: Emotions, Empathy, Activism. *Conference of the Australasian Animal Studies Association*, University of Melbourne, Melbourne, 12-15 July 2015.

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## Disclosure

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The author had been invited by Hippatrika, the publisher of the journal *Pferdeheilkunde – Equine Medicine*, to present early findings of her research at the Forum “Business and Ethics of Racing and the Role of the Veterinarian” in 2015 in Baden-Baden, Germany. Hippatrika covered the travel and accommodation for the author to present at their event.

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The conference funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript or in the decision to publish the results.

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# Chapter 1. Introduction

## 1.1. Thesis Background and Motivation

This thesis set out to explore the intersection of sustainability, animal protection and the thoroughbred industry. The motivation and starting point for this investigation was the realisation that the dominant models and conceptualisations of sustainability, in particular as they are operationalised by governments and business in the form of sustainable development, do not include animal protection. One of the areas where this has been explored and critiqued within the context of animal welfare is animal agriculture. Buller and Morris (2008, 135) identify the “problematic nature of the relationship between farm animals and agricultural sustainability”. Rawles (2006, 211) claims “animal welfare concerns are not only different from the main concerns of sustainable development, but threatening to them” because, as she argues, taking animal welfare seriously would threaten the “business as usual” model of industrial animal agriculture that is built on animal exploitation. Twine (2010, 87) demonstrates that the dominant economic system has operationalised sustainability in a way that sustainability itself has become a threat for the welfare of animals raised for consumption. In this system, the focus is on efficiency, greater productivity and capital saving (Twine 2010, 87). Farm animals have become incorporated into this system to more efficiently mass produce meat and milk. They are treated as agricultural repositories (Twine 2010, 69) and as factories (Twine 2010, 94) and their bodies are subjugated to technologies that “speak to an efficiency of power” (Twine 2010, 89). This agenda together with the status of farm animals as moral exceptions, gives industry licence to exert biopower over animals, breeding in economically relevant and desirable traits like docility, and breeding out undesirable traits (Twine 2010, 87-89), violating animal privacy (Pick 2015), autonomy

(Humphreys 2016), justice (Celermajer et al. 2020), dignity (Bolliger 2015) and integrity (Bovenkerk et al. 2002), which would be considered immoral and unethical in the human context.

Boscardin (2018) further outlines the implications of this on the animals' welfare and how this exploitation of animal bodies is legitimised by the sustainable development agenda. Even though, as Buller (2014, 314) states, animal geographers have always been interested in "the place and treatment of animals within the industrialised capitalism of the modern food industry", animal studies scholars have so far not developed a deeper and sustained interest in engaging with the intersection of sustainability and animal protection at the level of sustainability theory. The notion of sustainability has been erroneously equated with sustainable development and blamed for the increased subjugation and commodification of animals. What has not been acknowledged in this discourse, however, is that the notions sustainability and sustainable development are two distinct concepts (see e.g. (Hector et al. 2014) and that sustainable development has been co-opted by business and government interests who subjugate nonhuman animals and nature to the rule of the neoliberal economy (Selby 2006; Parr 2009). There are alternative conceptions of sustainability that are culturally defined and that are deeply interested in principles of strong ecological protection, social and environmental justice, equity, decolonisation, participation, the commons and limits to growth and de-growth (see e.g. Dobson 1996; Jacobs 1999; Hector et al. 2014; Washington 2015; Gottschlich and Bellina 2017). A question that has not yet been explored is, what would such an alternative sustainability paradigm, an interspecies sustainability, entail that inherently and explicitly includes animal protection as a guiding principle? This is a gap that this thesis set out to address.

The anthropocentric underpinnings of the sustainable development agenda, including its social and environmental injustices (Dobson 1999; Redclift 2002; Gottschlich and Bellina 2017), clearly also has consequences for ecosystems and their wild living animals (e.g. Washington 2015; Clements et al. 2018) but the focus in this thesis is on a particular domestic animal, the thoroughbred in the

thoroughbred racing industry. An exploration of the thoroughbred industry in the interface of sustainability and animal welfare and protection is of particular interest for several reasons. This industry is of international economic and cultural significance (McManus et al. 2013), and their welfare implications are vast, diverse and significant (e.g. Boden et al. 2006; Arthur 2011; Clegg 2011; Lyle et al. 2011; Bogdanich et al. 2012; Bennis 2013; Mellor and Beausoleil 2017; Butler et al. 2019b; Marsh et al. 2019; Crawford et al. 2020).

The industry has had little engagement with the concept of sustainability for policy development except for its focus on economic viability. However, some industry leaders recognise that the industry's legitimacy and social sustainability, and subsequently its social license, are at risk (Duncan et al. 2018). For example, senior racing executive in the US, Mike Ziegler, warns the industry:

Make no mistake; there is no hyperbole here: Our sport and our industry sit knee-deep in the middle of an existential crisis. We're being attacked on many fronts and we simply cannot sit back and do nothing about it and expect this to go away. Settling for the status quo will kill us. (Mike Ziegler in Voss 2019a)

In his statement, Mike Ziegler elaborated saying that to save "the sport of horse racing and our industry as we know them", the public perception of the treatment of thoroughbreds needs to be addressed (Voss 2019a). It is common in the thoroughbred industry to point to the need to address public perception rather than thoroughbred welfare. This is consistent with the welfare discourse in the animal agricultural sector where animal welfare is subsumed under the domain of social and socio-cultural sustainability (Boogaard et al. 2008; von Keyserlingk et al. 2013, 5419) rather than being treated as a domain in its own right.

Here, an opportunity presented itself to investigate whether and how an animal-using industry – in the face of a potentially existential crisis – might follow the global trend to adopt sustainable

development principles and corporate social responsibility and their reporting (Milne et al. 2009), and how it might aim to operationalise these principles for thoroughbred welfare. In particular, there was also an opportunity to study whether and how the notion of sustainability can be applied to protect thoroughbreds over industry interests.

So far, the voices of thoroughbreds and other nonhuman animals have not been heard in the sustainability discourse. This thesis has been designed to centre the interests of thoroughbreds and by extension, other animals, the “silenced majority” (adapted from Phillips 2009) in the intersection of sustainability and animal protection.

## 1.2. Significance of this Thesis

This thesis addresses the under-researched intersection of sustainability, animal protection and the thoroughbred industry as an intersecting ontological domain. It sets out to develop a framework for an interspecies conception of sustainability to ensure animal protection. Even at the level of the United Nations, it has now been acknowledged that the welfare of animals is not, but should be, part of the Sustainable Development Agenda (Independent Group of Scientists appointed by the Secretary-General 2019). This thesis goes further to extend animal welfare to animal protection and the facilitating of animal agency and flourishing, adopting a critical animal geographer’s perspective. Extending the idea of sustainability with a posthumanist perspective (Hovorka 2018) is important because it is widely accepted that sustainability is a normative concept that gives guidance in how society ought to develop (e.g. Dobson 1996; Washington 2015). It has undisputed relevance at the policy level, internationally, nationally and locally, in government and business (e.g. Christen and Schmidt 2012). It is operationalised at institutional as well as individual levels for action and decision-making (e.g. Diesendorf 2000; Senge 2006; Washington 2015). It also is a galvanising point for civil society to envision a new present and future (see the Earth Charter Commission 2000). Moreover,



there is consensus that the idea of sustainability is here to stay (e.g. Kidd 1992; Scoones 2007). Some might argue that the influence of the idea of sustainability was waning in the period 2010-2015 as alternative framings emerged expressed in notions such as resilience, adaptation and transformation (Brown 2014; Zanotti et al. 2020). Still, sustainability remained embedded in the discourse often together with these alternative notions (see e.g. Zanotti et al. 2020). It was then reinvigorated when the UN Sustainable Development Agenda was unanimously adopted in 2015 by the UN member states. Moreover, recently, the idea of sustainability has attracted new attention from critical studies perspectives which bring to light those forces that lead to the many catastrophic unsustainabilities we are facing, and to ways of dismantling and resisting them (Ferreira 2017; Fuchs 2017; Bergmann 2020a; Delanty 2020). The animal voice needs to be represented in further advancing the new sustainability discourse, so that nonhuman animals are included in the sustainability transition. This thesis is dedicated to this task.

Research into how individuals in key roles in the thoroughbred industry, an animal-using industry with significant scope and influence (see more in Section 1.8), conceptualise thoroughbred welfare and sustainability is of great interest for the sustainability and animal protection discourse. As both concepts, sustainability and animal welfare, are prone to co-option by industry (Haynes 2008; Parr 2009), there is an opportunity here to study whether and how co-option takes place, and whether there are stakeholder groups positioned to intervene so that the outcomes for the thoroughbreds are better than those observed in other animal industries (see Section 5.2.1.1). What 'better' means in this context is also part of the aim of this thesis to explore.

This study is expected to make significant conceptual and theoretical contributions to our understanding of animal welfare and protection, of sustainability as a species-inclusive concept, and of human-animal relationships. The evolving species-inclusive concept of sustainability as a meta-paradigm is expected to serve as a reference point against which the welfare concepts espoused by

the racing industry and other animal-based industries, and those held by the animal protection movement, can be benchmarked in the future, as long as these industries continue to exist. It is anticipated that it can be applied to a diverse range of animals and animal issues, in Australia and internationally. This investigation is thus expected to make significant contributions to policy development for animal protection by providing the conceptual underpinnings that enable policy development. Animal geographers' interest in contributing to policy development has been identified by Hovorka (2017, 389). Geographers in general see themselves as being well-positioned to translate between research and policy development and to contribute to policy and strategic initiatives (Turton and Maude 2020, 189). Accordingly, Turton and Maude (2020, 187) expressly state it is the aim of Australian physical and human geographers to ensure that they actively engage with the United Nations 2030 Agenda for Sustainable Development and the associated Sustainable Development Goals (SDGs). This thesis' very objective is to engage critically the concepts of sustainability and sustainable development to contribute to the critical discourse of sustainability and sustainable development. With all of the above, this research offers pathways for change for animal protection that assist in solving increasing social conflict over significant animal protection issues, many of which are entangled in industries of global significance and with profound ethical implications, such as thoroughbred racing.

### 1.3. Scope of this Thesis

The thesis is underpinned by theoretical and empirical studies. It is situated in critical animal studies, sustainability studies and animal geographies and has an interdisciplinary perspective. It draws on the sustainability discourse in philosophy, sport, environmental ethics, animal agriculture, food systems and human geography. Some themes are explored drawing on ecofeminist perspectives that bridge between the sustainability discourse and animal and nature protection. In further exploring the animal welfare and protection discourse with reference to thoroughbred racing, this thesis draws on

ethology, animal husbandry, veterinary science, animal welfare science, philosophy and animal ethics, as well as on anthropological, ethnographic and sociological studies in the horse-human nexus.

For the empirical part, this thesis studies conceptions of thoroughbred welfare and sustainability held by key stakeholders in the thoroughbred industry and held by key individuals affiliated with animal advocacy and activist organisations. Both stakeholder groups are included to canvas the wider spectrum of perspectives that are influential in shaping the direction of thoroughbred welfare into the future. This research into the thoroughbred industry is international in focus, but it should be noted that while there are differences in regulation and risk factors between racing jurisdictions, due to the scope of this research, these are not considered in greater detail unless they contribute to the understanding of a particular argument being made. It is also recognised that the industry is working towards national and international harmonisation of the Rules of Racing. To this end, the International Federation of Horse Racing Authorities (IFHA) identifies and promotes industry best practice in the administration of horseracing internationally. Therefore, the thoroughbred racing industry can be referred to in general terms, whilst also considering relevant national differences emerging in this study. Furthermore, the thoroughbred industry consists of the three sectors: racing, breeding and betting. Economically, materially and systemically, all three are deeply entwined and dependent upon each other. However, within the scope of this study, breeding and betting are not specifically addressed. The thoroughbred industry and the delimitations of this research will be further discussed in Section 1.8.

## 1.4. Thesis Aim and Research Questions

The aim of this thesis is to develop a framework of interspecies sustainability that inherently and explicitly foregrounds animal protection whereby protection is meant in a broader sense to include the protection of animal agency and animal flourishing. It aims to explore how an animal-using

industry, the thoroughbred industry, is positioned to meet this interspecies sustainability paradigm. Finally, the aim is to understand the role an interspecies sustainability paradigm can play to advance the protection of thoroughbreds, and by extension, the protection of animals more broadly. It also serves to develop the conceptual tools to better understand and intervene in sustainability claims in relation to particular practices involving animals.

This study is to be understood as an exploration of the domains relevant for theory and practice of interspecies sustainability into the future. It is not the intention of this thesis to investigate how thoroughbred racing can be transformed to fit into an interspecies sustainability framework, rather, the intention is to explore how the thoroughbred industry responds to the notion of sustainability and the intersection of sustainability and thoroughbred welfare, while formulating and applying an interspecies sustainability framework to this investigation. This is to unveil where the industry potentially co-opts the sustainability and thoroughbred protection discourse, and to provide animal advocates with the conceptual and strategic decision-making tools to recognise co-option and counteract it.

This thesis addresses the following eight main research questions as set out in various chapters shown below:

1. What are the parameters of the intersection of sustainability, the thoroughbred racing industry and thoroughbred welfare? (Chapter 3)
2. How do thoroughbred industry and animal advocacy informants conceptualise thoroughbred welfare? (Chapter 4)
3. What does an interspecies sustainability paradigm entail? (Chapter 5)
4. How do thoroughbred industry and animal advocacy informants conceptualise sustainability? (Chapter 5)

5. How are the thoroughbred industry and the animal advocacy informants positioned in relation to the interspecies sustainability paradigm? (Chapters 5 and 6)

During preliminary theoretical investigation of this research, it transpired that naturalness is a seminal dimension of interspecies sustainability. It also plays a salient role in the thoroughbred industry and the animal protection discourse and this was confirmed and underlined during the empirical study of this research project. Therefore, a research question specifically addressing the notion of naturalness, and the intersection of naturalness, thoroughbred racing and animal protection, has been formulated for in-depth study:

6. What role does the idea of naturalness play in the thoroughbred protection discourse and for the protection of thoroughbreds? (Chapter 6)

In providing a summative outlook and synthesising the above areas of inquiry, the following research questions are then addressed:

7. What do the findings say about the future for thoroughbreds in the thoroughbred industry and the future for the industry overall? (Chapter 7)
8. What do the findings of this research contribute to animal geographies and other knowledge about human-animal relations? (Chapter 7)

## 1.5. Chapter Overview

This chapter provides a thesis introduction. Above, the thesis topic has been introduced, background, significance, scope, thesis aim and research questions have been presented. The next section explains the thesis presentation format. Section 1.7 and its subsections provide an overview of the theoretical

and thematic framework and positions the thesis within sustainability studies, animal geographies, and the intersection of the two. Section 1.8 introduces the thoroughbred industry providing a brief overview of its scope and scale, and the position of sustainability concerns within the industry. In Section 1.9, use of terms sustainability, interspecies sustainability, animal welfare and animal protection are clarified. An overview of the thesis Chapters 2-7 in Section 1.10 concludes this chapter.

## 1.6. Thesis Presentation and Formatting

This thesis varies from the traditional format of a thesis in the social sciences in that it includes four published manuscripts, one each in Chapters 3, 4, 5 and 6. At the time of submission of this thesis for examination, the last manuscript had been submitted for review and it was published while examination of the thesis was still in progress. The published article (Bergmann 2020b) is now included in this thesis (Chapter 6) and the manuscript in review that was included in the thesis for examination is attached in Appendix 1. No substantial changes had been made to the published version.

Since the manuscripts published in journals are presented in the format of their publications, each include a list of references (Chapters 3, 5 and 6). The manuscript in Chapter 4 is a pre-proof and also includes the list of references. All citations that appear in Chapters 1, 2 and 7, and in the introductory sections 3.1, 4.1, 5.1, 6.1, are included in the list of references at the end of this thesis. This means that some references appear in more than one list.

Furthermore, the publications in Chapters 3, 5 and 6 have the journals' page numberings. To assist in navigating the thesis, the thesis page numbering has been added and is located in the centre of the footer. In terms of section numbering, a separate page has been added ahead of each publication in Chapters 3, 5 and 6, each including their respective section header and number (Section 3.2, 5.2 and

6.2). The sections in the publication in Chapter 4 are not numbered, but numbers have been added in the Table of Contents for consistency.

To assist the referencing of sections of the publications in Chapter 5 and 6, the following system has been applied to the section numbering: the first number is the chapter number, the second number is always “2”, and then the numbers as used in the publications follow. The first two numbers do not appear in the section headings of the manuscripts in Chapters 5 and 6, but they are used for referencing throughout the thesis and in the Table of Contents. This means, for example, that Section 4.1 in the publication presented in Chapter 5 is referred to as Section 5.2.4.1. In the case of the publication in Chapter 3, the sections are not numbered, but numbers are added for consistency in the Table of Contents, and when referencing throughout the thesis. Referring to the Table of Contents will assist in navigating the thesis.

For referencing tables and figures presented in the publications, the chapter number is added. For example, the figure labelled “Figure 1” in the publication in Chapter 5 is referenced elsewhere in the thesis as “Figure 5.1”, including in the List of Figures.

## 1.7. Theoretical and Thematic Framework: Sustainabilities and Animal Geographies

This thesis is positioned within animal geographies, a sub-discipline of human geography. More specifically, the interest of this author is based in the intersection of (critical) animal geographies and the sustainability and sustainable development discourse. In the following three sub-sections, the theoretical and thematic frameworks within this intersection are discussed. First, the differences and tensions between the notions of sustainability and sustainable development are explored (Section 1.7.1), next, a brief outline of the subfield of animal geographies is presented (Section 1.7.2), existing

and missing thematic intersections with animal geographies are outlined (Section 1.7.3), and the implications of the above for this research are discussed (Section 1.7.4).

## 1.7.1. Sustainability and Sustainable Development and the Key Debates

### 1.7.1.1. Two Distinct Notions

For a better understanding of the discourse and the issues at stake, it is important to conceptualise sustainability and sustainable development as two distinct notions, as some researchers do (e.g. Dobson 1996; Hector et al. 2014), and as it can be observed in many endeavours of civil society (e.g. Westra and Vilela 2014). Where this differentiation is undertaken, the concept of sustainability is understood as an ideal, a guiding principle and normative framework (e.g. Dobson 1996; Washington 2015). As a concept it emerged in the period 40-60 years ago (e.g. Kidd 1992), but as a guiding principle, Washington (2015) considers that the origins of true sustainability go back to pre-history and are embedded in the “teachings and wisdom of millennia” (Washington 2015, 8; see also Neimanis et al. 2012, 359).

Hector et al. (2014; see also Washington 2015, 6–16) suggest that sustainability has its origins in the environmental-preservationist philosophical position which It is built on ecocentric and systems perspectives, which recognise the interdependencies and dependencies of all life and biotic and abiotic communities, which emphasise the inherent value of nature and animals and the systems nature of ecosystems, with humans being considered part of the system. The understanding is that our actions may have a non-linear, exponential effect on system behaviour. Adherents of this view attempt to incorporate the dynamic equilibrium of sustainability, they engage with the full complexity of the problem and consequently, evaluate critically interactions and dependencies (Hector et al. 2014, 23).



The origin of the concept of sustainable development has been traced back to the notion of “sustainable use” documented in German silvicultural theory of the 18th century. During that time, in many parts of Europe, forests were decimated as trees were used in mining and ore-smelting. Chief mining official and forester Hans Carl von Carlowitz published the forestry treatise *Sylvicultura oeconomica* in 1713, in which he described sustainable management of forests with terms such as “continuously enduring” and “sustainable use” (Huss and Gadow 2012, 27), laying out the idea of “sustainably managing” forests (Scoones 2007, 589). According to Huss and Gadow (2012, 49), first use of the term sustainability cannot be attributed to von Carlowitz, thus supporting the genealogical distinction between sustainable development and sustainability as undertaken by Hector et al. (2014).

Sustainable development has its origins in the prudentially conservationist philosophical position, exemplified with von Carlowitz’s treatise (Hector et al.(2014); compare also Huss and Gadow 2012, 22–53). Nature and animals are “environmental resources” to be managed in a sustainable way so they are conserved for future human generations. Humans have a special moral status that places them above the rest of nature and nature needs only to be cared for “to the extent that it is in human interests to do so” (Hector et al. 2014, 9). Humans are regarded as being almost detached from nature, as being an independent observer trying to understand how the world functions, and model and control the way in which it works (Hector et al. 2014, 18). This reflects a mechanistic approach and represents a positivist view of the world (Hector et al. 2014, 8-9). Those adhering to this position inadvertently overlook or deliberately reject the interests of non-human species (Hector et al. 2014, 8-9, 22).

Both terms, sustainability and sustainable development, entered the broader academic and policy discourse in the period between the 1960s and 1987 (Kidd 1992; Borowy 2014; Washington 2015, 17). In the academic as well as practice-centred discourse, more often than not, both terms are used interchangeably. This is unfortunate since, as Hector et al. (2014, 19) argue, this obfuscates moral and

political concerns. Hector et al. (2014, 8) also do not agree with the view that sustainability is an “end-state in which the needs of humankind and the needs of nature are both satisfied within some form of dynamic equilibrium”, and sustainable development “the means or process by which sustainability might be achieved” as suggested by others, simply because the two notions are “manifestations of two fundamentally distinct and largely irreconcilable philosophical positions”.

### 1.7.1.2. The Rise of Sustainable Development

In 1987, the World Commission on Environment and Development (WCED) popularised the term sustainable development with their report “Our Common Future”, also known as the Brundtland Report (WCED 1987). The WCED was tasked by the General Assembly of the United Nations to propose long-term strategies to deal with alarming environmental degradation and global inequalities between nations. Borowy (2014, 5) summarises that the tensions that needed to be reconciled for the formulation of the Brundtland report involved those between “present versus future generations, economic versus environmental perspectives, North versus South, and scientific accuracy versus political acceptability”. Jacob (1994, 237) suggests that sustainable development has been politically the most successful model of international development, and Brenton (in Washington 2015, 22) states:

The genius of the piece lies in its adoption and promulgation of the concept of ‘sustainable development’ . . . [which] effectively bridged the intellectual and political gap ... between those (particularly in the developing world) arguing for economic growth, and those (particularly in the developed world) arguing for environmental protection. (Brenton in Washington 2015, 22)

Curran (2015, 7) suggests that the overarching promise of sustainable development, which was to harmonise environment and development goals, was very appealing. What was perhaps even more appealing was the opportunity offered by the framing of sustainable development to divert attention away from environmental problems and limits-to-growth concerns to a focus on social equity issues

(Kopnina 2013, 52, 55) and thus emphasise and legitimise economic growth and development. The WCED portrays growth as the means to alleviate environmental degradation and social inequity, however, others argue that the growth model is in fact the main cause of those conditions (Borowy 2014, 195). While there is a strong critique of the growth paradigm based on the realities of a finite planet (e.g. Meadows et al. 1972; Meadows et al. 2004; Higgs 2014), for others, the growth ideology is the main attraction. Redclift (in Davison 2001, 44) states sustainable development unites interests regardless of their liberal-capitalist, military capitalist or state socialist belief systems, in their pursuit of economic growth.

It has long been argued that the notion of sustainable development has been appropriated by industry, political and development interests (see, for example, Davison 2001, 11–62; Parr 2012, 13–92). Indeed, Amaeshi and Ferns (2019) have shown that business has become the defining force of sustainable development. From the Earth Summit in 1992, to the one in 2002 and then in 2012, corporate interests increased their discursive power and became successful in gaining control. Thus, the role of business in sustainable development shifted from being largely undefined in 1992, to being considered a sustainable development partner in 2002, and finally to becoming a driver of sustainable development by 2012 (Amaeshi and Ferns 2019). In reality, this has led to the globally most destructive forces now being accumulated in the hands of a minority of financial actors driving species extinction and climate catastrophe (e.g. Galaz et al. 2018). The growth and dominant development imperatives have now led to what (Dunlap and Jakobsen 2020, 1) refer to as “total extractivism”, a devouring of our planet and all her beings facilitated by “violent technologies” and institutions and their “expanding grid of extractive infrastructures”.

The extreme commodification and appropriation of animals driven to ever extreme heights is a logical development in this historical process. Injustices committed against animals raised for food relate to their extreme incarceration and the biotechnological alterations of their bodies under the banner of

efficiency for sustainable production (Twine 2010). This has immense physiological and psychological implications for the animals themselves and further entrenches their status as production systems and factories rather than living sentient beings (Twine 2010).

It is clear that sustainable development is not only an “unashamedly anthropocentric concept” (Lee in Hopwood et al. 2005, 39), but a speciesist one as well, that is, it is discriminating against other species by assigning them a different moral worth simply based on species membership (Ryder 2004). However, while social inequalities have been recognised as being present in the sustainable development discourse and practice, speciesism is far from being recognised as an issue. There is a task for animal geographers to address speciesism in the sustainability and sustainable development discourse.

The growth ideology and how growth is measured are at the centre of the sustainable development discourse and practice, others centre around nature protection, equity and justice, and governance and participation (e.g. Lélé 1991; Jacobs 1999; Costanza et al. 2014; Gottschlich and Bellina 2017). Sustainable development is criticised for being reductionist and not addressing the cultural, technological and political causes of both poverty and environmental degradation (e.g. Lélé 1991, 618). Many injustices are and have been perpetrated under the cloak of sustainable development against animals, humans and nature (e.g. Lélé 1991; Gottschlich and Bellina 2017; Boscardin 2018). Monopolisation of food production, animal agriculture and affiliated destructive practices and polluting industries including pesticide production and use, deforestation, resource extraction and large infrastructure projects dominate the development agenda at the expense of social, environmental, ecological and distributed economic sustainability (e.g. Lélé 2013; Gottschlich and Bellina 2017; IPBES 2020).

Sustainable development is on a trajectory of failure to protect what its mandate is to protect

including life sustaining conditions for future (human) generations (Steffen et al. 2018; Lenton et al. 2019; Lade et al. 2020; Trisos et al. 2020; WWF 2020). Instead, it has accelerated nature degradation and destruction (Steffen et al. 2015), and increased inequalities, in the South as much as in the North (Gottschlich and Bellina 2017). And what is more, the same forces that drive species extinction and the climate crisis also drive pandemics such as the COVID-19 global pandemic (IPBES 2020) which is ongoing as this thesis is being completed.

### 1.7.1.3. Sustainability and Justice Concerns

In parallel to the official discourse of sustainable development that is top-down, reductionist, technocratic and growth driven, there is also a bottom-up, culturally oriented, holistic and ecologically based discourse driven by civil society. One of the enduring and influential expressions of this is the Earth Charter (Westra and Vilela 2014). The Earth Charter reflects a notion of sustainability that is consistent with an environmental-preservationist philosophical position (see Section 1.7.1.1). The development of the Earth Charter was initially guided by UN processes, and then directed by civil society (Westra and Vilela 2014). One of the hoped for outcomes of the United Nations Conference on Environment and Development (UNCED) 1992, also known as the Rio Summit, was the formulation of an Earth charter to set out “the basic principles for the conduct of people and nations towards each other and the Earth to ensure our common future” (Maurice Strong, Secretary-General of the UNCED, in Borowy 2014, 185). However, the UNCED preparatory talks about an Earth charter collapsed but were taken up again after Rio (Borowy 2014, 194–195). The process of developing such an “expression of shared world norms” (Borowy 2014, 195) took place over a number of years, and is widely hailed as one of the most participatory and inclusive negotiations leading to an international declaration (Borowy 2014, 195). A final version was agreed in 2000 (Borowy 2014, 195) and endorsed by 2005 by more than 14,000 individuals and organisations worldwide, representing millions of people. This process is described as its “primary source of its legitimacy as a guiding ethical framework” (Westra

and Vilela 2014, i) and paved the way for it acquiring soft law status (Juarez 2014). Yet, it remained largely ignored in UN circles (Borowy 2014, 195).

The Earth Charter demonstrates the importance of an orientation within academia that brings to the fore voices of the global south, civil society and the experiences of what Celermajer, Schlosberg, et al. (2020, 4) refer to as “grassroots and networked activism – for animals, for environmental justice, for species and environments, for the climate and earth systems”. It is the lived experiences of those suffering from the many injustices that, in cooperation with researchers, advances the analysis of the causes of these injustices, and leads to the development of alternative visions and realities (e.g. Fredericks 2014, 171–174; Gottschlich and Bellina 2017; DAWN 2020).

The Earth Charter is a declaration of fundamental ethical principles built on the understanding that environmental protection, human rights, equitable human development, peace, democratic principles and ecological integrity are interdependent and inseparable (Earth Charter Commission 2000; Westra and Vilela 2014). It acknowledges the connections between ecological integrity and social justice in particular for indigenous peoples, and the precautionary principle is given a significant standing (Earth Charter Commission 2000). However, as Engel (2014) states, some of the weaknesses of the Earth Charter are that it separates ethics from the “concrete specifics of social, political and economic reality”, it lacks account of the actual powers and ideologies that are responsible for the escalating deterioration of the planet, and it does not express a call for non-violent resistance against those responsible (Engel 2014, xxiv). It is also evident that the Earth Charter (Article 15 in Earth Charter Commission 2000, 4) reflects a very limited appreciation of the myriad ways in which nonhuman animals are harmed by human actions and the political, social, cultural and economic conditions underlying those.

Engel's (2014, xv) call for a renewed dialogue of those who endorsed the Earth Charter to “further

develop political, economic and scientific analysis of our contemporary situation and the actions that need to be taken to make the Charter a social reality”, is as urgent as ever. The body of literature to support such a renewed dialogue has grown significantly. It is in particular the theorising of justice dimensions of sustainability and sustainable development that has emerged as a response to unjust socio-ecological conditions (Gottschlich and Bellina 2017, 943), that advances our understanding of the notion of sustainability. This theoretical work contributes to a reappraisal of the notion of sustainability, identifies causes of injustices and unsustainabilities and opens up pathways for change. This includes research into social and environmental justice (S. M. Lélé 1991; Dobson 1998; Agyeman 2013; Gottschlich and Bellina 2017), ecological justice (Washington et al. 2018) and most recently also multispecies justice (Celermajer, Schlosberg, et al. 2020; Celermajer, Chatterjee, et al. 2020), amongst others.

Environmental justice, for example, refers to the (in)equitable spatial and temporal distribution of environmental burdens, risks and benefits to different nations or social groups (Kopnina 2014, 2). It refers to the disproportionate exposure of vulnerable groups such as ethnic minorities or economically disadvantaged populations to hazardous and polluting industries, in developing as well as in developed countries, to the exposure of the impacts of climate change, and to the fact that the poorest people tend to live in the most polluted and degraded environments (Kopnina 2014, 2). It refers to displacement of peasants, indigenous peoples and other non-dominant groups through, for example, large infrastructure projects such as mega-dams and industrialised agriculture, and people losing land and livelihoods due to resource extractivism and mono-cropping in the name of development (Gottschlich and Bellina 2017, 943). It also refers to intergenerational justice commonly conceived as justice between present and future generations of human beings (Kopnina 2014, 2).

Some refer to environmental justice as justice between human and non-human species (Kopnina 2014, 2) but mostly, environmental justice is conceptualised as an anthropocentric notion (Neimanis

et al. 2012). However, excluding nature and animals from traditional theories of justice is not so much based on sound theoretical reasoning, but, as Dobson (in Washington et al. 2018, 370) found, simply on a desire to exclude nature. Neimanis et al. (2012) argue to refocus the environmental justice discourse toward ecological integrity which would allow the addressing of problems of sustainability in a more holistic way. Washington et al. (2018) take this further and make the case for the advancement of ecological justice. They explain that “ecological justice is distinct from and more inclusive than environmental justice, and is concerned with other species independent of their instrumental value for humans” (Washington et al. 2018, 370). In its simplest definition, it is justice for nonhuman nature but given that ecological integrity is an indispensable prerequisite for human existence, so argue Washington et al. (2018, 370), “true ecocentrism cannot be misanthropic or anti-human, even if, in some situations, ecojustice may need to be paramount”.

Celermajer, Chatterjee et al. (2020, 14–16) are concerned that ecological justice can all too easily lead to a prioritising of human interests over the interests of other species and ecosystems. They are also concerned that it leads to prioritising of collectives, that is ecosystems or species, over the interests of individual nonhumans, as for example demonstrated with the killing of so-called invasive species, captive breeding programs, the keeping of wild animals in zoos, de-extinction, trophy hunting and wildlife ranching programmes (Celermajer, Chatterjee et al. 2020, 15). Therefore, they and others advocate the advancement of a notion of multispecies justice (Celermajer, Schlosberg, et al. 2020; Celermajer, Chatterjee et al. 2020). They argue that multispecies justice recognises “the importance of collectives to individual flourishing, whilst neither losing sight of the value of individuals, nor collapsing into anthropocentrism” (Celermajer, Chatterjee et al. 2020, 16). Celermajer, Schlosberg et al. (2020, 2) state multispecies justice opposes ideas of human beings as individual, isolated, unattached and unencumbered, that more-than-human nature is mere passive background, and that humans are unique from all other species and therefore more important. Instead, multispecies justice is built on the notion of relational ontologies. This refers to the deep enmeshment of individuals and



collectives in “relational webs”, that is “the actual ecological array of relationships that sustain life”. Moreover, it is about broadening and decolonising conceptions of the subject of justice by engaging the scholarly voices of the global south as well as the theories and practices of activism (Celermajer, Schlosberg, et al. 2020, 2).

All of these justice areas referred to above have two components to them, that is distributive justice (who receives the benefits and who bears the costs?) and procedural justice (how are decisions made?) (after Vaughan in Neimanis et al. 2012, 350). Gottschlich and Bellina (2017, 944) argue that distributive justice, that is the equitable distribution of impacts, risks and benefits, cannot occur without procedural (participatory) justice, that is fairness, generally understood as a democratic approach, to making decisions. Moreover, they (Gottschlich and Bellina 2017, 945) argue that intergenerational justice cannot only be interpreted as justice for future generations but must also take into account and compensate for the present effects of past injustices, and distributive justice has to take into account and rectify existing inequalities. A number of justice projects applying these two justice dimensions (distributive and procedural) to nonhumans are under way. For example, significant work is undertaken that addresses procedural justice for animals (Donaldson and Kymlicka 2011; Donaldson 2020). To address the “vast scale and structural character of the harms that humans have inflicted on other beings (including nonhuman animals, trees, rivers, soils and ecosystems” (Celermajer, Chatterjee et al. 2020, 7, 28), Celermajer, Chatterjee et al. (2020, 7, 28) discuss the need for transitional justice, that is justice in relation to large-scale historical wrongs. This involves creating and implementing processes, structures and institutions that prevent repetition of the wrongs, facilitate ongoing restoration, while being obliged to listen to what those (nonhuman animals, trees, rivers, soils and ecosystems) who have been wronged, might need and want for their restoration and flourishing. It also means that the human perpetrators and the relationships between them and those who have been harmed need to be repaired and transformed (Celermajer, Chatterjee et al. 2020, 29-30).

It had been demonstrated earlier that animals are worthy recipients of justice (Steiner 2008; Garner 2013). As indicated above, the justice discourse from an animal perspective has grown significantly and has become broad and extensive, adopting and reorienting more and more concepts of justice previously developed for the human context only. These concepts of justice and their application to the nonhuman assists in revealing where and how the theories and practices of sustainability can transform into theories and practices of interspecies sustainability. It is clear that extending the various justice dimensions to animals and nature has significant implications for conceptions of sustainability and the transition to interspecies sustainability.

### 1.7.2. Animal Geographies

The history of animal geography has been traced back to the 19<sup>th</sup> century. It was known as zoogeography and was a firm part of geography when geography was formally institutionalised in the academy (Urbanik 2012, 32). Zoogeography, now understood as the first wave of animal geography, was defined as the scientific study of animals and their global geographic distributions, and the influences of environments on animals and vice versa (Urbanik 2012, 32). This generally excluded considerations of human influence. In the middle of the 20<sup>th</sup> century, animal geographers' interests turned toward the impact of humans on wild animals and to human relations with domesticated animals (Urbanik 2012, 34-35). Animal geographers built on a cultural ecology vision and eventually focused almost exclusively on human relations with domesticated animals. This period between the 1950s to the early 1990s is referred to as the second wave of animal geography (Urbanik 2012, 35–40). The third wave or “new” animal geography emerged in the mid 1990s and its outstanding feature is that it “attempts to bring in the animals themselves as subjects of their own lives—whether part of ours or not—instead of just as objects of human control” (Urbanik 2012, 40). Given this brief history, Urbanik (2012, 40) suggests that a “straightforward” definition of animal geography would be “the study of where, when, why and how nonhuman animals intersect with human societies”.

This third wave of animal geography is also often referred to in the plural to reflect the presence of a diversity of approaches and topics studied, and is from hereon referred to as animal geographies. Animal geographies is a subfield based within the wider field of animal studies or human-animal studies as it is also referred to (DeMello and Shapiro 2010). Wolch and Emel (1995, 632) called on human geographers to extend their sphere of concern and to “bring the animals back in”, to transform a “resolutely anthropocentric” social theory into a transspecies social theory. Their call was heard and it is generally acknowledged that animal geographies has flourished since the end of the 1990s (Buller 2014), in particular following the publication of the edited collections by Wolch and Emel (1998) and Philo and Wilbert (2000) (McManus et al. 2013, 5). In 2014, Buller (2014, 308) wrote, in fifteen or so years, animal geographies has become “an increasingly present, dynamic and potentially innovative subfield of geography (to the point at which some hesitate now to refer to a solely ‘human geography’)”. Indeed, it is fair to assume that by now, many identify as animal geographers rather than human geographers.

The work of scholars in animal geographies is informed by and intersects with the work of animal studies scholars based in related fields such as anthropology, ethnography, sociology and political studies. Animal studies began to emerge during the mid-1990s and (human) geographers have been engaging with animal studies since its beginnings (Buller 2014, 308). In the broadest sense, animal studies interrogates the cultural understandings of nonhuman animals, human-animal relationships and institutional structures and their impact (O’Sullivan et al. 2019, 362). Importantly, as O’Sullivan et al. (2019, 362) point out, animal studies is “underpinned by a pro-animal theoretical frame, meaning the research is focused on progressing the wellbeing of animals, much as the study of human rights is typically focused on advancing rights, rather than say, enhancing opportunities for genocide”. In particular in critical animal studies (see e.g. Taylor and Twine 2014), analysis of power and domination is foregrounded in order to transform them (Cudworth in O’Sullivan et al. 2019, 362).

Collard and Gillespie (2015, 8) summarise that during the past two decades animal geographers have “tackled the human–animal divide” itself, examined its histories, its social construction and its effects for human and nonhuman animals. Animal geographers contributed to dismantling human exceptionalism, in particular by assisting in revealing it as a cultural construction rather than it being natural and inevitable, or a part of an inherent ecological order (Collard and Gillespie 2015, 7). Animal geographers extend cultural capacities to animals, and recognise animal subjectivity; they understand animals as subject beings, “not only vastly different across species, but also within species, as individuals with their own social networks and histories” (Collard and Gillespie 2015, 8). Collard and Gillespie (2015, 8) explain that animal geographers draw on posthumanism and feminist science studies (e.g. Barad 2007) and actor-network theory (e.g. Latour 2005), which leads to an understanding of animals as acting in concert with other beings and things, including humans. Animals are thus seen as having agential capacity, that is they are seen as actors with a capacity to direct change, (co)shaping politics, culture, social life, economics and the construction of space and knowledge (Collard and Gillespie 2015, 8). This theoretical background also brought the focus onto relationality (Collard and Gillespie 2015, 8–9), both epistemologically and ontologically, that is both in determining subjects of investigation and in shaping methods (Hovorka 2018). Animal geographies thus contributes significantly to identifying relations as a “critical political task, forcing us to confront the infinite relations that constitute us and to which we are therefore bound” (Collard and Gillespie 2015, 9). A major undertaking of animal geographies has therefore been “to point to and cultivate shared space and networks (Collard and Gillespie 2015, 8). Importantly, animal geographers are interested in the question, “how can we more *justly* share space” (emphasis in original) (Collard and Gillespie 2015, 8)?

Collard and Gillespie's (2015, 8–9) account of the political in animal geographies is confirmed by (Shapiro 2020, 810) who states that in particular the 2010s have seen a turn toward the political, but also toward the materialist and the affective, in animals studies. However, Srinivasan (2016) noted

that, besides a few exceptions, there is an absence of the political in animal geographies literature. She (Srinivasan 2016, 76) identified three themes dominating much of the animal geographies literature: agency, embodied encounters and relational ethics. She found that animal agency is foregrounded as a means of subverting work in which animals are presented as "things" and "mere background to human lives", and to enhance the ethical status of animals (Srinivasan 2016, 76). She states that embodied encounters are valorised as the source of ethics to bring about human interest in care and a sense of responsibility towards animals. She suggests that it is this focus on agency and embodied encounters that results in conceptualisations of relational, situated ethics (Srinivasan 2016, 76). However, she argues that the preoccupation with agency, embodied encounters and relational ethics counts on the willingness of individual humans "to be affected by and respond to animal agency" (Srinivasan 2016, 77). Instead, she argues that animal geographers need to engage with the systemic and political-economic processes that underlie and shape the conditions of animals' lives and their dispossessions (Srinivasan 2016, 77).

Perhaps there has been a lack of cross-pollination between animal geographers and critical animal geographers as engagement with the political-economic dimensions is part of the guiding principles of the wider field of critical animal studies (Best et al. 2007, 4-5) of which critical animal geographies is a part. Indeed, Collard and Gillespie (2015, 5-6) state that the approach of critical animal geographers is to interrogate and challenge

the dominant social orders that maintain human–animal hierarchies and perpetuate conditions of animal-use. This approach necessarily politicizes entanglements between humans and animals and thinks with ethical and political nuance about the ways animals are subjects of violence and appropriation that often go unquestioned and unchallenged. (Collard and Gillespie 2015, 5-6)

The hope of critical animal geographers is that their approach is taking up more widely to accelerate the end of animal exploitation. Perhaps this is on the way as Gibbs (2020b, 6) remarked recently in her review that Srinivasan's (2016) call for further political work within animal geographies is being answered.

### 1.7.3. The Intersection of Sustainability and Animal Geographies

Only one article (Buller and Morris 2008) written by animal geographers who at the time of their writing might not have identified as animal but human geographers, could be identified as explicitly engaging with the notions of sustainability or sustainable development. Further, a thesis was completed in the intersection of agricultural sustainability and farm animal welfare (Hodge 2010) but it is debatable whether this could be classified as an animal studies work due to its strong underlying commitment to the dominant model of agriculture. Investigating whether the agricultural sustainability agenda serves the interests of farm animals, Buller and Morris (2008) identified three discourses. The first sees farm animals as a *threat* to sustainability through the impact of industrial animal agriculture on the environment and human health, the second sees them as *vectors* for delivering sustainability via intensification measures, and the third discourse turns animals into *targets* for sustainability by exploring the integration of farm animal welfare into definitions of sustainable agriculture. Buller and Morris (2008) then turned their attention to animals as *targets* for sustainability, confronting the anthropocentric orientation of the agricultural sustainability discourse and of notions of farm animal welfare.

They authors conceptualise farm animals as co-creators of rural spaces and their sustainability by way of possessing "animalian agency and intentionality" (Buller and Morris 2008, 145) and conclude that farm animals

become part of the sustainability project, not for the way they are managed in groups and herds by humans, but as a result of the relationality between their own individual intentions, behaviour, agency and use of space and nature (however limited these might be) and those of humans. (Buller and Morris 2008, 145)

They suggest that sustainability thus can be conceived of as encompassing notions of human and nonhuman relationality and of co-constitution of communities and spaces, that is as the “collective endeavour of a relational community” (Buller and Morris 2008, 145).

This approach to sustainability is problematic from the animal perspective. Arguably, there is “more sustainability” in this for humans than there is for farm animals. The work seems to imply that in exchange for being accepted as co-creators of a relational community, farm animals also happily cooperate in being bred, slaughtered and eaten by humans. The instrumentalisation of animals is not questioned, nor is the fact that the outcome for animals is predetermined by humans alone. Such “acts of dispossession by our relations with animals” are ignored, as is the fact that there is “unevenness of power, wealth, and resources within relational networks”, and ultimately, that there are “winners and losers” (Collard and Gillespie 2015, 9).

Emel et al. (2015a) tried to find answers to a similar question but had to acknowledge that in production settings, farm animals remain at the losing end of the equation. This remains the case even in alternative farming systems that endeavour to provide environments and practices that are more respectful of animal subjectivity and that allow animals to express intentional agency, and where there are flatter hierarchies, with animals being cooperators or collaborators. The most fundamental and basic expression of animal agency will always be limited in a production setting, as animals “would not likely choose to be slaughtered, especially at or before the prime of their lives” (Emel et al. 2015, 178). They point out that domestication “fundamentally disrupts” the animals’ lifecycles and life processes including choosing mates, raising offspring, forming their own social groups (Emel et al. 2015, 179),

ultimately leading to the animals experiencing “early death at the hands of humans and/or machines” (Emel et al. 2015, 178).

Emel et al. (2015) compared two kinds of pig farming systems: confined animal feeding operations (CAFOs) and permaculture-based operations. They describe CAFOs as generally working to overcome animal agency, by limiting and being in opposition to animals’ behaviours. They suggest that these systems “cannot be modified enough to actually enable animal agency to the extent that animals experience lives worth living” (Emel et al. 2015, 178). Wathes et al. (2013, 579) argue that animal agriculture “cannot begin to approach the notion of sustainability if an animal’s life is not worth living”.

In terms of the permaculture-based system, Emel et al. (2015, 178) found that the permaculture-based models “generally [work] to enable animal agency” and provide for a “partnership type of on-farm relationship”, but conclude that “[d]espite farmers’ best intentions and high levels of agency on permaculture farms, the conditions for vulnerability, brutality, and violence still exist” (Emel et al. 2015, 178).

Engaging with the intersection of the conditions of farm animal lives and ideas of sustainability in agriculture allowed for some reappraisal of what sustainability might mean and how it is described, but the strong limitations on self-determination for animals remain, setting limits to fully exploring what interspecies sustainability can mean. Even more troubling, as Cole (2011, 83–84) found, while the discourse of more animal welfare-centred animal agricultural systems offers possibilities of a “somewhat less degraded life” for some animals, their exploitation and oppression is perpetuated, speciesist privilege is entrenched and all of this is less vulnerable to critical scrutiny.

Models that go far beyond animals as “cooperators or collaborators” (Emel et al. 2015) in their own raising for meat, or of human-animal relationships based on a stewardship model (Hodge 2010), are



being worked on. Donaldson (2020, 709), whose writings are based in political philosophy and political science, explores possibilities for what she calls the “animal agora”, a revitalised public commons into which animals are freed, and where animal and human citizens “encounter one another in spontaneous, unpredictable encounters in spaces that they can re-shape together”. There is potential for animal geographers to contribute to the further development of this discourse of the democratic challenge, building on their theorising about animal agency, power-relations and space, for example. There is also an urgent need to conceptualise all of the above, including notions of agricultural sustainability and multispecies democratic systems and institutions, within the sustainability discourse.

In his latest report on the state of the field of human-animal studies, Shapiro (2020, 818) states that “the rate of growth of the field is accelerating and can reasonably be expected to continue to do so at least in the short- and mid-term future”. This also seems to be the case for animal geographies. Reports about its progress and topical and methodological developments have been published yearly since 2014 in the journal *Progress in Human Geography* (Buller 2014; Buller 2015; Buller 2016; Hovorka 2017; Hovorka 2018; Hovorka 2019; Gibbs 2020a; Gibbs 2020b). As a function of this progress, one might fairly assume that animal geographers will sooner or later engage with the notions of sustainability, and sustainable development for that matter.

There are broadly three related trends within the academic discourse that potentially facilitate this uptake. First, as alluded to in the previous section, Gibbs (2020b, 6) found that recent work of animal geographers published in 2018 and 2019 explicitly engages with the political through gender, justice, capital, biopolitics and “the ongoing consequences of colonialism”, all topics which scholars from other fields identified as critical within the sustainability discourse (e.g. Gottschlich and Bellina 2017). This move toward the political in animal geographies ties in with the second trend, the emergence of critical development studies which challenges the “development project” (Bowles and Veltmeyer

2020, 1325) including the model of sustainable development (compare Section 1.7.1.2) (see also Veltmeyer and Bowles 2017). The third trend of relevance here is the recent emergence of a reappraisal of the notion of sustainability from a number of critical emancipatory perspectives, including those of critical theory (e.g. Ferreira 2017; Fuchs 2017; Rose and Cachelin 2018; Feola 2020), indigeneity (Rout and Reid 2020; Virtanen et al. 2020) and feminism (Gottschlich and Bellina 2017). There is potential for these trends to converge within animal geographies and to stimulate this field, advancing the sustainability discourse from interspecies and multispecies perspectives.

However, it is also conceivable that animal geographers circumvent engagement with sustainability. Animal geographers might focus on developing new concepts or on adopting other existing ones from other fields such as critical development studies and feminist political economy to describe alternative models of human-animal socio-economic, cultural and political relations. This may be due to adopting a critical position toward the sustainable development model that can be seen as static and dominated by neoliberal interests and, erroneously, equating sustainability with sustainable development rather than understanding sustainability as a notion that, based on its historical origins, inherently sides with the nonhuman (see Section 1.7.1.1). It is important however to understand and remember that sustainability and sustainable development operate at different conceptual levels (Section 1.7.1.1). Sustainable development is generally referred to as the model developed via UN processes, and this model has remained largely faithful to the values and approaches of the dominant economic and political system with a speciesist, instrumental and utilitarian view of the natural world. Whether animal geographers are interested in unveiling this in more detail and in developing alternative models of sustainable development with a political perspective, centring nonhuman animals, their natural, social and cultural worlds, or whether animal geographers turn to alternative models from critical development and ecofeminist studies, for example, and further develop those or new ones, remains to be seen.

Accepting that sustainability is a higher order concept, an ideal such as liberty, equality and justice, it would seem there is a necessity and obligation for animal geographers to engage with this concept. Engaging with the intersection of the conditions of farm animal lives and sustainable agriculture was the first target of animal geographers engaging with the notion of sustainability. Authors coming with an ecocentric perspective (outside animal geographies in this case) show greater interest in the notion of sustainability (e.g. Washington et al. 2017). Yet, those coming to sustainability with an ecocentric framework at the core of their arguments do not seem to be interested in engaging with animal questions that are outside the remit of those relevant for non-domesticated animals living in the wild. Thus, these animals are underrepresented in the ecocentric-oriented sustainability discourse. Referring to the meaning of sustainability as the “vision of joint human and ecosystem well-being” (Washington 2015, 3) overlooks the importance of accounting for the plight of individual animals in favour of a larger scale such as ecosystems, and generally, does not seem to be interested in the plight of animals in settings not considered part of or relevant for ecosystems, such as, for example, thoroughbreds. There is an important role for animal geographers to bring all animals in and contribute to the advancement of the discourse at the intersection of sustainability and animal protection and flourishing. Two examples are presented below to illustrate this all-encompassing remit considering all species and all domains of sustainability, shaking the speciesist foundations of the notions of dominant thinking about sustainability and sustainable development: the development of a theory of multispecies sustainability, and sustainability and sustainable development from critical theory perspectives.

### 1.7.3.1. Exploring Core Ideas of Multispecies Sustainability

The first example of a foundational engagement with sustainability is the work of Rupprecht et al. (2020) who developed a definition for multispecies sustainability. The authors argue for the broadening of the ethical concept of sustainability to account for the fundamental interdependence

of species' wellbeing. Rupprecht et al. (2020) unfortunately conflate sustainability and sustainable development, the consequences of which are not further considered here in detail except to point out that it leads to an undervaluing and underrecognising of the causes of unsustainabilities which reduces the effectiveness of their proposed interventions. What is relevant at this point is their formulation of six principles in which multispecies sustainability might be grounded: 1. the needs of species are interdependent; 2. other species have agency and transformative potential and this requires multispecies representation; 3. multispecies well-being is relation-based not resource-based; 4. autonomous local multispecies actors need to participate in management systems; 5. all species have to have operational autonomy so they can continuously renegotiate their complex, entangled multispecies interests and so their systems can adapt and self-regulate; and 6. the diverse anticipatory features and capacities of species and communities of interacting species need to be allowed to come to bear (Rupprecht et al. 2020, 5).

From these principles, they propose the following preliminary definition: "Multispecies sustainability means meeting the diverse, changing, interdependent, and irreducibly inseparable needs of all species of the present, while enhancing the ability of future generations of all species to meet their own needs" (Rupprecht et al. 2020, 5). Syntactically, this is closely modelled on part of the WCED's definition of sustainable development which reads as follows: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, 41). That the WCED reduces "generations" to "human generations" is made clear when they state on that same page, *inter alia*, that "the satisfaction of human needs and aspirations in (sic) the major objective of development" (WCED 1987, 41). Rupprecht et al. (2020, 3) oppose this exclusive focus on human needs, even on the basis of self-interest alone and without having to call on moral values. They draw on knowledges and wisdoms from cybernetics and complexity, indigenous knowledge systems and western academic natural science knowledge. These knowledges evidence the interdependencies of all life and on this, one of

Rupprecht et al.'s (2020) main tenets builds, which is that humans can only fare well if all life fares well. Another tenet they build on is that nonhumans are actors with agency, and humans have to negotiate and compromise with these nonhuman actors. This sits in opposition to the belief in human supremacy and nonhumans as resources as espoused by adherents of mainstream notions of sustainable development, and coldly expressed in the Brundtland report (see more in Section 5.2.1.1).

Animal geographers are well-placed to address questions that emerge from Rupprecht et al.'s (2020) work. For example, animal geographers' previous work on agency and embodied encounters can assist in defining what animal operational autonomy means and how it can be guaranteed that it is fulfilled. Other questions animal geographers could address are: How would geographies of multispecies justice define animal operational autonomy and "management"? Are these useful concepts to achieve what Rupprecht et al. (2020) set out to achieve, that is multispecies sustainability or sustainable development? Here, critical theory perspectives have to come into play to investigate the impact of, for example, gender politics, biopolitics and the consequences of colonialism (compare Gibbs 2020b above), and hierarchies and asymmetrical power relations in general, on animal operational autonomy. Furthermore, animal geographers are already investigating formal arrangements including ethics, codes of conduct and legalities that guide and regulate human-animal relations (Gibbs 2020, 5–6). This has particular relevance also for those management systems envisaged by Rupprecht et al. (2020) that need to be in place to protect animal operational autonomy from control and domination by humans' self-serving interests.

Rupprecht et al. (2020) emphasise the need for the participation of autonomous local multispecies actors pointing out that "[u]nderrepresentation of actors and stakeholders in decisions and actions around sustainability issues can be identified as a leading cause of failure" (Rupprecht et al. 2020, 2) (on participation, see also Sections 1.7.1.2 and 1.7.1.3). However, they have not developed in more detail how nonhuman actors can be included in such participatory processes. In her recent article,

Donaldson (2020) argues that for domesticated animals, this participation needs to be in the form of political self-representation. She explores two ways that assist in realising domestic animal self-representation, that is the democratising of the existing landscape of citizenship, and the establishment of desegregated spaces for interspecies interaction into which domestic animals are released. These spaces, animal agorae (see also previous section), are to allow for free and desegregated interspecies interaction to co-create a future through “iterative processes of embodied discovery and responsiveness” (Donaldson 2020, 724). This allows for “new political imaginaries” to emerge through spontaneous and not prescribed interspecies interactions, through the creation of “a canvas in physical space not simply in discursive space” so “domesticated animals and humans can reimagine and rewrite their relationships” (Donaldson 2020, 724). With their focus on human-animal relations, cultures, communities, space and the political dimensions between those, animal and critical animal geographers have important analytical contributions to make to developing and enabling animal self-representation and co-creation of such spaces for interspecies sustainability.

### 1.7.3.2. Critical Theory Perspectives of Sustainability

This section is the second example of foundational engagement with the ideas of sustainability and sustainable development. It discusses the increasing interest of scholars re-evaluating the notion of sustainability from critical theory perspectives (e.g. Ferreira 2017; Fuchs 2017; Rose and Cachelin 2018; Feola 2020). Common amongst critical perspectives investigating the sustainability and sustainable development discourse is, as expressed by (Delanty 2020, 8) “to seek to disclose the antagonism and contradiction of a society predicated on infinite growth, prosperity and progress but with finite resources”. Critical sustainability theorists are opposed to the commodification of nature, and they seek instead “a biopolitical organization of social life that envisions human and nonhuman flourishing as fitting well within the limits of ecological systems” (Rose and Cachelin 2018, 522). Their task is to untangle the many ways in which ideologies of profit and exploitation of humans, animals

and nature in general are intertwined and taken for granted, and to contribute to developing structures, processes and systems that support human and nonhuman flourishing.

Ferreira (2017, 9) explains, there is a recognition that the notion of sustainability needs to be politicised by approaching it from a critical sustainability studies perspective drawing on principles, concepts and positions that are foundational to other critical studies frameworks and fields such as, for example, critical Indigenous and ethnic studies, postcolonial theory, queer theory, feminist theory, crip theory, social ecology, political ecology and cultural studies. To this we might add critical development studies and critical animal studies.

Critical theories provide a platform to address and rectify the failures of the dominant sustainability theories and conceptualisations that resulted from omitting intersectional analyses from the dominant sustainability and environmental discourses, policies and practices. For Ferreira (2017, 9), there is need for a “double political intervention”, meaning to put sustainability and critical theory in conversation, and to embed sustainability and ecology into critical theory and vice-versa. Ferreira (2017, 10) suggests to adopt the plural sustainabilities to anticipate and allow for understandings of sustainability that are “concerned with the specificities of geopolitical, cultural, and historical contexts and power relations”, so theories and visions of sustainability can be created that are more just, concerned with place-based cultures and social ecologies. All emphasise the need to investigate the circumstances that cause and maintain forms of marginalisation (e.g. Ferreira 2017), they all promote justice, and all have a strong focus on culture (e.g. Fuchs 2017). Rose and Cachelin (2018, 522) summarise that critical sustainability explores “how in a complex, dynamic, and power-laden world, people can develop societal pathways to sustainability that embrace ecological integrity and social justice.”

Despite the above commonalities, some critical sustainability scholars are more ecologically focused, while others are still based in anthropocentrism. For Ferreira (2017), ecological restoration is the central focus and this includes the view that humans are an inherent part of rather than apart from the wider ecological world. This "relational ethos serves as the epistemological foundation of novel, dynamic worlds where healing and justice are at the front and center of our cultural and ecological identities" (Ferreira 2017). Fuchs (2017) focuses on the notion of sustainable development. He draws on the Frankfurt School and foregrounds an analysis of the role of class, capitalism, domination and exploitation in the current sustainable development model. Special attention goes to the role of power asymmetries in relation to class inequalities, gender inequalities, racism, nationalism and others in the analysis of sustainability. He builds on four sustainability dimensions, that is environmental, economic, political and cultural sustainability and he subsumes nature under environmental sustainability (Fuchs 2017, 455). His outlook is anthropocentric in focus and thus fails to fully recognise where class, gender, racism and nationalism intersect with the subjugation and destruction of nature. Of interest however is his focus on cultural sustainability whereby he understands culture as the system of the reproduction of the human mind and body, which requires recognition of and respect for humans' identities and personalities, and institutions that nourish human skills. There is room here for animal geographers to explore what this idea of culture might mean when applied to nonhumans.

Critical sustainability scholars so far have ignored the contributions critical animal studies can make to the sustainability discourse, and vice versa, critical animal studies scholars have not yet taken notice of critical sustainability scholarship, although there is an obvious natural affinity between the two. Critical animal studies recognise the cultural and agential capacities to animals (see Section 1.7.2). They pay close attention to animal exploitation, its historical and present roots, and the political and institutional structures that make it possible. Critical animal geographers Collard and Gillespie (2015, 9) emphasise that particular attention needs to be paid to capitalism and colonialism as the dominant political-economic modes built on dispossession of others. Importantly, critical animal studies scholars



are motivated by political and ethical commitments to improving the plight of animals, and to bringing about transformation and justice for animals (N. Taylor and Twine 2014; Emel et al. 2015). The uniting understanding of critical animal studies is “that animals’ lives and deaths are deeply political, that they cannot be separated from intersecting forms of justice (social, political, environmental), and that hierarchical orders are a primary source of animals’ subordination” (Collard and Gillespie 2015, 10). Critical animal studies scholars, in particular animal geographers, can thus make important contributions to critical sustainability studies to further analyse how marginalisation and domination are maintained, and to develop pathways for just multispecies societies flourishing within ecological boundaries, and to redefine notions of sustainability.

#### 1.7.4. Implications for this Research Project and Interspecies Sustainability

The recent developments in the reappraisals of the notion of sustainability and sustainable development from the perspective of animals and critical theories since research for this thesis has begun (and as discussed variously above in Section 1.7), underlines the timeliness of and the need for this research. Interspecies and multispecies sustainability for that matter, are nascent theoretical concepts and some aspects relevant for their further development have been identified above. This includes, for example, animal agency which is further discussed below in this section and which is considered throughout this thesis. From the concept of animal agency, three further aspects flow immediately to frame interspecies sustainability, that is telos and integrity (see e.g. Mepham 2000; Musschenga 2002; more below in this subsection), and (intra- and interspecies) relationality. All of these need to be understood as being political, that is they require attention to the structures and systems that enable them for interspecies sustainability to take hold. The two questions that come to the fore in the discourse about nonhuman agency are, who has agency and whose agency is intentional?

Agency has been of great interest in geography. Cloke and Jones (2004, 325–329) discuss various frameworks assigning agency to the nonhuman including trees and plants. While some of these frameworks do not rely on assigning intentionality to agents such as those drawing on actor-network theory, others like those drawing on ecofeminist theory extend intentionality beyond nonhuman animals to apply to trees and plants (Cloke and Jones 2004, 326). Cloke and Jones (2004, 326) state that geographers have been strongly influenced by actor-network theory, levelling the way for "framing nature as both a real material actor and a socially constructed object" (Demeritt in Cloke and Jones 2004, 326). This led to theorising about hybrid geographies, to a decoupling from object-subject distinctions, and an assemblage of hybrids "into associative networks in which agency represents the collective capacity for action by humans and nonhumans" (Cloke and Jones 2004, 326). The focus there is on relationality between actors rather than intentionality of any individual actor. There is however a risk in assigning machines and technological systems agency at an equal level and in the same way agency is assigned to living beings, be they human, nonhuman, machine or a mechanical device. It leads to the claim that not only are the dividing lines between humans and animals "subject to change and negotiation", but so are the dividing lines between humans and animals and machines (Wolch et al. 2002, 409). This plays into the hands of ideologies idealising and justifying the creation of hybrid human- and animal-machines and chimera. It also potentially trivialises and naturalises the impact of ongoing automation and robotisation of animal agriculture if no critical framework is applied to the analysis. Indeed, Whittle and Spicer (2008, 612) found that actor-network theory does not provide a sufficiently critical framework, meaning that it is not well-equipped to pursue an account that "recognises the unfolding nature of reality, considers the limits of knowledge and seeks to challenge structures of domination".

In contrast, ecofeminism is based on structural feminism and its analytical critical stance is based on the analysis of the patriarchal forces of power and domination, arguing that feminist and environmental concerns are inextricably linked and that the ecological crisis can only be addressed

when the fundamental model of relationships as one of domination is disrupted (Iverson 2015). Ecofeminists strive to transform society “from values of possession, conquest, and accumulation to reciprocity, harmony, and mutual independence” (Iverson 2015, 22) which would have to imply the end of animal exploitation. Ecofeminists see intentionality in nature, more specifically, Plumwood (2005, 149) argues that plants and trees are “organized intentional goal-directed beings which value their own lives and strive to preserve them in a variety of challenging circumstances”. This view is supported by researchers in the field of plant cognition and ecologists such as Simard (2018). Ecologists increasingly recognise trees and plants as having agency that leads to decisions and actions (Simard 2018, 193). Trees and plants are found to possess sophisticated cognition including capabilities in perception, learning and memory. They demonstrate adaptive behaviours and communicate their strengths, needs and stresses; they collaborate, recognise kin, and transfer their nutrients to neighbouring plants before they die; they possess language and together with a variety of trees, fungi, animals and potentially also humans form communities and create forest intelligence (Simard 2018). This research in the hard sciences as well as the discussion in Section 1.7.1 support the argument that ecofeminist thought is more relevant for an investigation into interspecies sustainability than actor-network theory is, as it is more in line with the nature and needs of living systems while also recognising the systemic suppressive forces that need to be overcome.

Returning the focus to animal geographies, Wolch et al. (2002, 409) state that it is “the recognition of animal subjectivity [that] led to questions of animal agency *per se*”. Emel et al. (2015, 168) refer to agency as “denoting conscious intention”, but others (e.g. Wilbert in Wolch et al. 2002, 409) question whether “conscious intentionality” is required to acknowledge animal agency. Emel et al. (2015) also draw on animal welfare science in trying to define agency of nonhuman animals. Emel et al. (2015, 168) note that agency is not a widely used term in animal welfare science, the discipline addressing animal-using industries. They found that terms such as “preference” and “motivation” have been part of the preferred vocabulary in animal welfare science. Emel et al. (2015, 168) point to the work of

Špinka and Wemelsfelder (2011) who define agency as “the intrinsic tendency of animals to behave actively beyond the degree dictated by momentary needs, and to widen their range of competencies” (Špinka and Wemelsfelder 2011, 28). Importantly, Špinka and Wemelsfelder (2011, 38–39) establish that the ability to exercise and develop agency and competence is important for the animals’ welfare. They add that “it is therefore likely” that captive environments deny animals the opportunity to unfold their agency and thus prevent them from achieving better welfare (Špinka and Wemelsfelder 2011, 39). This also implies even from the perspective of animal welfare science that the relationships humans have with animals impact animals’ potential for agency and thus their welfare (Emel et al. 2015, 171). Indeed, Mellor et al. (2020) have recently updated the Five Domains model for welfare assessment to include human-animal relationships. Domain 4 now named Behavioural Interactions focusses on animals consciously seeking specific goals when interacting behaviourally with the environment, other non-human animals and humans (see Mellor et al. 2020).

Animal agency has many components which vary depending on individual animals, their life stages, their human caretakers (in the case of animals living in domestic or otherwise confining settings) and their environments (Emel et al. 2015, 171). They vary in ways that depend on their species, as well as on individual likes and dislikes. Species-specific parameters set the stage for animal agency, and here, the concept of telos is a useful reference point. There are varying understandings of telos and for this research, the following is adopted drawing on Harfeld (2013) and Mepham (2000, 68–70): Telos refers to animals’ nature and their wild origins and describes an unalterable quality that is intrinsic to an animal's identity and is part of animals’ inherent worth. It refers to animals’ wholeness and completeness, and the capacity for animals to independently maintain themselves. This can be encapsulated in terms such as the horseness of the horse or the pigness of the pig. This also means that telos is of direct moral relevance in itself and should not be violated. Animals are regarded as "ends in themselves" with a "good of their own" and holding respect for the principle of telos implies respect for animal integrity (for more, see Section 5.2.3).

Donaldson and Kymlicka (2016, 235) point out that humans suppress or ignore agency in their relationship with animals, including wild living animals. Donaldson and Kymlicka (2016), who write from the perspective of the political sciences and political philosophy which is most relevant for governance for interspecies sustainability, understand agency as entailing the desire and need of animals to have control in their lives, whereby they distinguish between “micro agency” and “macro agency” (Donaldson and Kymlicka 2016, 236). Micro agency refers to making temporally localised decisions, such as decisions about when to eat or to sleep and are seen as being more dependent on species biology. But animals do not only have an interest in preference satisfaction or species-typical functioning, but also in making “significant decisions about the general shape and structure of their lives”, that is exercising “macro agency” and decide “where and how they live; who they mate with, live with and associate with; what sorts of activities they learn about, engage in, and pursue mastery of” (Donaldson and Kymlicka 2016, 235). Acknowledging these larger ends means accepting that animals “are not just members of a species; they are individuals with different capabilities, interests, personalities, and desires. And, like us, they need extensive freedom in order to explore, learn, and make choices—to shape their own identity in relationship to their social and physical environment” (Donaldson and Kymlicka 2016, 235). Therefore, when theorising about interspecies sustainability, this requires us to ask “what kinds of lives animals want to live, what kinds of relationships, if any, they want to have with us, and whether our interactions with them bolster or inhibit their ability to lead such lives” (Donaldson and Kymlicka 2016, 227). According to Donaldson and Kymlicka (2016, 238–239), “human interactions with animals, whether wild, liminal or domesticated, should be governed by the goal of supporting animals’ self-determination/agency”. This is to be accepted as an integral aspect of interspecies sustainability. It may not necessarily preclude any shared human-animal activities, but how such shared activities should appear and when they are permissible under an interspecies sustainability paradigm are challenging questions to address for theorising about interspecies sustainability.

As animal geographies has not yet engaged explicitly with sustainability and sustainable development at the conceptual level, this thesis also draws on other fields which have engaged explicitly with the intersection of animal welfare and protection and the sustainability discourse. This includes writings in sustainable agriculture and sustainable food systems. It also draws on authors engaging with sustainability who are based in applied philosophy, sociology, anthropology, ethnography and animal welfare science. This thesis is also informed by others taking part in the sustainability discourse including human geography, accounting, sport theory and earth systems science.

Animal geographers have also not engaged to a significant degree with the horse-human relationship. There are however foundational writings relevant for this research which directly or indirectly relate to horse-human relationship in thoroughbred racing published by McManus and co-authors (e.g. McManus and Montoya 2012; McManus et al. 2013; McManus 2015), whereby McManus is perhaps more based in cultural and social geographies than in animal geographies. A number of authors based in anthropology, ethnography, sociology and philosophy have specifically addressed matters of horse-human relationships (e.g. Adelman and Thompson 2017; Birke 2017; Bornemark et al. 2019; Thompson and Clarkson 2019), and one author has recently simultaneously engaged with the sustainability discourse (Wadham 2020).

Ferreira (2017, 2) suggests that sustainability “has the potential to provide a holistic framework that can bridge the gap that is often found between socio-economic justice and environmental discourses”. This can be extended to argue that the importance of supporting and advancing the notion of interspecies sustainability lies in its potential to synthesise life sustaining socio-cultural and natural systems into a coherent worldview while simultaneously taking account of all species’ needs and interests, multispecies justice concerns, relations of power and domination, and the political systems and structures necessary to facilitate a transition toward interspecies sustainability.

Finally, for this thesis, the term interspecies sustainability was chosen over the term multispecies sustainability to account for inter- and intra-species relationalities, dependencies and systemic interconnectedness. Use of this term is also in recognition of the far-reaching impacts humans have on wild, domestic and liminal animals who are to be an important focus of analysis. The notion of relationality is not to suggest that humans always have to have direct relationships with nonhuman animals for it to be relevant for interspecies sustainability theory. It can also describe a relationality that accepts and respects co-existence in the form of living independently with boundaries and non-contact zones between humans and animals to ensure peaceful co-existence (Bovenkerk and Keulartz 2016, 23:17). Thus, relationality can be conceived of as existing within proximity, but also within distance and apart, where wild animals still live remotely in relatively intact ecosystems and relatively free from human control (Donaldson and Kymlicka 2016, 230). Interspecies relationality is of particular relevance for thoroughbreds because their lives are closely intertwined with human lives, they are entirely dependent on humans' actions, every aspect of their lives is controlled and shaped by the demands and machinations of the breeding and racing industry, and a very specific systemic interconnectedness with humans exists under extreme conditions under saddle with inherent risks of injury and death.

## 1.8. The Thoroughbred Industry

Horseracing has likely existed in some form or another since the domestication of the horse (Nash 2020, 304). Horse domestication is believed to have occurred some 5500-6000 years ago, although much of this evidence for dating relies on bit wear marks on horses' teeth (Outram et al. 2009; Taylor and Barrón-Ortiz 2021), ignoring the fact that horses can be ridden or driven without a bit. In terms of formalised horseracing, chariot racing and horseback racing during classical antiquity are well-documented (e.g. Bell 2020; Mann and Scharff 2020). Europe's post-Columbian expansion

(re)introduced horses and horseracing in many countries and in the wake of this, indigenous horseracing traditions also emerged in some of these countries (e.g. Mitchell 2020). Economic and political relations within Asia led to Central Asian and Mongolian horses being (re)introduced throughout many countries in Asia, such as, for example, Indonesia (e.g. Hendricks 2007, 60).

In the present time, thoroughbred racing is only one form of racing. Many other organised horseraces are held by breed, over varying distances, some over obstacles, in gallop, trot, under saddle, in harness pulling a cart or a sleigh (e.g. Hendricks 2007). There are also traditional street races such as the Palio di Siena in Italy (Tobey 2011). Racing of native small horse breeds or ponies is common in many countries of South America, Africa and Asia, including in countries with an existing significant thoroughbred racing industry such as Korea (e.g. Hendricks 2007, 120). Horseracing of native horses in Mongolia and on some islands in Indonesia are attracting attention of human rights campaigners due to their use of child jockeys (Davaasharav 2018; Al Jazeera English 2020), in the case of the Indonesian Island of Sumbawa as young as five years of age and three years old when they start training (Vaessen 2014; Al Jazeera English 2020). As an industry informant of this study aptly pointed out: “I think it’s an international global human thing. There is horseracing in places you and I can’t even imagine”.

Thoroughbred racing is, however, the only global racing industry, being the economically strongest and the activity that in many nations a growing wealthy elite desires, and participates in its adoption and development, with flow-on effects for their societies at large (Godfrey 2013; McManus et al. 2013). Importantly also, animal protection groups are organising globally to address the practices in thoroughbred racing that have the most visible impact on thoroughbred welfare, resulting in a growing public discourse about the ethics of the use of horses in sport and entertainment specifically, and of our treatment of and relationship with animals more broadly. In this section, a brief introduction is given to thoroughbred racing and breeding, addressing its rise as a globalised industry,



its size and scope, the interwovenness and interdependencies of breeding, racing and betting, ethics and thoroughbred welfare, notions of sustainability and integrity, the thoroughbred protection movement, and finally, an outline of the focus of this research is presented.

### 1.8.1. Thoroughbred Breeding

The racing and breeding of thoroughbreds began to emerge some 300 years ago in Britain. The thoroughbred was created from local mares and imported Arabian stallions. There are three successive foundation stallions, the Byerley Turk (in the 1680s), the Darley Arabian (1704) and the Godolphin Arabian (1729) whose names live on today in racing and breeding businesses (McManus et al. 2013, 16; see also Nash 2013). The emerging hybrid breed, the thoroughbred, was, as Nash (2013, 24) states, "re-inscribed in a model of purity and coherence", and it was in the nineteenth-century that it came to serve as a breed identity (Nash 2020, 305). The General Stud Book was established to ensure that the purity of the bloodlines is codified (McManus et al. 2013, 16). Building on the work undertaken by John Cheny between 1727 and 1743 (Nash 2013, 19–23), the General Stud Book has been maintained and published by Weatherbys since the 1790s (Weatherbys 2021). It is still today the thoroughbred breed registry for Great Britain and Ireland. Most thoroughbred breeding nations maintain their own stud books, with some amalgamated, such as the British and the Irish. In the US, the Jockey Club maintains the stud book for thoroughbreds in the US, Canada and Puerto Rico (The Jockey Club [Registry] 2020).

Thoroughbred breeders are represented by state, national, regional and international bodies. Due to increasing movement of thoroughbreds for breeding and racing, the International Stud Book Committee was established in 1976 to develop and promote standards of stud book operations and "safeguard the integrity of the Thoroughbred breed" (International Stud Book Committee 2021). These standards concern, for example, how to define the thoroughbred, conditions of entry for stud

books, the operation of stud book authorities, and procedures for parentage verification testing and breeding practices. It is about facilitating international trade by monitoring, reviewing and improving standards for breeding, identification and international movement (International Stud Book Committee 2021). The committee is comprised of the major breeding countries, that is Australia, France, Great Britain and Ireland, New Zealand, South Africa and the US. Further countries on the committee are Japan, India and the representative authority of the South American Stud Books. As of 2021, 67 national stud books are listed as approved (IFHA 2021a, Article 12) and represented on the Committee.

For thoroughbreds to be accepted to race in authorised thoroughbred races, they have to be recorded in a thoroughbred stud book approved by the International Stud Book Committee. For thoroughbreds to gain entry into an approved stud book, their dam and sire must have been recorded in an approved stud book or must have been promoted from a non-thoroughbred register. Furthermore, the foal has to be conceived through natural gestation, and processes of artificial insemination, embryo transfer and transplant, cloning or any other form of genetic manipulation are not accepted (IFHA 2021a, Article 12). McManus et al. (2013, 1) report over 110,000 thoroughbred foals being born annually around the world. Figures from 2018 reported by the IFHA show a reduction to approximately 93,000 foals. Table 1.1 lists numbers of foals born in some breeding nations between 2002 and 2020 and while some indicate an upward trend (such as France and Saudi Arabia, although not consistently as in the case of France), overall, a downward trend is evident.

While mostly hidden from public view, breeding is “where the big money is made” (McManus et al. 2013, 3). Breeding and racing can be separated in many ways, but there are also close links between the two. McManus et al. (2013, 3) suggest this is particularly apparent in the “emphasis on two-year-old racing for large purses, in order to be retired soon after and to commence breeding”. Indeed, the aim of racing is “the organization of competitions to select the best horses in order to improve the

quality of breeding” (IFHA 2018, 4). The thoroughbreds’ ability is tested in racing, and so one of the most important economic pillars of the industry rests with the high-end of the racing industry to provide “the raw materials for the breeding industry” (McManus et al. 2013, 3) (an expression indeed commonly used by industry spokespeople, see e.g. Wright 2018a). This applies in particular to “young stallions with excellent racing records (particularly as two- and three-year-olds) and broodmares with outstanding pedigree” (McManus et al. 2013, 3).

**Table 1.1** Foals born 2002, 2005, 2010, 2015, 2020

	2002	2005	2010	2015	2020*
Australia	18,060	17,178	17,191	12,638	12,862
Brasil	3,429	3,034	2,844	2,060	1,651
France	4,461	5,252	5,470	4,874	4,925
Germany	1,341	1,185	1,034	864	776
Great Britain	5,156	6,003	4,665	4,569	4,468
India	1,372	1,429	1,804	1,385	1,237
Ireland	10,214	11,748	7,588	8,780	9,182
Japan	8,690	7,930	7,105	6,844	7,475
New Zealand	5,060	4,600	4,334	3,774	3,140
Saudi Arabia	535	792	1,172	1,698	1,589
South Africa	3,097	2,974	3,245	3,183	2,330 (est.)
US	32,984	35,046	25,800	20,600	18,950 (est.)

\* Source of the figures for 2020 is The International Grading and Race Planning Advisory Committee (2021), Source of all other figures: International Federation of Horseracing Authorities (IFHA 2021b)

## 1.8.2. Racing and The Rise of a Globalised Industry

Thoroughbred racing is often referred to as the Sport of Kings, but Nash (2020) argues it would be better described as the Sport of Kingmakers. He (Nash 2020, 304) locates the promotion and emergence of thoroughbred racing as a national sport in England within the context of national political change. He suggests that thoroughbred racing “was advanced as a form of political theatre”, with the purpose to “mobilize popular support for a national compromise that guaranteed the preservation of both the institutions of monarchy and ... the established church” (Nash 2020, 305).

The establishment of the Jockey Club in 1750 (The Jockey Club 2021) by “wealthy racing enthusiasts (not necessarily the jockeys), was an important step in laying down the rules under which horseracing would develop” (McManus et al. 2013, 45–46). By the 1830s, racing was a major British sport (Vamplew 2013, 59) including racing on the flat and racing over jumps.

Britain exported racing, including stallions, race names, racing models and style of governance, through its network of colonised nations (Vamplew 2013, 62). Lemon (in Vamplew 2013, 62) points out that, considering that there have been other forms of racing, from Roman chariot races to Sienna street racing, “what is intriguing is the speed with which English thoroughbred racing took hold, particularly in the nineteenth century, and became the model that was followed across the globe”.

Australia has embraced racing particularly enthusiastically. The first fully sanctioned race meeting was held in Sydney in 1810 (Cassidy 2013, xviii). In 1906 in Sydney, which had a population of less than half a million, more flat race meetings (236) were staged annually than in all of the UK with a population of around forty million (Cassidy 2013, xx). The first formal race meeting in Brazil was held in 1825; Happy Valley Racecourse was built for the British in Hong Kong in 1845; the first Cup was held in Calcutta in 1856; Saratoga racecourse was built in 1863 and Belmont Park opened in New York in 1905 (Cassidy 2013, xviii-xx). The development of racing in Asia saw the first running of the Japan Cup in 1985, and the Inaugural running of the Dubai World Cup in 1996. The opening of Meydan in 2010, according to Cassidy (2013, xxvii), reinforces “the ongoing relevance of the connection between the fortunes of Dubai and international horseracing”. China’s growing wealthy class is ready to develop horseracing in their country and some thoroughbred racing is taking place, but the ban on betting makes its development impossible, highlighting the fact that thoroughbred racing in its current form is inextricably linked to betting (Godfrey 2013).

The development of racing and its culture and reputation has largely been associated with the wealthy elite and the working class, as well as with what is often referred to as 'colourful racing identities', the 'crooks, conmen, spivs and touts' as captured by Hickie (1987). However, Vamplew (2013, 57), in acknowledging Huggins's (1994) research, states that also "the middle class had a major role in the development of racing, not only as organisers and promoters, but also as owners, bettors and spectators", which certainly contributed to the rise of thoroughbred racing. In their 2018 Annual Report, the International Federation of Horseracing Authorities (2018, 36) listed 52 countries as having held thoroughbred flat races, and jumps races were conducted in sixteen of these countries. In the same year, globally, 142,000 flat races have been conducted, there were 219,000 individual horses who have raced and in total, they have started nearly 1,3 million times, meaning each horse raced on average 5.8 times, and there were on average nine horses in a race (IFHA 2018, 36). In addition to this, there were 8,200 jumps races with more than 20,000 individual horses racing, starting more than 73,000 times (IFHA 2018, 36). In terms of the total thoroughbred population, there are globally some 500,000 thoroughbreds registered as being used in breeding, including mares, stallions and foals, and used in racing (IFHA 2018, 34–36). These are 500,000 horses whose lives are entirely controlled, shaped and impacted by the demands of the industry.

The thoroughbred industry is economically important in many racing nations, including for employment, export income and gambling (McManus et al. 2013, 1). In terms of further economic impact, many other industries depend on the thoroughbred breeding and racing industry to varying degrees, such as feed companies, veterinary services, stock transport, pasture management, saddlery supplies, tourism and hospitality. For example, for 2018/19, Racing Australia (2020) claims a A\$9.5 billion direct and indirect economic contribution to the national economy of which nearly A\$4,8 billion were generated in regional areas; 75,000 direct and indirect full time equivalent jobs; 156,000 participants in racing including 83,000 owners, 3,100 trainers, 840 jockeys (in 2019/2020) and 6,800

breeders; A\$729 million prize money paid; A\$637 million auction sales; and total wagering approached A\$21 billion.

Overall, prize money and wagering turnover have been going up in Australia, but numbers of races, numbers of owners and breeders and other racing participants, as well as numbers of foals born have been going down steadily for some time (Racing Australia 2019). Globally, a downward trend is evident (see Facts and Figures, IFHA 2021b). Some racing and financial statistics from 2002 and 2018 are presented in Table 1.2.

**Table 1.2** Racing and financial and statistics in 2002 and 2018

	Flat races	Horses*	Jumps		Prize Money**	Betting turnover**
			Races	Horses*		
<b>2002</b>						
Australia	21,125	31,136	199	566	211,000,000	7,000,000,000
Brasil	5,317	6,895			7,000,000	86,000,000
France	4,366	7,597	2,164	5,076	291,000,000	6,700,000,000
Germany	2,381	3,638	77	237	40,000,000	310,000,000
Great Britain	4,572	8,193	3,119	8,704	129,000,000	12,000,000,000
Hong Kong	710	1,258			85,000,000	8,700,000,000
India	3,115	4,228			9,000,000	165,000,000
Ireland	789	1,906	1,205	4,754	46,000,000	1,800,000,000
Japan	22,274	28,996	133	492	774,000,000	29,000,000,000
New Zealand	2,669	5,098	141	371	28,000,000	340,000,000
South Africa	4,166	7,241			19,000,000	no data
US	54,117	66,685	187	324	1,200,000,000	17,000,000,000
<b>2018</b>						
Australia	19,320	34,845	89	262	478,000,000	17,000,000,000
Brasil	3,161	4,743			12,000,000	80,000,000
France	4,917	8,982	2,122	4,744	438,000,000	9,000,000,000
Germany	1,156	2,080	16	53	19,000,000	70,000,000
Great Britain	6,591	10,610	3,815	8,618	186,000,000	16,000,000,000
Hong Kong	817	1,329			140,000,000	14,000,000,000
India	2,181	4,731			1,700,000	150,000,000
Ireland	1,234	2,852	1,410	4,214	63,000,000	5,000,000,000
Japan	16,372	23,576	126	504	944,000,000	27,000,000,000
New Zealand	2,467	4,495	101	249	54,000,000	360,000,000
South Africa	3,639	6,196			25,000,000	210,000,000
US	36,446	45,758	140	386	1,176,000,000	10,000,000,000

\* Figures of individual horses raced. \*\* In Euro; Figures have been rounded.

Source of all figures: International Federation of Horseracing Authorities (IFHA 2021b)

Each racing nation has set up their own regulatory and governing framework following the British model. Sixty nations are now members of the International Federation of Horseracing Authorities. (IFHA 2018) which was founded in 1993. McManus et al. (2013, 1) suggest that with the establishment of the International Federation of Horseracing Authorities, it has been confirmed that thoroughbred breeding and racing has become a global industry. The International Federation of Horseracing Authorities' primary concerns are the harmonisation of the rules of racing, breeding and wagering globally; equine prohibited substances and practices; the international movement of horses; international grading and race planning; the World's Best Racehorse Rankings; jockey health, safety and welfare; horse welfare, the International Stud Book, and recently, gene doping has been added. Diplomatically, it makes recommendations to the racing authorities who are its members for improvements in laws and regulations in relation to these matters.

### 1.8.3. Betting

In contrast to most other sports, thoroughbred racing is financed predominantly by betting. As Vamplew (2013, 63) states, “[o]ther sports have betting but, Dubai apart, racing needs betting”. He suggests that historically, this “originated from a combination of wealth, competitive instinct and lack of spending opportunities. It was a prime example of conspicuous consumption in which match races between two owners demonstrated an ability and willingness to risk money” (Vamplew 2013, 64). Systemic betting emerged in mid 19th century (Cassidy 2013, 5), and there is a structural division between betting and racing, with betting being regulated by governments. That racing and betting could develop hand in hand is explained by European Pari Mutuel Association (EPMA 2008, 5) with “the early introduction of betting legalisation and the recognition of the right of horseracing to benefit from this revenue”. Both activities developed symbiotically, “particularly for Pari Mutuel operators, which are often set up and supervised by the racing authorities” (EPMA 2008, 5). The industry however is concerned about significant betting activities from which they cannot derive turnover, and about

competition in the betting market from other sports. It should be noted, however, that not all racing has betting. For example, there is no formal betting on jumps racing in the US, but that is also the reason for it being relatively small and marginal (McManus et al. 2013, 190–192).

#### 1.8.4. Problems for Ethics and Welfare

McManus et al. (2013, 137-154) give an overview of ethical and welfare issues as they relate to the various life stages of the thoroughbred in racing and breeding. These include the fact that racing at high speed and the required training inherently bear risks for the horses, it includes the risks of performance enhancing drugs, welfare issues of mating and conception, conformation and soundness issues for foals, sales and racing preparations for young horses, the use of drugs to mask injuries, use of the whip, and retirement and end-of-life of thoroughbreds. The brutal slaughter of large numbers of unprofitable racehorses is regularly reported (e.g. ABC 7.30 Report 2019). These and other welfare issues are addressed variously throughout the following chapters.

The legal and illegal use of drugs to enhance or reduce performance and to reduce pain and mask injury, often in combination with medications, is of particular concern (see e.g. House of Representatives, 110 Congress 2008; Drape et al. 2012; Bennis 2013; Paulick 2014; Ross 2014; Voss 2019b). Jan Schakowsky in her opening statement before the House of Representatives asserts that

disturbing is how these animals are abused while they are in their prime. Horses are commonly injected with so many performance-enhancing drugs and other medications that it has become almost impossible to tell what their natural condition is. (Schakowsky in House of Representatives, 110 Congress 2008, 2)

The main obstacle to address these issues effectively is industry self-regulation. Furthermore, the industry enjoys government support and there are deep entanglements between the thoroughbred



industry and individuals in government at local and national levels in many countries including Australia (see e.g. Ractliffe 2020). Indeed, the International Federation of Horseracing Authorities (2020) emphasises the importance of “strong government engagement and relationships” and that “[t]hese are required for the sport to be successful into the future” so that these “can be activated when a crisis emerges”. A recent example of such activation in Australia is that during the Covid-19 pandemic lockdown throughout the year 2020, racing was allowed to continue on a par with “essential services” (except in Tasmania), whereas most other professional sports had to shut down (Racenet News 2020).

### 1.8.5. Sustainability Concerns in the Thoroughbred Industry

The notion of sustainability is generally used by industry participants to mean economic viability and profitability, and racing and breeding integrity. Integrity, however, is not understood as a virtuous concept. Instead, it refers to giving the confidence that there is no intentional interference or built-in condition which can influence the outcome of a race or of breeding. For example, the Thoroughbred Idea Foundation suggests the following are expectations that need to be met for racing integrity:

Simply put, the competitions within racing should be fair and honest. Horses should be free from any illegal performance enhancement. Jockeys should expect horses are sound, track surfaces are safe and stewards enforce rules consistently. Bettors should expect that jockeys give horses their best chance to win, betting information is accurate and that wagering systems are secure and do not advantage some customers over others. (Thoroughbred Idea Foundation 2021)

The Thoroughbred Idea Foundation (2021) argues these expectations are not met in North American Racing, the bettor is not protected and there is great “wagering insecurity” which is seen as a significant threat to the future of racing.

In terms of the economics and industry sustainability, one of the developments the industry is most concerned about is the lack of people wanting to breed, own and race thoroughbreds. While breeding is profitable for the “mega-studs” (McManus et al. 2013, 7), it is highly unprofitable for smaller and medium-sized breeders (McManus et al. 2013, 61–63). As Vamplew (2013, 63) states, racing depends on “most owners treating it as a hobby, as consumption demanding expenditure rather than investment seeking a return”. In Wright (2018a), breeding is described as “chronically unprofitable for the vast majority”. A further reduction of breeders will mean a further reduction in foals born which will compromise the current racing model (Wright 2018).

In both examples above for racing and breeding, the very economic foundations of racing are being undermined and therefore, its sustainability threatened as understood by the industry. Thoroughbred welfare and protection have until recently not found much consideration in the industry’s sustainability discourse. This seems to be changing, however. It appears the industry has now embraced the retirement of thoroughbreds from racing as an issue to be taken on with seeming earnestness at the international level (Voss 2021). It is fair to assume that some key people within the industry now accept that the welfare of thoroughbreds does indeed impact the industry’s economic bottom line and therefore its sustainability, as has been argued in a report (Singer and Lamb 2011) commissioned by the Jockey Club in the US some ten years ago. The impact of their initiatives will show whether they believe it is about the realities of thoroughbreds’ lives or about the public’s perception of their lives.

### 1.8.6. Thoroughbred Advocacy

It was the frequency and high visibility of falls, injuries and deaths in jumps racing that attracted the attention of animal protection campaigners. According to Pope (2014, 99), a first anti-jumps race protest was held in Sydney in 1848. Stansall (2011) recalls an unsuccessful attempt in the UK to press

charges in 1949 when four horses were killed in the Grand National, an annual jumps race held at Aintree Racecourse in Liverpool, England, first run in 1839. Then, interest waned and for the first twenty to thirty years of the contemporary animal rights movement, horseracing has not been on the animal rights agenda in the UK (Stansall 2011). Animal Aid began to address horseracing in 1999 and protesters targeted the Grand National specifically, but, as Stansall (2011) explains,

it wasn't until a few years ago that there was a movement that was coming to grips with what was going on in horseracing. Nobody really understood what the industry is about. It is secretive, abusive, not accountable to anyone. It is a commercial industry and enjoys a free rein and escapes the critical eye. (Stansall 2011, 2:20)

In Australia, Animal Liberation in New South Wales took up campaigning against jumps racing from 1985 onwards when it was restarted after a pause of forty-three years (Pope 2014, 100–101). Jumps racing was then outlawed in New South Wales on ethical grounds through the Prevention of Cruelty to Animals Amendment Bill in 1997 (Montoya et al. 2012, 278), but according to Presnell (in Montoya et al. 2012, 281), the Sydney Turf Club had already terminated it after the 1992 race because of an Australia-wide recession. In April 2007, Tasmania ceased jumps racing also on economic grounds (Montoya et al. 2012, 278), but it continues to be conducted in Victoria and South Australia.

Lawrence Pope started campaigning against jumps racing in Victoria in the early 2000s (Pope 2014). The Coalition for the Protection of Racehorses was founded in 2008 (CPR 2021a). Recently, they established satellite teams in New Zealand (CPR 2021b), and they collaborate internationally with Animal Aid (UK), Tierschutzbund Zürich (Switzerland), Italian Horse Protection (Italy) and Horseracing Wrongs (US) (CPR 2021c). The movement thus responds to the need to address a global industry at the global level.

Animal advocacy organisations differ in their goals and campaign foci. For example, Animal Aid argues for the abolition of thoroughbred racing, both flat racing and jumps racing. They also engage in campaigns to improve horse welfare while racing persists. Importantly, they target industry self-regulation pressing for the establishment of an independent body to oversee thoroughbred welfare in the UK (UK Government and Parliament 2018). The Coalition for the Protection of Racehorses campaigns for the abolition of jumps racing but prefers to campaign for reform in flat racing. Their purpose is to promote a “more responsible attitude towards the treatment of racehorses” and improvements for their lives before, during and after their racing lives, through investigations, research, public awareness campaigns and political lobbying (CPR 2021a). The RSPCA in Australia also takes a proactive role by providing public information and calling out significant welfare issues, undertaking research that critically reflects on industry practices and engaging in consultative processes with industry and government (e.g. Jones et al. 2015; RSPCA 2018). This is in stark contrast to the position of the RSPCA in the UK which avoids criticising the racing industry.

People for the Ethical Treatment of Animals (PETA) in the US focuses on flat racing only. This may be based on a decision to focus limited resources on aspects of racing in the US with the most impact and public attention, since, as mentioned above, compared with flat racing, jumps racing in the US is a relatively marginal activity. It may also be due to the fact that jumps racing would be difficult to challenge socially because in the US, it is often associated with homecomings, and the proceeds tend to go to charities such as hospitals. Therefore, any organisation in the US campaigning against jumps racing would also be seen to be campaigning against community development and charitable acts that are associated with saving lives, caring for children and other social causes (McManus et al. 2013, 190–192). Applying a strategy that is new in thoroughbred advocacy, People for the Ethical Treatment of Animals (US) has recently purchased stock in four racetrack-owning companies to press for change in racing through participation in the boardroom (PETA 2020).

People for the Ethical Treatment of Animals (US) had begun to campaign against racing following the high-profile death of the three-year-old filly Eight Belles during one of the world's iconic thoroughbred races, the Kentucky Derby, in 2008. Indeed, an industry informant and an animal advocacy informant of this study stated that the death of Eight Belles was a watershed moment in the US that drew the public's attention to injuries and death on the racetrack and compelled the industry to take notice. Eight Belles broke both her front legs shortly after crossing the finish line in second place (McManus et al. 2013, 140–141). She was put down by lethal injection on the track. McManus et al. (2013, 141) state:

Her death, in front of thousands of people at the racetrack in Louisville, and millions via cable television, put on display an ethically problematic aspect of the thoroughbred horse industry that rarely receives mass public attention. ... the moment that a horse moves from being a magnificent animal performing at the peak of its powers to a helpless animal writhing in agony on the track is a moment that can bring into question the whole foundation of the industry. (McManus et al. 2013, 141)

McManus et al. (2013, 141) confirm that it is the death of Eight Belles and other similar events, as well as the highly publicised deaths in jumps racing in the UK and Australia, that brought about intense ethical scrutiny of thoroughbred racing. This scrutiny is driven by animal advocacy organisations. The thoroughbred advocates however are constructed by the participants within the industry as "outsiders" who are "interfering", but, as McManus et al. (2013, 216) state, "it is apparent that this involvement by animal liberationists is not a fad, and the future of the global horseracing industry will be shaped by the positions negotiated between the industry and animal liberationists, as well as other industry stakeholders, such as owners and punters".

### 1.8.7. Geographical and Sector-Specific Focus of this Thesis

Based on the origins and historical development of thoroughbred racing as outlined above, it becomes evident that it is a viable approach to focus on the major English-speaking racing nations for informant recruitment. Furthermore, for the thoroughbred industry to operate as a globalised industry, it has instated structures and bodies, in particular the IFHA, to harmonise racing, breeding and betting in all its member countries. There is ongoing exchange between these nations including key individuals moving between professional roles from one country to another. Also, Australia, one of the countries selected, plays a pivotal role in the development of racing in the Asian region. It can therefore be expected that interviews with informants from the selected countries which include, apart from Australia, Hong Kong, Ireland, New Zealand, the UK and the US, and also international racing bodies, would yield data to identify the broad range of conceptions held by key individuals at the specified level within the racing industry at large. Key informants in senior positions and potentially influential roles in regulation, governance and administration were to be interviewed to be able to explore the positioning of the industry within the sustainability and thoroughbred protection discourse.

Furthermore, the focus was to be on welfare issues in racing rather than on welfare issues that specifically relate to the range of breeding practices, as it is racing itself that is most relevant in the broader public discourse currently. However, there are overlaps between racing, breeding and betting, and welfare and sustainability concerns. For example, the thoroughbred has been bred mostly for speed, and many are concerned that this has occurred at the expense of soundness, durability and resilience (Leimbach 2013; McManus et al. 2013, 4, 147–148). Furthermore, as has been referred to above, racing depends on enough people wanting to breed thoroughbreds. Also, it is betting that finances racing. The interview process as discussed in Section 2.1.2.2 allowed the informants to raise any of these issues and discuss them in the interview if they thought this was one of their priorities. In other words, while the study focussed on racing, it was up to the informants to raise those issues,

including breeding and betting, that were relevant in their view for the welfare and sustainability discourse. As it turned out, both breeding and betting were raised by the informants in many interviews. Accordingly, breeding and betting are addressed as they interlink with matters of racing and the welfare and sustainability discourse where relevant throughout the following chapters. In terms of jumps racing, the relationship between jumps racing and racing on the flat varies significantly between different countries in this study, and subsequently jumps racing was also not a focus of the research. It was not raised by the industry informants, but some of the advocacy informants included it as one of the main welfare concerns and as an activity that should be banned now.

## 1.9. Use of Terms

Based on the context and background provided in Sections 1.7 and 1.8, this section summarises how the terms interspecies sustainability, sustainability and sustainable development, and animal protection and animal welfare are used in this thesis.

The term sustainability is generally used and understood to mean interspecies sustainability and both terms are often used synonymously in this thesis. In an ideal world, there would not be a need to define sustainability as applying to all species and species' relationships, as this would be the inherent meaning of it. Interspecies sustainability is thus also often used in this thesis to simply mean true sustainability or deep sustainability, and to distinguish it from co-opted version of sustainability that predominantly focus on economic sustainability. (Interspecies) sustainability is grounded in ecocentrism, has a critical perspective, and refers to the socio-cultural flourishing of all species and interspecies relationship, be they in close proximity or not. It can also incorporate biocentric and zoocentric variations. As discussed in Section 1.7.4, the adjective interspecies has been chosen as opposed to the term multispecies to account for inter- and intra-species relationalities, dependencies and systemic interconnectedness.

(Interspecies) sustainability stands in contrast to the notion of sustainable development. The notion of sustainable development is referred to in this thesis as it is generally used at the intergovernmental and national levels, in the context of the Sustainable Development Goals, and as co-opted by specific industry interests and economic and political elites (see Section 1.7.1). It is identified as a technocratic and not only anthropocentric but speciesist concept. Sustainable development is in opposition to animal self-determination and flourishing since it is built on animal use, animal modification, animal displacement and habitat and ecological destruction predominantly for economic gain and human expansion (see Section 1.7.1).

In the context of the thoroughbred industry, the term sustainability is often used in this thesis as it is often quoted indirectly then, referring to the meaning assigned to it by industry representatives. Sustainability then refers to economic viability and profitability, and racing and breeding integrity, whereby integrity is a non-virtuous concept in industry parlance (see Section 1.8.5).

The term animal protection is used to refer to a holistic understanding of the protection of animals, their integrity based on telos, and civil and political rights. It refers to what is required to advance interspecies sustainability. It can mean to integrate animal welfare as long as animal welfare fosters animal integrity and flourishing based on telos. When reference is made to welfare with such positive connotations, it is also often referred to as “animal protection and welfare”. However, the term animal welfare is to be used with caution and with an understanding of the relevant context. Animal welfare as a concept has been co-opted by the animal welfare sciences and industrial users of animals to facilitate and legitimise exploitative use of animals and at best, it may have reformist goals which are insufficient to protect animal interests (Haynes 2008).



## 1.10. Thesis Overview

As alluded to in Section 1.6. Thesis Presentation, Chapters 3-6 each include a published manuscript. Each of these chapters begins with an introduction that links the manuscript to the preceding chapter, provides a brief overview of the main points of the manuscript and contextualises it within the thesis. The following provides an overview of all Chapters 1-7.

Chapter 1 has set the scene for this research project. It discussed the motivation for this research, its significance, scope, aim and research questions. It then provided an analysis of the theoretical and thematic framework of this project as it resides within notions of sustainabilities and animal geographies. It discussed the size and scope of the thoroughbred breeding and racing industry, presented the sustainability concerns within the industry and introduced the thoroughbred protection movement.

Chapter 2 discusses the research paradigm and research methods. It presents the ontological, epistemological and methodological dimension of the critical research paradigm that underlies this inquiry. It introduces interspecies sustainability as a critical research paradigm. It then discusses the interview methods including photo-elicitation. The interview schedule, the process of image selection and photo-elicited interviewing are discussed. Furthermore, sampling, recruitment and data management are outlined. Then, data analytical methods are discussed, as well as procedures for trustworthiness. To conclude, the ethics requirements are presented.

Chapter 3 presents the mapping review providing an overview of the intersection of sustainability, animal protection and the thoroughbred industry and identifying the parameters of this intersection. Challenges and opportunities for the industry and for thoroughbred protection are examined using

sustainability as a language system. The mapping review informs the interview schedule and informant sampling.

Chapter 4 discusses the first part of the empirical study of this thesis exploring the conceptualisations of thoroughbred welfare held by the thoroughbred industry and animal advocacy informants, what they consider to be the main welfare issues to be addressed in racing, and what this might mean for the welfare of thoroughbreds in racing into the future.

Chapter 5 presents the second part of the empirical study. It is an extensive study that integrates a theoretical part and the empirical part of this study. In the theoretical part, the framework for interspecies sustainability is further developed. This framework is then applied to the analysis of the empirical study. The informants' conceptualisations of sustainability in the thoroughbred industry are analysed and discussed within the context of the framework for interspecies sustainability. This serves to situate the thoroughbred industry and various actors in relation to a transformation to interspecies sustainability. In the course of the analysis, layers of engagement with animal protection are identified which can be used as a diagnostic tool to identify at what layer a particular discourse about animal protection takes place.

Chapter 6 discusses the photo-elicitation study, which is the third part of the empirical study. This study is framed within the theoretical concept of naturalness, which has been identified as a seminal aspect of interspecies sustainability and which has come to the fore as a defining dimension in the informants' responses elicited through photographs of thoroughbreds on raceday. The Layers of Engagement with Animal Protection are applied to the analysis of the results and further developed as a diagnostic tool.

Chapter 7 presents the responses to the eight research questions listed in Section 1.4. It delivers a synthesis of the findings of Chapters 3-6, discusses limitations of this research, makes recommendations for future research and presents the final thesis conclusions.

# Chapter 2. Research Paradigm, Methodology and Methods

## 2.1. Research Paradigm

Thinking about the research paradigm adopted for a research project is important in particular where ethical and political dimensions of the research and the research context play a seminal role, where the research can influence policy and legislation or where there is ambition to do so, and where long-held epistemological and ontological beliefs are in question. This research was developed with the intention to advance a theory of interspecies sustainability, whereby the thoroughbreds' dependencies on human factors and their entrapments in the thoroughbred racing industry are used as a real-life example for the application of such a theoretical framework. In addressing the research paradigm and methodological framework for this project, the claim is made that interspecies sustainability can also be viewed as a research paradigm in its own right, and one that should be based on critical theory (see Section 1.7). It is so conceptualised in this project, first of all by never losing sight of the question during every phase and step of the research: "What does all this mean for thoroughbreds?" In discussing the research paradigm and methodological aspects of particular relevance for this research, it is demonstrated that there are more conditions that apply to give substance to the claim that interspecies sustainability can be a research paradigm. This discussion is, however, not exhaustive by far as it would require a much deeper investigation. This discussion does, however, provide the first theoretical considerations to build on for future research, and to better understand the intentions and the process of this research project.

In the following, the dimensions that comprise research paradigms are introduced, the criticalists' basic beliefs in terms of ontology, epistemology and methodology are discussed within the context of this research, and the various methods used are explicated. Finally, trustworthiness is addressed. Further discussion of some of these aspects is undertaken in the published manuscripts and the relevant sections are referred to below where applicable.

### 2.1.1. The Critical Theory Paradigm

There are various ways in which research paradigms are structured in the literature, and these keep evolving. For example, long-standing methodologists of qualitative inquiry Guba and Lincoln (2008) suggest there are four research paradigms, that is positivism and postpositivism (comprising one), critical theory, constructivism and participatory. As stated above, this thesis is situated within the critical tradition. A research paradigm is a set of beliefs which is shared by a particular research community. It determines how a researcher approaches their inquiry.

The concept of research paradigm goes back to Kuhn (1970) who has defined it at three different levels (Eckberg and Hill 1979, 926–927) which have been translated into the three elements of ontology, epistemology and methodology (e.g. Carter and Little 2007). Guba and Lincoln (2008, 245) summarise that ontology raises the question of the nature of reality itself, both material and social reality; epistemology asks questions about how do we know the world and what the relationship between the inquirer and the known is; and methodology focusses on the best means for gaining knowledge about the world. How these elements are considered from a critical interspecies sustainability perspective is discussed in the subsections following this introduction to these elements.

Epistemology is generally referred to as being inherently axiological (Carter and Little 2007), meaning that it implies an ethical-moral stance toward the world and the self of the researcher. Guba and

Lincoln (2008, 245) go further to argue that ethics (axiology) is an additional separate element to define research paradigms, next to the three elements ontology, epistemology and methodology. From the perspective of interspecies sustainability, the ontological is also regarded as being inherently axiological since the dominant view of reality which places humans at its centre is critiqued (compare Hayward 1997). The researcher is always an interpreter, no matter which paradigm they subscribe to, including those subscribing to the positivist paradigm. Guba and Lincoln (2008, 245) argue that this interpreting should be tied to asking oneself, “how will I be as a moral person in the world”? This understanding of what it means to be a researcher is reflected in particular in the discussion of research orientations in the intersection of sustainability and animal protection in Section 1.7.

A hallmark of critical research is its aspiration to empower marginalised individuals, groups and communities who are exploited and oppressed for the benefit of others, who experience injustice and whose flourishing is suppressed or diminished (compare Guba and Lincoln 2008, 255–286; Kincheloe and McLaren 2011, 300; Neuman 2014, 110–118). From an interspecies sustainability perspective, this refers to the marginalisation and exploitation of animals and animal communities with implications for nature in general, be they, for example, wild living animals, animals raised for food, used in racing, used in experimentation, animals used for human therapy, raised and sold as pets, wildlife traded or used as tourist attractions and the many other contexts of animal use and animal lives. In the case of this research, it relates specifically to thoroughbreds used by the racing industry. Critical inquiry is not only about increasing knowledges but confronting and redressing injustices “of a particular society or public sphere within the society” (Kincheloe and McLaren 2011, 300), which from the critical animal studies’ perspective includes the animal sphere in general, and the sphere of thoroughbreds used in racing in particular. By extension, it can also be considered to include the marginalisation of those who advocate for thoroughbreds as generally, they can be considered to be the voices speaking for thoroughbreds via the means available to them.

Critical theory analyses competing power interests between groups and individuals within a society—identifying who gains and who loses in specific situations. Privileged groups, criticalists Kincheloe and McLaren (2011, 288) argue, “often have an interest in supporting the status quo to protect their advantages; the dynamics of such efforts often become a central focus of critical research”. In the case of this research, the interest is to uncover how industry interests are justified and maintained vis-à-vis the interests of thoroughbreds and their advocates, in particular at the level of rhetoric.

#### 2.1.1.1. Ontology

Critical theorists suggest that reality has been shaped by a complex interplay of social, political, cultural, economic, race and gender factors (Neuman 2014, 110–118). The critical animal studies scholar adds to these factors based on species membership as an influential dimension. These factors have reified into structures supporting the hegemonic forces and are perceived as real, immutable and natural (Kincheloe and McLaren 2011, 299–300; Neuman 2014, 110–118). In terms of ontology, this new normal forms the surface empirical layer of reality which is however being generated by deeper structures and causal mechanisms operating at unobservable layers (Neuman 2014, 110–118). The task of the critical researcher is to lay bare these unobservable layers, to help us understand the real structures and causal mechanisms that generate and modify structures that are then perceived as (subjective surface) reality (Neuman 2014, 111).

The criticalist inquires into these surface layers and the unobservable deeper hidden layers of reality with a reflexive-dialectic orientation thus generating insights that can not be gained by either just the observable or the unobservable layers (Neuman 2014, 116). As Neuman (2014, 111) states, the criticalist wants to expose myths and reveal hidden truths. Following Gramsci, an important basic assumption of the criticalist is that oppression is most forcefully reproduced “when subordinates accept their social status as natural, necessary, or inevitable” (Kincheloe and McLaren 2011, 300). How

this plays out in more detail for thoroughbreds in racing and how it might apply to other animals and animal issues is subject of concern of this research. Importantly, with an interspecies sustainability perspective, an anti-speciesist ontological stance is taken, meaning that it is not considered “natural, necessary, or inevitable” *per se* that human beings are on top of the species hierarchy having exclusive moral rights and exclusive rights to all forms of justice (compare Section 1.7). As Hovorka (2019, 751) suggests, multispecies research replaces “anthropocentric, dualist ontologies (i.e. nature/culture, human/nonhuman, subject/object) with relational perspectives”.

#### 2.1.1.2. Epistemology

Our ontological assumptions give rise to epistemological views, that is “how we can learn about and know the world” (Neuman 2014, 95). Epistemology considers the questions “what we need to do to produce knowledge and what scientific knowledge looks like once we have produced it” (Neuman 2014, 95). Carter and Little (2007, 1317) suggest that epistemology can be thought of as justification of knowledge.

The criticalist sees subjective understandings and objective conditions “as two sides of a single dynamic whole that is in a process of becoming” (Neuman 2014, 116). These two sides are seen as working together, interweaving and affecting each other. They are considered together in a reflexive-dialectic fashion to gain insights that could not be gained if each of the two sides – our subjective understandings and the real objective conditions – would be considered on its own (Neuman 2014, 116). Criticalists often draw on the historical context for the reflexive-dialectic approach but that does not always have to be the case. Instead, as is the case in this research, the reflexive-dialectic approach is applied to the analysis of interview responses, varying fields of knowledges (interdisciplinarity, see Section 2.1.2.5.2) and the wider context of current practices, and statements from and actions of relevant industry players as reported in the media. This is also described more specifically as the



critical hermeneutic approach (see Section 2.1.2.5.1). Furthermore and importantly, from an interspecies sustainability perspective, what counts as knowledge and who decides what counts as knowledge needs to be asked. It needs to be ensured that the knowledge and embodied experience of all those concerned is brought into the research, which is of seminal concern to animal geographers (e.g. Gibbs 2020a; 2020b) (see in particular Section 2.1.1 including all its subsections, and Section 2.1.2.2). Indeed, as Hovorka (2019, 751) states, multispecies research challenges humanist epistemology.

### 2.1.1.3. Methodology

In the research methodological discourse, an important distinction is made between research methodology and methods, with methodology being the overriding concept with broader meaning and the methods being the procedures, tools and techniques (see Carter and Little 2007; Neuman 2014, 2) (more in Section 2.1.2 as it applies to this research). Research methodology can thus be seen as the study of the methods including the procedures, tools and techniques. Researchers' methodological rationales and choice of methods emanate from a combination of their paradigmatic views, the particular research problem they are trying to address and their discipline's or subdiscipline's practices (Carter and Little 2007; Neuman 2014). They do so with more or less awareness and often, no distinction between the research methodology and the methods is made or both terms are even used interchangeably (Carter and Little 2007, 1325, 1327). However, Carter and Little (2007, 1317) argue that greater awareness would benefit their research in terms of consistency within their research and thus quality of their research. After all, as Carter and Little (2007, 1317) suggest, methodology provides justification for the methods of a research project.

Methodology refers to understanding the entire research process—including its social-organisational context, philosophical assumptions, ethical principles, and the political impact of new knowledge from

the research enterprise (Neuman 2014, 2). Carter and Little (2007, 1325) argue that methods are the research praxis that realise the methodology and epistemology. Methods refer to sampling, data collection, data management, analysis and reporting (Carter and Little 2007, 1325). In the case of this research, the research problem necessitates a qualitative research approach as the intention is to gain a deeper understanding of the nature of the informants' conceptualisations, their underlying thought patterns and the rationalisations for their views and practices. With reference to Neuman's (2014, 37–41) typology of the purpose of research, this research has elements of all three types, that is it is exploratory (Chapters 2, 3 and 4), descriptive (Chapters 3-5) and explanatory (Chapter 5).

Researchers undertaking qualitative studies often follow a different set of steps than those undertaking quantitative studies, and their approach is more fluid and less linear (Neuman 2014, 20). Carter and Little (2007, 1325) state that research methods employed can – but not always do – occur in an iterative cycle. This is in contrast to quantitative research “where rigor is partly dependent on sampling, data collection, analysis, and reporting being kept separate and progressing in a linear fashion” (Carter and Little 2007, 1325). In qualitative research, it can in fact increase rigour if these phases are iteratively related (Carter and Little 2007, 1325). For example, “sampling and data collection can be modified to better support the integrity, focus, and explanatory power of continuing analysis and, thus, the final product”, as insights are gained through analysis and the process of writing (Carter and Little 2007, 1325). In the case of this research, this is reflected in the different levels of analysis, in returning to the literature to recontextualise findings and in the decision to shift the focus onto a particular aspect of interspecies sustainability while also relying increasingly on the interdisciplinary approach (see, in particular, Chapter 6; see also Section 2.1.2.5.2).

Furthermore, animal geographers often adopt hybrid methodological approaches and visual methods (Gibbs 2020) in order to produce “less anthropocentric research” (Bear et al. 2017, 225). This research adopts a similar approach for the same reason, to move from anthropocentric perspectives and

research methods toward methods that are relevant for research guided by an interspecies sustainability paradigm. Interspecies sustainability as a guiding paradigm has consequences for the entire research process which is briefly discussed in the next section.

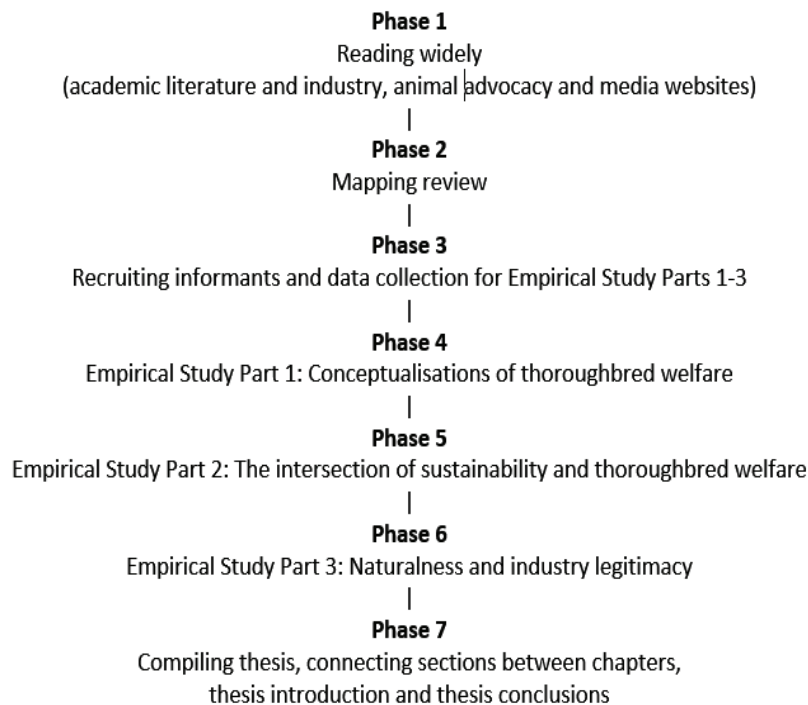
#### 2.1.1.4. Interspecies Sustainability as a Research Paradigm

In the introductory section of Section 2.1 it has been claimed that interspecies sustainability can be considered a research paradigm. This claim has been supported in Section 2.1.1 by incorporating the interspecies sustainability perspective in the discussion of the three elements of a research paradigm – ontology, epistemology and methodology. Thus, it has been demonstrated that interspecies sustainability theory brings particular demands to ontological, epistemological and methodological considerations. In Section 1.7 it has been demonstrated how interspecies sustainability theory is a convergence of critical sustainability theory and critical animal studies, with ideally, a strong ecocentric orientation and a critical theory stance, and focussing on ecological and interspecies justice concerns in ways that also advance and take account of other justice concerns (see also Bergmann 2020a). There is need to further give form to interspecies sustainability as a critical social theory. This can be approached similarly to how Hill Collins (2019) developed core concepts and guiding principles for what it will take to develop intersectionality as a critical social theory. However, developing this further is beyond the scope of this research project. It was important to establish that adopting the notion of interspecies sustainability has far-reaching consequences for the entire research endeavour that need to be considered, including for the reading of this thesis.

#### 2.1.2. Research Methods and Instruments

Researchers in the critical tradition do not necessarily differ from those following other traditions in the research techniques they use but they differ in how they approach a research problem, the types of questions they ask, and their purposes for doing research (Neuman 2014, 117). Neuman (2014, 282)

states that “there is no ready-made, fixed match between technique and question”. Rather, deciding which technique to use requires making an “informed judgment” (Neuman 2014, 282). Furthermore, Kincheloe and McLaren (2011, 300) argue there is a blurring of disciplinary genres, and thus hybridity is endemic to contemporary critical analysis. Consistency within the research project is important (Carter and Little 2007, 1327) and this was carefully considered throughout this research project. The following describes the seven research phases of this research project (Figure 1.2) and the relevant methods employed during each phase. The methods are further discussed in the subsequent subsections.



**Figure 2.1.** Phases of this research project

Phase 1 involved reading widely in the sustainability literature, environmental and animal ethics, as well as material published on thoroughbred industry and thoroughbred advocacy websites (more detail in Sections 2.1.2.1 and 3.1). Visits to racetracks on racedays, a visit to a thoroughbred auction

and conversations with racehorse owners, buyers and trainers and other observers of the racing industry were also included as part of immersion into the research topic during Phase 1 and throughout the research project. This first phase led to four conference presentations (Bergmann 2014; Bergmann 2014; Bergmann 2015a; Bergmann 2015c).

In Phase 2, this extensive reading was then more focussed and structured as part of a mapping review (Grant and Booth 2009; Sutton et al. 2019) (see Section 2.1.2.1 for discussion of mapping reviews, Section 3.1 for discussion of the areas studied and Section 3.2 for the findings, and Appendix 2 for the sources of the mapping review). The mapping review led to two conference presentations (Bergmann 2015d; Bergmann 2015e) and one publication (Bergmann 2015b). Based on the mapping review, the interview schedule was developed (see Sections 2.1.2.2 and 2.1.2.2.1) and a list of organisations to be contacted for interviewing was compiled.

Phase 3 involved recruiting informants (Section 2.1.2.3) and data collection (Section 2.1.2.4).

Then followed three phases, Phases 4-6, including data analysis and writing, leading to two more conference presentations (Bergmann 2016; Bergmann 2017) and three more publications: Phase 4 of the data analysis focused on conceptualisations of thoroughbred welfare (Bergmann 2019) (Chapter 3), Phase 5 on conceptualisations of sustainability (Bergmann 2019) (Chapter 4), and Phase 6 on the role of conceptualisations of one aspect of interspecies sustainability, that is naturalness (Bergmann 2020b) (Chapter 5).

The final phase, Phase 7, involved compiling the thesis, including all publications and appendices, and writing the connecting sections between publications, and the introduction (Chapter 1) and overall thesis conclusions (Chapter 7).

In this thesis, a combination of methods has been used to bring to bear the thoroughbreds' subjective experiences and dimension of horse-human relationships: the use of photographs of thoroughbreds on raceday for photo-elicited interviewing; adopting an interdisciplinary approach drawing on attitude studies, studies in human and animal geographies, philosophy, animal welfare science, ethology and veterinary science; the application of interspecies sustainability as a critical research paradigm; and critical hermeneutics for a reflexive-dialectic engagement with the interview data and current events and statements of thoroughbred industry participants and industry organisations in the media. The following subsections discuss the methods in more detail.

#### 2.1.2.1. Mapping Review

Due to the steady increase in numbers of research publications, review studies are becoming increasingly important. With that increasing need for review studies, researchers are also grappling with epistemological and methodological questions, and methods to conduct reviews are evolving (see e.g. Grant and Booth 2009; Moher et al. 2015; Munn et al. 2018; Sutton et al. 2019; Thomas et al. 2020). In fact, Sutton et al. (2019) identified forty-eight review types which they categorised into seven families. The review conducted for this research project and subsequently published (Bergmann 2015) (see Chapter 2) is a mapping review as identified by Grant and Booth (2009). Mapping reviews are part of the family of purpose-specific reviews (Sutton et al. 2019).

In the case of this research project, the purpose of the mapping review was to establish the welfare and sustainability concerns in thoroughbred racing that form the perspective of animal ethics and sustainability ethics as also discussed in Section 1.7, and from the perspective of the thoroughbred industry and animal advocacy perspectives as also discussed in Section 1.8. The purpose was also to develop an interview schedule that is relevant for the informants of this study and that at the same time would be able to break new ground and challenge the informants' thinking about the issues

brought up by the questions. An overview of the areas of the readings and refinement of the literature review for the mapping study is presented in Section 3.1.

According to Grant and Booth (2009, 97), a mapping review maps and categorises the existing literature and from there, gaps are identified that require further reviews and/or primary research. Mapping reviews are distinguished from scoping reviews in that “the subsequent outcome may involve either further review work or primary research and this outcome is not known beforehand” (Grant and Booth 2009, 97). Grant and Booth (2009, 97) suggest that mapping reviews “are a valuable tool in offering policymakers, practitioners and researchers an explicit and transparent means of identifying narrower policy and practice-relevant review questions”. This translated in the case of this research into the development of the interview schedule.

The completeness of searching is determined by time and scope constraints (Grant and Booth 2009, 97). Since the interface of sustainability, thoroughbred racing and thoroughbred protection had not been mapped before, the researcher relied to a significant degree on her expertise in sustainability studies which was supplemented with the search of thoroughbred industry websites and documents such as annual reports, applying a method similar to the snowball principle: the researcher’s current knowledge and new findings combined to lead her to the relevant academic and grey literature. For the grey literature, industry websites were perused and searched using the words “sustainability” and “welfare” (industry sources for the mapping review are listed in Appendix 2). A search was also undertaken to locate animal advocacy organisations engaging with thoroughbred racing (see also Appendix 2). The mapping review provided the first yardsticks for a better understanding of the concerns within the industry and also from the thoroughbreds’ perspectives. The overall framework of analysis was guided by sustainability as a language system (Barker et al. 2014). This facilitates drawing analytical comparisons between the ambitions of the industry to achieve ‘sustainable growth’

(see Section 1.8.2), and holistic notions of sustainability (Section 1.7). This mapping of the terrain informed the design of the empirical study.

Grant and Booth (2009, 98) state that the mapping review may lead to studies being characterised “at a broad descriptive level and thus oversimplify the picture or mask considerable variation (heterogeneity) between studies and their findings”, and this depends on the degree of specificity of the coding process. This was not considered problematic in the case of this research project as the mapping review was only the beginning of the research journey. In fact, simplification was needed to accommodate the heterogeneity inherent in the combining of the academic fields considered for this research. The simplification process became a strategy that was realised by creating a narrative in the manuscript that could be understood by a broader audience including practitioners, professionals and researchers (see Section 3.1 for more).

#### 2.1.2.2. Interviewing including Photo-Elicitation

Interviewing is a common method in human geography, in social, cultural, political and economic geography alike (Dowling et al. 2016, 680). For this study, the interview was semi-structured. In semi-structured interviewing, the interviewer has some latitude to ask further questions reacting to what might be relevant points made by the interviewee or to seek clarification if deemed necessary, and the sequence of the questions can be varied (Bryman 2012, 212). Although, in the case of this study, the questions asked and themes to be covered were extensive and were building upon each other so the order of the topics and questions was adhered to. The semi-structured interview allows for some flexibility in how to reply, and the “emphasis must be on how the interviewee frames and understands issues and events—that is, what the interviewee views as important in explaining and understanding events, patterns, and forms of behaviour” (Bryman 2012, 471). This was considered important for this research which sought to uncover the interviewees’ conceptualisations about complex phenomena.



However, as questions of thoroughbred welfare in racing are highly contentious, it was anticipated that many questions would elicit schematic responses, responses the informants believed the interviewer might want to hear, or responses that are based on the industry's preferred narrative. Therefore, photo-elicitation was also employed, using photographs of thoroughbreds on raceday. It was expected that responses to these photographs would yield qualitatively different kinds of data as has been demonstrated (Bergmann 1999; Harper 2002; Richard and Lahman 2015).

Animal geographers have frequently used the moving image rather than the still image to conduct animal ethnographies (e.g. Lorimer 2010; Bear et al. 2017). For this research, the still image was preferred to give the informants the opportunity to reflect on the particular scene depicted. It was assumed that the same scene as a moving image would have been too common an event as to allow for new reflections to emerge (see also Johannessen 2019). This method was employed as a way to let the thoroughbred speak to the informant. The images allowed to centre the subjective experience of thoroughbreds and give them a platform to "speak" by way of their visual impression. This approach thus responds to seminal questions for research methods in animal geographies: how to speak with nonhuman animals (Buller 2015) and how to "get at" nonhuman experiences of human-animal relations (Gibbs 2020, 772). As will be shown in Chapter 5, the "privileging [of] particular knowledges and enacting universalizing claims that necessarily subordinate other worldviews and ways of knowing" (Hovorka 2017, 388) are disrupted through this process.

How can the other be "invited to speak" and bring their experiences to bear has also been a question that has long been pondered by critical ethnographers (Kincheloe and McLaren 2011, 308). Using photographs of thoroughbreds on raceday is thus conceptualised here as a tool to empower those who are the most marginalised in the context of this research, that is thoroughbreds, and to create the next best thing to render their subjective experiences visible and thus give them a voice. More detail on the rationale for and background of photo-elicitation, and the particular processes applied

for image creation, image selection and interviewing procedures are discussed in Section 6.2.3.3. and its subsections.

#### *2.1.2.2.1. Interview Schedule*

Informed by the mapping study, an interview schedule (Appendix 3) was developed to interview both, individuals with key roles in the thoroughbred industry as well as animal advocates (more in Section 2.1.2.3), although not all questions were of relevance for the animal advocates and so these were not posed when interviewing them. This included, for example, the question about their organisation's priority in terms of working toward sustainability. The interview schedule consisted of four parts: i) background of the interviewee, ii) conceptualisations of thoroughbred welfare and sustainability, and the intersection between the two, iii) photo-elicitation and iv) future scenarios. These four parts are presented next.

**Part 1:** Part 1 consisted of five questions relating to the interviewees' background. The interviewees were asked about their role within the thoroughbred industry, their background of their involvement with horses, what their personal interests are in terms of racing, and what the thoroughbred represents for them. The latter question served as an icebreaker question but also, the ontological status of the thoroughbred as perceived by the informants emerged as a significant dimension and is discussed in the study discussed in Section 6.2. The other questions of the first part of the interview served to better understand and contextualise the interviewees' responses, but most of the data were not discussed so that the anonymity of the interviewees is not jeopardised.

**Part 2:** Part 2 addressed three themes. The first theme, thoroughbred welfare, consisted of fourteen questions asking to provide a definition for thoroughbred welfare, and asking about, for example, whose responsibility is thoroughbred welfare, what are the main threats to, what are the drivers for better welfare, and more. One aspect of interspecies sustainability was included in this theme, that is

naturalness, for several reasons (see also Section 5.2.3.3). It was assumed that even if naturalness is not part of the interviewees' vocabulary, they would be able to express some intuitive understanding of this notion in relation to welfare since, as studies have shown, the idea of natural is an important one for those unfamiliar with welfare science concepts (Clark et al. 2016). Further, natural horsemanship is known in equestrian circles as promoting the idea of partnership between the human and the horse (Birke 2007; Patton 2019) and so it was assumed that at least some informants would have heard of it and would be able to relate to the notion of naturalness in relation to horse welfare in some ways. The inclusion of more key concepts was beyond the scope of this study. However, it was expected that the relative importance and conceptual inclusion of other key concepts by the interviewees could be identified inductively from the data.

The second theme under Part 2, sustainability, included questions about the definition of sustainability, what the industry's priorities were in terms of sustainability, how they addressed them and what the informants considered to be the drivers and barriers for industry sustainability. The term interspecies sustainability was not used as it is a nascent theoretical concept that is not in general use yet. Instead, the conversation about sustainability relied on the traditional three-domains model of sustainability (the social, environmental and economic domains) with which they were likely to be familiar.

Under the third theme, the interviewees were first asked to describe what they considered to be the link between thoroughbred welfare and sustainability. Then, questions regarding governance, structural changes, regulation and transparency in reporting, and stakeholder participation and thoroughbred representation were addressed.

**Part 3:** Six images were used for interviewing. Four photographs, Images 1-4 (see Appendix 3), had been taken by the researcher and focused on individual thoroughbreds on raceday. Two photographs,

Images 5-6 (see Appendix 3), were taken from industry websites. However, it emerged that the discussion of the data elicited using Images 5-6 was beyond the scope of this research project. The development of the items for the photo-elicitation phase, including the creation and choice of images used, is discussed in detail in Section 6.2.3.3.

**Part 4:** This fourth and last part of the interview consisted of six future scenarios for the thoroughbred industry, read to the interviewees and inviting their comments. These scenarios were developed based on likely futures discussed by McManus et al. (2013, 210–213) and on the mapping review (Section 3.2). However, as with some of the previous topics included in the interview schedule, in the course of the research it became evident that the discussion of the responses to the scenarios was beyond the scope of this thesis. This was in particular the case because at the completion of Phase 5, it was decided that it was important to focus on one aspect of interspecies sustainability, that is naturalness, and on the responses to the photo-elicitation part of the study only, as this would allow to address the research questions with more depth. It is planned to analyse the responses to the scenarios at a later time after completion of this thesis.

### 2.1.2.3. Informants

The interviewees for this study were considered to be informants, that is a special category of research participants based on a particular expertise or knowledge that is brought to this research (Ogden 2008, 430). Informants offer an insider's perspective, they are unique by virtue of their particular status, experience or knowledge, and they have the capacity to represent the knowledge of a larger group (Ogden 2008, 430–431). For this research, nine thoroughbred industry informants and seven animal advocacy informants were recruited and agreed to participate. Both industry and animal advocacy informants were invited to participate as part of a symmetrical research design to include the diversity of views likely to influence the direction of thoroughbred protection measures, and for triangulation

purposes (for more on triangulation and other procedures for trustworthiness, see Section 2.1.2.6). In the following, sampling and response rate are discussed.

Sampling in qualitative research is purposive, that is the informants are selected for the particular purpose of the research rather than to be statistically representative of a population (Carter and Little 2007, 1318). As Etikan et al. (2016, 2) state, “the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience”. For this study, the researcher wanted to find out how racing as an industry conceptualises and responds to the challenges in the intersection of sustainability and thoroughbred welfare. This meant that those in influential roles in regulatory, governing and administrative industry bodies of the leading racing nations in English-speaking countries and special administrative region (Australia, Hong Kong, Ireland, New Zealand, the UK and the US), and international industry bodies were eligible for sampling.

Furthermore, animal advocacy organisations campaigning for thoroughbred protection in the same nations and in the special administrative region, were eligible. As only nine animal advocacy organisations were identified to fulfil these criteria, eligibility was expanded to include other advocacy organisations where it could reasonably be assumed that someone on their team has sufficient expertise to take part in this research. Animal advocacy organisations were seen in the context of this research to represent the progressive thoroughbred protection perspective in society at large which is campaigning actively, and to which the industry will have to respond. The nature of this response contextualised within the intersection of sustainability and thoroughbred protection is what is of interest, as are the conceptualisations of the animal advocacy informants within the context of the transition toward interspecies sustainability.

The industry and animal advocacy organisations contacted for participation in this research are included in the nine tables in Appendix 2, which include the relevant organisations and websites perused and searched for the mapping review. More specificity in terms of who has been contacted cannot be provided to minimise the possibility of individual informants being identified.

Thirty-seven regulatory, governing and administrative industry bodies were contacted. The organisations were contacted via email via their publicly available email addresses or, if no general address was provided, via their online contact form. In case of no response, a follow-up email was sent. As it became evident that the response rate would be low, snowballing was also used for recruitment and a few thoroughbred breeding bodies were also contacted. Sixteen organisations did not respond after follow-up emails and thirteen declined. Eight industry participants from seven organisations and one individual at the time of the interview not affiliated with any organisation, from Australia, the US and one international body, agreed to participate. The industry informants were in senior and executive roles in their organisations, active in regulation, general management, development, marketing and communications, and as a board member. The organisations include regulatory bodies, jockey clubs, breeders and national and international bodies. The informants' backgrounds include training and experience as veterinarian, in science, agricultural and applied economics, law, management, insurance and broadcasting. All have a long history of involvement with racing in some form or another. Some are, or were previously, owners or breeders of racehorses.

Animal advocacy organisations who published information in relation to thoroughbred racing on their websites that indicated a degree of expertise in relation to thoroughbred protection matters were contacted. No such advocacy organisation could be identified for Ireland or Hong Kong, but thirteen in Australia, New Zealand, the UK, US and one international organisation were contacted. One organization declined stating they lacked the expertise to comment. Three did not respond but seven based in Australia, the UK and the US agreed to participate, bringing the total number of informants

to sixteen (Table 2.1). The animal advocacy informants were employees of their organisation, some in executive roles, others in scientific or animal welfare advisory roles, again others were affiliated as consultants.

**Table 2.1** Research informant numbers by national and international organisations

	US	AUS	UK	Int'l	Total
Thoroughbred Industry Informants	5	3	-	1	9
Animal Advocacy Informants	2	3	2	-	7
Total	7	6	2	1	16

The difficulty in recruiting racing industry participants for research that is associated with thoroughbred welfare has also been experienced by Butler et al. (2019) despite their study having been funded by the UK racing industry. Given the controversy surrounding welfare in racing and the defensiveness of racing commentaries, it is not surprising that an independently funded study such as this is responded to with caution, apprehension or disinterest. At the design stage of this study, the author was cautioned by some familiar with racing to avoid the term “welfare” altogether. However, whereas Butler et al. (2019) recruited trainers, stable staff and veterinarians, this study is aimed at obtaining the views of senior administrative and regulatory informants. Most at that level have recognised the need to engage proactively with thoroughbred welfare and the social context (see Section 1.1).

#### 2.1.2.4. Data Collection and Recording

This study followed common data collection and management methods (e.g. Carter and Little 2007). The interviews were conducted via telephone and Skype, between February and August 2016. The interviews took approximately one hour, except in two instances when they took 105 minutes. One of these two instances involved two informants of one organisation who requested to be interviewed together in a group interview via telephone. The interviews were audio recorded, transcribed

verbatim and imported into NVIVO version 11 for coding and querying. Data collection for the empirical parts of this research project is further discussed for the purpose of publication in journal articles in Sections 5.2.3.3 and 6.2.3.3.

#### 2.1.2.5. Interview Data Analysis

Qualitative content analysis was applied to the data, drawing in particular on Bengtsson (2016), Bryman (2012), Elo and Kyngäs (2008), Graneheim and Lundman (2004), and Lune and Berg (2017), and critical discourse analysis as per Janks (1997) who builds on Fairclough (1989, 1995). Qualitative content analysis involves a “careful, detailed, systematic examination... in an effort to identify patterns, themes, assumptions, and meanings” (Lune and Berg 2017, 182). The transcripts were first coded deductively as per the items of the interview schedule. Then, descriptive codes were developed and applied.

It was, in the first instance, a manifest analysis focussing on what the informants actually said, using the informants’ own words and describing “the visible and obvious” (Bengtsson 2016, 10). It then moved into a latent analysis by extending into an interpretive level to uncover the underlying meaning and to identify themes (Bengtsson 2016, 10) within the context of the research questions and aim. The themes are “an expression of the latent content of the [transcripts]” (Graneheim and Lundman 2004, 107) to reveal the deeper layers of the responses. Themes were derived from the data inductively. The main analysis was based on inductive reasoning as there was not enough existing knowledge about the phenomenon and what existed was fragmented (Elo and Kyngäs 2008). Inductive reasoning moves from the specific to the general using observations, combining them into a larger whole or general statement (Elo and Kyngäs 2008).



During the analysis process it transpired that it was necessary to be able to draw on the raw data in a constant comparative process. Therefore, the relevant data was transferred to Excel to create tables by interview topic or theme, with raw data sorted by informant in columns. In Excel, the data were treated as meaning units (Bengtsson 2016, 11) which were then condensed by highlighting the relevant data. The condensed meaning units distilled the essence of what has been said but making them more manageable by reducing noise. This facilitated constant comparative analysis between the responses of all informants, and also within the individual informant's responses. The analytical processes involved immersion in the data through coding, constant comparative analysis between meaning units, coding units and larger transcript passages.

Examples of coding trees including meaning units are included for "conceptualisations of sustainability of industry informants" and "conceptualisations of sustainability of animal advocacy informants" in the supplementary material to the publication in Section 5.2 (Figure 5.2.S1). Examples of raw data of thoroughbred industry informants' and animal advocacy informants' definitions of sustainability are also included in the same supplementary material (Table 5.S1 and Table 5.S2 respectively). Also, an example of the essence of a meaning unit, that is the meaning unit "Priorities" in terms of sustainability for industry informants, is presented in this supplementary material (Table 5.S3). The emphasis on the various processes of the analysis varied somewhat in the different parts of the empirical study, and relevant detail is discussed in Section 5.2.3.3 and Section 6.2.3.3.4.

For the meaning-making, the analytical framework relied on interspecies sustainability as a research paradigm, on critical discourse analysis, critical hermeneutics and interdisciplinarity. The latter three dimensions are discussed briefly in the following subsections, as well as in the respective sections in Chapters 4-6. Figure 5.1 visualises the data analytical process, approach and paradigm for Part 2 of the empirical study, and Figure 6.5 visualises the particular discourse analytical framework employed in Part 3 of the empirical study.

In relation to the processes involved in meaning-making involving this complex framework and context, it needs to be realised that writing itself is part of the analytical process in qualitative research (Richardson 2000), which was particularly also the case in this research project. As Richardson (2000, 923) states, writing is a method of discovery and inquiry. Rather than being just a “mopping-up activity at the end of a research project” (Richardson 2000, 923), writing is “a way of ‘knowing’” allowing us to discover new aspects emerging from the data, and enabling us to find new connections and relationships between and across raw data, analytical units and the wider context. Form and content are indeed inseparable, as Richardson (2000, 923) points out.

#### *2.1.2.5.1. Critical Analytical Perspectives*

Interspecies sustainability has already been introduced in Section 2.1.1 as a critical theory paradigm that determined the design of this research overall. For Part 1 and Part 2 of the empirical study, common qualitative content analytical procedures as discussed above (Section 2.1.2.5) have been enhanced by applying critical perspectives. Kincheloe and McLaren (2011, 291) state that criticalists understand “language is not neutral and objective but context-dependent serving as a form of regulation and domination”. Language is thus used to implant a particular hegemonic and ideological message into the consciousness of the reader (Kincheloe and McLaren 2011, 291). Seeing language in this way alerts to the various overt and subtle ways in which the thoroughbreds’ interests are marginalised and their use is naturalised. For the analysis of the photo-elicited responses for Part 3 of the empirical study, critical discourse analytical procedures were applied specifically as outlined by Janks (1997). Janks adopted Fairclough’s (1989; 1995) three-part analytical model to analyse in a symbiotic fashion text and image. More detail is discussed in Section 6.2.3.3.4.

The critical discourse analytical model of Janks (1997) was adapted and combined with a critical hermeneutic approach to better understand the meaning and consequences of the conceptualisations of the informants. Indeed, Kinsella (2006, 14) suggests that “qualitative inquiry in social and cultural contexts can be enriched through more explicit linkages to the tradition of hermeneutics and through attention to a new hermeneutics that adopts a critical attitude”. Traditionally, critical hermeneutics draws on the social-historical context to better understand text (see e.g. Fairclough and Wodak 1997, 267). This can however be adopted to contextualise the text, that is interview transcripts, within the general socio-cultural context and current events, and within the background knowledge of a particular organisational context as discussed by Bryman (2012, 561). Critical hermeneutic analysis entails interrogation of the data sources “by reference to knowledge of the organizational context within which the documents and the people and events within them were located” (Bryman 2012, 561). In the context of this study, the organisational context largely refers to the thoroughbred racing industry in general. Bryman (2012, 561) goes on to explain that “[w]hat is crucial is the linkage that is made between understanding the text from the point of view of the author and the social and historical context of its production” and “[i]ndeed, in many respects, for a hermeneutic approach, the latter is a precondition of the former”. As indicated above, ‘text’ in this research means the interview transcripts, and the informants as well as the thoroughbreds (by way of their visual imprints) are the ‘authors’. Bryman points out that hermeneutics is about “an emphasis on the point of view of the author of the text and a sensitivity to context” (Bryman 2012, 561).

In this research, the critical hermeneutic approach meant that the researcher engaged with developments in the international thoroughbred industry and animal advocacy on an ongoing basis throughout the research process to nourish and grow “sensitivity to context”. Thoroughbred industry media outlets were perused regularly, including statements of industry bodies and racing participants cited in media, as were press releases and websites of the international thoroughbred racing industry (for a list of the relevant websites, see all those marked with three asterisks in Appendix 2). It was

endeavoured to keep abreast with current events in the international thoroughbred racing industry. Events, actions, statements and developments in the industry were interpreted bearing the question in mind: What does all this mean for the welfare and protection of the thoroughbreds? This dialectical engagement with the context, the informants' responses and the lived experiences of thoroughbreds in racing served to develop a rich description of the data, to better understand the informants' responses, and to unveil inherent power dynamics (compare Kincheloe and McLaren 2011, 298; Kinsella 2006).

#### *2.1.2.5.2. Interdisciplinarity*

Animal geography is marked by strong interdisciplinary connections (Buller 2014), and Hovorka (2018, 453) makes the case for "hybridizing animal geographies scholarship". There are two ways of considering interdisciplinarity in research. One way is to view it as a collaborative project of two or more researchers from different disciplines as discussed, for example, by Callard and Fitzgerald (2015). The other way is by considering it as a way of understanding and doing research as an individual researcher (e.g. Guimarães et al. 2019) as is the approach in this research. This thesis is interdisciplinary throughout, however, interdisciplinarity as a method to advance animal interests comes to bear in particular in Part 3 of the empirical study (Chapter 5). There, the combination of social sciences and inquiry based in the natural sciences was seminal for demonstrating the implications of the phenomena under study and for enhancing the explanatory power of the study.

Thinking about sustainability is already inherently interdisciplinary. Apart from critical animal studies, sustainability studies, and animal and human geographies, the specific fields and disciplines drawn on include philosophy, reflective practice (in sport), environmental ethics and animal ethics. Accounting literature was relevant to better understand the role of business in the sustainability discourse. Sustainability in agriculture and food systems studies were very relevant also as these have been the few areas in which the scholarly literature engaged with the intersection of sustainability and animal

interests. This study also draws on ecofeminist perspectives to bridge the sustainability, animal and nature protection discourse. More specifically for the context of using horses in racing, this thesis draws on ethology, equitation science, animal husbandry, veterinary science, animal welfare science, as well as on anthropological, ethnographic and sociological studies in the horse-human nexus.

Employing an interdisciplinary approach enriches and strengthens the analysis of the informants' conceptualisations, and their welfare and sustainability perspectives, in relation to thoroughbred flourishing, subjectivity and agency, and the cognitive and biophysical realities in which the horses find themselves when drafted into the racing industry.

#### 2.1.2.6. Trustworthiness

In positivist research, criteria and concepts to establish trustworthiness of a study are validity, reliability and generalisability. Graneheim and Lundman (2004, 110) state that "[i]n qualitative research, trustworthiness of interpretations deals with establishing arguments for the most probable interpretations", as "[t]here is no single correct meaning or universal application of research findings, but only the most probable meaning from a particular perspective". Therefore, validity, reliability and generalisability are generally considered inappropriate for qualitative research. Lincoln and Guba (1985) have developed corresponding alternative concepts in use to this day, including credibility (corresponding to validity), dependability (referring to reliability), and transferability (referring to generalisation) (Graneheim and Lundman 2004).

Credibility refers, for example, to the study process, that is, to establish how the data and the analysis procedures are carried out and to ensure that no relevant data have been excluded (Bengtsson 2016, 13). It includes decisions about the focus of the study, selection of context, participants and approach to gathering data; it relates to establishing that the most suitable analytical units (e.g. meaning units,

categories and themes) have been chosen to cover the data (Graneheim and Lundman 2004, 110). Dependability refers to "the degree to which data change over time and alterations made in the researcher's decisions during the analysis process" (Graneheim and Lundman 2004, 110). Transferability refers to the degree to which the results may be applicable to other settings or groups (Bengtsson 2016, 13).

For this research project, drawing on Lincoln and Guba (1985), a number of procedures have been employed to ensure trustworthiness. To ensure credibility, these include verbatim data transcriptions, ongoing comparisons between the analysis and raw data, the use of the informants' own words when presenting the results, and a rich description of the findings. It also includes negative case analysis (Bengtsson 2016, 13), which means here those cases that do not confirm the trend or the majority of the responses of a particular group of informants, and in relation to a particular aspect. There is transparency about the research paradigm and detailed description of the analytical processes and steps. Decisions and changes throughout the research processes and procedures have been documented.

Triangulation has been used in three ways: First, analysis was undertaken using different analytical procedures. Second, it was undertaken by keeping abreast with current events in the international thoroughbred racing industry and with activities and public statements of relevant racing bodies, in particular those with which the informants are affiliated. Third, triangulation was part of the process of comparing and contrasting the responses of the industry informants with those of the animal advocacy informants. The two groups of informants were treated methodologically as two cases (Cho and Lee 2014), and analysis was conducted within each case and across both cases. As Graneheim and Lundman (2004, 109) state, "[c]hoosing participants with various experiences increases the possibility of shedding light on the research question from a variety of aspects" (Graneheim and Lundman (2004, 109).

The employment of different data-collection methods (photo-elicitation and verbal-only interviewing) meant that the outcomes of the results obtained via photo-elicitation were compared with those obtained via conventional verbal-only interviewing which also increased rigour and served triangulations, as did the use of multiple theoretical perspectives from the natural and social sciences to explore and interpret the data. Processes used to establish trustworthiness in this research are also referred to in Sections 5.2.3.3 and Appendix A of the publication in Chapter 6.

Overall, establishing trustworthiness is about transparency and authenticity in the presentation and discussion of the methods, results and conclusions (see e.g. Bengtsson 2016, 13). The ultimate guide for judging whether a study's findings are trustworthy is embedded in the answer to Lincoln et al.'s (2018) questions whether the findings are "sufficiently authentic . . . that I may trust myself in acting on their implications? More to the point, would I feel sufficiently secure about these findings to construct social policy or legislation based on them?" Methods of trustworthiness were implemented and this sense of feeling secure about the findings was achieved.

## 2.2. Ethics Approval

The University of Sydney Human Research Ethics Committee (HREC) approved the protocol for this thesis, Project No.: 2016/019, on 22 January 2016. The HREC ethics approval letter is included in Appendix 4. A modification of the recruitment procedure has been approved on 1 April 2016 and the approval letter is included in Appendix 5. The Participant Information Statement is included in Appendix 6.

# Chapter 3. Mapping the Terrain – Sustainability and Thoroughbred Racing

## 3.1. Introduction

The following Section 3.2 presents the mapping review (see Section 2.1.2.1) in its published format. It was designed to identify the parameters of the interface of sustainability, thoroughbred racing and thoroughbred protection. It can be considered somewhat of a condensation of the discussion in Section 1.7 Theoretical and Thematic Framework: Sustainabilities and Animal Geographies, and Section 1.8 The Thoroughbred Industry. In addition, it presents new perspectives. It provides the first yard sticks for a better understanding of the various perspectives in the intersection of sustainability and animal protection in racing, while zooming in more specifically on the thoroughbred industry discourse, and on thoroughbred racing as a business and a 'sporting' activity. This mapping of the terrain then informed the design of the empirical study (see Section 2.1.2).

Since the intersection of sustainability and thoroughbred protection had not been mapped before, the researcher relied on her expertise in sustainability to guide the review process. This involved searching the academic literature, websites of thoroughbred industry organisations and relevant industry documents publicly available on these sites, such as annual reports, and industry media outlets. The focus was on identifying what the industry's welfare concerns are, what their sustainability concerns are, and how these are expressed. Websites of animal protection organisations and documents publicly available on these sites, such as death watch reports, were also searched. The search focussed on identifying the range of issues in terms of thoroughbred protection addressed by the advocates. For the searches, a method similar to the snowball principle was applied: the researcher's current knowledge and new findings combined to lead her to more relevant academic



literature, grey literature, documents and websites. The range of industry and advocacy websites searched, and some of the documents identified, are listed in Appendix 2.

As discussed in Section 2.1.2.1, mapping reviews bear the risk of oversimplification or masking the heterogeneity between studies and their findings (Grant and Booth 2009, 98). This was not considered a problem, as the mapping review was only part of the beginning of the research journey. It was expected that complexity and heterogeneity would be taken account of and communicated as the research proceeded. Moreover, simplification was used as a tool to communicate the results of the review to the audience of the journal *Pferdeheilkunde*, which is the journal of the equine chapter of the German veterinarian association. The audience could be expected to include researchers not familiar with social science approaches, professionals with a veterinarian background and industry participants. Simplification assisted in creating a narrative in the manuscript suited for a broader audience. The overall framework of analysis was guided by sustainability as a language system (Barker et al. 2014). This facilitates drawing analytical comparisons between the ambitions of the racing industry in terms of sustainability, and strategies that have been identified elsewhere to facilitate the transition toward true sustainability.

This mapping review revealed the following parameters:

- the conflicting nature of sustainability and sustainable development and what each means for thoroughbred welfare;
- the industry's awareness of the precariousness of their situation in terms of public perception of welfare;
- the range of ethical and welfare issues in thoroughbred racing;
- structural issues within the industry, transparency and regulation as issues of concern;

- a lack of industry engagement with the norms, obligations and the spectrum of rights in relation to nonhuman animals;
- a need to define what sustainability means for competitive sport;
- sustainability and thoroughbred racing as contradictory domains;
- the need to explore what mutual horse-human flourishing means;
- the need for horse-human co-production of knowledge to come to understand what mutual flourishing might consist of;
- the nature of horse-human relationships when participating in shared (competitive) activities.

What connects the above parameters is an apparent resistance within the industry to engage with these themes and topics in a way that foregrounds thoroughbred welfare and protection. It is also revealed, however, that there is conflict within the industry between those who focus on the public's perception of the industry, those who abuse thoroughbreds and those who are keen to see meaningful action to protect thoroughbred welfare, in particular by addressing the use of drugs and the use of whips in racing. Overall, the industry appears to rely on a narrow physiological and technocentric model to address welfare and sustainability, akin to the approach of ecological modernisation which considers the combination of technology, science and economic growth the solution to the (ecological) crisis. This however has been shown to not address the underlying causes of unsustainability (Kopnina and Blewitt 2014; Washington et al. 2017).

## 3.2. Sustainability, Thoroughbred Racing and the Need for Change

# Sustainability, thoroughbred racing and the need for change

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**Summary:** Globally, the thoroughbred breeding and racing industry is reporting a declining trend. A report commissioned by the Jockey Club in the US, known as the McKinsey report, explicitly linked the public's concern with animal welfare and the use of drugs to declining betting and attendance in the US. In various racing nations in Europe, in Australia and the US, thoroughbred racing is experiencing pressures from external sources and from within, with even industry participants calling for change. The industry is concerned with the integrity of racing. Structural changes, regulation and transparency in reporting are all issues identified in need of improvement in some racing nations. These are important issues and potentially contribute to better welfare outcomes. However, they do not address the principal question emerging from evolving social norms and values of whether thoroughbred racing is ethically justifiable, and if so, how it can be conducted so that it is socially acceptable. To address the declining trend, the McKinsey report framed the suggested strategies around the concept of sustainable growth and thus adopted the rhetoric of sustainable development. The research in this paper takes up the theme of sustainability and applies it to the thoroughbred industry. Elsewhere it has been shown that a focus on growth, as in the sustainable development model, is at the root of unsustainability. Therefore, it is argued in this research that an ecologically oriented sustainability framework is better suited to fully address the ethical and welfare issues in the industry. In this study, it is assumed that society, for the time being, accepts thoroughbred breeding and racing. Under this assumption, the concept of ecological sustainability is applied as a methodological tool by using it as a language system to investigate ethical and welfare issues in the thoroughbred industry. The following recommendations emerge from this research: There is the need for the industry to engage with issues of normativity and to develop alternative models of what constitutes success beyond winning a race. There is also need to advance knowledge production to better understand and respect the experience of thoroughbreds and thoroughbred knowledge systems, determinants of how to remain within the natural physical and emotional limits of the horse, the limits of human uses of horses, and how to promote the flourishing of horse and human-horse relationships in this industry. Engagement with these matters can better address issues of (un)sustainability and move the industry from an economically driven business and management model to a welfare driven model. The discussion of what constitutes a sustainable horseracing industry is inevitable. The question of the continuation of the use of thoroughbreds requires social negotiations in the interest of social sustainability. This is an ongoing dialogue as society's ethics and values evolve. It would appear that the thoroughbred industry can expect to greatly benefit from proactively engaging with this process.

**Keywords:** Animal welfare / equine welfare / sustainability / sustainable development / systems thinking / thoroughbred racing / thoroughbred industry / naturalness / animal autonomy

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## Introduction

Recently, the Jockey Club in the US commissioned a study into the factors that influence the economics of thoroughbred racing. The resulting report "Driving Sustainable Growth for Thoroughbred Racing and Breeding" (Singer and Lamb 2011) came to be known as the McKinsey Report. In this report, Singer and Lamb (2011) confirm what industry participants have been grappling with for some time: demand for thoroughbred racing is down, supply has contracted, and the core fan base is shrinking. The projected economics of thoroughbred racing in the US all indicate an industry in decline.

This general decline is echoed in other important racing nations, including Australia (Australian Racing Board 2014), Ireland (Kavanagh 2013), the UK (Gribben 2015), Japan (Goto 2013) and Germany (Direktorium für Vollblutzuucht und Rennen 2013). While there are a few nations demonstrating an upward trend (Kavanagh 2013), globally, the trend is downward (IFHA 2014). In Germany, Andreas Tiedtke, then executive of the leading German body Direktorium für Voll-

blutzuucht und Rennen (2013) pointed out the need for structural changes in the German thoroughbred industry. He hoped that the number of foals of under 900 in 2012 was at an all-time low. However, the numbers dropped below 800 in 2013 (IFHA 2014).

Singer and Lamb (2011) identify five major causes for the decline in the US, of which a decline in brand perception is of particular interest here. Singer and Lamb (2011) report that thoroughbred racing suffers a strong negative public perception. They state that despite recent safety initiatives such as the establishment of the Equine Injury Database in 2008, only 22% of the general public have a positive impression of thoroughbred racing. Only 46% of current fans – a fan being someone who attends an event three or more times per year – would recommend that their friends follow thoroughbred racing. 78% of fans would stop betting if they knew horses were not treated well. Importantly, Singer and Lamb (2011) find that animal welfare, in particular horse welfare, is a growing concern for the US public, and concerns over animal

safety and welfare and medication are consistent themes in consumer and stakeholder research.

The relevance of the report is twofold. First, in focusing on the concept of “sustainable growth”, *Singer and Lamb* (2011) and the Jockey Club have adopted the rhetoric of “sustainable development”. Second, the report explicitly links the public’s concern with animal welfare and doping to declining betting and attendance. Similar links between sustainable development and animal welfare have already emerged in the animal agriculture sector. For example, in the US, a group of scientists suggests that the dairy industry suffers a growing loss in confidence, so much so that its long-term sustainability is at risk. This is not only because of its environmental and climate change impact, but because it does not meet public expectations of how farm animals ought to be treated (e.g. *von Keyserlingk et al.* 2013, 5405). *Von Keyserlingk et al.* (2013) urge the industry to consider animal welfare as a sustainability concern under the sphere of social sustainability. Social sustainability thus refers to the social acceptability of how animals are treated. Animal welfare is present as a component of sustainable agriculture and social sustainability in policy discussions at governmental levels in Europe (e.g. *Buller and Morris* 2008, see for example also *EurSAFE* 2012, *Humane Society International et al.* 2013).

*Arthur* (2011) states that “for years, horse racing swept the dark side of racing out of the public eye”. This is no longer possible. There is mounting pressure from external sources demanding change within the industry, including from animal protection organizations, the general public, and through public exposure by the media. Many comment on the impact of new technology that makes it possible to quickly bring to public attention what is happening on and off the race track. For example, *Montoya et al.* (2012) argue:

“The communication of images, unfiltered commentary, blogging, and other activities has an increasingly important role in both education about the reality of horse racing and the shaping of ethics and values in response to that reality. With powerful, distressing images and strongly critical commentary based on animal rights and welfare arguments, the impact of antijumps campaigns is now far-reaching.”

In particular, jumps racing “is viewed variously as exciting, archaic and barbaric” (*McManus et al.* 2014). Jumps racing has been banned in NSW, Australia, on animal welfare grounds (*Montoya et al.* 2012). What we can see unfolding in jumps racing may be a “sign of things to come” (*McManus et al.* 2013) for thoroughbred racing in general and globally. As *McManus et al.* (2013) conclude, “greater ethical scrutiny will be applied to the thoroughbred industry whether it likes it or not”.

Arguably, it is the issue of drugs that is taking thoroughbred racing to a tipping point across the continents. High profile doping cases in recent years generated much publicity and scrutiny leading to a questioning of the future of the industry (PETA 2013, *Ross* 2014, *Bartley* 2015). There is also mounting pressure from within the industry. Some industry participants identified the need for structural changes, and the need to address issues of transparency and regulation. In Australia, for example, *Anderson* (2014) states that “good racing pak-

age” is based on transparency comprising easily accessible information of the horse’s history. He also points to the structural complexity and disunity of racing in Australia hindering a national approach (*Anderson* 2015). In the US, an alliance of breeders and owners joined by veterinarians and other individuals, the Water Hay Oats Alliance (WHOA 2014), has been formed led by the “industry titan” breeder Alfred Hancock (*Miller* 2014). According to *Miller* (2014), Hancock credits the momentum for reform to the McKinsey report. WHOA has entered a coalition with the Jockey Club, an animal welfare organization (the Humane Society of the United States) and others to advance drug regulation at the federal level (Coalition for Horse Racing Integrity 2015). The coalition cooperates with the non-governmental US Anti-Doping Agency (USADA) who is signatory to the World Anti-Doping Code (WADA) and WADA international standards. As *Miller* (2014) suggests, the protection of thoroughbreds is no longer considered a part of an extremist agenda.

### The theoretical framework

The author takes up the theme of sustainability and applies it to the thoroughbred industry. In doing so, two approaches are used. First the author follows *Barker et al.* (2014b) who suggest that sustainability does not lend itself to be conceptualized as an end goal or as an organizing concept. Instead, the utility of sustainability is based in it “providing a language system” (*Barker et al.* 2014b). Second, the sustainability language used here is based on an ecological orientation to respond to the underlying causes of unsustainability as explained below. Sustainability has evolved since the 1950s based on concerns of, amongst others, environmental degradation, loss of biodiversity and habitat, natural resource depletion, and concerns about the pursuit of endless economic growth (*Kidd* 1992, *Washington* 2015). Many different conceptions of sustainability have emerged since. The most well-known approach is the sustainable development model. This model has been popularized by the World Commission on Environment and Development through their report which came to be known as the Brundtland Report (WCED 1987).

One way the Brundtland Commission defined sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987). This definition serves as reference point at governmental and intergovernmental levels, and in the private sector. It refers to the important dimension of intergenerational equity and much work has been done since to advance this idea. However, other definitions concerning the ethical, social and ecological spheres raised in the report have been ignored (*MacNeill* 2006). Many have criticized the Brundtland report for its focus on the idea of (sustainable) growth, but many others in government and business have adopted sustainable growth as their dogma.

However, the call for a focus on ecological sustainability is becoming ever more urgent due to the mounting evidence of the anthropogenic impact on this planet (*Steffen et al.* 2004, 2011, *Rockström et al.* 2009). It is becoming increasingly evident that the ability of future generations to meet their needs is being compromised, and in some places, this is already the case for present generations. The insistence on

endless economic growth, aka sustainable growth, is at the root of unsustainability. As Sterman states: "The question is not if growth will cease, but when and how... Many believe that the goal of environmental policy is to enable "sustainable growth", an impossibility. Material growth in a finite world must eventually cease; by definition it cannot be sustained" (Sterman 2012).

This realization has consequences for the ambition of the Jockey Club and other industry bodies whose focus is on growth. To better understand the link between sustainability, and the dependence of humankind and the economy on nature, Costanza et al. (2013) suggest the following model: The economy needs to be seen as situated within society which is situated within nature, rather than nature being situated within human society within the economy. The thoroughbred industry represents a micro-cosmos of the larger economy. Thus, we can adopt Costanza et al.'s model and replace "nature" with "the thoroughbred" to demonstrate the dependence of the industry on the well-being and functional integrity of the horse.

An ecological orientation of sustainability can take account of the need to protect the thoroughbred, as it takes account of the need to protect nature, both in its own right and for human survival (for example Washington 2015). The ecological sustainability orientation assumes that all life, biotic and abiotic nature, has intrinsic, mind-independent value. It accepts that humankind depends on the functioning of natural systems for survival. It is critical of the instrumentalization of nature and natural processes. It also accepts that there are biogeophysical limits on this planet. This means that there are limits to human consumption, and any use of the planet's resources needs to remain within these limits without compromising natural processes and other life forms.

The ecological orientation of the sustainability framework implies that the interests of nonhuman species are not subordinate to the interests of humans per se. It centers the interest of thoroughbreds and their physical and emotional integrity. The underpinnings of the notion of ecological sustainability also lead to adopting a systems perspective, seeing humans, nonhumans and the natural world as part of a larger interconnected community. In the case of thoroughbreds, this means that they are part of a complex socio-ecological system and the integrity of the system depends on the emotional and physical integrity and well-being of the thoroughbred.

### An overview of some of the ethical and welfare issue in thoroughbred racing

Before giving a brief overview of some of the ethical and welfare issue in thoroughbred racing, the author acknowledges that, as McManus et al. (2013) remind us, the human-horse relationship is "complex and multi-dimensional" and she acknowledges that many industry participants want and do the best for their horses. There are differences in regulation and statistical data between racing jurisdictions and racing nations and this cannot be considered in great detail within the scope of this discussion. However, from the evidence available there is an underlying consistent logic within the global thoroughbred industry that points to the need for a new

approach to addressing welfare and ethical issues. The author also acknowledges that there are human costs associated with thoroughbred racing (e.g. Hitchens et al. 2009, Warrington et al. 2009, Castañeda et al. 2010, Bogdanich et al. 2012, Benns 2013, Duffy 2013). The human impact is an important aspect of the sustainability of thoroughbred racing but its closer examination is beyond the scope of this paper.

As Arthur (2011) states, horseracing presents a minefield for thoroughbreds. The ethical and welfare issues contrast highly visible ones such as doping (e.g. Keogh 2014) with invisible ones where statistics and other details are neither publicized nor collected. McManus et al. (2013) have synthesized surveys, interviews with industry participants, and other information to compile an overview of the ethical and welfare issues inherent in the thoroughbred industry. These concern the entire lifecycle of the thoroughbred, beginning with the process of breeding, through to transport and housing, feeding, training, racing, auctions and sales, and the exit from the industry.

They refer to the manipulation of the mare's fertility with powerful drugs and artificial lighting in the winter months, the global transport of breeding stallions with the inherent risks in long distance travel, and the foal that arrives potentially with conformational and soundness issues. They found that breeding is often based on speed not on soundness. This increases the need for further intervention to address anatomical deficiencies and faults (McManus et al. 2013). McManus et al. (2013) refer to this as a "vicious cycle of conformational fault building, earlier racing and retirement, rapid breeding and veterinary correction".

When racing, thoroughbreds compete near their physical limits, there is "little margin of error" in racing at full speed and structural failures of bones and ligaments frequently are catastrophic for horse and rider (Arthur 2011). Catastrophic limb injury is the most common reason for thoroughbred fatality on the racetrack (Boden et al. 2006). However, thousands of thoroughbreds are injured or die each year before they even race. In the majority of cases, such as in Australia, official records are not collected. In a New York Times investigation it is reported that in the US, 29 horses die each week on the racetrack (Bogdanich et al. 2012). During an undercover investigation into the US thoroughbred racing industry, assistant trainer Scott Blasi has been filmed exclaiming: "You cannot believe how many they hurt and kill before they even get to the race track. It's mindboggling" (PETA 2014).

In Australia, the Coalition for the Protection of Racehorses (CPR) (2014) explains that many of those who are registered to race may not have the ability or temperament for racing, they are too slow or suffer early injuries. Thousands of thoroughbreds born and raised will thus be of no value for breeding and racing, and "with no earning potential, they face an uncertain future" (CPR 2014). CPR suggests the number of thoroughbreds slaughtered in Australia each year is in the "high five figures" (Ward Young 2013). Peter McGauran, CEO of the Australian Racing Board, counters that the numbers are at "an estimated 8000" but he admits that the fate of racehorses exiting the industry is "still an unresolved issue" (McGauran 2013). The situation in Australia is not unique. Drugs in the thoroughbred industry are some of the biggest

issues that intersect with welfare throughout the life of the thoroughbred. There are questions in relation to drugs and medication, legal or illegal applications, therapeutic uses to help horses recover in times of illness, or “bulk them up” to make them look attractive to the potential buyer (*McManus et al. 2013*). *McManus et al. (2013)* also found that there appears to be overuse of pharmaceutical intervention to prepare young horses for sale and racing. They found that many young horses suffer from stress injuries and are treated routinely with anti-inflammatory drugs to mask pain and speed up recovery (*McManus et al. 2013*). They also refer to “appearance enhancement” through medication and surgery. In mature horses, painkillers, sedatives and enhancers are commonplace. Masking injury rather than treating it and giving it time to heal for full recovery, often leads to major injury or death (*McManus et al. 2013*). In all, the racing industry projects an image that can be summarized with the words of racing commentator *Horn (2014)*: “They throw enough eggs at the wall and hope the occasional one doesn’t break.”

Finally, as *McManus et al. (2013)* found, “the end stage of a racing horse’s life is often one of the worst ethical failures manifest in the whole industry”, with many ending up in abattoirs, often after long transports, to be killed.

## Discussion and ways forward

The thoroughbred industry has operated and is operating with little uniform and independent regulation and oversight, and a lack of transparency. Most insight into welfare and ethical issues in the industry has had to rely to a large part on the work of not-for-profit animal protection organizations, by undertaking their own data collection, or by interpreting data published by the industry. Animal welfare advocates have identified the lack of transparency as a major issue. *Arthur (2011)* states that “reporting is haphazard, unofficial, reported by interested parties, and generally unverifiable.”

Addressing structural issues, transparency and regulation has been identified by industry actors as dimensions requiring urgent attention. There are two examples for regulation in the environmental management field that could be considered for adoption in racing. In the case of doping, *Camporesi and Knuckles (2014)* suggest to shift the burden of proof. They apply the lessons from environmental sustainability to high-performance sport. In the context of environmental sustainability, it has been proposed to shift “the burden of proof away from regulators in order to alter the practice of discounting the planet’s future health for current economic gains” (*Camporesi and Knuckles 2014*). They explain that the burden of proof for doping should not rest on the athlete or the team of sports doctors but on the sponsors. Penalties would be imposed on the sponsors if doping would be found. They suggest that by making the companies accountable, sponsorship money and a win-at-all-costs mentality in sports that in turn leads to doping could be de-linked, and subsequently there would be no discounting of the future health of the athlete (*Camporesi and Knuckles 2014*). In another example, *Arthur (2011)* proposes to put an economic cost on racing injuries arguing that “improving horse safety is easier to accomplish when doing so provides an

economic benefit”. This is a common approach for climate protection in the form of putting a prize on carbon, and lessons could be learnt from that field.

Improving transparency and regulation is important and can improve welfare outcomes, if transparency and regulation go beyond the aim of protecting the integrity of the race and shift the focus on protecting the horse. However, they do not address the fundamental question of whether thoroughbreds should be bred and raced in the first place and if so, how this can be conducted so that it is socially acceptable. On the basis that thoroughbred breeding, training and racing is accepted by society in principle, then an ecologically oriented sustainability framework offers some insight into the “how”. This is discussed in more detail below.

### *The normative stance, obligations and the spectrum of rights*

To begin with, it appears that for the industry to move onto a trajectory of sustainability, a reconsideration of their normative stance is required. Their current normative stance appears at odds with an ecological sustainability framework. As *McManus et al. (2013)* conclude, for most in the industry and due to the commercial realities, the horse has predominantly instrumental value, and many see horses as commodities, which makes horses “highly vulnerable to unethical treatment”. The thoroughbred industry at large appears reluctant to address normative questions inherent in public concerns, or even denies that any such questions exist. Ironically, this in itself is a normative stance. This normative stance says that it is acceptable that horses die and get injured in horseracing and training, on and off the track. “Racing fatalities and injuries were just an accepted part of the cost of doing business” (*Arthur 2011*). There is a cavalier manner displayed by some even in relation to the death of a horse, as jumps racing veteran trainer John O’Connor demonstrates:

“We lose one occasionally, that’s a fact and it can’t be helped. They lose the occasional horse on the flat... death is just part of the sport... I don’t think about it. Because I’m confident that they’re competent, they’re well trained, they’re fit – and if an accident happens, so be it” (*O’Connor 2014*).

The dominant normative stance of the industry also suggests that it is acceptable to use invasive methods to manipulate, control and manage the horse so they are able to cope just enough with the demands placed on them. Horses are made to fit into the system like square pegs in round holes. Use of medication and other practices is fabricated as being required in the interest of animal welfare.

Animal welfare scientist *Broom* suggests that “we should describe the obligations of the actor rather than the rights of the subject. If we keep or otherwise interact with animals we then have obligations in relation to their welfare” (*Broom 2011*). This is consistent with the sustainability ethic which includes obligations to nature, however, ecological sustainability adopts in parallel a rights approach often based on ideas of justice. Environmental justice as a normative idea is an important concept in sustainability. It considers the equitable distribution of burdens and benefits to different generations (e.g. *Dobson 1998*). Ecological justice is an analogue concept



applied to justice concerns of wild species and ecosystems arguing for their right to flourish (Wuerthner et al. 2014). *Buller* and *Morris* (2008) make the case for applying justice to domestic animals in the context of sustainable agriculture and their argument can be extended to thoroughbreds. Under a sustainability framework, one would need to consider such concepts as justice, moral rights, rights to health, dignity and life satisfaction in relation to the thoroughbred.

*McManus* et al. (2013) suggest the evolution of an ethic of egalitarian care replacing any possible anti-ethic of domination and exploitation, which they call a "whispering ethic". They believe that such an ethic "requires empathetic and caring people who put the intrinsic value of horses above their instrumental value". They propose that within such an ethical space, the co-evolution of horse and human can continue.

Human professional sports have undergone similar ethical crises, such as cycling, and found that doping heavily damaged the public perception of their sport. It seems that the public has a stronger interest in an ethical contest than in the absolute speed of a race. For the public, a race where the participants are not hurt or abused or cheating is still a race worth watching, even if the athletes are not as fast as they would be doped. In human sport, obligations to the welfare of the athlete do not destroy the sport; they enhance the public's interest in the sport. This suggests that the sustainability of thoroughbred racing might benefit from employing a similar normative change toward centering the interests of the thoroughbred.

#### *Mutual flourishing*

*Jones* et al. (2014b) suggest that sustainability represents "a condition or set of conditions whereby human and natural systems can continue indefinitely in a state of mutual well-being, security, and survival". Thus the thoroughbred can be contextualized as being part of nature, but also as being part of an interspecies community with humans. *Senge* (2014b) considers sustainability as linked to "what constitutes a healthy community in the future". Similarly here, the thoroughbred can be considered as part of an interspecies community, and as one of being part of their community of conspecifics. In either case, sustainability is about the flourishing of both, human and horse, and of the interspecies relationship for mutual benefit. The question is whether this is indeed possible.

The work of *Birke* and *Hockenhull* (2015) indicates that there are differences in qualities of relationships between humans and horses during an activity. Based on their observational study, perhaps it can be tentatively concluded that mutual activity can lead to mutual well-being:

"When these working relationships function well, both partners are attentive to each other and to the task in hand, less ready to be distracted by outside influences. There is mutual trust and cooperation, giving an impression of harmony. In that sense, the horse has some agency, and both horse and person work together, even within the obvious physical constraints" (*Birke* and *Hockenhull* 2015).

#### *Competitiveness and sustainability*

The highly competitive nature of racing poses challenges to any possibility of mutual flourishing as part of a shared activity. Some conditions in the human context have been identified for sustainability in high performance sport and lessons can be learnt from those. First, there needs to be an acceptance of the natural limits of the body and of the limits based on the psychological make-up of the individual, and a commitment to working with those and not against those (compare *Barker* et al. 2014b). Second, achieving skill and fitness without injury is a goal that needs to develop as a form of sociocultural learning (*Barker* et al. 2014a). Third, caring is regarded as an important basis for coaching; caring means to respect the players, value them, involve them, have dialogue with them, listen to them and support them. Finally, it is concluded that competitiveness, dedication and hard work can coexist alongside compassion, empathy, participation and caring (*Annerstedt* and *Lindgren* 2014, *Schubring* and *Thiel* 2014). In a sustainability approach to horseracing, horseracing would shift from being a commodity to horseracing as community that fosters the flourishing of the horse and the human-horse relationship within their shared activity (compare *Barker-Ruchti* et al. 2014).

Sport under a sustainability framework considers the dimension of flourishing as a measure of success rather than relying on being the fastest as the only measure, but also on a redesign of the competitive activity (compare *Loland* 2001, 2006). One task is to define what flourishing means. Some quantifiable information to measure success in those terms could be the number of horses a trainer has that fail to finish a race or do not finish in the official race charts, and in the number of horses dying under a trainer's care (*Arthur* 2011). It could also include the circumstances under which horses exit the industry, the condition they are in when they exit the industry or move into breeding, what post-racing career could be established, and the longevity of the thoroughbred.

#### *Co-production of knowledge*

Many questions are open as to how thoroughbreds experience their lives and the practices within the industry. Many industry participants claim that thoroughbreds "love" to race and jump (*McManus* and *Montoya* 2012). An investigation of thoroughbred experience and an assessment of its consequences is in order. The veterinary sciences would begin to ask different questions than those they have traditionally asked. For example, in the case of exercise-induced pulmonary haemorrhage, the question would not be what kind of medication stops bleeding from the lungs, but rather whether it is justifiable to make the horse perform in a way that leads to bleeding from the lungs? What is the limit to performance so that bleeding does not occur? In what way can breeding, training and racing contribute to the flourishing of the thoroughbred? What are non-invasive methods to support their health and welfare? In cases where there is uncertainty, under a sustainability paradigm, the precautionary principle would prevail.

Our knowledge of animal suffering and the animals' ability to feel joy and life satisfaction, and the changing views on what this means for animal welfare is growing (e.g. *Broom* 2011).



The need for more efforts into the empirical investigation of the impact of all aspects of training and keeping of horses has been recognized by Meyer (2015). Meyer (2015) suggests there are differing views over what constitutes the nature of the horse, in particular in terms of the relevancy of innate dispositions of the horse and the relevancy of attitudes acquired by learning. This leads to differing perspectives on what behaviour the horse is able to learn, and on what exceeds the horse's ability to adapt and cope (Meyer 2015).

A concerted effort of interdisciplinary work is required to address the above questions, involving a diverse range of experts for example from the disciplines of ethology, veterinary science, animal ethnography, animal geography, animal and environmental ethics, and horsepeople from within and outside the racing industry. Their work will be part of mapping the knowledge system (Garlick and Austen 2014) of thoroughbreds to better understand what constitutes positive and negative life experiences and what it means for them to flourish.

## Conclusion

For most of its existence, the thoroughbred racing industry has taken the thoroughbreds and the public for granted. This comfortable existence however is now disrupted and cannot be reinstated. The discussion of what constitutes a sustainable horseracing industry is inevitable. It would appear that the question of the continuation of the use of thoroughbreds requires social negotiations in the interest of social sustainability. It can be expected that this will be an ongoing dialogue as society's ethics and values evolve, and as the industry responds to those. Rather than playing catchup, the industry could take a proactive stance.

The thoroughbred industry has recently begun to adopt the rhetoric of sustainable development. This may indicate that a further shift toward adopting a broader range of sustainable development policies is imminent to fall in line with corporate responsibility practices internationally. However, their focus is on sustainable growth alone and it has been shown that a focus on growth is at the very root of unsustainability. Following the preceding integrated discussion of global sustainability concerns and the use of thoroughbreds in racing, we can't help but see parallels between the exploitation of natural resources of this planet and the exploitation of the body and physical ability of the thoroughbred.

To protect thoroughbreds, reform in the industry should go beyond structural measures and measures of regulation and transparency. Although these are important supportive initiatives, they can only in part address the principle concerns about thoroughbred welfare. Based on the evidence it is suggested that the industry engage with issues of normativity and when alternative models of what constitutes success beyond winning a race. The industry could support the coproduction of knowledge to advance the understanding of the experience of thoroughbreds and thoroughbred knowledge systems, and of determinants of how to remain within individual physical and emotional limits of the horse. The aim should be to foster the flourishing of horse and human-horse relationships in the industry to replace the dominant current model of exploitation and commodification. There is also the need to work with par-

ties from outside the industry including animal protection organizations to better understand social expectations of how thoroughbreds ought to be treated in order to advance the social acceptability of the industry. Engagement with these matters can better address issues of (un)sustainability and move the industry from an economically driven business and management model to a welfare driven model. Barry Weisbord (Weisbord 2014), publisher of the Thoroughbred Daily News, puts the need for change most blatantly:

"This isn't the time for a measured response. This isn't the time for model rules. This isn't the time to shoot the messenger, and it's not a time for band aids. This is a time for a radical change of the way we do business. We cannot come at this with a pop bottle rocket. This is the time for shock and awe..."

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### Erweiterte Zusammenfassung

## Nachhaltigkeit, Vollblutrennen und die Notwendigkeit für Wandel

Der McKinsey-Report, vom Jockey Club in den USA in Auftrag gegeben, hat bestätigt was Akteure in der Vollblutzucht und im Pferderennen schon erkennen mussten: Zucht und Rennen sind von rückgängigen Zahlen geprägt. Abgesehen von einigen Ausnahmen ist das Züchten und Rennen von Vollblütern auf globaler Ebene durch einem absteigenden Trend gekennzeichnet. Als eine der Hauptursachen für diese Entwicklung in den USA wurde im Report die öffentliche Wahrnehmung des Pferderennens genannt. Der Bericht hat ausdrücklich eine Verbindung zwischen den Bedenken der Öffentlichkeit in Sachen Tierschutz und dem Einsatz von verbotenen Substanzen einerseits und einem Rückgang von Wettumsatz und Besucherzahlen andererseits hergestellt. Die Autoren berichten, dass nur 22% der Öffentlichkeit einen positiven Eindruck vom Pferderennen hätten und dass 78% der Fans aufhören würden, auf Pferderennen zu wetten, wenn sie wüssten, dass Pferde nicht gut behandelt werden würden.

Insbesondere der Medikamentenmissbrauch, in den prominente Trainer und Rennställe in den letzten Jahren in verschiedenen Nationen verwickelt waren und einige noch sind, versetzt die Industrie in eine Grenzsituation. Parlamentarische Untersuchungen in mehreren Ländern, verdeckte Ermittlungen, journalistische Untersuchungen und Analysen sowie die Aufklärungs- und Informationsarbeit von Tierschutzorganisationen unterstützt durch neue Informationstechnologien und Kommunikationsplattformen tragen zu einem veränderten Umfeld für das Rennbusiness bei. Die Pferderennindustrie hat bis vor nicht allzu langer Zeit noch ohne jede Rücksicht auf die Öffentlichkeit agieren können. Das ist nun nicht mehr möglich.

Innerhalb des Rennbusiness gibt es auch mehr und mehr Akteure, die insbesondere in Bezug auf die Integrität des Pferderennens Veränderungen fordern. Während die Reformvorschläge in Sachen Regulierung und Transparenz wichtige Maßnahmen beinhalten, besteht allerdings die Gefahr, dass sie das eigentliche Problem unberührt lassen: die Instrumentalisierung des Pferdes und die Konsequenzen, die sich daraus fürs Pferd und für das Image der Rennindustrie ergeben.

Der McKenzie-Bericht erklärt „nachhaltiges Wachstum“ als das Ziel der Rennindustrie. Damit greifen die Autoren die Rhetorik der „nachhaltigen Entwicklung“ auf, und verbinden sie mit dem Anliegen des Tierschutzes. Diese Verbindung wurde bereits im Bereich der nachhaltigen Landwirtschaft hergestellt. Es geht dabei um die sogenannte soziale Nachhaltig-

keit, die besagt, dass die Behandlung von Tieren in der Landwirtschaft an den Wertvorstellungen der Öffentlichkeit gemessen werden muss. Die Diskrepanz zwischen Realität in der Pferderennindustrie einerseits und den veränderten gesellschaftlichen Normen andererseits kann in diesem Sinne als ein Nachhaltigkeitsproblem beschrieben werden kann.

Das Konzept der Nachhaltigkeit wird in dieser Studie als das Leitthema aufgegriffen. Aktuell wird davon ausgegangen, dass die Gesellschaft das Züchten, Trainieren und Rennen von Vollblütern vorerst weiterhin akzeptiert. Unter dieser Annahme wird das Konzept der Nachhaltigkeit als methodisches Instrument angewandt, um Fragen von Ethik und Schutz des Pferdes im Rennen zu beleuchten. Zu diesem Zweck wird zwischen dem Modell der „nachhaltigen Entwicklung“ und dem Begriff der „Nachhaltigkeit“ unterschieden. Im Allgemeinen basiert das Modell der nachhaltigen Entwicklung auf der Idee des „nachhaltigen Wachstums“. In anderen Untersuchungen wurde überzeugend nachgewiesen, dass unendliches Wachstum in einem begrenzten System eine Unmöglichkeit darstellt. Ein Konzept der Nachhaltigkeit, das auf ökologischen Grundsätzen beruht, stimmt mehr mit den Realitäten organischer Strukturen und Systeme überein. Die Grundlage der Idee der ökologischen Nachhaltigkeit besagt, dass sich die Pferde und die mit ihnen verbundenen Menschen in einem komplexen und verkoppelten sozio-ökologischen System befinden. Das Wohlergehen dieses Systems hängt von der physischen und emotionalen Integrität des Pferdes ab. In diesem Sinne wird in dieser Studie das Konzept der ökologischen Nachhaltigkeit als ein „Sprachsystem“ eingesetzt. Sie beschreibt auch Beispiele aus dem Bereich der Umweltschutz-Gesetzgebung, die für das Pferderennen Anregungen liefern können. Das Hauptaugenmerk liegt aber auf dem Konzept des Wohlergehens im Zusammenhang mit dem sozio-ökologischen System. Daraus ergeben sich vier Themenbereiche, unter denen der Zusammenhang von Vollblutzucht und -rennen und Nachhaltigkeit untersucht werden: 1. Werte, Verpflichtungen und Rechte, 2. gemeinsames Wohlergehen, 3. Wettkampf und Nachhaltigkeit und 4. die Notwendigkeit der Erlangung neuer Erkenntnisse über die Erfahrungswelt des Pferdes. Diese werden im Folgenden erörtert.

Obwohl es in der Struktur, den Regelungen und Statistiken Unterschiede zwischen den verschiedenen Rennnationen gibt, so gibt es doch eine allgemeine zugrundeliegende Logik des Rennbusiness. Viele in der Rennindustrie bevorzugen es, von Diskussionen, die mit Werten zu tun haben, Abstand zu nehmen. Darin liegt ein gewisses Paradox, denn viele Praktiken offenbaren einen eindeutigen Wertestandpunkt. Dieser Wertestandpunkt besagt, dass es akzeptabel ist, dass Pferde sich Verletzungen durch Training und Rennen zuziehen oder tödlich verunglücken. Diese Werte besagen auch, dass das Pferd mittels der Verabreichung von Medikamenten oder verbotenen Substanzen und anderer Methoden mit dem Zweck der Leistungssteigerung angepasst werden kann. Zudem besagt dieses Wertesystem, dass gegenüber den Pferden, die den Anforderungen des Business nicht gewachsen sind, keine Verantwortung besteht, außer vielleicht die, ihnen einen „humanen“ Tod zukommen zu lassen. Aufgrund der integrierten Untersuchung von Nachhaltigkeit und dem Nutzen des Pferdes in der Rennindustrie ergeben sich Parallelen zwischen der Ausbeutung unseres Planeten auf der einen, und der Ausbeutung der physischen Fähigkeit des Pferdes auf der anderen Seite.

Im Gegensatz zu dem obigen Wertesystem besagt das Modell der ökologischen Nachhaltigkeit, dass Menschen Verpflichtungen dem Pferd gegenüber haben, insbesondere auch beruhend auf der Tatsache, dass das Pferd vom Moment seiner Zeugung bis zum Tode vollständig vom Menschen abhängig ist. Das Nachhaltigkeitsmodell besagt auch, dass Menschen verpflichtet sind, das Wohlergehen des Pferdes zu fördern. Die Wissenschaft, die sich mit dem Wohlergehen des Tieres beschäftigt, nimmt zunehmend Bezug auf positive Zustände im Bereich Wohlergehen. Das heißt, es wird nicht nur versucht, das Leiden zu beschreiben und einzuschränken, sondern es geht auch und vor allem darum, positive Zustände zu definieren und zu fördern. Freude, Zufriedenheit und Lebenserfüllung sind Konzepte, die zunehmend Einzug in die Diskussion um das Wohlergehen auch des Tieres finden. Wo das Wohlergehen kompromittiert wird, müssen die Bedingungen so verändert werden, dass es hergestellt werden kann. Das hat entsprechende Konsequenzen für Zucht, Haltung und Training.

Nachhaltigkeit besteht aus Bedingungen, die es ermöglichen, dass Mensch, Tier und Umwelt auf unbegrenzte Zeit in einem Zustand von gegenseitigem Wohlergehen, Sicherheit und Überleben bestehen können. Daraus ergibt sich die Frage, ob eine Gemeinschaft des gegenseitigen Wohlergehens zwischen Pferd und Mensch möglich ist, wenn die gemeinsamen Tätigkeiten maßgeblich vom Menschen vorgegeben werden. Aufgrund erster ethischer und ethologischer Untersuchungen kann das vorläufig bejaht werden. Es schließt sich dann die Frage an, ob das gegenseitige Wohlergehen auch unter Wettkampfbedingungen möglich ist. Studien im Zusammenhang von Hochleistungssport und Nachhaltigkeit berichten Ergebnisse, die Relevanz für das Pferderennen haben: Sie besagen, dass individuelle physische und emotionale Grenzen akzeptiert und berücksichtigt werden müssen. Fitness und Fähigkeit müssen als Konzept des soziokulturellen Lernens verstanden und entsprechend entwickelt werden. Fürsorge, Respekt, Achtung, Wertschätzung und Dialog mit dem Athleten sind die Basis der Beziehung. Und schließlich, Wettbewerbsfähigkeit und Mitgefühl sind Faktoren, die nebeneinander existieren können. Werden diese Erkenntnisse aufs Pferd übertragen, so kommt das Konzept der Autonomie des Tieres zur Geltung, was eine neue Betrachtungsweise des Pferd-Mensch-Verhältnisses mit sich.

Viele im Rennbusiness behaupten, das Pferd liebe es, im Wettkampf zu rennen und zu springen. Solche Behauptungen sind in Frage zu stellen. Es besteht die Notwendigkeit, die Erlebniswelt aus der Sicht des Pferdes zu erkunden. Wie empfindet das Pferd die Praktiken im Training und im Rennen? Inwieweit fördern sie möglicherweise das Wohlergehen des Pferdes? Was bedeutet Wohlergehen, Lebenserfüllung, Freude und Entfaltung für das Pferd? Die Veterinärmediziner stehen damit vor ganz neuen Fragestellungen. Es geht dann nicht mehr nur darum zu erkunden, mit welchen Methoden und Mitteln das Pferd den Anforderungen der Rennindustrie standhalten kann. Es geht vielmehr darum zu untersuchen, wie die positive Entwicklung des Pferdes unter Berücksichtigung seiner individuellen Disposition gefördert werden kann, wo die Grenzen der Belastungsfähigkeit des individuellen Pferdes sind und wie seine physische und emotionale Integrität gewährleistet werden kann. Diese neuen Fragestellungen erfordern eine interdisziplinäre Herangehensweise, die Verhaltensforscher, Veterinäre, Ethiker, Hippologen aus der Praxis, Tierschutzorganisationen und andere miteinbeziehen. Gemeinsam ist das Wissen um das Vollblutpferd und die Konsequenzen, die sich daraus für dessen Verwendung im Rennbusiness ergeben, zu erforschen. Neue Modelle des Erfolgs könnten entwickelt werden, die andere Faktoren als lediglich den Gewinn des Rennens einbeziehen.

Die Auseinandersetzung mit der Frage um die Nachhaltigkeit des Züchtens, Trainierens und Rennens des Vollblutes ist unvermeidlich. Der oben zusammengefasste Bereich von Fragen der Ethik und des Wohlergehens des Pferdes aus der Sicht der Nachhaltigkeit skizziert Themenbereiche, die Teil dieser Auseinandersetzung sind. Es kann nicht mehr als selbstverständlich hingenommen werden, wie bisher das Pferd unter Ausschluss gesellschaftlicher Werte in der Rennindustrie zu nutzen. Es kann davon ausgegangen werden, dass die normative Weiterentwicklung ein permanenter Prozess auf dem Weg zur Nachhaltigkeit werden wird. Die Beteiligten der Zucht- und Rennindustrie könnten davon profitieren, sich aktiv an diesem Prozess zu beteiligen.

**Schlüsselwörter:** Tierschutz / Nachhaltigkeit / nachhaltige Entwicklung / Systemtheorie / Pferderennen / Natürlichkeit / Pferdeverhalten / Tierautonomie

# Chapter 4. Conceptualisations of Thoroughbred Welfare held by Industry and Animal Advocacy Informants

## 4.1. Introduction

While the previous chapter mapped the terrain of the intersection of sustainability, thoroughbred protection and racing, this chapter concentrates on conceptualisations of thoroughbred welfare held by industry and animal advocacy informants to deepen this investigation. This chapter explores how the thoroughbred industry informants, individuals in key roles in regulation, administration and governance, conceptualise thoroughbred welfare, what their ethical underpinnings are, what they consider to be the main welfare issues, and how this contrasts with welfare conceptions expressed by thoroughbred protection advocates. It also foreshadows what this might mean for thoroughbred protection. A better understanding of how these two stakeholder groups conceptualise thoroughbred welfare is required to determine how they are situated in terms of interspecies sustainability, which is the aim of the next phase of this research project discussed in detail in Chapter 5.

This study draws mostly on the data generated through Part 2 of the interview schedule (Appendix 3). It transpires that the Industry informants characterise welfare mainly in terms of basic health and functioning. Thoroughbred agency, integrity and telos are largely ignored. Three categories of welfare issues emerge: the use and potential overuse of drugs and medication; injuries and death on the racetrack; and the aftercare of thoroughbreds exiting the industry. It appears the industry pursues three objectives with their welfare initiatives: to address the most egregious welfare violations of industry practices on and off the track; to influence the public's perception of the industry and its treatment of the thoroughbred; and to focus on productivity, efficiency and optimisation of the



commodifiable characteristics of the thoroughbred. It is concluded that this is not likely to result in net gains for thoroughbred welfare.

The first and the last section of the following published manuscript present a vignette in two parts. It refers to thoroughbred Chautauqua who refused to jump out of the starting barrier. It discusses related commentary in the media and trainers', owners' and racing authorities' responses to his repeated refusal. These two sections demonstrate the critical hermeneutic approach to the research (Bryman 2012, 560-561; see also Section 2.1.2.5.1). It means in this case that while the focus is on exploring the research informants' conceptualisations of thoroughbred welfare, attention was paid to current events and the emerging discourse surrounding these events. This served to position the research within the wider industry and advocacy discourse. This methodological tool is also used to centre the experience of the thoroughbred and thus remind the reader of the implications of the welfare discourse for the horse. In the current case, it shows how the interest of thoroughbred Chautauqua is removed from what matters to the humans acting and negotiating around him as if in parallel worlds, with the human actors striving to maintain their "ontological exception" (Feinberg et al. 2013, 1) and determining what counts as attention worthy welfare concerns. This has particular relevance for the exploration of what constitutes interspecies sustainability, for positioning the industry in relation to interspecies sustainability (Chapter 5), and for the development of an analytical tool to assist in identifying layers of engagement with animal protection (Chapters 5 and 6).

A brief explanation follows here for a better understanding of the vignette. The life trajectories for thoroughbreds in racing are impacted by their age and gender, and differs between thoroughbreds who are stayers and those who are sprinters (McManus et al. 2013, 22–26). Most colts are gelded at an early age to make them more placid and therefore to focus on racing. Only those who are considered to have potential for breeding based on their pedigree are kept as what is also referred to as "entires". As discussed in Section 1.8.1, breeding is the most lucrative aspect at the higher end of

the thoroughbred industry. Young stallions who have proven successful at racing are eventually retired from racing and “whisked off to the breeding shed”, as is a common expression (see e.g. Wincze Hughes 2018). This can occur as young as three years of age (see e.g. Rowe 2021). McManus et al. (2013, 22) explain that a young stallion who develops into a successful racehorse “will usually be raced younger, less often, and retired earlier than in the past so that it may have a longer breeding career”. This is to capitalise on their earning potential through the charge of stud fees.

Chautauqua had been gelded. In 2018, the year referred to in the vignette, he was eight years old. Most thoroughbreds exit racing long time before that age. Chautauqua could not be used for breeding and his earning potential was reduced to his ability on the racetrack. Therefore, while the interest was to keep him racing for as long as he was profitable, it could also be expected that there were not many more years left for him to race. As he was a champion sprinter, his connections – a term used to describe the group of people closely connected with racing him such as his owners and trainer(s) – planned for him to race in the Everest, a sprint race run over 1,200m (in comparison, the Melbourne Cup is run over 3,200m). This race was first held only the year before. It was developed as the richest race in Australia and the richest race run on turf worldwide. In its inaugural year in 2017, Chautauqua had run fourth and won his connections A\$400,000. In 2018, the total prize money was A\$13 million, finishing fourth or later, he would not even win back the entry fee of A\$600,000, as was the case in 2017. His connections had a strong motive to change his mind and get him to jump out of the starting barriers.

The following Section 4.2 has been published as a book chapter in Bornemark et al. (2019), a work exploring the transition in horse-human cultures. The chapter is presented here in a pre-print version and there are some minor variations to the published text (see also Section 1.6. Thesis Presentation and Formatting).

## 4.2. He Loves to Race – or does He? Ethics and Welfare in Racing

### 4.2.1. Introduction

#### 4.2.1.1. On the Racetrack

Eight-year-old gelding Chautauqua refused to jump out of the starting barriers. It is an image to behold, the grey standing upright and still in the stall, ears pricked, looking straight into the camera (see image in Marks, 2018). Some describe it as “defiance”, his connections would call it “troublesome” (Marks, 2018), and they now have to “decide his fate” (Miles, 2018). Marks suggests that such act of defiance “brings home the absurdity of relatively unquestioned conventions ... and societal practices”. Chautauqua prods us to appraise the ethics of racing horses (Marks, 2018). Images that generally make us question this practice are those of injury and death on the racetrack, described by well-known Australian racing commentator Smith as “moments of great sadness, ... cast in distressing pictures of horses with broken legs flapping like a long sock on a line” (Smith, 2017). These are amongst the images thoroughbred racing strives to keep from public scrutiny. With the beginning of this century, it has become increasingly difficult if not impossible for thoroughbred racing to continue, as Arthur (2011, p. 236), equine medical director of the California Horse Racing Board (CHRB), says, “[sweeping] the dark side of racing out of the public eye”. The rise of social media has enabled animal advocates to expose to a wider public what is happening to thoroughbreds on and off the track. These alternative narratives have the potential to centre the perspective of the horse, rather than that of the human, in the public discourse (McManus, Graham and Ruse, 2014).



#### 4.2.1.2. The Ethics in Thoroughbred Racing

In the animal studies literature, there is general agreement that the thoroughbred racing industry is guided by an instrumental, anthropocentric value system in their engagement with thoroughbreds (McManus, Albrecht and Graham, 2013). It is suggested that in the majority, thoroughbreds are valued on the basis of their earning potential for their connections (Markwell, Firth and Hing, 2017, p. 596). At best, industry participants adhere to a stewardship model of human-horse relationships. According to the stewardship ethic, it is reasonable for humans to tame animals, and manage and use them for “useful” activities (McManus, Albrecht and Graham, 2013, p. 142). From this perspective, thoroughbred racing is acceptable as long as the industry conforms to agreed standards of stewardship and animal welfare (McManus, Albrecht and Graham, 2013, p. 142). However, many question directly or implicitly the industry’s willingness and ability to even conform to the most minimal standards of stewardship (for example, Drape et al., 2012; Winter and Young, 2014).

#### 4.2.1.3. Models of Animal Welfare – now and for the Future

Society’s views of the ethical treatment of animals continue to evolve, and so do models of animal welfare. Thirty years ago, Broom (1988, p. 5) described welfare as the animal’s state “as regards its attempts to cope with its environment”, meaning to cope with “adversity” and “difficult conditions” (Broom, 1988, pp. 12, 16), a description of animal experience in the negative. More recently, animal welfare science increasingly draws on human indicators of well-being (Phillips, 2009; Lerner and Silfverberg, this volume). Ideas of good welfare have moved on to providing opportunities for animals to “thrive”, not simply “survive” (Mellor, 2016), a shift toward describing welfare in positive terms. Basic health and functioning (especially freedom from disease and injury), affective states (states like pain, distress and pleasure that are experienced as positive or negative) and natural living or “naturalness” (the ability of animals to live reasonably natural lives by carrying out natural behaviour

and having natural elements in their environment, and a respect for the “nature” of the animals themselves) are now discussed as the main concerns of animal welfare (Fraser, 2008; Yeates, 2018). Fraser states that these three dimensions (basic health and functioning, affective states, naturalness) represent different criteria used to assess animal welfare. They are independent but also overlap substantially, so for good welfare, all three areas need to be considered in some way. However, he comes to this conclusion not based on the animal’s perspective, but because individual humans and groups assign different values to each criterion. Deciding on criteria for assessing welfare is about making “a reasonable fit to the major value positions about what constitutes a good life for animals” (Fraser, 2008, p. 7). At this point it comes apparent that racing regulators have to negotiate difficult terrain – different conceptions of welfare, and differing values of participants in thoroughbred racing. But it does not stop there.

Animal studies scholars in the social sciences and the humanities including the Arts, supported by recent work in cognitive ethology, have far extended the discourse of animal welfare (for example, Bekoff, 2007; Bussolini, 2013). They emphasise what might constitute a fourth dimension: animal agency, with animals being the co-creators of their lives - Chautauqua being a most powerful example of exercising his agency, even within the environmental constraints imposed on him. Animal agency includes animal sense of control, identity, autonomy, integrity of body and mind, meaningful relationships, subjectivity, and crucially, the questioning of the status of animal-human-relationships. It also includes animal knowledge systems and species cultural practices (see, for example, Garlick and Austen, 2014). With this, we have moved into the realm of animal rights rather than welfare. It is suggested here that this criterion could be situated as a fourth, next to the other three described above, independently as well as overlapping with all of them. Or, alternatively, this fourth criterion might incorporate all other three and thus be an overarching dimension. Again, there needs to be awareness that the relationship of the four criteria to each other, and the weighting given to each of them, is value-dependent as much as it depends on worldviews.

A focus on the dimension of animal agency is consistent with an intrinsic values perspective. From the intrinsic values perspective, and based on how human-horse relationships are enacted in the industry, thoroughbred racing is considered an act of speciesism that is ethically unjustifiable (McManus, Albrecht and Graham, 2013, pp. 143-144). The intrinsic values perspective questions any use of horses. It may never be reconcilable with a view that suggests that there is potential for the flourishing of both when “working together”, horse and human, within an interspecies relationship, as explored by scholars focusing on human-horse interaction such as Birke and Hockenhull (2015). Many agree however, that a “mutually symbiotic relationship” between animals and humans will continue to be accepted by most people (see, for example, Phillips, 2009, p. 57), at the academic level as well as within society at large.

#### 4.2.1.4. Pressures on Welfare Initiatives from within the Industry

Not surprisingly, there is a gulf between academic theory, and the manifestations of human-horse relations on the racetrack (McManus, Graham and Ruse, 2014, pp. 190–191). The current status of horses within the racing industry is such that, as expressed by a senior regulator of the industry, “[t]he vast majority of people in the industry view horses as livestock rather than as pets or companions ... and that is not going to change in the short term” (Stewart, 2016). This is reinforced by Cassidy (2005, p. 65, Note 1) who concludes that thoroughbred racehorses “are commodities, however unpleasant that may seem.” And Arthur, equine medical director of the CHRB, states that “[i]t’s hard to justify how many horses we [in the racing industry] go through” (cited in Bogdanich et al., 2012). At the senior administrative and regulatory level in the thoroughbred industry, there is the realisation that the industry’s social license to conduct thoroughbred racing is at risk (Duncan, Graham and McManus, 2018). However, the gulf between industry practices and academic theory is mirrored in the gulf between racing authorities and those on the ground such as trainers and jockeys. Regulators and other

relevant industry bodies willing to move on with thoroughbred welfare measures often seem to sit between a rock and a hard place. For example, thoroughbred protection advocates lobby for the abandonment of the whip. Regulators know that this is politically very difficult to enforce – there would be disagreement amongst themselves, but also between the regulators and those training and racing horses. Up to now, and in order to respond to public pressure and changing views on animal welfare, thoroughbred racing regulators have only ever introduced padded whips, rules restricting the number of times a horse can be whipped in a race, and the kind of stroke applied. However, jockeys regularly protest successfully to have new rules restricting whip use abandoned or relaxed, as examples in Great Britain and Australia show (Graham and McManus, 2016). The only country where the whip in thoroughbred racing is not allowed is Norway, but notably, this was enforced by animal welfare legislation rather than industry self-regulation (McGreevy, 2016).

Nonetheless, there is evidence that the industry discourse on thoroughbred welfare is shifting. The industry has accepted that it needs to address issues of thoroughbred welfare that have entered the public discourse. Through their messaging in Annual Reports (e.g. Racing Australia, 2018, p. 15), at conferences (e.g. Asian Racing Federation, 2018), through pouring funds into particular research constructed as addressing the welfare of thoroughbreds (e.g. University of Melbourne News, 2016; Evans, 2018), and through marketing the “love for the thoroughbred” (Paulick Report, 2019), unprecedented effort is being put into demonstrating how much the industry cares about the welfare of the thoroughbred. Indeed, we may be tempted to believe that we are experiencing the dawn of a new era in thoroughbred racing.

#### 4.2.2. This Study

The research presented here is part of a larger study that investigates the future for horses in thoroughbred racing and the sustainability of welfare concepts. Considering the many perspectives

on welfare, the pressures on the industry to address thoroughbred welfare, and the serious welfare issues thoroughbreds are exposed to, it is important to advance the discourse by understanding the welfare conceptualisations held by industry participants who have the potential to influence regulation, mindsets and practices on the ground. This chapter explores how representatives of the thoroughbred racing industry conceptualise thoroughbred welfare, what they consider to be the main welfare issues, what their ethical underpinnings are, and what this might mean for the welfare of thoroughbreds. This study then contrasts the industry perspectives with those held by representatives of the animal protection movement.

Nine informants affiliated with thoroughbred racing bodies from the US and Australia, and seven thoroughbred protection campaigners and lobbyists from Australia, the US and Great Britain, have been interviewed. Pseudonyms are used to protect the participants' anonymity. Capital T for thoroughbred industry informants and capital A for animal protection informants are added for clarity. The organisations the industry informants were affiliated with include racetrack operators, owners and breeders associations, and international, national and state authorities and regulators based in the US and Australia. In one case, the informant is a senior administrator who at the time of interviewing was not affiliated with a particular organisation. The affiliated animal protection organisations include both, rights and welfare groups. The perspectives of the informants are discussed in relation to initiatives addressing welfare as evident in relevant reports, conference proceedings, and online content of affiliated industry websites. This discussion is held in light of the academic discourse, the discourse of the protection movement for thoroughbreds, public controversies and pressure, and the resistance from within the industry.

Although there are differences in regulation and risk factors between racing jurisdictions, this cannot be considered in greater detail within the scope of this discussion unless it contributes to the understanding of a particular argument being made. Moreover, there are efforts underway within the

industry for national and international harmonisation of the Rules of Racing. To this end, the International Federation of Horse Racing Authorities (IFHA) works towards identifying and promoting best practice in the administration of horseracing worldwide (IFHA, 2016). This means that within the context of this discussion, it is justifiable to refer to the thoroughbred racing industry as a whole, whilst also considering relevant national differences that are emerging in this study.

#### 4.2.2.1. Striking a Balance

Based on the industry informants' responses there is no doubt in their minds that thoroughbred welfare is indispensable for the sustainability of the thoroughbred racing industry. The more encompassing the remit of the organisation the informant is affiliated with, the more encompassing their perspective on welfare. Consequently, we come to hear about what is the ideal model of enactment and enforcement of thoroughbred welfare: "[T]he well-being and the protection of the horse" is to be "an overarching philosophy, it is about what is correct and proper for the horses" (Thomas – T). Moreover, all aspects of welfare "should be at the forefront of each policy decision, on the racetrack, the breeders, the jockeys, nutritional, or anybody interested in horseracing", for the entire lifespan of the horse, including the provision of aftercare when the horse exits the racing industry (Thomas – T). Albeit Thomas (T) concedes that welfare is dependent on the values of each nation, and thus presumably has to be adapted by each nation accordingly to some degree, a theme present in the animal welfare science discourse above. Other industry informants refer to shorter timeframes when describing welfare responsibilities, for example, "the care of the athlete from the beginning of its career and to and through its retirement" (Ben – T). It is not clear whether this is due to a focus of their own role within the industry or whether there is indeed a limited understanding of the concept of thoroughbred welfare.

Overall, industry informants define welfare in terms of the horses' "basic health and functioning" (as described by Broom, 1988). They refer to welfare as dealing with "proper care, from the protection of health, of the movement of horses, taking all precautions, disease control, proper husbandry, to responsible ownership, to responsible rehoming and aftercare, and the right procedures and processes across the entire spectrum." (Thomas – T). Others specified care and housing, husbandry conditions, medication including vaccinations. One informant explained that "it's just not in a negative sense, but also in a positive sense" (Evan – T), possibly referring to the idea of positive experiences rather than just defining welfare by negative experiences. However, it was not evident that industry informants were familiar with any perspectives on welfare as laid out in the four spheres above. In fact, one informant explained that within the industry, there is some concern about using the term "welfare" in particular in the aftercare and rehoming context because industry participants do not want to convey the images that these retired thoroughbreds are "RSPCA [Royal Society for the Prevention of cruelty of Animals] sort of" cases (Ruth – T). Crucially, one informant reminds us of the real limits to welfare in the industry: "I mean, obviously, we have to strike a balance between high performance, athletic performance and the possibility of injury in that context" (Kingsley – T).

#### 4.2.2.2. Beyond Basic Health and Functioning

Four industry informants refer to dimensions of welfare beyond basic health and functioning. Two of them (Evan – T and Ruth – T) extend their definition of welfare to a "mental" dimension, although their references are not as strong and numerous as can be found in responses of the thoroughbred protection informants. The other two, Will (T) and Allen (T), include the dimension of respect. "Thoroughbred welfare at its basic level is just doing the right thing by the horse. These horses want to run for us, they want to run for us very hard, and therefore I owe them a standard of care and respect." It is a measure that comes from within the human rather than a dimension applied externally based on physical measurements and thus stands out from other comments. Allen (T) also refers,

perhaps unintentionally, to the concept of reciprocity in the stewardship model, what has been coined the ancient contract (Dawkins and Bonney, 2008). This position has some positive ethical dimension, from the informant's perspective an ethics of care. Others however would question the contract idea since the thoroughbred has not participated as an active or autonomous agent in this agreement, rather, as some describe it, he is a "conscript to the sport" (McGreevy and McManus, 2017).

That the horses are willing participants wanting to run is often claimed by industry participants at large, believing that "running" is what the horses "love doing": "When I watch a horse race and the rider falls off, and the horse continues to race and still wants to win, that makes me believe that that's what the horse wants to do. So it's a completely natural activity for the horse. I think, thoroughbreds by definition like that herd mentality and they race in the fields when they are babies too. I really feel racing is natural, it's innate in them." (Jacob – T). The industry informant contradicts himself in alluding to the fact that the horse follows his "herd mentality". An alternative interpretation based on animal behaviour science would be that the horse keeps running with the field for fear of losing the comfort and security of the herd (e.g. McGreevy, 2012).

In referring to "respect", Will (T) gives one of the few examples where an industry informant relates to a dimension of thoroughbred individuality as part of the horse's telos: "I think that the animal itself has to be respected for what they are. If a horse is quick, that's fantastic. But if it's not, then it's a matter of identifying what other purposes it can be used for. I have regularly taken horses from trainers and moved to home to find new homes for them. Let them calm down from the feed they have been on when racing to be suitable for other adventures" (Will – T). The individuality of the horse is respected here by acknowledging early on, or so it seems, when she or he is not suited for the racetrack. This may simply be a pragmatic decision in the interest of the owner, but it seems there is a caring element in his expression, as well as a sense of responsibility. He takes it on himself to help the horse adjust and find a new home that is more suited to his temperament and ability.



#### 4.2.2.3. The Main Welfare Issues Defined

From the responses of both groups of informants, industry as well as animal protection informants, three sets of main welfare issues emerge: the use and potential overuse of drugs and medication, legal and illegal; injuries and death on the racetrack; and the aftercare (retirement) of thoroughbreds exiting the industry. Importantly it is recognised that these sets of welfare issues impact upon each other, whereby drugs and medication are described as impacting on both the other two sets (retirement and injuries), as well as on a number of other welfare issues, often in a two-way relationship. For example: “To me, I think, the main welfare issues are overuse of medication that is debilitating and I say specifically, here in North America, we have an issue with joint injections with cortical steroids that cause debilitation in these athletes so that they are not really healthy enough for second careers when they are done which to me is counterproductive” (Jacob – T). Allen (T) describes catastrophic injuries in racing and training as “the Achilles heel of all of horseracing”. The use of drugs and medication are named as one of the main causes of breakdowns, and one of the reasons is that they mask injury (Ava – A).

Another significant issue with drugs is lack of transparency. With his investigation, Ross (2016) provides an overview of the particular situation in the US. Corticosteroid drugs are legal to use in racehorses for therapeutic reasons, but their misuse has increased. Ben (T) explains that regulation is urgently needed so that “if the thoroughbred changes hands, ... that horse’s medical history, particularly involving cortical steroid injections, is passed on to the new connections. So what they are trying to avoid is, the new connections, being the first thing they do is injecting a joint that may have had just recently been injected but they didn’t know it.”

There are numerous other drugs, legal and illegal, in use but the issues are beyond the scope of this paper (for more see, for example, Bennis, 2013; Voss 2018). While these are problems internationally, Ava (A) believes that in the US, there is an entrenched drug culture. Jacob (T) also refers to it being a cultural issue. “(...) there is a generation of trainers who believe that using medication is the quickest way, most effective way to get a horse back to the soundness if it’s lame. There is a generation prior that would use the old-fashioned turn-out time and ice method and there is a big disconnect, so ... it’s cultural.”

In the US, the problem with drugs is exacerbated by the fact that there are 38 state racing jurisdictions and no uniform rules for medication in terms of what is allowed and how much, no uniform testing, lab accreditation, and enforcement (Coalition for Horse Racing Integrity, n.d.; Irby, 2018). This facilitates corruption with owners and trainers being able to move racehorses from one jurisdiction to another to avoid penalties and to enjoy more lenient oversight (Irby, 2018). In contrast, there are nationwide Rules of Racing in Australia addressing the use of drugs and medication, which nonetheless present the country with not insignificant levels of drug use risking racing integrity and horse and jockey welfare and safety (see, for example, Bennis, 2013; Crawford and Thompson, 2015).

#### 4.2.2.4. Differences between Industry and Thoroughbred Protection Informants

Thoroughbred protection informants include in the concept of welfare a broader range of concerns, ranging from the tack being used to horses being able to perform most of their natural behaviours, two-year old racing, and the breeding of thoroughbreds. Overall, most share the sentiment expressed by Sue (A): “I can’t use the word welfare without qualifying it. If I was to talk about what I think is the welfare state of thoroughbred horses in the racing industry, I would generally say that it is poor.” Perhaps due to this experience, three of the seven in the thoroughbred protection group define welfare in terms of what it is not: good welfare means the horse is “not fearful”, “not broken down in

some way”, “not stressed”, not prevented from being able to continue their lives, not subjected to “practice or action that causes harm” and they should “not have negative experiences”. Some of these responses refer to the emotional state and the psychological dimension of welfare (stress and fear).

There is evidence that most of the industry informants feel sympathy for the well-being of the thoroughbred. But *empathy*, that is being able to take the other person’s position and feel what they feel, is only expressed by a thoroughbred protection informant:

I have seen horses fall ... and that is personally very confronting because ... these are 500 kg animals that are stumbling and hitting the ground with significant force, which to me not just represents risks of physical damage but psychological damage as well ... especially being a prey animal who relies very much on their capacity to be fit and fast. So anything that compromises that is likely to cause them to be vulnerable and no doubt you would be getting a flight response kicking in ... while they are experiencing that fall. ... it must be quite difficult for them ... to face going through that whole scenario again, [at other] places and trials. (Ella – A)

In contrast to industry informants, thoroughbred protection informants make reference to what is natural to the horse, and that good welfare means that thoroughbreds have the opportunity to express their natural behaviours (Monique – A). The only argument made by industry informants to support natural behaviour comes up when they state the horses love to “run” or “race”, it is natural to them. This is questioned by advocates: “[H]orses all run, but I don’t think they all would race if left to their own devices” (Ava – A).

In terms of two year old races, Ava (A) laments that: “We looked at ... the 2-year old training sale where horses who sometimes aren’t even chronologically 2-years old, are raced at speeds greater than they will ever run in their lives and therefore, ... a percentage of them, broke down or were

injured or were burnt up and used before they had even reached their chronological second birthday.” She goes on to explain that “[t]hey are raced too young. I am not suggesting that young horses shouldn’t run. They need to run for development of bones, but they are certainly raced far too early, by, in my opinion, a year.”

Breeding was not considered as a welfare issue in itself (other than the need to provide for good welfare in terms of basic health and functioning) by the industry informants. However, it was identified as a significant issue by thoroughbred protection informants. Most refer to the problem of “overbreeding”. There is the view that while numbers in breeding have gone down (see, for example, IFHA, n.d.), there are “still many more thoroughbreds who are bred and born into the world than we can provide for in any serious way” (Ava - A). Ella (A) finds that “there is the drive to find that champion. The more horses you breed, I guess the perception is the higher the chance that you will find that champion.” Taylor (A) underlines, that “there is a lack of strategic planning within the industry that allows random unregulated breeding which is throwing thousands of horses into the industry, most of whom will never win a race, or perform to their full abilities, or earn enough economically, to maintain them within that system.” He also suggests that the smaller number of preferred horses is then used for breeding which he considers to be in itself an exploitation of the horse just as racing is. Breeding is, as he suggests, part of the way “the industry sustains itself. ... [by] producing vast numbers of horses [who are] then thrown at, ruthlessly, at an industry where some succeed and many don’t ...” (Taylor – A).

Mark (A) raises the concern about breeding that “over the years has been focused entirely on speed” which, as he suggests, is causing welfare issues: The integrity of the “bone in the horses and their ability to work for long periods in their life has diminished in the pursuit of trying to get the faster horse”. With this, he addresses the issue of bodily integrity of the horse, which is part of the horse’s telos. He goes on to say that it “is a very tricky balance because, obviously, they have to breed a certain

number of racehorses to produce the quality of animals that needs to go into the racing industry” (Mark – A).

Ava (A) states that “[t]he problem with the racing industry is that they believe it is a problem of perception, when it is a problem of reality. And they need to fix the problems.” And indeed, Evan (T), in presenting his list of welfare issues in racing, refers to “the public perception and the industry use of the whip”, and the need for “management of public perception of horses who exit the racing industry”. Thoroughbred protection informants convey a sense of resignation about what welfare means in the industry as expressed by Ava (A): “In today’s world, I think welfare is anything that means a horse does not end up arthritic or broken down on the track; that a horse has as decent a life as can be created for them under the circumstances, and that they don’t end up at auctions and slaughter houses.”

#### 4.2.3. Discussion

There are some significant differences in the conceptualisation of welfare in the thoroughbred industry between industry and thoroughbred protection informants. Some may seem self-evident, others less so. The thoroughbred protection informants can be considered leaders in the public animal protection realm and thus give an insight into the way the public discourse is likely to further develop. From that it is clear that there is still a lot of catch-up to do on the side of the industry despite the impression they are seeking to convey in terms of their action for welfare. Most of the industry informants, that is all those based in the US, would agree that there are systemic problems with thoroughbred welfare. But it needs to be considered that all informants based in the US are in positions in their respective organisations where welfare is a specific focus of their mandate. They have somewhat progressive views, are the leaders in terms of welfare in their industry, and in that sense, are in the minority.

The industry informants based in Australia were less forthcoming in acknowledging the magnitude and systemic nature of the welfare issues in the industry. Several informants referred to some of the welfare issues as a matter of perception within the public. This is reflected in the statement by Peter McGauran, then Chief Executive Officer of Racing Australia (Racing Australia, 2015, p.13), in the organisation's Annual Report:

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Whilst it is self-evident to industry participants that racehorses enjoy the highest standards of care and handling, we must communicate our values and welfare practices to the wider community in the face of ongoing campaigns by some extremists with a penchant for untruths. All animal industries, let alone competition animal sports, face a challenge in engaging an increasingly urbanized population with a growing disconnect to rural Australia and a decreasing understanding of animal husbandry. We welcome any scrutiny and believe in complete transparency knowing that overwhelmingly participants do the right thing and love and care for their horses.

It is a common claim by industry participants that the general public does not understand thoroughbreds and thoroughbred racing. This is used to present themselves as experts dealing with an ignorant public, thus a priori excluding and belittling the public's concerns and demands, a common strategy to uphold one's authority (compare Kelsey in Hufnagel, Kelly and Henderson, 2018, p. 735). McGauran's framing of animal advocates as "extremists with a penchant for untruths" is designed to have a marginalising effect. McGauran then goes on to frame public concerns about thoroughbred welfare as an issue of growing disconnection to rural life and animal husbandry. However, based on the literature, it is more likely that the urbanised public, due to animal advocacy initiatives and access to information on social media, has greater knowledge of thoroughbred welfare

issues (McManus, Graham and Ruse, 2014), and increased knowledge of animal welfare issues leads to increased advocacy (Erian and Phillips, 2017). Racing journalist Matt Stewart refers to the industry as a “racing bubble”: “There is a damaging mood in racing that the world outside the bubble is wrong and that racing is right; that racing can prosper quite nicely, thank you, without being influenced by agendas of politically correct hippies who wouldn’t swat a mosquito” (cited in Graham and McManus, 2016, p. 7). This is a common attitude internationally despite the presence of more progressive perspectives expressed by the informants of this study. It is not conducive to addressing the real welfare issues within racing in a meaningful way.

#### 4.2.3.1. What about the Fourth Dimension?

The discussion above evidences that the fourth dimension of thoroughbred welfare plays no role in the industry at large. Those with deeper sensibilities for this dimension sense feelings of sadness and loss about the compromise to thoroughbred autonomy and bodily and mental integrity. Ava (A) describes how she has visited the retirement home of Cigar,

a very, very famous thoroughbred in the United States 25 years ago or so. He had an inauspicious beginning in racing, and then he reached a point where it just seemed like he could not be beaten. He was just a beautiful animal to watch run. [At his retirement home, he] lived a very nice life there. He had pasture and he had the company of other horses and [nothing was ever] expected of him. But the reason that he had ended up this way, instead of as breeding stallion is that he was infertile. ... he was racing at a time when steroids were beginning to be used in thoroughbreds, at least in the US. They are now illegal in most racing jurisdictions. But there was a period of time when a lot of thoroughbreds were given anabolic steroids. And it really messed up the breeding possibilities for those horses later. It wasn’t that I ... wanted him to have been standing at stud for years and creating new horses. It was just to me so sad that

this beautiful animal who appeared to love to race had been given medication that changed him physically in such a serious way. I remember sitting there and watch[ing] him. They brought these horses who had been retired out in front of the crowds and I just remember feeling just incredibly moved by his whole story.

Things are being done to thoroughbreds, their agency and their bodily integrity is continuously and severely compromised. Supporting thoroughbred agency means *inter alia*, and in Nussbaum's terms, to provide thoroughbreds with the opportunity to pursue their innate various forms of flourishing they would choose to pursue (Nussbaum in Haynes, 2008, p. 123), to provide opportunities to exercise choice (elsewhere referred to as "preference autonomy", a concept developed by Regan, cited in Haynes, 2008, p. 53). It also means to not severely compromise their bodily and mental integrity. Nussbaum argues that "all animals have an equal right to lead a flourishing life" and it is a matter of justice that "all animals are entitled to a flourishing life and it is morally wrong for anyone to prevent such flourishing" (Nussbaum in Haynes, 2008, pp. 123, 155).

To know how to best support and protect thoroughbred agency, we need to better understand their knowledge system, that is how thoroughbreds view and feel about the environment they live and work in, and what they know about it. Following Garlick's (2013) argument developed in the context of wildlife conservation, taking account of the thoroughbreds' knowledge system is about giving cognitive justice to the agent, the thoroughbred. In pursuing cognitive justice, the thoroughbred has ethical agency (as per Garlick, 2013). This ethical agency can come to bear by allowing the thoroughbred to have a voice in matters that concern them.

In "doing things to the thoroughbred" and making them fit into a life in breeding and racing, the knowledge system of the thoroughbred is not only being ignored but distorted and misrepresented, their flourishing and opportunities to exercise choice and preference are also severely compromised.



We can place the thoroughbred into an environment that is either “reinforcing or restricting” in terms of exercising his capability (as per Garlick and Austen, 2014, p. 36). The racing and breeding environment is mostly restricting. Thoroughbreds have a view on this and at times, they express it, for example, by resisting. Despret (2013, p. 41) states that “when animals ‘resist’, their very resistance seems to operate as a vector of agency”. She refers to the work of Baratay, who has described how working animals resist, including horses in mines. Despret (2013, p. 41) suggests “[t]his very resistance not only conveys their perspective on the situation but credits them with full agency: they have opinions, will, desires, and interests.”

Some of the questions that the industry has an obligation to explore relate to how the thoroughbred perceives his environment, and what are the consequences of that for his welfare? For example, when he runs with the field in a race, does he demonstrate that he loves racing? When Chautauqua refuses to jump out of his barriers, does he then also demonstrate that he loves racing as one of his syndicate owners claims (AAP, 2018)? Finally, as Garlick and Austen (2014, p. 34) suggest, “by excluding the knowledge held by non-human [animals], ... particular science disciplines may be challenged as not fully meeting their own epistemological rules of empiricism – particularly the correspondence and comprehensiveness tests.” In other words, it is not good animal welfare science to ignore the knowledge system of the thoroughbred.

#### 4.2.4. Conclusion

Based on the industry informant’s responses, it seems that the industry currently pursues three objectives with their welfare initiatives:

- to address the most egregious welfare violations of industry practices on and off the track,
- to modify the public’s perception of the industry and its treatment of the thoroughbred,

- and to focus on productivity, efficiency and optimisation of the commodifiable characteristics of the thoroughbred.

There has been progress in acknowledging welfare issues and implementing measures to address welfare within the industry within the last ten years or so. However, it is not clear whether the three objectives above will result in net gains for thoroughbred welfare. There may be some gains to some aspects of basic health and functioning, but there may also be further compromises to those, and there are likely to be compromises to aspects of thoroughbred autonomy and integrity with advances in science and technology applied to increase the manipulation, modification, and control of thoroughbred body and mind.

Thoroughbred protection informants have some desire to protect aspects of thoroughbred agency, and express some form of grief at the loss of such aspects, even though they are not referring to those concepts by their names. In contrast, industry informants have lost the ability to relate to them, or they dismiss them. The confines of racing and breeding require them to suppress thoroughbred agency as much as they can get away with.

#### 4.2.5. Epilogue: Back on the Track

Leading part-owner Legh is, according to Gould (2018), “confident that ‘to keep sending Chautauqua back to the barrier trials, is what the horse wants’”. Legh and the training team are apparently supported by “other trainers, people in racing, who can see through those arguing that ‘he clearly doesn’t want to race’”. To convince the audience, Legh states that he is a horse-lover, in fact an animal lover, he wouldn’t step on an ant; the trainer John Hawkes is a Hall of Fame trainer and deserves respect (Gould, 2018). “Up at the farm you see a very happy, healthy racehorse”, states Legh (Gould, 2018).

On 25 August 2018, Chautauqua refused for the seventh time. Racing NSW stewards ruled this most recent barrier test unsatisfactory. Their preliminary decision two days later was that Chautauqua should be barred from trials and races. However, Racing NSW did not “rule out giving the former world's best sprinter another chance to prove himself” (Miles 2018). The steward’s decision is now pending a submission by the majority of shareholders in Chautauqua (AAP, 2018). In his career, Chautauqua has won his connections nearly nine million Australian Dollars. As an eight-year-old gelding, he is not worth anything for the otherwise lucrative breeding market.

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# Chapter 5. Situating the Thoroughbred Racing Industry in Relation to Interspecies Sustainability

## 5.1. Introduction

This study consists of a theoretical part and an empirical part. The theoretical part addresses the research questions: What does an interspecies sustainability paradigm entail? How do thoroughbred industry and animal advocacy informants conceptualise sustainability? The empirical part addresses the questions: How do thoroughbred industry and animal advocacy informants conceptualise sustainability? And: How are the thoroughbred industry and the animal advocacy informants positioned in relation to the interspecies sustainability paradigm?

Sections 5.2.1 and 5.2.1.1 discuss the sustainable development model, how animals are referred to in the Brundtland Report (WCED 1987), the critique of that model and its impact on farm animals. It thus expands on the discussion in Sections 1.1 and 1.7.1.2. The development of the framework of interspecies sustainability draws on publications in the fields of sustainable agriculture and food systems, as these were the fields in which the intersection of animal welfare and sustainability had been addressed to that date. Emerging themes are then explored drawing on ecofeminist perspectives that bridge between the spheres of sustainability, and animal and nature protection by exposing systemic power imbalances focusing on the relational dimension. Table 5.1 has been constructed based on the literature cited in Section 5.2.2 and 5.2.2.1. Tables 5.2 and 5.3 have been developed based on the literature in Section 5.2.2 and all its subsections.

The framework for interspecies sustainability discussed in the theoretical part is applied to the data analysis of the empirical study. It is suggested that this process can be adopted for the investigation

of other contexts in which animals exist, are used by humans or are in some kind of a relationship with humans. The discussion of the research methodology introduces interspecies sustainability as a research paradigm and outlines how this facilitates the centring of the thoroughbred (see also Section 2.1 above). The analysis draws on data generated through Part 2 of the Interview Schedule (Appendix 3), Theme 2: Sustainability and Theme 3: The intersection of sustainability and thoroughbred welfare. Some of the questions were not relevant for the animal advocacy informants and therefore not posed, such as: “What is your priority in working toward a sustainable thoroughbred industry?” The analysis also draws on findings presented in the previous chapter (Chapter 4).

Eight layers of engagement with animal protection are identified and presented in Table 5.5. This model serves as a guide to identify at what layer a particular discourse takes place. Some layers are not only not effective in terms of advancing interspecies sustainability, but they are also holding the transition back. The aim is to identify and further develop the discourse at those layers that advance the transition, in a particular context and at a particular time.

Arguably, the two parts, that is the theoretical and the empirical part of the study, could have been developed in two separate papers. While this had been considered at various stages throughout the project, this for various reasons had not been pursued. There is an argument to be made to bring the two approaches together, which is to bridge the theory-practice gap, and to present the work in a manner that is more accessible for those interested in policy development. This is also discussed in Section 5.2.1.3.

In the manuscript, the term well-fare is used in three places, that is in the text in Sections 1.3 and 2.1 and in Table 5.3 providing an overview of interspecies versus anthropocentric approaches to sustainability. This term has been used to differentiate its meaning from the notion of welfare as co-opted by animal industry interests (see also Section 1.9 discussing the use of terms).



## 5.2. Interspecies Sustainability to Ensure Animal Protection: Lessons from the Thoroughbred Racing Industry

Article

# Interspecies Sustainability to Ensure Animal Protection: Lessons from the Thoroughbred Racing Industry

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**Abstract:** There is a disconnect between dominant conceptions of sustainability and the protection of animals arising from the anthropocentric orientation of most conceptualisations of sustainability, including sustainable development. Critiques of this disconnect are primarily based in the context of industrial animal agriculture and a general model of a species-inclusive conception of sustainability has yet to emerge. The original contribution of this article is two-fold: First, it develops a theoretical framework for interspecies sustainability. Second, it applies this to a case study of the thoroughbred racing industry. Interviews were conducted with thoroughbred industry and animal advocacy informants in the US, Australia and Great Britain. While industry informants claim thoroughbred welfare is seminal for industry sustainability, they adopt a market-oriented anthropocentric conception of sustainability and do not consider animal welfare a sustainability domain in its own right. Animal advocacy informants demonstrate a deeper understanding of welfare but some express discomfort about linking sustainability, welfare and racing. Eight analytical layers have been identified in the discourse in the interface of sustainability and animal protection, of which two have transformational potential to advance interspecies sustainability. Interspecies sustainability urgently needs to be advanced to ensure animal protection in the sustainability transition, and to not leave the defining of animal welfare and sustainability to animal industries.

**Keywords:** sustainability; interspecies sustainability; animal welfare; animal agency; anthropocentrism; interspecies justice; relationality; ecocentrism; naturalness; animal advocacy

## 1. Introduction

It is well-established that mainstream conceptions of sustainability and their manifestations in theory and practice are anthropocentric in focus. Anthropocentric sustainability orientations not only marginalise and ignore the interests of nature and animal lives, they treat nature and animals as resources for human use and determine their value by the benefit they provide for humans [1]. Sustainable development is singled out by Andrew Dobson as a particular theory of anthropocentric (environmental) sustainability. There are market-based approaches and equity-based approaches, but in each case, human interest in human welfare is the principal motivation ([1], p. 423). The concept of sustainable development was popularised by the Brundtland report published in 1987 and globally enthroned with the Earth Summit in Rio de Janeiro in 1992 ([2], p. 352). Rio signifies an “unholy alliance between development enthusiasts in the South and growth fatalists in the North” ([3], p. 432). The WCED sees growth as the solution to alleviate poverty “rather than tackle the thorny problem of redistribution” ([4], p. 32). The role of corporate interests that dominate the discourse shaping the sustainable development agenda was calculated and orchestrated. CJ Silas, chairman and CEO of Phillips Petroleum Company wrote in 1990: “There’s no reason we can’t make the environmental issue our issue” ([5], p. 34). In the same vein, agribusiness has seized the opportunity and legitimises

the exploitation of animals with the sustainable development agenda, facilitated by government and intergovernmental agencies [6].

### 1.1. *Animals as Resource Repositories and Production Systems*

The Brundtland report engraves the use of animals as natural resources. It references animals in three forms—as wildlife implicitly being a constituent of ecosystems and biodiversity, as pest to be controlled, and as “livestock”, i.e., living stock. Explicitly, wildlife is referred to in one instance as “creatures of beauty” ([7], p. 35), but predominantly, wildlife is called a “living natural resource”, a carrier of “genetic variability and germplasm material” who makes “contributions to agriculture, medicine, and industry worth many billions of dollars per year”, and a provider for “new raw materials for industry”. Fish are given special mention as providers of animal protein. In other words, the value of wildlife is predominantly residing in the economic opportunities it provides for human social and economic systems. Farm animals are referred to as livestock responsible for the overuse of natural resources, clearing of tropical forests and the destruction of the lucrative “wild pool of genes”. Rather than recommending shrinking the livestock sector, the report recommends the intensification of production practices, at the expense of animal welfare and social, human and environmental health [8–10].

Over the past two decades, the critique of the sustainable development agenda and its manifestations in the practices of industrial animal agriculture has been increasing. Industrial animal agriculture is recognised as one of the main causes of exceeding planetary boundaries [11], of species extinction and climate collapse [12], and increasing human and nonhuman injustices ([6,13] [14] (p. 5) [15–17]). Economic growth and development is based on the exploitation of billions of farmed animals, with now more than 70 billion land-based animals alone killed for consumption annually [18]. The strategies to respond to calls for the intensification of production work against the animal [6,19]. Wadiwel [20] conceptualises this process as a bio-political conquest, a war waged against animals. Within the logic of development and growth, so argues Rawles ([21], p. 211), “animal welfare concerns are not only different from the main concerns of sustainable development, but threatening to them”. The risks for animals show no signs of abating with high profile researchers in the sustainability space repeating calls to manipulate the animal genetically and further intensify agriculture ([22], p. 9) without consideration of the consequences for animals widely described elsewhere ([17,20,23–26] [27], pp. 74–77) [28]).

Boscardin [6] details how the sustainable development agenda drives the “violent commodification” of animals to ever increasing heights. The process is called in industry terms “sustainable intensification” and is designed to advance the “Livestock Revolution” ([6], p.116): It envisages a “70 per cent upsurge in the demand for animal products by 2050, mainly driven by rising disposable income, population growth, urbanisation, and changing life styles” in emerging markets. It would increase the numbers of land-based animals suffering to approximately 120 billion per annum by 2050. Sustainable intensification promotes the biotechnological alteration of the animal’s body to address environmental concerns and production efficiency [27,29], and the alteration of the animals’ minds to reduce or eliminate sentience [30]. This is legitimised by the sustainable development agenda and facilitated by ideological means: The consumption of animals is normalised and misleadingly constructed as natural and necessary [6,31,32]. This expansion of the livestock sector is expected to have catastrophic impacts leading to more habitat loss, soil degeneration, resource depletion and water extraction [22]. Even Jim MacNeill, Secretary General of the WCED and lead author of the Brundtland report, proclaims in frustration:

“I no longer shock easily but to this day I remain stunned at what some governments in their legislation and some industries in their policies claim to be ‘sustainable development’. Only in a Humpty Dumpty world of Orwellian doublespeak could the concept be read in the way some would suggest.” ([33], p. 167)

He goes on to explain that in 1987, they thought the concept was “plain enough” and “we defined it in several ways—ethical, social, ecological” ([33], p. 167). He emphasises that in the Brundtland report they stated “[a]t a minimum, [sustainable development] must not endanger the natural systems that support life on Earth: the atmosphere, the waters, the soils and the living beings”. He regrets that only one definition of sustainable development “grabbed the headlines” and “stuck” to the exclusion of all others, which is the one about (exclusively human) intergenerational equity ([33], p. 168).

The time is long overdue to advance interspecies sustainability, a conception of sustainability that by definition and declared focus includes the concerns and interests of animals, their protection and their flourishing. It is recognised that the exploitation of nature and humans, and by extension, animals, result from the same “local and global economic development patterns that are also at the root of injustice, poverty, violence, and oppression” ([34], pp. 95–96). Addressing sustainability from the perspective of animal protection also advances sustainability for nature and humans. While there has been analysis in terms of the commodification of the animal and the social, political, biopolitical and economic factors facilitating their exploitation [20,29,32], proposals and descriptions of conceptions of sustainability that are inclusive of animal protection are fragmented and only beginning to emerge.

### *1.2. The Thoroughbred Industry in the Interface of Sustainability and Animal Protection*

This study seeks to contribute to the advancement of such an interspecies conception of sustainability. It does so by, first, developing a framework of interspecies sustainability and second, by applying this framework to study the conceptions of sustainability held by individuals in senior positions in an animal-using industry, that is the international thoroughbred industry.

The thoroughbred industry is global in reach and is a significant animal industry practiced in 59 countries affiliated with the International Federation of Horseracing Authorities [35]. Its economic role is significant and it has political support which is expressed in government funding with the oversight of welfare being handed over to the industry itself. Governments’ interest in regulating the industry is reduced to racing being a gambling enterprise. The racing industry also bears great cultural significance. Despite identifying itself as being steeped in tradition, the thoroughbred industry can be considered an industrialised industry [36]. The most significant parallel to the animal agricultural sector in relation to the current sustainability discourse concerns questions of animal welfare. Both industries are increasingly challenged by changing public attitudes to animal welfare [37–39]. In the US, there is even talk of banning thoroughbred racing in California due to a spike of horse deaths at Santa Anita Park, the alleged lack of significant action of the track operator the Stronach Group to protect thoroughbreds, and the possibility of a referendum in California [40].

The idea of sustainability is present in industry parlance, albeit sparsely and only in the form of “sustainable growth”, “economic sustainability”, “financial sustainability of the company” and similar. A connection between thoroughbred welfare (or lack thereof) and “sustainable growth” of the industry has been made in a report commissioned by the Jockey Club (US) in 2011 [38]. In terms of the consideration of thoroughbred welfare, it has been found that broadly, industry participants display a utilitarian approach [41]. It is acknowledged that there are individual differences with some sensing a deeper emotional bond with the horse and a deeper engagement safeguarding their welfare throughout breeding, racing and aftercare. However, overall, the industry’s pursuit of welfare is reduced to the following three objectives: To address the most egregious welfare violations of industry practices on and off the track, to modify the public’s perception of the industry and its treatment of the thoroughbred, and to focus on productivity, efficiency and optimisation of the commodifiable characteristics of the thoroughbred [41]. These foci echo the foci of other animal-using industries. Bergmann ([41], p. 130) concludes that it is doubtful that the thoroughbred industry’s approach will result in net gains for thoroughbred welfare.

### 1.3. Overview of Aims, Article Structure, General Conclusions and Purpose of This Study

Calls for an interspecies sustainability have been issued, but to date, no attempt has been made to develop such a framework. This study set out to, first, develop such a framework based on the identification of relevant key concepts in the literature that specifically engages with the interface of sustainability and animal protection. Second, this framework is then applied to explore the conceptions of sustainability held by individuals in senior positions in the international thoroughbred racing industry, as well as to those held by animal advocates who campaign for thoroughbreds used in the racing industry. The aim of this study is to identify how the thoroughbred industry and animal advocates are situated in relation to interspecies sustainability and to explore what that might mean for this industry, the horses and for the advancement of interspecies sustainability overall.

This paper has discussed in Section 1 the anthropocentric sustainable development bias in the sustainability discourse and its consequences for animals used in animal agriculture and the broader planetary context. It next discusses in Section 2 the development of a framework for interspecies sustainability, identifying its characterising aspects. It presents three tables with three different foci summarising and contrasting the differences between anthropocentric and interspecies conceptions of sustainability: Table 1. Views of animals, their well-fare and the human-animal-nature interface (Section 2.1); Table 2. Interspecies relationships (Section 2.4), and Table 3. Overview of interspecies versus anthropocentric approaches to sustainability (Section 2.5). Section 3 discusses the scope of the empirical study, and materials and methods used. It includes a graphic outlining the data analysis process and demonstrating how interspecies sustainability is applied as a research paradigm (Figure 1, Section 3.3). Section 4 presents and discusses the results. It offers a model for situating thoroughbred racing and some of the relevant actors in relation to interspecies sustainability (Figure 2, Section 4.3). This model can be adapted to specific phenomena relevant for a particular industry utilising and exploiting animals. Furthermore, Section 4 identifies eight layers that are present within the discourse in the interface of sustainability and animal protection ranging from maintaining the status quo to reform and to transformation. Section 5 reiterates the main results, purpose and conclusions of this study.

The purpose of this comprehensive theoretical and empirical approach is to bridge the theory-practice gap, assist in policy development and to communicate to a broader audience. This audience is expected to include those interested in engaging with the relevant issues at the level of theory, to those advocating for animals, as well as to practitioners in animal using industries. This study provides tools to rethink the dominant sustainability and animal welfare paradigms. It assists with developing a vocabulary to engage with the intersection of sustainability and animal protection which to date has been underdeveloped. It is thus intended to be a call for scholars, animal advocates, policy makers as well as practitioners and activists, to take part in this discourse in an assertive and constitutive way to play their part in representing the interests of animals in the sustainability discourse.

In this article, in terms of nomenclature, the term sustainability is used to encompass ecocentric, biocentric and zoocentric iterations, and sustainable development as an anthropocentric concept is used when referring to specific industry, governmental and intergovernmental contexts. The term animal protection is used to refer to a holistic understanding of the protection of animals as discussed here under an interspecies sustainability paradigm. The term welfare is mostly used in the context of animal industry practices.

## 2. Framing Interspecies Sustainability

This section draws on writings that engage with questions in the interface of sustainability and animal protection and that are couched in the sustainability discourse, rather than environmental ethics or animal ethics specifically. The reason for this is to use established sustainability language that is understood by policy makers, industry and the broader field of sustainability studies to move it beyond the current stunted discourse of sustainability and critically reflect on mainstreamed sustainability concepts such as sustainable development. The writings drawn on include ecocentric perspectives and

publications in the fields of sustainable agriculture and food systems, and in animal studies and critical animal studies. Some relevant emerging themes are then explored drawing on ecofeminist perspectives that bridge between the spheres of sustainability, animal and nature protection by exposing systemic power imbalances. Analyzing the various critiques embedded in this literature, common themes emerge. These themes are cross-referenced for triangulation with conceptually formational texts in the sustainability discourse [1,4,42–45]. By then bringing these themes together within the interface of sustainability and animal protection, they describe aspects of an interspecies sustainability, the beginning of a theory of interspecies sustainability.

### 2.1. Ecocentrism as a Starting Point

A critique of anthropocentric conceptions of sustainability from the perspective of ecocentrism has always been part of the modern sustainability discourse. Many argue that only an ecocentric approach with its intrinsic values orientation has the potential to spark action to halt species extinction and climate breakdown [4,16,46]. Replacing anthropocentric with ecocentric approaches is considered the pathway to sustainability [46], and by extension, to the protection of wild animals. Washington ([4], pp. 6–16) refers to such sustainability orientation as the “old” sustainability that goes back to pre-history and the “Wisdom of the Elders” ([4], p. 8). This wisdom speaks of terms such as “harmony, balance, reverence, sacredness, spirituality, respect, care, witness, responsibility, custodianship, stewardship, beauty and even love” ([4], p. 8) in relation to animals and nature including its abiotic components. Interspecies sustainability is thus based on a number of general premises: the systemic interconnectedness and interdependency of humans, animals and nature; the existence of a mind-independent, inherent value bearing, ecological and biogeophysical reality that sets boundaries to human use of nature.

Washington et al. [46] state that those who support ecocentric perspectives overwhelmingly support inter-human justice, just as they support inter-species justice (ecojustice), for the non-human world. Ecocentric sustainability is thus founded on the principle that “caring for the Earth and caring for people are two dimensions of the same task” ([34], p. 95). The economy is considered to be situated within society which is situated within nature [47], rather than nature and society being situated within the economy. Ecocentric sustainability eschews the substitutability debate [1]. Such an ecocentric orientation is the nature of sustainability envisaged by civil society [48]. For an ecocentric sustainability to take hold and be maintained, anthropocentrism and human exceptionalism have to be contested and alternatives formulated for all spheres of sustainability. The interconnectedness and complexity of natural and social systems is always taken into account, and only the adoption of a systems perspective can do justice to that [43]. This has recently been reinforced by the UN Global Assessment of Biodiversity and Ecosystem Services [14,49] which supports Washington’s [4] argument of the important role of indigenous cultures and their knowledge systems for the sustainability transition, in particular their knowledge of nature and animals. An ecocentric sustainability orientation is the starting point for the formulation of an interspecies sustainability.

Table 1 summarises the differences of our views of animals, their well-fare and the human-animal-nature interface under an interspecies versus an anthropocentric perspective of sustainability such as the sustainable development model. This should be read to apply to all animals, wild, liminal and domestic.

While ecocentrism has a lot to say about the conservation and preservation of nature, ecosystems and wild animals, and about what that means for enacting sustainability in theory and practice, it has limited guidance for, or interest in, the interface of sustainability and domestic animals, other than calling to fight against “the global scourge of animal agriculture” ([50], p. 138). The following Section 2.2 addresses this and discusses the emerging themes for domestic animals, which can be found in the discourse of sustainable agriculture and food systems.



**Table 1.** Views of animals, their well-fare and the human–animal–nature interface.

<b>Interspecies Sustainability</b>	<b>Anthropocentric Sustainability</b>
Animals as autonomous beings with a sense of self, purpose and needs based on their telos.	Animals as a repository, as bioreactor and production system for the benefit of humans.
Freedom to exercise agency.	Restriction and control.
Animals as embodied subjects of inter-and intra-species communities.	Animals seen as disconnected.
Animals with their own species-specific cultures and knowledge systems.	Animals as square pegs to be fitted into round holes for human purposes.
Respecting individual differences (of animals of the same species) in physiology, behaviour and appearance.	Optimisation of body and mind as needed for human purposes.
Respecting species-innate functional integrity and natural (and individual) limits.	Biotechnical manipulation to exceed natural limits, also at the expense of welfare.
Supporting those with individual differences and facilitating their participation in a fulfilling life.	Suppression and extermination of individual differences.
Acknowledging similarities between human and other animals.	Emphasising what distinguishes humans from other animals to justify a hierarchical order.
Respecting that nonhumans covet life, liberty, and the pursuit of happiness just as humans do.	Machine-like artifact to be controlled; Animals as non-sentient, or at best animals as primarily suffering beings.
Animal protection to apply to animal cultures, autonomy, self-determination, sense of control, fulfilling telos and the ability to create and maintain meaningful relationships.	In theory: Welfare rather than protection focusing on basic health and functioning, also recently on affective states, some considering natural living.
Recognising interdependence and reciprocity between animals, humans and the natural world.	Strict boundaries to separate humans from other animals and nature, human exceptionalism.
Precautionary principle (being mindful of limited knowledge of animal capacities).	Rejecting or minimising the potential for any breadth and depth of animal capacities.
Compassionate conservation, recognising the need to protect the individual from harm.	Conservation, focusing on species protection at the expense of individual animals and for the benefit of humans.
Nature and animals forming a self-sustaining and self-organising system.	Nature and animals as something to be managed.
Inherent worth of all species and nature including the abiotic components.	Instrumental view of all species and nature for human benefit.
Focus on present and future generations of all species and ecosystems, including their abiotic components.	Consideration of the nonhuman only in so far as they serve current and future generations human needs and wants.
Naturalness as inherent worth to be preserved.	Nature as “limiting factor” on human progress, preferencing technological and biomedical alteration.
Humanity regards itself as being immanent within an ecological system.	Human detachment and separation from animals and nature, nature/reason dualism.
Honouring qualities such as harmony, balance, reverence, sacredness and spirituality.	Belief in mastery, reduction to scientism, the rational, quantifiable, measurable.

## 2.2. Themes Emerging from the Discourse in Sustainable Agriculture and Food Systems

### 2.2.1. Species-Innate Functional Integrity

Animal welfare gains particular relevance in the discourse of sustainable agriculture that adopts a systems perspective. An important concept emerging here is functional integrity (of a

self-regenerating system), a concept adopted from ecology [51]. Thompson [51] applies functional integrity to extensive livestock farming in their interaction with biological systems, and to the social systems that sustain animal agriculture or are impacted by it. Thompson and Nardone [52] also apply it to the individual animal in the context of biotechnological interventions. They argue to shift the focus from resource efficiency approaches (i.e., biotechnological manipulation) to functional integrity approaches. Thompson [51] stresses the need for clarity about the weighting of values that guide decisions leading to preferencing functional integrity or resource efficiency. The author of the current study argues that functional integrity needs to be clarified to mean the species-innate functional integrity, and not one that is constructed via biotechnological means. Presumably, this is what Thompson [51] and Thompson and Nardone [52] had in mind, but it needs to be emphasised to guard against misappropriation. To mark this differentiation and for simplification for the following discussion, this author introduces the concept *functional integrity+*.

While animal welfare is considered a constituent systems component of sustainable agriculture, most, including Thompson [53], do not see it as a sphere of sustainability in its own right. For Thompson, it is about the socio-cultural co-creation of agriculture inhabited by humans and animals. Others subsume welfare under the social pillar based on the realisation that the growing gap between the realities of animal agriculture and societal expectations in terms of animal welfare represent a risk for animal agriculture [8,54,55]. The discourse in the interface of sustainable agriculture and animal welfare under the socio-cultural domain is aimed at maintaining animal agriculture's social license to operate, that is, it is about efforts to maintain the public's acceptance of its operations [8]. As a consequence of the public's increased concern for farm animal welfare, welfare has been turned into a commodity in itself [56,57]. This has implications for farm animals, since, as Buller and Roe ([57], p. 148) suggest, "emphasis [is] placed on those welfare elements that lend themselves more immediately to calculability, creating an implicit tension with those that do not so lend themselves." A focus on functional integrity however, including *functional integrity+*, while important and mostly measurable, is a very limiting conceptualisation of animal protection. Next follows the discussion of other aspects as they emerge in the literature that engages with domestic animal welfare in the sustainability context.

### 2.2.2. A Holistic Conception of Naturalness

Another important theme that emerges in this discourse is naturalness, and importantly, the fact that people value naturalness when it comes to assessing animal welfare [58]. Studies show people interpret naturalness to relate to behaviour that the animal is able to perform, as well as to any practices imposed on the animal, for example in terms of husbandry including feeding practices, veterinary and breeding practices. The welfare discourse however diminishes the idea of "naturalness". Animal welfare science defines naturalness as relating to animal behaviour only [59]. Fraser ([60], p. 2) somewhat acknowledges this difference in interpretation of the term when he states the term naturalness predominantly reflects the views of social critics and philosophers, whereas farmers and veterinarians use the term to represent a view that defends practices such as the confinement of animals.

This author argues for a holistic interpretation of naturalness. This ties in with eco- and zoocentric perspectives, with the critical discourse of animal welfare, and with how people not familiar with the animal welfare science discourse intuitively interpret the meaning of naturalness. To signify this holistic reading, she introduces the concept *naturalness+*. Naturalness, or better *naturalness+*, needs to be leveraged more in the animal protection discourse.

### 2.2.3. Social Justice and Moral Egalitarianism

A further theme is the extension of the social justice dimension of sustainability and sustainable development to farm animals. Some explicitly introduce the term interspecies sustainability, implying the end of the exploitation of farm animals [61,62]. Probyn-Rapsey et al. [62] realise sustainability as such is not an anthropocentric concept, rather, it is a concept that is used based on "unreflective anthropocentric understandings of 'sustainability'" ([62], p. 115). They advocate adopting expanded



sustainability frameworks to include interspecies ethics “as part of sustainability’s social justice remit”, and thus extend the application of social justice principles to other than human actors ([62], p. 115). Similarly, Narayanan [63] introduces the concept of “sociozoological justice” arguing for a species-inclusive sustainable development.

Vinnari and colleagues foreground animal protection within the frames of food system sustainability and security, and governance for transition to sustainability [64,65]. They argue for a four pillars model of sustainability with animal protection a separate pillar [65] as proposed earlier by Rawles [21]. In one of their most comprehensive and integrative deliberations on the topic, Vinnari et al. [65] advance an ethical evaluation tool whereby they extend the sustainability objectives of moral egalitarianism to both, farm animals and wildlife. They [65] developed a Sustainability Matrix “based on the three main strands of ethical theory (utilitarianism, deontology and moral egalitarianism) and the three associated sustainability objectives of efficient allocation, sustainable scale, and fair distribution”. This framework is inclusive of both human and non-human animal interests and promotes equality between humans and animals. Wild animals and their habitats are included on the basis of them being threatened by animal agriculture. This framework has potential for further development and far reaching policy applications.

#### 2.2.4. Relationality, Agency and Intentionality

Finally, there are the dimensions of animal agency and human-animal relations. As Twine ([29], p. 166) notes, “human-animal relations are highly significant when it comes to defining what sustainability is and how to achieve it”. Twine ([29], p. 162) argues that human and animal flourishing need to be conceived as “variously interdependent” (see also [66]). Furthermore, Buller and Morris [67] suggest our approach to welfare needs to be more individualistic taking greater account of human-animal relationships which are in essence affective and interactive. They argue that farm animals become part of the sustainability project whereby it is not about their management in groups and herds by humans, but “as a result of the relationality between their own individual intentions, behaviour, agency and use of space and nature (however limited these might be) and those of humans” ([67], p. 146). Buller and Morris ([67], p. 146) suggest to conceive of agricultural sustainability as a “collective endeavour of a relational community”. Rural spaces and their sustainability are reinterpreted as co-evolving based on “animalian agency and intentionality” rather than exclusively human agency and intentionality. They hope this outlook assists in drawing attention to farm animals’ needs, rights and welfare, and giving animals a voice. A view that considers relationality and animal agency (and intentionality) inherently regards the animal as an actor who does something rather than being the passive recipient acted upon by humans. These dimensions help to illuminate the concept of interspecies sustainability and are discussed further below.

#### 2.3. *Telos and the Turn toward the Individual*

The themes identified above including *naturalness+*, interspecies or sociozoologic justice, species-innate functional integrity (*functional integrity+*), relationality and animal agency are defining criteria for interspecies sustainability. They converge in the concept of telos [68] and bring new meaning and significance to it. Telos is a useful concept to be incorporated in our understanding of interspecies sustainability. It “derives (philosophically) from Aristotle and is a way of accounting for the good life of an animal from the unique speciesness of the animal in question” ([68], p. 691). It means all that matters in life for a particular animal based on their species’ needs, giving capacity to becoming, as a foal becoming a grown horse, an evolution through the animal’s own life, with a certain end purpose without which, as Harfeld ([68], p. 694) explains, “any description of the beings involved would be inadequate”. Simply put, telos refers to the “pigness of the pig” ([68], p. 706) and the “horseness of the horse”.

It is argued here, however, that telos needs to go beyond that to refer to an individual’s (not only the species’) particular needs, predilections and abilities, and individual limitations. This perspective

takes account of respecting and protecting particular groups of animals, for example those who have been bred for specific purposes but then do not fulfil human expectations, or animals with disabilities. Indeed, to more comprehensively describe interspecies sustainability, many argue it would need to be less species- and more individual animal-focused [69]. A turn to the individual is evident in ecology and ethology, and in the case of wild animals, it means replacing conservation with compassionate conservation [70]. It is also been referred to in animal agriculture, for example, above by Buller and Morris [67], and is beginning to occur in animal welfare science [59]. For the purpose of this study, this author therefore introduces the concept of *telos+*.

#### 2.4. Ecofeminist Perspectives Foregrounding Animal Agency and Interspecies Relationality

Animal agency also means that from the human perspective, the human–animal relationship is not to be taken for granted. Seminal issues to be addressed for the evolution of an interspecies sustainability are the human uses of animals, and the relationships between humans and nonhumans that have evolved as a consequence of these uses. While critical animal studies scholars regard human–animal relationships inherently as unequal and oppressive for the animal, feminist studies scholars believe “our relations with domesticated species [are] complex and contradictory, and open to other possibilities” ([71], p. 43) allowing all species to flourish. There is the view of a social relational approach, co-constituted by the other species.

Animal agency and relationality assist in describing what it means that the animal is included and understood as both a subject, and importantly, a co-creator of the conditions required for interspecies sustainability. For this to be able to occur, the inequality of power relationships between humans and nonhumans need to be addressed. Ecofeminism has significant contributions to make in understanding interspecies sustainability. Plumwood [72] argues a focus on the larger social, political and historical contexts in which nature and humanity are situated is essential. This context laying bare the mechanisms for human, nature and animal oppression, demonstrates that interspecies sustainability has to be based on a set of inviolable criteria and core values, such as upholding democratic systems, universal rights, dignity, transparency (the right to know) and the precautionary principle [48], which are to be extended to the nonhuman. Hierarchical distinctions between humans and more-than-humans are to be dissolved. Humans are to recognise themselves as inextricably immersed in relationships with nature and others, in ways that acknowledge difference. Such relations value “the other’s boundary and opacity of being” ([73], p. 178). This implies that the flourishing of animal agency needs to be allowed to happen, and be facilitated, in respect of animal sense of control, identity, autonomy, integrity of body and mind, meaningful relationships and subjectivity. It also reminds us of the importance of valuing and protecting animal knowledge systems and species cultural practices [74]. Table 2 summarises the differences in the quality of the interspecies relationship between an interspecies and anthropocentric-focused sustainability conception.

Enactment of animal agency and human–animal relationality requires interspecies cooperation and mutuality, and Plumwood [73] argues this can only be implemented in the form of radical democracy. Evidently, matters of representation and participation of animals are of great importance for an interspecies sustainability, and models to draw on are available [75–77] but their discussion is beyond the scope of this paper.

#### 2.5. Summary Interspecies Sustainability

The key aspects identified above in this Section 2 converge to describe and frame interspecies sustainability as follows: The building block is ecocentrism, with ecocentrism being extended to reveal and eliminate asymmetries, take account of intra- and interspecies relationalities and incorporate a focus on the individual (and smaller groups for that matter), rather than a limited focus on species only (*ecocentrism+*). *Ecocentrism+* is complemented with an extended conception of telos (*telos+*). Telos in itself is identified as a concept that integrates a variety of aspects, including species-innate functional integrity (*functional integrity+*), interspecies justice, relationality, animal agency, animal cultures and

knowledge systems, and a holistic conception of naturalness (*naturalness+*). As with ecocentrism, telos needs to extend beyond speciesness to include an individual's particular needs, predilections, abilities and individual limitations (*telos+*). Finally, interspecies sustainability also means adherence to a set of inviolable criteria and core values, such as upholding democratic systems and principles, universal rights, dignity, transparency and the precautionary principle as important dimensions in governance and decision-making, and to be extended to all species.

**Table 2.** Interspecies relationships.

Interspecies Sustainability	Anthropocentric Sustainability
Interspecies equity based.	Hierarchical.
Relations and partnership based, reciprocal.	Domination by humans.
Respecting otherness.	Using otherness to justify devaluing the other.
Interdependence.	Separation.
Respecting boundaries of privacy and “letting them live their lives”.	Ongoing intrusion and invasion.
Nonhumans and humans as embedded in networks of socio-ecological relationships that matter to them.	Alienation and separation or negation of animal to animal, and animal to human relationships.
Species inclusive ongoing dialogue and co-evolutionary.	Prescribed by hegemonic forces and technological means.
Ongoing re-defining, with animals sharing the re-defining equally.	Human control with strict boundaries.
Mutually and culturally defined.	Technocratically and economically defined.

To conclude this section, an overview of interspecies versus anthropocentric approaches to sustainability is presented in Table 3.

**Table 3.** Overview of interspecies versus anthropocentric approaches to sustainability.

Interspecies Sustainability	Anthropocentric Sustainability
Flourishing of telos including animal agency, animal cultures, naturalness, dignity, identity, subjectivity, autonomy, species-innate functional integrity.	Animal and nature a renewable resource and a manipulable repository for human benefit.
Nonhuman and human co-creating realities and relational flourishing.	Separation from animals and nature.
Interspecies justice.	Intergenerational (human) justice.
Inherent value of animals and nature (including abiotic elements).	Consideration of the nonhuman only in so far as they serve current and future generations human needs and wants.
Obligations to nonhumans and ecosystems.	Obligations predominantly to human welfare, inadvertently overlooking or deliberately rejecting the interests of other than human interests.
Eschews the substitutability debate.	Based on varying degrees of substitutability.
Species equity, no special moral status of humans.	Human exceptionalism.
Largely based in preservationism—to protect, preserve and restore natural systems.	Largely based in conservationism (“wise use” to benefit humans).
Emphasis on culture (i.e., guided by questioning what is it that truly sustains us?).	Technocentrism, technocratic approach with emphasis on the economy and materialism.
Systems perspective, ecological system oriented.	Reductionism, linearity.
Transparency: values to be recognised and made transparent, discourse about values for decision-making.	Values undisclosed, or purportedly values free.
Decolonising animal knowledge systems, indigenous knowledge systems, and local knowledge; leading to co-production of knowledge; Transdisciplinarity.	Specialist expert knowledge oriented; fragmented knowledge silos.
Growth critique; zero growth/de-growth.	Adherence to the growth paradigm, mistaking growth with progress.

In the following, this framework of interspecies sustainability is employed to study the thoroughbred industry as a template to demonstrate the wider applicability of this approach to interrogate other animal-using industries.

### 3. Materials and Methods

#### 3.1. Scope of This Study

This research is part of a larger study that investigates the sustainability of welfare concepts and the future for thoroughbreds in the international thoroughbred racing industry. An earlier publication of aspects of this study [41] explored how representatives of the thoroughbred industry in senior administrative and regulatory roles define thoroughbred welfare, what they consider to be the main welfare issues, what their ethical underpinnings are, and what this might mean for the welfare of thoroughbreds. The analysis of industry perspectives was cross-referenced with those held by representatives of animal advocacy organisations who were also interviewed for this research. This current article explores how the same industry informants conceptualise sustainability, how they see it being related to thoroughbred welfare, and what they consider to be the barriers, threats and drivers for sustainability of their industry. The industry informants' conceptions are again compared and contrasted with those of animal advocacy informants. The aims of this part of the study are to better understand where and how ideas of sustainability and welfare converge, what the likely differences in conceptualisation of sustainability between the two groups of informants are, to find out how the thoroughbred industry is placed to respond to an interspecies sustainability paradigm, and what the opportunities and prospect are for advancing interspecies sustainability, in thoroughbred racing and other animal industries.

Economically, materially and systemically, the thoroughbred breeding, racing and the betting sectors are deeply entwined and dependent upon each other. Within the scope of this study the betting sector is not specifically considered although it can be expected to be addressed by the informants in the context of economic considerations and is treated as such in general terms in this study. The issue of breeding has significance in the context of one of the key aspects of interspecies sustainability, namely naturalness. The thoroughbred industry vehemently protects the process of "natural gestation" to produce an "eligible foal" ([78], p. 51). For registration in the studbooks and to be allowed to participate in breeding and racing in any jurisdiction aligned with the International Federation of Horseracing Authorities, the thoroughbred on both the mare's and the stallion's side has to be of recognised thoroughbred pedigree, be conceived by "natural" means and the foal has to be carried and born from the body of the same mare in which it was conceived ([78], pp. 50–51). Any foal resulting from or produced by the processes of artificial insemination, embryo transfer or transplant, cloning or any other form of genetic manipulation is not eligible for recording in a Thoroughbred Stud Book approved by the International Stud Book Committee ([78], p. 51). The context of this is discussed more broadly by McManus et al. ([36], pp. 172–184). While the industry has appropriated the idea of "natural" for breeding, the process of breeding and its preparation are highly controlled and invasive for the horses involved. These interconnections are the subject of an article in preparation. In this current article, issues around breeding are not specifically addressed except in instances where informants specifically refer to them within the scope of the questions analysed for this part of the larger study.

Thoroughbred breeding and racing are distinct from each other in many ways [36], but an investigation of this distinction is also beyond the scope of this article. The umbrella term "the thoroughbred industry" or sometimes simply "racing" is used here to encompass both on the basis of the deep entanglements.

It should also be noted that while there are differences in regulation and risk factors between racing jurisdictions, due to the scope of this article, these are not considered in greater detail unless they contribute to the understanding of a particular argument being made. It is also recognised that

the industry is working towards national and international harmonisation of the Rules of Racing. To this end, the International Federation of Horse Racing Authorities [79] identifies and promotes industry best practice in the administration of horseracing worldwide. Therefore, the thoroughbred racing industry can be referred to in general terms, whilst also considering relevant national differences emerging in this study ([41], p. 121).

### 3.2. Informant Recruitment and Response

Thirty-seven administrative and regulatory bodies of the thoroughbred industry in Australia, the UK, Ireland, New Zealand, the US and Hong Kong were contacted via email. Sixteen did not respond after follow-up emails and thirteen declined. Eight industry participants from seven organisation and one individual at the time of the interview not affiliated with any organisation, from Australia, the US and an international body, agreed to participate. Animal advocacy organisations who published information in relation to thoroughbred racing on their websites that indicated a degree of expertise in relation to thoroughbred protection matters were contacted. No such advocacy organisation could be identified for Ireland or Hong Kong, but thirteen in Australia, New Zealand, the UK, US and one international organisation were contacted. One organisation declined stating they lacked the expertise to comment. Three did not respond but seven based in Australia, the UK and the US agreed to partake, bringing the total number of interviewees to sixteen (Table 4).

**Table 4.** Descriptive data of research informants.

	US	AUS	UK	Int'l	Total
Thoroughbred Industry Informant	5	3	-	1	9
Animal Advocacy Informant	2	3	2	-	7
Total	7	6	2	1	16

The industry informants are in senior and executive roles in their organisations, in regulation, general management, development, marketing and communications, and as a board member. The organisations include breeders, racetracks, jockey clubs, regulatory bodies, and national and international bodies. The informants' background includes training and experience as veterinarian, in science, agricultural and applied economics, law, management, insurance and broadcasting. All have a long history of involvement with racing in some form or another. Some are, or were, owners or breeders of racehorses. The animal advocacy informants were employees of their organisation, some in executive roles, others in scientific or animal welfare advocacy roles, again others were affiliated as consultants.

It is worth noting that in the US, there is a broader spectrum of industry bodies who were more incentivised to participate in this study than in any of the other nations. Subsequently, as found in this study, informants from the US were also more forthcoming in naming the thoroughbred welfare, and the cultural and economic challenges faced by the industry, than were industry informants from Australia.

The difficulty in recruiting racing industry participants for research that is associated with thoroughbred welfare has also been experienced by Butler et al. [80,81] despite their studies having been funded and supported by the UK racing industry. Given the controversy surrounding welfare in racing and the defensiveness of racing commentaries, it is not surprising that an independently funded study is responded to with disinterest or apprehension. At the design stage of this study, the author was cautioned by some in Australia familiar with the racing industry and involved in researching aspects of the racing industry to avoid the term "welfare" altogether. Butler et al. [80,81] have recruited eleven industry groups including trainers, stable staff, veterinarians, animal charity employees and veterinary officers and inspectors of the British Horseracing Authority. Butler et al. [80,81] demonstrate that a carefully facilitated focus group process encourages discussion of animal welfare issues with industry participants, including trainers and veterinarians. But it also seems fair to assume that those who have



agreed to participate in Butler et al.'s studies [80,81] are self-selected on the basis of willingness to discuss welfare. In contrast, this current study is aimed at obtaining the views of senior administrative and regulatory informants. Many of them at that level have recognised the need to engage proactively with thoroughbred welfare and the social context.

The protocol for this study has been approved by the University of Sydney Human Research Ethics Committee (HREC), Project No.: 2016/019, on 22 January 2016. All informants gave their informed consent for inclusion before they participated in the study. They were informed that participation is voluntary, that they are under no obligation to consent, that if they did consent, they could withdraw from the research at any time and that there will be no consequences for them if they did withdraw. Study participants were also informed about the purpose of the study, who is carrying out and who is funding the study, what participation involves for them including time requirements, and methods of data collection and storage. Study participants were informed about the complaints procedure and they were supplied with contact details if they required further information. Data were collected with the understanding of confidentiality. All care is taken in the dissemination of results to ensure individuals cannot be reasonably identified.

### 3.3. Data Collection and Analysis

Semi-structured interviews were conducted via telephone and Skype, between February and August 2016. The interviews took approximately one hour, except in two instances when they took 105 min. One of these instances involved two informants of one organisation who requested to be interviewed together in a group interview via telephone. The interview sections relevant for this article were designed to elicit the informants' definitions of sustainability and their understanding of the interface of sustainability and thoroughbred welfare. They were also designed to enable participants to express their priorities, what they consider to be the drivers and barriers in terms of advancing the sustainability of the industry, and matters of racing integrity, regulation and transparency in relation to welfare. One key concept of interspecies sustainability was included in the interview schedule, that is, *naturalness*. The intention was to find out whether the concept is known, how the informants conceptualise it and what relevance it has in their thinking about the interface of sustainability and thoroughbred welfare.

The concept *naturalness* has been chosen for several reasons. First, it was assumed that even if *naturalness* is not part of the informants' vocabulary, they would be able to express some intuitive understanding and assumed relevance of the idea of *naturalness* in relation to welfare since, as studies have shown, the idea of *natural* is an important one for those unfamiliar with welfare science concepts [58]. Second, *natural horsemanship* is known in equestrian circles as promoting the idea of partnership between the human and the horse [82,83] and so it was assumed that at least some informants would be able to relate to an idea of *naturalness* in relation to horse welfare. The inclusion of more key concepts is beyond the scope of this study. However, it was expected that the relative importance and conceptual inclusion of other key concepts by the informants could be identified inductively from the data.

The interviews were audio recorded, transcribed verbatim and imported into NVIVO version 11 for coding and querying. Qualitative content analysis was applied to the data analysis [84,85]. The approach was hermeneutic which entails an understanding of the context, attention to the social context and the subject matter, the controversies and current events and directions in thoroughbred racing and thoroughbred welfare, and an understanding of the potential impact each informant's perspectives and proposed actions have on thoroughbred welfare ([84], pp. 560–561). Thus, the thoroughbred was centred, rather than the perspective of the interviewee, as is generally the case under a hermeneutic approach. This means also that the paradigm of interspecies sustainability itself was used as an analytical framework. The main analysis processes deployed were immersion in the data through coding, constant comparative analysis between meaning units, coding units and larger transcript passages, and writing.

Triangulation was another important process. It was deployed in three ways: First, analysis was undertaken using different analytical procedures described in this section. Second, it was undertaken by keeping abreast with current events in the international thoroughbred racing industry and with activities and public statements of relevant racing bodies, in particular those with which the informants are affiliated. Third, triangulation was part of the process of comparing and contrasting the responses of the industry informants with those of the animal advocacy informants.

In the first round of coding in NVIVO, the approach was deductive. The data was coded as per the items of the interview schedule that are relevant for this article. This includes the following codes (*nodes* in NVIVO): Definitions of sustainability, links to thoroughbred welfare; priorities for industry sustainability; drivers of sustainability; threats and barriers; governance; stakeholder engagement; safety and integrity; naturalness. An interim level of analysis considered manifest and latent content by applying the dimensions of sustainability that emerged from the data, namely the socio-cultural and the economic dimensions, and linking them to thoroughbred welfare. This data was written up in narrative format. It was a way of “putting the data back together” that had been fragmented due to the coding process, under overriding themes (the two sustainability dimensions), while constantly referring back to the relevant sections in the interview transcripts to ensure consistency. This writing process is a recognised analytical process in its own right. The narrative served triangulation with other findings emerging from further analytical procedures. Following further rounds of reading and querying of the data in NVIVO, it transpired that it was necessary to use a tool to compare and contrast data of all informants in table format. Relevant data was then entered into Excel and new codes were derived inductively. All codes are descriptive rather than analytic. For coding, manifest as well as latent content was identified.

Four of the codes in Excel were treated as meaning units ([85], p. 11). Meaning units were condensed to distill the essence of what has been said making them more manageable by reducing noise. This facilitated constant comparative analysis between the responses of all informants, but also within the individual informant’s responses. Coding in Excel resulted in eight sheets for thoroughbred industry informants with each sheet representing a first level code or meaning unit. The relevant responses of each informant were sorted into cells under one to nine second level codes on each sheet. For animal advocacy informants, seven sheets with three to five second level codes and condensed meaning units (essence) were yielded. Analysis by column, rows and cells allowed for an iterative process and a conversation with the data to grow, and a narrative to develop. During this constant comparative process, it was also necessary to regularly refer back to the interview transcripts for contextualisation of the data fragments and to ensure consistency.

The data analysis process, approach and paradigm are summarised in Figure 1. The coding tree including meaning units for industry informants and one for animal advocacy informants are included in the Supplementary Materials (Figure S1). As examples of raw data, the thoroughbred industry informants’ definitions of sustainability are available in Table S1, the animal advocacy informants’ definitions of sustainability are available in Table S2, and the essence of the meaning unit “priorities” of the industry informants in Table S3.

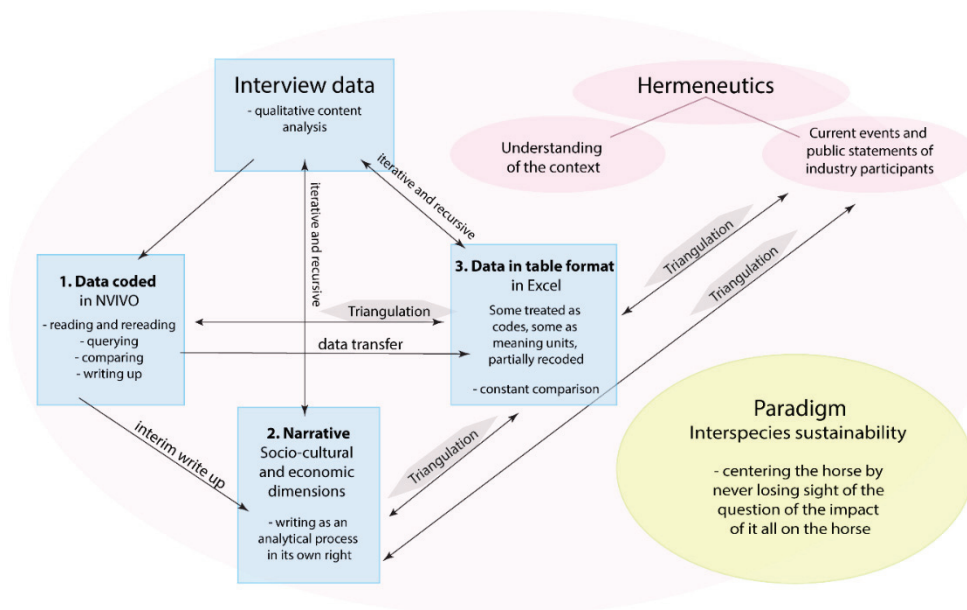


Figure 1. Data analysis process, approach and paradigm.

## 4. Results and Discussion

### 4.1. Industry Informants Defining Sustainability

Definitions of sustainability offered by industry informants range from the textbook-like entry of what is known as sustainable development: “the continuing development of the environmental, social, economic aspects for generations to come”, to a narrowly pragmatic version describing the lowest common denominator: “the thoroughbred industry of course has to [be able to] maintain itself [in terms of generating the funds needed] for prize money, infrastructure, workplace health and safety, upgrades for welfare and safety”. Predominantly, sustainability is defined in economic terms. An executive of a racetrack operation refers to sustainability as “the ongoing vitality of the industry as a whole”, stressing that the “economics drive the vast majority of it”. A counterview offered by some suggests that the socio-cultural dimension has more relevance than the economic one.

Importantly, industry informants see systemic connections between the economic and the socio-cultural domains, between racing and society at large, as well as within the industry. They are conscious of the link between the public’s perception of thoroughbred welfare and the sustainability of the industry. They also recognise a cultural embeddedness of racing within certain sections of the population and this embeddedness immunises the industry to a certain degree, as an Australian informant argues, the “love of the horse and the love of the sport” guarantees that racing “will continue on generation after generation” and, so she argues, this cultural embeddedness outweighs any potential threat from “an extreme level of anti-racing feeling amongst some people”. But industry informants also recognise the existing culture within as a risk for the industry. A US informant, for example, mentions the Horsemen’s Benevolent and Protective Association (HBPA) who represents the majority of trainers in the US. He states, “the best way to describe them is they are kind of like cowboys. They don’t take kindly to other people telling them how to run their farm.” He describes them as “obstructionists” who have “the most cultural change to make”. They represent “a generation of horsemen [who believe] that medication is the answer when there are clearly other means that are better for the horse in the long-run.”

Industry informants agree thoroughbred welfare is indispensable for the sustainability of the industry for two reasons: Racing integrity and public perception of welfare. It is also evident that industry informants do not consider thoroughbred welfare a sustainability domain in its own right. They focus on the public’s perception of welfare but there is less evidence that they aim to



advance sustainability through addressing thoroughbred welfare at a broader level. Accordingly, despite an understanding of the cultural problems within the industry, industry informants focus predominantly on solutions based in the marketing space and the technological realm. To advance the sustainability of the industry, most industry informants name as a priority attracting more owners and breeders to address the shortage of this group of participants, next is attracting “the next generation of consumers”, promoting racing “as equally exciting and interesting as American football”, advancing digital marketing strategies, protecting racetrack infrastructure, addressing safety and integrity overall, and in the US in particular introducing medication reform.

#### *4.2. Thoroughbred Advocacy Informants’ Discomfort with “Sustainability”*

Some thoroughbred advocacy informants express discomfort about linking sustainability, welfare and thoroughbred racing. An Australian informant, for example, believes that the industry neither will nor should continue “in perpetuity”, because the industry is struggling to address welfare. She believes they focus on the visible aspects such as “death and killing on the racetrack” but this is only a “minimal part”, the “very public part” of welfare. She emphasises that the industry needs to address “wastage” and the “everyday life of horses” which is what the “real welfare issues” are, “things they are doing not very much at all about”. Dismissing discussion of sustainability, another Australian informant states, her job is not about sustainability but about improving welfare “as long as horses are used in racing”, and “if racing stopped tomorrow, that wouldn’t be a problem”.

One of the informants from the UK suggests the industry itself considers welfare relevant only in so far as it relates to “optimal race day performance and breeding capability”. He believes that for the industry, the intersection of sustainability and welfare is about “sustaining the industry through producing vast numbers of horses to race them competitively but maintain a welfare standard that will allow them to perform at their optimum”. He suggests in that system, sustainability can only be achieved by “producing vast numbers of horses [which are] then thrown at, ruthlessly, at an industry where some succeed and many don’t.” This advocacy informant seems to describe breeding of large numbers of thoroughbreds as a pillar of the industry’s model of sustainability which, as he adds, ultimately is unsustainable. Indeed, this model of breeding is recognised as leading to “wastage”, that is horses leaving the industry (or not even making it to the track) for various reasons, representing a significant welfare issue because their future is uncertain and often leading to premature death [86].

Although another advocate, also based in the UK, claims that “in general terms, thoroughbred welfare is well catered for” in the UK, his view is an outlier. Most advocacy informants argue thoroughbreds are exposed to unacceptable systemic risks in racing and training. Still, most do not expressly lobby for a ban on flat racing. One of the rights-based advocacy informants states her organisation believes reform is possible. Three advocacy informants, two based in the UK and one in the US, seem to support the existence of the industry in principle as long as the industry demonstrates that they work on improving welfare.

Advocacy informants agree that the continued existence of racing depends on thoroughbred welfare, and on meeting public expectations for welfare. Significantly, a US advocacy informant states “the problem with the racing industry is that they believe it is a problem of perception, when it is a problem of reality”. Advocacy informants do not critique the concept of sustainability as such, and seem to share the definition of sustainability as predominantly referring to economics and not including thoroughbred protection as an end in itself.

#### *4.3. Situating Thoroughbred Racing in Relation to Interspecies Sustainability*

Figure 2 visualises the situating of thoroughbred racing and some of the relevant groups in relation to interspecies sustainability, and what this means for thoroughbred protection. This figure has been developed based on the interview responses, and informed by way of triangulation with other background readings in the academic and grey literature, thoroughbred industry online news outlets,

and, in particular, with Bergmann's study [41] of the informants' conceptualisations of thoroughbred welfare. The following presentation and discussion are threaded along this figure.

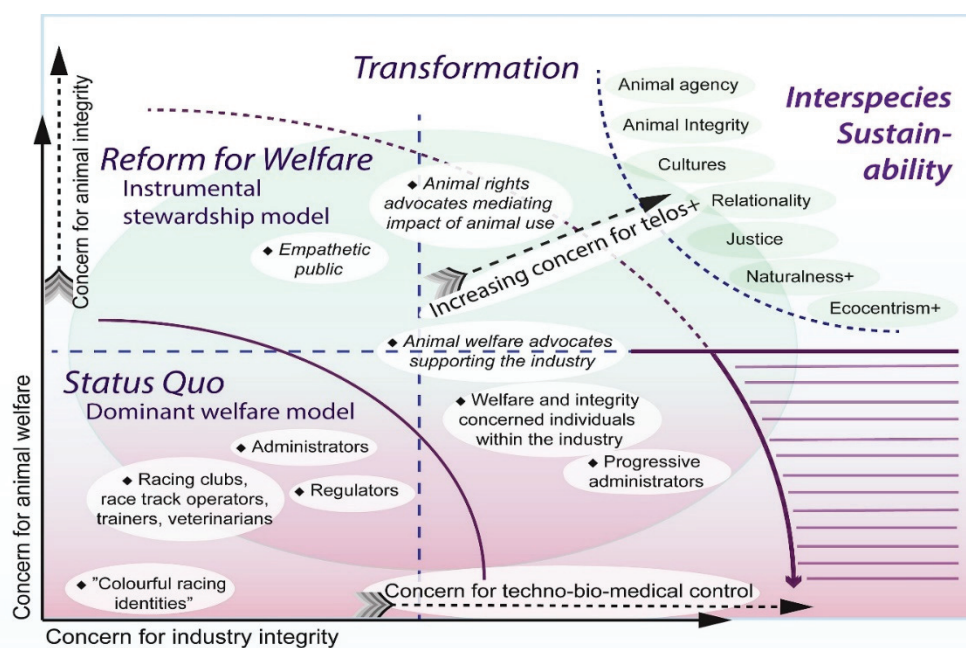


Figure 2. A model for situating thoroughbred racing in relation to interspecies sustainability.

#### 4.3.1. Concern for Industry Integrity and Techno–Bio–Medical Control

The x-axis of Figure 2 represents industry concern for racing integrity. It appears that integrity is the main concern and thoroughbred welfare is a by-product when integrity is being taken care of, although one industry informant based in Australia objects to that suggestion. He claims that racing integrity and equine health and welfare are of “equal standing”, and there is “significant cross over”. As he continues to explain, “if we talk about investment in integrity systems and ... the detection of drugs ... you don’t want people to cheat and compromise the integrity of the race. At the same time, by stopping them [using] drugs, you are by default protecting welfare because that horse isn’t [running] with drugs in its system.” Overall, track surface is the dominant topic for safety, and drugs for integrity, with drug use making it possible to race unsound horses and to enhance performance.

The dominant welfare model is situated in the lower left quadrant. The majority of industry participants is situated in that lower left quadrant, with integrity being of some concern, and some may be truly concerned about the welfare of the horse. But mostly, there is ongoing resistance to welfare reform from the bottom up, such as resisting racing authorities’ efforts to reduce the use of the whip or to ban it [87], or resistance to medication reform [39]. Most industry informants refer to certain individuals or groups of people who they see are corrupting the integrity of racing and compromising thoroughbred welfare. For example, an informant based in the US states there will always be “a certain percentage of awful people... Greed and corruption exist” which he regards simply as a “reflection of cross-section of society, there is good and there is bad, there is competent and there is incompetent and you just hope the good outweighs the bad every single day.” Industry commentators refer to some of them as “colourful [racing] identities” [88].

Veterinarians are included in the lower left quadrant, although, as with trainers and owners, this group is not homogenous. Both, an industry and an advocacy informant based in the US, refer to the economic model driving veterinarians’ behaviour. As an informant affiliated with a racing operation in the US states, “veterinarians here are paid to administer medication, “ ... very rarely ... they get paid when they actually perform an analysis of the horse.” A US-based advocacy informant goes a step further and claims “the veterinarians are the enemy of horse welfare”; at the track, “they are there

by the dozens... with their pickup trucks full of medication. And they are the ones selling those drugs to keep the horses running. And they are the ones convincing trainers and owners that these horses need this medication.” Indeed, a White Paper of the American Association of Equine Practitioners (AAEP) identifies the economic model for veterinarians in the US as problematic ([89], p. 9), and it is being questioned in other racing jurisdictions. While veterinarians are implicated in fraudulent conduct and breaching the rules of racing [90,91], their position within the rules of racing is also being questioned. For example, the AAEP themselves is supporter of administration of the drug furosemide, including on race day. Furosemide is administered to more than 90% of horses in the US on race day to address exercise induced pulmonary haemorrhage (EIPH, bleeding from the lungs [92]), despite it being highly contested, despite it being considered to be a performance enhancer and despite its risks to horse welfare [93]. In other jurisdictions including the UK and Australia, furosemide is not allowed on race day, but it is during training. The AAEP reinforced in 2019 their position statement in support of the use of furosemide on race day to control EIPH [94]. Investigating how training and racing can be adjusted to prevent bleeding from the lungs without the intervention of drugs has not been on the agenda of the AAEP or regulators. Instead, the AAEP advocates for research and development of new treatments to help prevent and/or control EIPH. Drugs are being constructed in the interest of horse welfare and euphemistically referred to as “therapeutic medications”. The contestations around furosemide and the position taken by many veterinarians in this matter are only one example of why an industry informant as well as an advocacy informant express a critical perspective on the role of racing veterinarians. It is also well-known within the industry that veterinarians are challenged with the business and ethics of racing and their role within that context, a topic of a seminar conducted by Racing Victoria in 2014, and of a symposium for veterinarians, trainers and owners in Germany in 2015. Veterinarians for horses in sport and entertainment are exposed to pressures and expectation of owners and trainers [95] and an often-cited position of veterinarians is, “if I don’t do it, someone else will” [96].

The industry informants participating in this study appear to be situated in the welfare reform area of Figure 2, in the lower right quadrant. They are engaged in aspects of reform and maintaining or improving the integrity of racing, they are welcoming of improved systems for safety and integrity, or proactively engage with instituting better systems to improve aftercare prospects for thoroughbreds. They could be considered the progressives of the industry and they are supported by proactive owners and breeders and other industry participants [97]. They are the supporters, believers in and enablers of technological and biomedical developments. One of the Australian informants reflects this belief in the medical technological intervention to address welfare:

“The amount of veterinary technological advances year after year after year is just phenomenal. When I used to go to the races years ago, almost every race meeting a horse would break down which is horrendous . . . now with the amount of vet work and the amount of what you can do instantly to fix a horse, you know, the surgical advances, the awareness...”

While some industry informants demonstrate that they consider aspects of the day-to-day care of the thoroughbred, advocacy informants overall demonstrate a more holistic understanding of welfare and quantitatively, devote more of their responses to the need to safeguard the day-to-day well-being of the horse, their species-specific needs, the nature of welfare, and the risks to welfare. Most advocacy informants of this study argue that the current routine practices of husbandry and training compromise welfare. They also demonstrate a richer understanding of sustainability indicators than the industry informants of this study, such as stakeholder engagement, stronger regulation and transparency which they consider indispensable to safeguard thoroughbred welfare. Still, advocacy informants campaign using mostly the most abhorrent practices as a platform to improve thoroughbred protection. They fall short of specifically addressing aspects such as animal agency, telos and animal representation.

There is in principle agreement among the advocacy informants of this study about the role of welfare in safety and integrity, and it is consistent with the views of industry informants. However, it does not have the same relevance for most advocacy informants, as an Australian advocacy informant

stresses, welfare issues that are addressed as part of the safety and integrity remit of the industry concern only a small part of welfare.

#### 4.3.2. Concern for Animal Welfare and Animal Integrity

The *y*-axis of Figure 2 describes “Concern for animal welfare”. In the upper half, it is paralleled by increasing “Concern for animal integrity”. Industry participants are situated in the lower left and right quadrants of Figure 2, that means at best, they are concerned with some aspects of animal welfare rather than animal integrity. In the reform area of Figure 2, industry informants are concerned with basic health and functioning. Animal welfare-oriented advocates are situated in the reform area between animal welfare and animal integrity. Animal rights-oriented advocates are situated at the highest level in terms of animal protection concern, in the upper left and right quadrants, in the reform area. It appears they are not lobbying for a ban of racing in order to signal willingness to participate in a discourse with the industry, and from that position work toward improving welfare. They lobby for eliminating the most abhorrent practices and presumably then also for addressing day-to-day, husbandry and training issues.

The reform area of Figure 2 accommodates the developments in animal welfare science. The industry informants do not draw on animal welfare science and they do not seem to be familiar with the animal welfare science discourse except in one case, where the industry informant with a background in veterinary science refers to positive and negative animal experiences [60]. They are more concerned with, for example, identifying risk factors for bone fractures and pre-race examination technology. However, animal welfare science plays a significant role in the scholarly sustainability and animal welfare discourse and it can be expected that it will play a larger role in the racing industry some time. Animal welfare science currently integrates three dimensions: Basic health and functioning (especially freedom from disease and injury), affective states (states like pain, distress and pleasure that are experienced as positive or negative) and natural living or *naturalness* (the ability of animals to live reasonably natural lives by carrying out natural behaviour and having natural elements in their environment, and a respect for the *nature* of the animals themselves) [60]. It is fair to assume that individuals within the industry engage with these concepts to care for their horses, predominantly because it is deemed necessary to ensure optimal performance.

To date, there have been no minimal welfare standards in the thoroughbred industry. Even the existence of minimum standards is problematic as practices in the animal agricultural sector show. Animal welfare codes are used to legitimise abhorrent treatments of animals and make them sound normal and in the animal’s interest. Haynes [98] reminds us that animal welfare was conceived as an industry-friendly concept that *a priori* does not question the ethics of animal use, and legitimises certain practices based on scientifically presented arguments. As Twine ([29], p. 145) observes, there is an anthropocentric affinity between animal welfare and (mainstream conceptions of) sustainability (see also Section 1).

The reform area of Figure 2 in the lower right quadrant is most likely the area which the industry would consider sustainable in terms of welfare. The preference for techno–bio–medical solutions in that realm is demonstrated with the wish list for future research given by the informant with a veterinarian background, using techno-centred language: The industry needs to do “more to understand the biomechanics of how horses run”, to better understand “the impact of our husbandry practices on our asset”, track management, biometrics utilising GPS tracking, prohibited substances and emerging technologies such as protein drugs and gene doping, the development of biological passports, the impact of the whip on a horse and whether it affects performance, the causes of EIPH and explore “the appropriate mechanisms for intelligence and its use in relation to effective regulation” to combat drug rings. The increasing development of techno–medical–biological exploration and control of the animal body however is far from addressing animal subjectivities, desires, animal agency or interspecies relationships. Thompson ([51], p. 92) states “a narrowly biological approach even to functional integrity is quite likely to overlook social and cultural dimensions that can cause failure



in livestock systems.” With this he refers *inter alia* to the social acceptance of industry practices and trust in the industry. This current author argues that based on the discussion in Sections 1.1 and 2, the ongoing industry focus on concern for industry integrity and the potentially deepening focus on concern for techno–bio-medical solutions is a dead end for thoroughbred protection, in terms of social acceptance as well as in terms of animal integrity, and certainly in terms of interspecies sustainability (as indicated with horizontal lines in Figure 2, on the right of the lower right quadrant).

Based on attitude studies [99] it is assumed that the public is mostly empathising with the horse and is therefore situated in the top left quadrant. The public also emphasises naturalness in terms of behaviour and husbandry [58]. Although self-report studies in the US find people report low levels of knowledge of animal issues, in particular in relation to horses and dogs in racing [100], animal advocacy informants in Australia believe the public has become more knowledgeable about welfare issues overall and with knowledge of welfare issues increasing, expectations for welfare are also increasing. It can be assumed that if members of the public learnt more about common practices in husbandry, breeding, training and racing, and if they understood welfare concepts and issues of telos and animal agency, they would tend to gravitate towards arguing for more consideration of telos.

#### 4.3.3. Interspecies Sustainability

The top right quadrant contains the sphere of “Interspecies Sustainability”. Increasing concern for telos (and *telos+*) moves us closer to a state of interspecies sustainability. Aspects of it listed there include animal agency, animal integrity, cultures (including animal knowledge systems), relationality, justice, *naturalness+* and *ecocentrism+* (see Section 2). These are key concepts standing in for the broad range of interspecies sustainability descriptors listed in Tables 1–3. Agreeing to focus on the idea of interspecies sustainability and maintaining this focus is already likely to improve animal protection. But, as Vinnari and Vinnari [64] argue, as long as we don’t acknowledge that animal protection is a distinct sphere of sustainability, it will not be possible to achieve an ethically and morally justified outcome for animals and for the sustainability transition.

The urgency to address thoroughbred welfare is accepted by the industry informants of this study and many industry participants outside this study. They are also fully aware that “more than ever, horse racing is under the microscope by animal welfare groups, the media, and the public” ([39], p. 9). Administrators and regulators largely have accepted that the concept of social license to operate applies to racing, meaning they accept they require the confidence of the community that racing has the ability to care for horses and successfully self-regulate ([101], p. 318). Yet, their conceptualisations of sustainability are anthropocentric in focus and inward-looking [36].

In contrast to the racing community overall, the informants of this study are in many ways the progressives in the industry and agree with the advocacy informants on many welfare issues and the need to address them, in particular the most egregious welfare violations related to the three main groups of welfare issues, namely the use and potential overuse of drugs and medication, injuries and death on the racetrack, and the aftercare of thoroughbreds exiting the industry [41]. In fact, on certain issues, some or all industry informants express even more progressive views than some advocacy informants at the welfare end of the spectrum. For example, one advocacy informant based in the UK explains that the “real responsibility” of the owner or the trainer is “when the horse finishes the racing career to ensure that that horse is rehomed or at times euthanised”. Without exception, all industry informants participating in this study strongly advocate for rehoming of thoroughbreds exiting the industry and euthanasia was not brought up as an option.

The industry informants of this study with all their expressed intentions, seem to fight an uphill battle within their industry. Yet in general, they demonstrate limited inclination to relate to key concepts of interspecies sustainability. Even in terms of the idea of naturalness with its seemingly intuitive connotations of the natural and nature, and its links to the horse world through the horse training technique coined *natural horsemanship* [82,83], seven of the industry informants respond they have not heard of this concept and do not indicate interest in further engaging with this concept. Two

others offer suggestions that naturalness is linked to the horse's natural behaviour and that this is important and should be considered for handling, training and husbandry. One of these two informants remains distant and abstract to the idea of naturalness and its implications, stating in general terms that "understanding natural behaviours is of course very, very relevant to our responsible and ethical use of animals". The second informant relates it to "natural ways of dealing with horses", in terms of husbandry and "in terms of the animal being in its natural state that it's most happy and what it would normally be in without human intervention". She details practical implications of her idea of naturalness demonstrating easy conceptual access to the concept naturalness.

In contrast to most of the industry informants, the advocacy informants are more at ease with the concept of naturalness and take initiative to engage with it. Only one of this group responds he had not heard of it. All others, even though they do not recognise it in its form of "naturalness", they relate to it immediately without further prompting talking about differences in its meaning as related to wild horses or domesticated horses, relating it to natural ways of healing from soreness or injury rather than giving them "medication to keep them running", or in one case, relating it to natural horsemanship. Mostly, they associate with it natural and inherent behavioural needs of horses that need to be catered for and that have important implications to how horses are kept, in particular referring to their social needs as animals who need the direct company of others of their kind. One advocacy informant relates it to handling and training. She emphasises that it is about working with the horses' natural behaviours not against them which "requires a very good understanding of how they think, how they learn, how they respond. And using that knowledge to work together rather than having more of a control-dominance type relationship." This questioning of the hierarchy and dominion is taken up by another advocacy informant who links it to "getting back to more humane and more focused on the horse [approaches] rather than [on] the rider but I still see that as exploitation, or, if not exploitation, certainly utilising the horse's qualities for human benefit".

Importantly, some advocacy informants feel a sense of unease and violation of aspects of interspecies sustainability such as interspecies relationships and biological integrity. For example, one of the Australian advocacy informants describes how she as a student observed

"some of the handlers were quite rough with [the horses]. You know, they had to be strong and control and dominate them and to me that involved a degree of punishment, using whips and things . . . At the time, being a student, it didn't look right to me but then I didn't question because I didn't have a particular knowledge about handling horses and horse behaviour. But . . . I didn't feel comfortable."

One of the US-based advocacy informants describes her emotional reaction at the loss of biological integrity of the animal body. She once visited the racehorse Cigar, who during his racing career had been injected with steroids for performance enhancement and this had rendered him infertile. She remembers "feeling just incredibly moved by his whole story" ([41], p. 128).

In sum, the animal advocacy informants of this study demonstrate ways of thinking about and relating to horses that give them access to key concepts of interspecies sustainability such as intra- and interspecies relationships, biological integrity and naturalness. It can be assumed that this applies to other key concepts as well. However, while advocacy informants relate to aspects of interspecies sustainability, they only make limited use of some of them for their advocacy work. But, importantly, they also question the fundamental tenets of animal use, dominion and hierarchy which is not present in the thinking of the industry informants.

The transition to interspecies sustainability needs to be supported by the socio-cultural and political system, including the judiciary, governance, administration and education [102]. Strategies include stakeholder participation and the institution of proxies for animals. Interestingly, despite being able to list a diverse range of stakeholders in thoroughbred welfare, not one participant, neither industry nor advocacy informant, names the thoroughbred as a stakeholder in their own right. When asked who represents the horse, industry informants grapple with the idea of animal representation.

What follows is an example of an exchange between two informants (I1 and I2) and the researcher (R) that demonstrates this disorientation in terms of animal representation:

**R:** Who do you feel represents the interests of the thoroughbreds in these discussions?

**I1:** [Sorry?]

**R:** If you would ask the horse, what would he say who is their advocate?

**I2:** [laughs slightly].

**I1:** Hmm.

**I2:** Good question.

**I1:** Hmm.

**I2:** Yeah, I mean, [ . . . ] the horse's answer would be the trainer.

**I1:** Right.

**I2:** Because that's where his grain and hay would be coming from. But looking more at the big picture, ehm, I think it would be a [thoroughbred] national organisation like Thoroughbred Charities of America, Thoroughbred Aftercare Alliance or a network of advocate organisations that are thinking about his retirement, planning for his future. But then certainly, ultimately, it's the owner, because the owner is paying the bills. So I don't know if there is just one person really.

The mandate of both informants in the above exchange within their organisation is weighted toward horse welfare. But the exchange demonstrates that the idea of political animal representation is alien to them as it is to all other industry informants. While they initially try to take the immediate perspective of the horse seeing the trainer feeding him, they ultimately fall back onto the prevalent belief in the ownership model, the horse being a chattel, which they take for granted and not to be questioned. In this model, animal interests are more likely to be seen as less important than human interests, no matter whether, as Francione ([103], p. 9) states, the animal interest at stake is significant and the human interest at stake is relatively trivial.

Another US-based informant states the horse does not need an "ombudsman", because, as other informants also say, everyone represents the horse, from all those who come into contact with the horse including owners, trainers, stable staff, jockeys, to racing authorities. This, however, does not guarantee protection of the interests of the thoroughbred. In fact, the opposite seems to be the case. As Butler et al. ([81], p. 4) consider the realities of the thoroughbred industry at the macrolevel, and thoroughbreds' dependence on the trainer, owner, jockey and stable staff at the microlevel, they suggest thoroughbreds are "subject to asymmetries of power where their genealogy, their working and reproductive life (if they have one) and ultimately their death is dominated by a political ecology of human dominance and exploitation in the same way livestock can be." This perspective is confirmed by many who have researched aspects of the thoroughbred industry [36,104]. Moreover, the majority of the informants of this study make it clear that their concern is weighted towards thoroughbred performance and the economics of the game, rather than the thoroughbred's interests [41].

#### 4.3.4. Identifying Layers of Engagement with Animal Protection

From this study, eight analytical layers of engagement with animal protection are identified. They range from shallower to deeper levels of reflection, from those striving to maintain the status quo (thus necessitating obscuring the real causes of lack of protection), through to reform and to those aiming at transformation. These layers have applicability to the discourse for animal protection in

all animal-using and exploiting industries, and for domestic, wild and liminal animals. The layers, represented under the protection headings used in Figure 2 to which they mostly align, are presented in Table 5 as follows.

**Table 5.** Layers of engagement with animal protection.

Animal Protection Status	Layers	Description
Status quo/Dominant Welfare Model	Layer 1	Animal protection is focused on functioning for optimal race day performance.
	Layer 2	Animal protection is a by-product of measures taken for industry integrity.
Reform for Welfare/Instrumental Stewardship Model	Layer 3	Animal protection is considered to be equal in importance to racing integrity measures but the focus is on the most egregious welfare violations.
	Layer 4	Under Layer 4, the industry prioritises increased techno-bio-medical manipulation and control and presents these advances as evidence for their caring for welfare. The agricultural sector uses this process to meet the sustainability criterion of efficiency and the economic criterion of optimisation.
	Layer 5	Layer 5 moves animal protection beyond ameliorating death and injuries and the most egregious welfare violations to consider the entire range of issues of the day-to-day living conditions, environmental conditions and, to a limited degree, human-animal interactions. It is, ideally and with good intentions, about a species-relevant and fulfilled life for the animal's entire lifespan.
	Layer 6	This layer is situated within the framework of animal welfare science. For this layer to have any legitimacy, the decisions of which welfare criteria are favoured and the values applied to make that decision need to be transparent.
Transformation/Interspecies Sustainability	Layer 7	Layer 7 engages with all aspects of interspecies sustainability ranging from telos, animal autonomy, individuality, interspecies relationships, interspecies justice, species-innate functional integrity, animal knowledge systems, animal cultures, <i>naturalness+</i> , to animals as co-creators of a multispecies world. Industry informants have not demonstrated relevant understanding of these aspects. Some advocacy informants refer to some aspects but have not integrated this intuitive understanding with advocacy strategies and goals.
	Layer 8	Layer 8 is constituted of the social, cultural and political realms and strategies. It is situated to tackle the root causes of animal exploitation and needs to be leveraged to create the conditions for interspecies sustainability. It requires a shift of power, <i>inter alia</i> through representation and participation of the animal in governance, administration, regulatory institutions and the judiciary.

The layers identified in the current study can be engaged within a discourse in various combinations concurrently. Layers 1–6 when engaged on their own are based in instrumental rationality, moving toward scientism with Layers 3–6, and all supporting belief in the human right to animal use, with an incremental and reformist approach to improving welfare (Layers 5 and 6), giving priority to resource efficiency (see Section 2.2.1). This improvement of welfare is heavily weighted toward the human use of the animal rather than the animal's telos as discussed by Harfeld [68], or animal culture, knowledge system and self-determination [74]. Layers 1 and 2 largely do not even operate at the lowest common denominator for animal protection. The thoroughbred industry at large engages mostly with layers 1–4, some industry informants of this study demonstrate consideration of Level 5, and one industry informant tentatively of an aspect of Level 6.

Layers 7 and 8 require a fundamental shift in human attitudes, belief systems and paradigms, moving human society away from anthropocentrism, speciesism, dominion, omniscience and omnipotence. The aim is transformation and engagement with animal protection on the animals' own



terms to transition to interspecies sustainability. This process is part of the project of decolonising the animal that has begun in a variety of fields in the social sciences, political sciences, education, ecology and the humanities [105]. However, the dominant scholarly discourse of animal welfare is limited to Layers 1–6, as, for example, in Horseman et al. [106], with their participants' discourse mostly being limited to Layers 1–5.

It is strongly recommended that future research advance frameworks of interspecies sustainability and centre the experience of the thoroughbred. One approach should be engaging with theories of decolonisation [105]. Furthermore, this study has considered one aspect of interspecies sustainability in more detail, namely *naturalness*. Future research should investigate other aspects such as animal autonomy, animal cultures and knowledge systems, and interspecies relationships, what they are and what they would actually look like in practice, and what strategies are needed to translate them into practice. Butler et al. [81] found that human-horse relationships and thoroughbred welfare in the thoroughbred racing industry are deeply affected by the lack of recognition, communication and respect for those working on the ground with the thoroughbreds. Considering that most industry informants of this study suggest that everybody, in particular those on the ground working with the horses, represent the horse in some way or another, this dimension of relationship has particular relevance and urgently needs attention, regardless of whether there are intentions to move toward interspecies sustainability or not. Another important approach would be to apply Coulter's lens of human–animal labour [107] to the thoroughbreds, the workers, and work in the racing and breeding industries. This has particular relevance in light of the need for ecological restructuring of the economy [108] for the sustainability transition, and it has implications for human-animal relations. Finally, research is needed into whether and how traditional forms of animal use can or should be transformed into partnerships that are truly equal and co-created [71–73] and not based on domination for human benefit. Such explorations in research and practice have begun within certain equine cultures, and there is controversy over particular training techniques claiming to be partnership-based [109]. In the longer or shorter term, these explorations can be expected to have implications for the future of riding horses. Finally, there is need for the development of research methodologies in the social sciences that centre the animal while being respectful of the animal and consistent with principles of interspecies sustainability.

## 5. Conclusions

Interspecies sustainability urgently needs to be advanced to include wildlife, liminal animals, animals labelled “livestock”, companion animals and animals used in sport and entertainment or in any other form by humans, so they are not left behind in the sustainability transition. Building on critiques of existing concepts of sustainability, this article provides a theoretical foundation for interspecies sustainability and uses it to conduct original research in three leading thoroughbred racing nations. Interspecies sustainability has been developed as a paradigm to guide human decision-making and actions impacting animals. Aspects of this paradigm include *ecocentrism+*, *telos+*, species-innate functional integrity (*functional integrity+*), interspecies justice, relationality, animal agency, animal cultures and knowledge systems, and a holistic conception of naturalness (*naturalness+*), individuality, adherence to universal rights, a set of inviolable criteria and core values, including transparency and the precautionary principle as important dimensions in governance and decision-making, and to be extended to all species.

There is a deep chasm between the thoroughbred industry and interspecies sustainability. Left to the industry's terms, thoroughbreds will continue to be exposed to unacceptable threats to their welfare and to their lives. At best, existing abhorrent practice may be somewhat curtailed sometime in the future, but the trajectory is set at continued and increasingly refined exploitation. The thoroughbred industry favours measures of techno–bio–medical control to address thoroughbred welfare. In racing as in other animal industries, the protagonist is made to conform and fit into the system. However, most welfare issues and threats to animal protection are not based in the medical, biological or technological realms. They are based in the socio-cultural and political domains and at the level of paradigm.

Ultimately, thoroughbred racing and other animal-using and exploiting industries cannot be reconciled with conditions of interspecies sustainability.

This research highlights eight layers of engagement with animal protection, with only two layers having transformational potential. To advance interspecies sustainability, it is important to identify at which layer the discourse takes place to ensure engagement of those aspects and layers that lead to transformation. The thoroughbred industry engages mostly with four of the eight layers, with the progressives of the industry also calling on Layer 5, none of which advances interspecies sustainability. They are, at best aimed at reform but the industry informants are struggling against forces within the industry itself attempting to maintain the status quo. Some animal advocacy informants express discomfort about linking sustainability, welfare and racing, and overall, they demonstrate a deeper understanding of the interface of sustainability and animal protection. However, there is opportunity for them to leverage it more effectively for animal protection.

This research contributes to conceptual awareness to be able to identify and communicate at what layers a particular discourse in the interface of sustainability and animal protection takes place, to unveil and prevent appropriation of the concepts of sustainability and welfare, and to direct the discourse in a direction that really matters to the animals concerned. The discourse of interspecies sustainability needs to be advanced urgently by animal studies scholars so that the defining of animal welfare and of sustainability is not left to animal-using and -exploiting industries and their supporters.

**Supplementary Materials:** The following are available online at <http://www.mdpi.com/2071-1050/11/19/5539/s1>, Figure S1: Coding trees including meaning units, Table S1: Thoroughbred industry informants' definitions of sustainability, Table S2: Animal advocacy informants' definitions of sustainability, Table S3: Essence of the meaning unit "Priorities" (industry informants).

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Article

# Supplementary Materials: Interspecies Sustainability to Ensure Animal Protection: Lessons from the Thoroughbred Racing Industry

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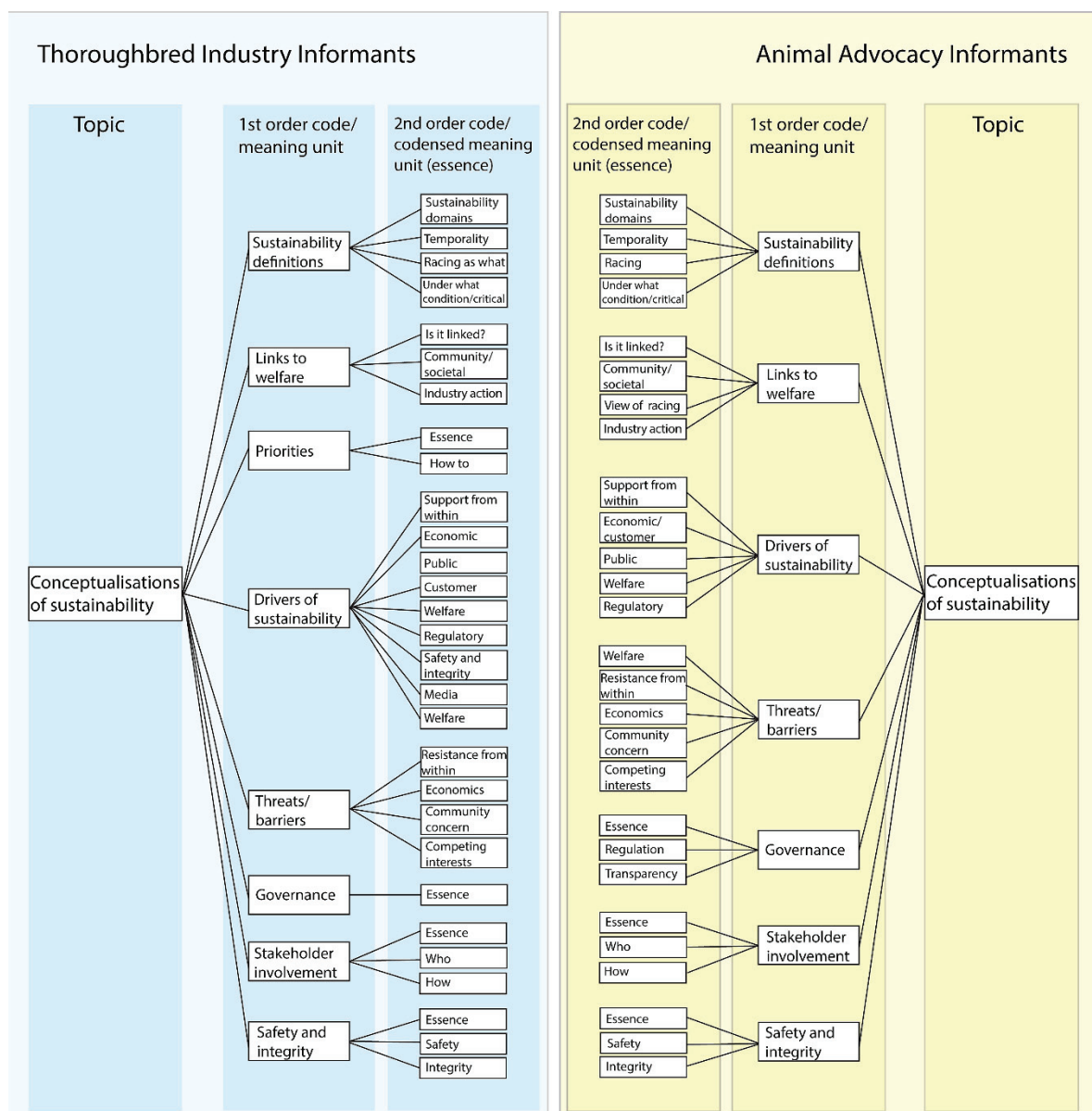


Figure S1. Coding trees including meaning units.



**Table S1.** Thoroughbred industry informants' definitions of sustainability.

<b>Thoroughbred Industry Informants T1-T9*</b>
<b>T1:</b> The continuing development of the environmental, social, economic aspects for generations to come. [...] Maintaining racing where it is viable and integrated in our culture. We accomplish this by developing policies to sustain it in the long-term, as a sport, agriculture, business, leisure activity, and a form of gambling.
<b>T2:</b> It's where there is an enduring thoroughbred racing industry into the future that is associated with the community's engagement with the sport and of course the financial and economic and social gains that come about from engaging with the sport of thoroughbred racing.
<b>T3:</b> The thoroughbred industry of course has to maintain itself. So the revenue streams for thoroughbred racing come out of the wagering partners in South Australia. [...] And the revenue generated by off-course and on-course wagering funds the requirements for horseracing. And that is not just price money, that is infrastructure, workplace health and safety issues, and also the upgrades we have spoken about [...].
<b>T4:</b> There have been over the years and there still are, a lot of people are saying racing is doomed, racing is a dying sport, racing participation is down. Well, that's all rubbish because it's not. I mean, the price money is unbelievable, the horse sales - obviously they can dip and dive depending on the economy - but they have been through the roof up around 30% the last few years. [...] I don't think this talk of whether or not racing can be sustained, that's the way I understand it when we talk about sustainability, I think it's very negative and I don't think it's realistic. [...] Because Australia is a country where racing is loved by many [...] I think the love of the horse and the love of the sport will continue on generation after generation. I don't think that racing itself is under threat.
<b>T5:</b> We have to have customers or no one is going to pay the bills. We have to have customers and we have to have owners wanting to participate, otherwise it is unsustainable. [...] Sustainability is, the economics [...], the incentives are there for, the incentives and reasons are there for the thing to keep going on its own merits. So in the case of horseracing, we have to have owners willing to own horses and participate and we have to have customers, actually it really stops with owners because even if we don't have customers, you still have to have people willing to race, to breed and race racehorses.
<b>T6:</b> For the sport to continue on in a healthy fashion, not only economically, but healthy as for the participants, the human and the equine.
<b>T7:</b> Sustainability [...] from the aftercare perspective, we are doing all we can do while the horses are racing, to ensure that they are going to go on because [on the track and when they retire], they turn only 6 or 7, and when we consider they can live to be 30 years old, [they have a whole life ahead of them]. And we have got to position them to be in the best position to continue on and have a successful career off the track.
<b>T8:</b> If we are talking about sustainability of the industry in general, thoroughbred racing as a viable sport, there's certainly been challenges to that. And particularly in this country, it's a game that takes up enormous amounts of space, if you will. And I don't mean that in the financial realm. I mean it takes up a lot of space in terms of land and resources. And it is also very labour intensive. So both of those are great challenges, particularly here where major metropolitan areas, racetracks and racing venues sit on real estate that is much more valuable than the return from those properties can sustain. So we have been challenged, really, probably over the last 50 years of major racing venues shutting down, of farms being developed, and housing developments and shopping areas. And, I think, that is probably, the overall economics is the greatest threat to the sustainability of our sport, at least in the United States.
<b>T9:</b> We don't talk about sustainability frequently here but I guess we probably should. I think sustainability is the ongoing vitality of the industry as a whole [...] economics drive the vast majority of it. [...] If there is a downfall on the economy, anyone of those can fall down and then it hurts everybody. They all rely upon each other for the success of the industry.

\* T1-T9 are codes for the nine industry informants.

**Table S2.** Animal advocacy informants' definitions of sustainability.

<b>Animal Advocacy Informants A1-A7*</b>
<p><b>A1:</b> Sustainability is ensuring that whatever the undertaking is, is able to continue in perpetuity, it's not using human resources, something that the community is likely to accept on an ongoing basis, so it is something that is well based. [...] Sustainability in the racing industry, it would be where it could be shown that horses' welfare was well looked after, and that that was in line with community thinking. And that is certainly not the case at the present time. So that would mean absolutely cleaning up their act so that their wastage was absolutely minimal, their injury rates and their death rates were reduced, they get rid of the risky elements of the racing industry that I talked about already, so that the horses are not placed at the unacceptable risk that they are at the present time.</p> <p><b>A2:</b> As applied to the thoroughbred racing industry, I think sustainability has to encompass animal welfare. If the industry wants to be sustainable, then it has to meet public expectations about animal welfare into the future. And whilst they have made some efforts to do that, I think there is a very long way to go. [Public] expectations are increasing and people's knowledge about what's good animal welfare is increasing, so that to me, I mean, sustainability has to encompass animal welfare.</p> <p><b>A3:</b> Sustainability is where there is a capacity for ongoing survival or continuation of either a practice or an industry in its own right, that it doesn't need external support to keep propping it up so to speak, that it is self-generating and can be independent and self-reliant for its future established and maintained in such a way that it will survive and continue without other external support. Along with sustainability, I think, comes acceptance as well. It's not just about the resources to be sustainable you need to recognize and meet acceptability within the community. And you've obviously got to meet legal requirements as well that relate to the area that you are talking about. The other part of sustainability is maintaining relevance in an ever changing society. You either have the capacity to continue to be relevant or you adapt accordingly to maintain that relevance.</p> <p><b>A4:</b> Sustainability is to maintain what is a man-made system with regards to racing. It's an economic managed system, and it is about maintaining that through horseracing and associated industries. [...] It is maintaining that system of exploitation of the horse and ultimately that sustainability is by, is wrongly I believe, by producing vast numbers of horses and then thrown at, ruthlessly, at an industry where some succeed and many don't. It is unsustainable. [...] Sustainability in an industry is managing an economic system for it to be able to continue, not necessarily grow, but certainly continue.</p> <p><b>A5:</b> For me, to sustain the racing industry, for it to stay a sport that the public wants to go and watch and that people actually want to buy and own and have racehorses trained, then from a sustainability point of view that it is important that both the welfare side of things is well catered for, because that's certainly an issue that the public are much more aware of than they used to be, that the rules and regulations of racing are properly adhered to and properly followed and regularly reviewed and that to sustain racing though, it still has to maintain its public interest and without doubt if some of that revolves around the betting side of things, and so there does have to be the competition element of it but without endangering the horses. So in terms of keywords, I would say you've got to have good welfare, you've got to have good education, but you do you still have to have an element of competition there that makes it something that the public wants to go and watch.</p> <p><b>A6:</b> To my understanding, sustainability would refer to, how does the horseracing industry keep itself alive and viable and looking at a future that isn't diminishing. In other words, what is it going to take to keep racing an active sport. It's been propped up over the last 10, 15 years by money from other sources. And there is discussion, at least in this country, taking away that money, what would happen to racing then? Then it becomes revealed that it really isn't sustainable because it can't keep itself in business, financially. So, that's my understanding of it.</p> <p><b>A7:</b> The model that applies for the thoroughbred racing industry in the United States [...] it basically shows that society will not tolerate abuse [...] they also recognize that the American people, and generally globally, people won't accept animal abuse [...].</p>

\*A1-A7 are codes for the seven animal advocacy informants.

**Table S3.** Essence of the meaning unit “Priorities”<sup>\*\*</sup> (industry informants).

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**Thoroughbred Industry Informants T1-T9<sup>\*\*</sup>**

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T1: Adapting to the changing cultural and social viewpoints.  
 T2: Next generation of consumers.  
 T2: Healthy flow of participants.  
 T2: Maintain adequate assets and facilities, safe and fit for purpose, aligned with contemporary Workplace, Health and Safety obligations.  
 T2: Ensuring a sustainable business model.  
 T2: Ensuring community acceptance; acknowledgment of responsibility of our oversight and management of issues such as welfare and safety of horses and the participants themselves.  
 T2: Ensuring the right digital strategy and vision of broadcast strategies aligned with customer tastes.  
 T2: Responsible management of the horse while in the racing industry.  
 T3: Infrastructure, workplace health and safety issues, upgrades to make racing safer in all climatic conditions.  
 T4: Significant decline of small breeders, need to not losing loads of money; foal crop has suffered massive decline, but it is not catastrophic.  
 T5: Safety and Integrity as a basic concept are absolutely critical.  
 T6: Work through the RMTC for medication reform; education for owners.  
 T6: Improve the economics. It’s a very expensive sport and a losing proposition financially for probably the vast majority of owners participating in the game.  
 T7: To ensure that they [the horses] are going to go on because [when they retire], they turn only 6 or 7.  
 T7: Always in need of new owners, new participants.  
 T8: To increase the return, to promote the sport as a viable sport, as equally exciting and interesting as American Football.  
 T8: Increasing the overall visibility [...] and hopefully more money.  
 T9: From a tradition and economics standpoint, [this material asset] is everything that this company has.

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\* This meaning unit is based on the question: “What is your priority in working toward a sustainable thoroughbred racing industry?” This question was not put to the animal advocacy informants. \*\* T1-T9 are codes for the nine industry informants.

# Chapter 6. The Role of Naturalness in the Thoroughbred Welfare Discourse

## 6.1. Introduction

This chapter presents the photo-elicitation study. The analysis of the data generated through the photo-elicitation process became entwined with a deep exploration of the notion of naturalness. The notion of naturalness and what is nature appeared repeatedly throughout this thesis. It was identified as a seminal dimension of interspecies sustainability in the previous chapter. In this chapter, it is demonstrated how this notion is mostly used by the industry informants to legitimise practices in thoroughbred racing and the activity of racing itself, and the consequences this has for thoroughbred welfare and protection.

Prior to the analysis of the interview responses of the photo-elicitation study it was not planned to dedicate an entire chapter to the notion of naturalness. It was only on the basis of the structured analysis that the extent of the underlying pattern became evident and that the role of the notion of naturalness required the attention of an entire chapter. This served to deepen the understanding of the industry discourse. It revealed the ways used to conceal thoroughbred resistance, fear and pain, and ways of justifying current practices despite their transgressions and violations. Importantly also, the Layers of Engagement with Animal Protection were applied to the findings in a second analytical phase to deepen the analysis. This in turn led to a further development of that model.

It was through their visual imprints that the thoroughbreds themselves demanded engagement with their nature and on their own terms. The thoroughbreds seemed to intervene as agents to make their voices heard and to bring their experiences to bear. By eliciting the informants' responses, they

participated in the co-construction of knowledge, together with the informants and the researcher as research collaborators. Photo-elicitation was introduced in Section 2.1.2.2. as part of a multi-species research approach in animal geographies and this study demonstrates its effectiveness in centring the nonhuman animal perspective and decentring the human perspective.

## 6.2. Naturalness and the Legitimacy of Thoroughbred Racing: A Photo-Elicitation Study with Industry and Animal Advocacy Informants

Article

# Naturalness and the Legitimacy of Thoroughbred Racing: A Photo-Elicitation Study with Industry and Animal Advocacy Informants

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**Simple Summary:** The international thoroughbred industry is concerned about the public's perception of racing. Therefore, the industry's priorities are to address the publicly most visible and known welfare violations. However, common day-to-day racing practices also impact thoroughbred welfare. In this study, key industry informants and animal advocacy informants were interviewed to find out how they view common racing practices. For the interviews, photographs of thoroughbreds on race day were used, which the informants were asked to describe. Results show industry informants often naturalise, normalise, downplay or ignore the horses' expressions, the impact of handling on the horse and the use of equipment. The animal advocacy informants tend to describe a horse whose nature is violated. In conclusion, the industry informants show limited interest in addressing common racing practices, and this places thoroughbred welfare at risk. Both groups of informants have different ideas about what is natural and what that means for thoroughbred welfare. With society's understanding of welfare and of racing practices growing, the racing industry may be increasingly questioned about common racing practices. This article discusses the notion of naturalness in more detail and how it can be used to advance thoroughbred protection.

**Abstract:** The idea of what is natural has particular relevance in the thoroughbred racing and breeding discourse. It guides breeding regulations; influences how the thoroughbreds' behaviour is perceived and has implications for husbandry, handling, training and racing practices. This study investigates how key industry and animal advocacy informants based in the US, Australia and the UK conceptualise naturalness within the context of common racing practices that potentially impact the horses' welfare. The informants were interviewed using semi-structured interviewing and photo-elicitation. Four common images of thoroughbreds on race day were presented to elicit the informants' responses. Differences emerged between how the two groups tended to describe the images and the role naturalness played in their conceptualisations. The findings were analysed using an updated version of the Layers of Engagement with Animal Protection developed by Bergmann to situate the informants' conceptualisations of naturalness within the wider thoroughbred protection discourse. In conclusion, the industry informants tended to defend the status quo of common racing practices. They tended to naturalise and normalise these practices and downplay their welfare impact. This poses risks for thoroughbred welfare, which are amplified by misrepresentations of what is natural. With the public's understanding of welfare and racing practices growing, racing's legitimacy may be further questioned. Opportunities to leverage the potential of the notion of naturalness for thoroughbred protection are discussed.

**Keywords:** thoroughbred welfare; equine welfare; naturalness; thoroughbred racing; photo-elicitation; animal welfare; animal protection; horse-human relationships; human-animal relations

## 1. Introduction

Concern about the public's perception of thoroughbred welfare is reverberating throughout the international thoroughbred racing industry. In 2019, thoroughbred welfare was nominated as the theme of the annual conference of the International Federation of Horseracing Authorities (IFHA), a body created to harmonise the rules of its 59 member countries for breeding, racing and wagering. Agenda items included the question of how the racing authorities of its member countries define welfare and how they should respond to the changing "consumer and political environment" [1]. Bergmann [2] studied the conceptions of thoroughbred welfare held by key individuals in governance and senior administrative and executive roles in the international thoroughbred industry. Three main groups of welfare issues emerged: injuries and deaths on the track, use and overuse of drugs and medication and the retirement of thoroughbreds. The informants' attention is focused on the most egregious and abusive practices, those that are most visible and have been centred in the public discourse. Yet, these welfare issues are only the proverbial "tip of the iceberg". Animal advocacy informants in the same study additionally identified routine training and husbandry practices, human-horse interactions and the "everyday life of horses" as "where the real welfare issues are" in thoroughbred racing [3]. These are issues discussed in the general equine welfare literature and include topics such as housing [4–7], feeding [8,9], equine behaviour [10], equine emotions [11], equine welfare assessment [12,13], the application of equipment [14–21], equine learning and training [22,23], the impact of equine activities on the horse [24], human handling during various forms of human-horse interactions [25,26], impacts of riding on behaviour and welfare [27–30], horse-human relationships [31–34] and people's ability and inability to recognise behavioural signs of equine distress and pain [35–38]. A theme that unites these issues and that allows one to make assessments as to the welfare impact is naturalness, i.e., what is natural for the horse and what is in the horse's nature in relation to their species-specific, as well as individual, physiological; emotional; cognitive; social and behavioural characteristics, abilities and boundaries. These welfare issues do not appear to be recognised by the thoroughbred industry as critical for the integrity of racing, nor for how the industry is perceived by the public [2,3,39].

The general racing participants' discourse about what is natural is based in the horse's emotional realm and encapsulated in the phrase the horse "loves to race" [2]. This view is upheld even in the presence of horse behaviour that phenomenologically does not seem to support this idea [2] (p. 130). There is also a biologically based claim that horses choose to run or race if given the opportunity to move freely. However, if given the choice, horses spend the majority of their time foraging and grazing [40,41]. The time horses in the wild spend moving mostly involves walking, with some trotting and cantering, but rarely galloping [42]. Equating this with a highly regimented training regime where horses are asked repeatedly to perform at and beyond their natural limits appears flawed (see more in Section 4.4.1).

In the sphere of thoroughbred breeding, the most significant attribution of natural is situated in the biological realm. The thoroughbred industry vehemently protects conception by "natural" means to produce an "eligible foal" [43] (pp. 46–47), which is unique to this industry [44] (p. 173). Breeding practices, however, are far from natural and highly invasive for both mare and stallion [44] (p. 183), and the insistence on natural breeding is less about protecting thoroughbreds but often seen as a means to protect investments.

What is considered natural influences how the thoroughbred is handled and trained; it influences husbandry practices and breeding regulations. Yet, the idea of what is natural is riddled with contradictions and inconsistencies considering the controlled and confined conditions racehorses live in, the amount and types of medications and drugs and surgical procedures used to breed, sell, train and race thoroughbreds, the human-determined pathway of their existence [44]. As McManus et al. [44] (p. 175) state, there are conceptual challenges for the industry. In this article, it is



argued that what is at stake is the legitimacy of thoroughbred racing based on the treatment of the horse and that this treatment is influenced by perceptions of what is natural for and about the horse.

In light of the above, the aim of this study is to explore how key informants of the thoroughbred industry conceptualise naturalness and what is natural for the thoroughbred in racing, how this impacts their perceptions of common racing practices on race day, which potentially impact the horses' welfare, what implications this has for thoroughbred welfare and how the industry is positioned to respond to society's evolving attitudes to animal welfare. The aim of this study is also to explore the views of animal advocacy informants to canvas the diversity of perspectives that influence the development of future thoroughbred protection regimes. The goal for the study is to elucidate the role of conceptualisations of naturalness and to explore the potential of the applications of this concept for the protection of thoroughbreds and, by implication, other animals. Naturalness in this study is treated as a lens through which all aspects of the thoroughbred's life are viewed.

## 2. Competing Conceptions of Naturalness

Recently, a growth in interest in the concept of naturalness and its application can be observed [45–49]. Naturalness is generally seen as one of the three dimensions to describe animal welfare, the other two being basic health and functioning and affective states [50]. Fraser [50] summarises that those engaging in the welfare discourse and expressing a concern for naturalness refer to the ability of animals to live reasonably natural lives by carrying out natural behaviours, by having natural elements in their environment and a respect for the nature of the animals themselves. Animal welfare scientists, however, generally apply naturalness to animal behaviours only [48,49]. Yeates [48] appears to be the first to develop a definition for naturalness and a way of assessing it, from this narrow point of view. He suggests defining natural behaviour as being “unaffected by man (sic)”, and the naturalness of an animal's behaviour can be assessed in terms of its similarity to an equivalent unaffected wild animal. This definition of natural behaviour has been criticised as too narrow by Gygas and Hillmann [45] and as being irrelevant for our understanding and measuring of welfare by Browning [51]. Others outside animal welfare science like Hadley [46] argue for a holistic and representational definition of naturalness that considers how citizens view naturalness.

Clark et al. [52], in reviewing 80 studies published between 1995 and 2015, found that naturalness is central to public attitudes and concerns in relation to animal welfare. They [52] (p. 462) summarise that people find naturalness is important for the physical and psychological wellbeing of animals, and the hampering of natural behaviour is seen as having a negative impact on the animals' overall health. The tendency for people to value naturalness is confirmed by subsequent studies [53–55]. People compare a variety of aspects to what is natural, including animals having enough space and associated freedom to behave according to their natural instincts, having access to the outdoors and to unadulterated feed [52] (p. 46), and they refer to freedom of movement and a natural lifespan [53]. People consider eating pelleted feed as being against the animal's nature [56] (p. 195). They are repelled by and concerned about practices they consider to be unnatural, such as the breeding of farm animals using artificial insemination [55] (p. 44) [57] (p. 30), and they oppose zero-grazing and cow-calf separation due to the loss of naturalness [54]. Furthermore, Robbins et al. [58] found people generally prioritise naturalness over emotional states. They explain, “a chimpanzee living a natural life with negative emotions was rated as having better welfare than a chimpanzee living an unnatural life with positive emotions”, and for “chimpanzees with positive emotions, those living a more natural life were rated as happier than those living an unnatural life” [58]. It appears that naturalness is a lens used by people when making assessments about what a good animal life is. The range of aspects that people relate to naturalness indicate that they conceptualise naturalness in holistic terms.

In the equine welfare literature studying horse people's attitudes to equine welfare, naturalness also features. Thompson and Clarkson [59] found that it is important for horse owners to determine whether their horses' (natural) social and behavioural needs are met. Horseman et al. [60] studied the perception of welfare of a range of stakeholders in the equestrian industry in the UK, including owners, riders and coaches. They found participants addressed naturalness by referring to natural

behaviour and the horse's natural needs. They also found "the emotional experience of the horse emerged as an important component of welfare... and the interviewees made a link between the emotional well being of the horse and the provision of 'natural' needs" [60] (pp. 9-10). They suggest that, despite intuitively seeing aspects of naturalness as important, the interviewees found it hard to articulate. These findings are reflected in studies of the thoroughbred industry. Butler et al. [61] found that people professionally involved with the care of racehorses in the UK believe "keeping the horses' lives as natural as possible" to be part of a "best-life" scenario. However, some also saw situations where the risk of injury outweighs the benefits, as for example, when providing a shared turnout for horses that they believe bears the risk of injury due to horses kicking each other. The authors state "[w]hat constitutes 'natural' for a racehorse may be difficult to define", but they indicate that it includes freedom of movement and choice [61]. In the horse world, the idea of what is natural is also referred to in the horse-training technique "natural horsemanship" [62]. However, interestingly, in the relevant studies cited above, references to natural horsemanship are not made. In terms of racing specifically, although some individual owners and trainers may advocate aspects of natural horsemanship, it does not play a role in the thoroughbred industry discourse [2,3,39,61,63].

Based on the studies discussed above, it appears that, overall, interest in the concept of naturalness is increasing, and this is likely to have implications for the discourse of thoroughbred welfare in the thoroughbred industry.

### 3. Materials and Methods

#### 3.1. Scope of This Study

This research is part of a larger exploratory study that investigates the intersection of thoroughbred protection and sustainability in the international thoroughbred industry [3]. As part of that larger study, Bergmann [3] developed a theory of interspecies sustainability. This current article focuses on one aspect of this theory, namely naturalness [3]. While thoroughbred breeding and racing are deeply entwined, the focus in this article is on racing. There are differences in regulations and risk factors between racing jurisdictions, but these are not considered in greater detail unless they contribute to the understanding of a particular argument. It is also recognised that the industry is working towards national and international harmonisation of the Rules of Racing [64]. Therefore, the thoroughbred racing industry can be referred to in general terms, whilst also considering relevant national differences emerging in this study [3]. Both industry and animal advocacy informants were invited to participate as part of a symmetrical research design to include the diversity of views likely to influence the direction of thoroughbred protection measures and for triangulation (for more on triangulation and other procedures for trustworthiness, see Appendix A). The hypothesis was that there are differences in how the two groups of informants conceptualise naturalness and what is natural for thoroughbreds in racing and that this impacts their perceptions of common racing practices on race day. The study aimed to consider events that were not necessarily representative of all events on race day but those potentially attracting attention because of possible impacts on the horse's welfare.

#### 3.2. Informant Recruitment and Response

Thirty-seven administrative and regulatory bodies of the thoroughbred industry affiliated with the IFHA and based in Australia, the UK, Ireland, New Zealand, the US and Hong Kong were contacted via email. Sixteen did not respond after follow-up emails, and thirteen declined. Eight industry participants from seven organisations, and one individual at the time of the interview not affiliated with any organisation, from Australia (3), the US (5) and an international body (1), agreed to participate. Animal advocacy organisations whose websites published information about thoroughbred racing, indicating some expertise on thoroughbred welfare, were contacted. No such organisation could be identified for Ireland or Hong Kong, but thirteen in Australia, New Zealand, the UK, US and one international organisation were contacted. One organisation declined, stating

they lacked the expertise, three did not respond, while seven based in Australia (3), the UK (2) and the US (2) agreed to participate, bringing the total number of informants to sixteen.

The industry informants were in senior and executive roles in their organisations, in regulation, general management, development, marketing and communications, and as a board member. The organisations included breeders, racetracks, jockey clubs, regulatory bodies and national and international bodies. The informants' backgrounds included training and experience as veterinarians; in science, agricultural and applied economics; law; management; insurance and broadcasting. All had a long history of involvement with racing. Some were, or had been, owners or breeders of racehorses. The animal advocacy informants were employees of their organisations—some in executive roles, others in scientific or animal welfare roles—and, again, others were affiliated consultants. It can be assumed that the informants were “central actors whose individual [perspectives] matter” [65] (p. 194).

The difficulty in recruiting racing industry participants for research that is associated with thoroughbred welfare has also been experienced by Butler et al. [61,63]. Given the controversy and tensions surrounding welfare in racing, the number and organisational roles of industry informants who agreed to participate can be considered successful (see also Bergmann [3]).

The University of Sydney Human Research Ethics Committee (HREC) approved the protocol for this study, Project No.: 2016/019, on 22 January 2016.

### 3.3. Data Collection and Analysis

Semi-structured interviews were conducted via telephone and Skype between February and August 2016. The interviews included semi-structured interviewing and photo-elicitation. The units of analysis [66] relevant for this article included responses to three conventional verbal-only questions of the larger interview schedule and responses of the photo-elicitation phase. The three verbal-only questions were posed at the beginning of the interview, asking the informants what the thoroughbred represents for them, what they believed is the most natural (equestrian) activity for the horse and how they defined naturalness. Then, questions about thoroughbred welfare, sustainability in racing and the interface between the two followed, with the responses to these questions analysed previously [2,3]. Next was the photo-elicitation phase. The process used for photo-elicitation is described in Section 3.3.3.

The full interviews took approximately one hour, except in two instances, when they took approximately 105 minutes. One of these instances involved two informants of one organisation who requested to be interviewed together via telephone. In this case, the interviewer ensured that both informants had equal opportunity to respond. Both informants represented their perspectives with confidence and contributed independent ideas. Some converging of responses could be observed in a few instances, and that was considered in the analysis. Overall, their responses were situated within the range of the group of industry informants' responses. Had both these informants represented more extreme perspectives simultaneously at any one time during the interview, this would have been considered and commented on in the analysis. This was, however, not the case.

#### 3.3.1. The Photo-Elicitation Method

This study employed photo-elicitation using images of thoroughbreds on race day to elicit the informants' responses. This served the following purpose: This study centred around the welfare and protection of thoroughbreds. For this, their lived experiences had to be foregrounded. Using photographs are one way of foregrounding their experiences and letting them “speak for themselves” [67]. Via their photographs, the thoroughbreds elicited responses in the human actors, the informants of this study. These responses were expressions of how the informants saw the experiences and the welfare impacts of common racing practices on the thoroughbreds. Photo-elicitation gave the informants the opportunity to draw on a rich repertoire of their cognitive processing to interpret what it was that they saw [68]. The above is further discussed below.

Photo-elicitation interviewing is one of many visual research methods used in the social sciences [69]. In this interviewing technique, researchers use photographs during the interview and

ask the participants to comment on them. The photographs can be drawn from image banks and can be researcher- or participant-generated [70]. Photo-elicitation was initially applied in anthropological research, with Collier [71] often cited as the first published study [72,73]. It has subsequently been used in anthropological and ethnographic research [74,75]; in sociological [76], educational [77–79] and psychological research [80] and in organisational [81] and health-related studies [82]. More recently, it has been used in research contexts broadly related to the thoroughbred industry. For example, Ward and May [83] explored the mental images veterinary students held of the veterinary profession; Mills et al. [84] explored farmers' and veterinarians' perceptions of dairy cow welfare and others researched the interface of land conservation, agricultural practices and local knowledge [85–88]. Two of these broadly related studies [82,85] used photo-elicitation to compare the perceptions of two groups of participants, similar to this current study. While Ward and May [81] supplied photographs drawn from image banks to present during the interview, the other four studies involved their participants in taking photographs that were then used for interviewing.

This study is situated in the field of animal studies, a subdiscipline of the social sciences that began to emerge during the mid-1990s [89] (p. 308). As O'Sullivan et al. [90] (p. 362) point out, animal studies is "underpinned by a pro-animal theoretical frame, meaning the research is focused on progressing the wellbeing of animals, much as the study of human rights is typically focused on advancing rights, rather than say, enhancing opportunities for genocide". Animal studies draws on the actor network theory (ANT), establishing that nonhuman animals are actors and to be considered as such in the research process [91]. Animal studies scholars are developing methods that take account of the nonhuman as an actor and participant in the research process. They attend to the "lived experiences of animals and the nonhuman side of human-animal relations" [92] (p. 769). Visual methods are used as one way of centring the experience of the animals and of giving the animals a voice in the research [67,93].

For the current study, the photographs were taken by the researcher capturing "common" scenes on race day, centring the experience of the thoroughbred (see Section 3.3.2). Photographs have the potential to trigger memory and give access to new understandings of memories [94] (pp. 5,6). Thus, it was expected that informants would draw on their own experiences with thoroughbreds and the racing context, potentially eliciting new meanings in relation to the thoroughbreds' experience and their welfare and establishing new connections between the elicited phenomena. Using photographs was expected to ground the informants' thinking in the thoroughbreds' experiences as captured in their behavioural and mental expressions and in relation to what else can be seen in these photographs. It has been established that photographs serve as stimuli yielding qualitatively different kinds of information than do interviews that rely on the verbal mode only [68,72]. This methodological approach therefore augments the verbal-only interview phases.

Using photographs of thoroughbreds who were the subjects of concern, visualising their lived experiences of common racing practices also carried an emancipatory element. It sought to empower the most disempowered and vulnerable in the study context. This has been the underlying objective of many of the photo-elicitation studies in the social sciences [73]. The researcher taking and selecting the photographs to match the requirements of this research context and the research aims (Section 1) was considered the next-best way to let the thoroughbreds "speak" for themselves and of their lived experiences in racing [67,93].

### 3.3.2. Image Creation and Selection

The study aimed to use images that were not necessarily representative of all events in thoroughbred racing on race day but those potentially attracting attention because of possible impacts on the horse's welfare. The images used for photo-elicitation had to be relevant for the research context and the aims of this study (Section 1). They had to depict some kind of observable emotional or behavioural response of the thoroughbred that provided interpretive space for the informants. The images had to be within the realm of what the literature cited in Section 1 has identified as compromising horse welfare and, also, within the realm of what is considered common



on race day. Images that can fairly be described as “benign” and leave little room for interpretation of any potential welfare impact of common racing practices—for example, horses grazing—were not relevant for this research. Images more directly alluding to severe or potentially severe harm—for example, horses falling—were also not relevant for this research.

The process for creating and selecting the images began with taking 998 digital photographs at race meetings at three different locations. Of those, 364 photographs depicting thoroughbreds at various stages before, during and after the race were selected. Photographs depicting dominantly people or scenery, or horses too distant, were eliminated. The selection was then narrowed to eight images and, finally, to four images, as per the following six criteria:

- The thoroughbred was to be the central focus, filling all or most of the image frame, with some contextual background where relevant.
- The scene, environment, equipment used and handling by any humans should generally be considered “common”.
- The photographs were not to depict any extreme responses of either human or horse.
- They should however depict some behavioural response that offered interest and room for interpretation.
- The photographs had to be of good quality in terms of framing, focus and exposure.
- Each image had to depict a different aspect of interest and context.

The full interview involved six photographs for photo-elicitation; however, only four of these images were used for the analysis in this article. These four images depict individual thoroughbreds on race day. The other two images depict thoroughbreds in alternative settings and contexts that were beyond the scope of this article. In terms of digital image processing, sharpening, adjusting exposure, contrast and cropping to centre the areas of interest without change to the overall appearance or actual event was deemed acceptable. For publication in this article, advertising has almost completely been removed, and recognisable human faces have been pixelated. The following four photographs were included in this study:

Image 1 (Figure 1) shows a full-body view of a saddled thoroughbred led by a handler. The thoroughbred, as well as the handler, show a distinct behavioural response.



**Figure 1.** Image 1 for photo-elicitation interview.

Image 2 (Figure 2) shows a moving thoroughbred’s head close up, as well as part of the jockey’s hand and arm. The jockey holds close contact with the reins, and the horse’s mouth is open.





**Figure 2.** Image 2 for photo-elicitation interview.

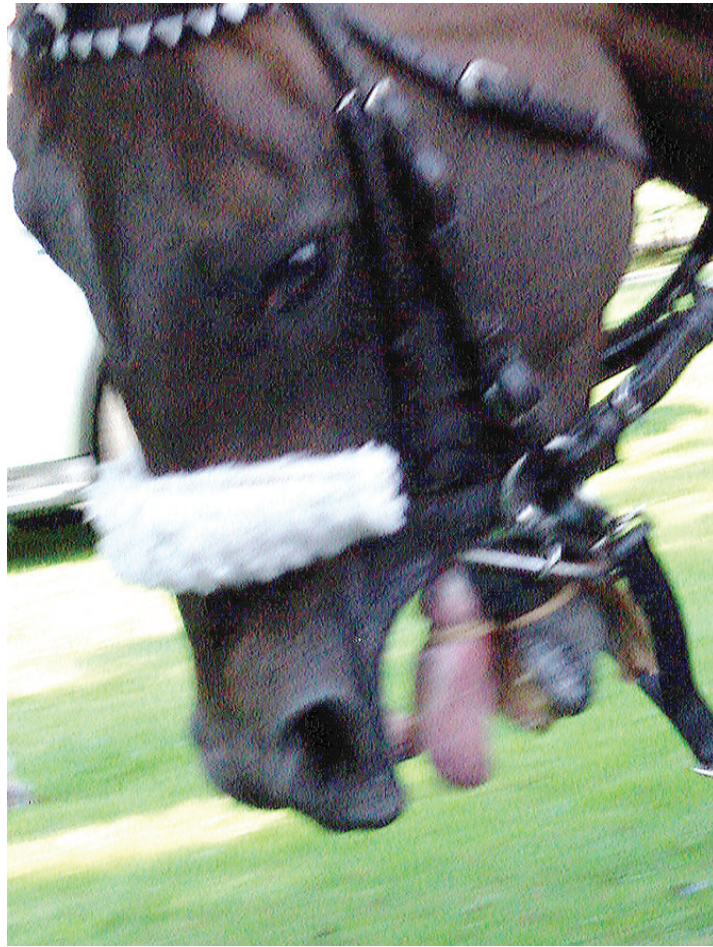
Image 3 (Figure 3) shows a thoroughbred almost in full, with a jockey on his back, with six handlers close by, some touching the horse and some holding ropes attached to the horse. Handlers and horses show intent.



**Figure 3.** Image 3 for photo-elicitation interview.

Image 4 (Figure 4) shows a head of a thoroughbred close up, bridled and on a lead rope, head lowered, mouth opened and tongue and tongue-tie visible.





**Figure 4.** Image 4 for photo-elicitation interview.

Image 4 required significant adjustment to the focus and exposure and was included, as this is a rare image capturing the tongue-tie and its impact on the horse while at work. Indeed, several informants made comments to the effect that the tongue-tie is rarely visible in this manner. The researcher took eight photographs. The present image was selected, because it shows the tongue-tie and the horse's response but it does not show as severe a response as some of the other images, which might be considered uncommon, because still images of this kind are rarely publicly seen (see all eight raw images taken of the horse with the tongue-tie adjusted for light and contrast in sets of three, three and two images in Appendix B1–3)

### 3.3.3. Photo-Elicitation Procedure

For this study, photo-elicitation interviewing involving the four images of race day scenes took between five to seven minutes, and approximately fourteen minutes for two informants, and it was embedded within an interview lasting between one and 1.5 h. For viewing, the photographs were uploaded to a website created temporarily for the purpose of this study. The hyperlink to that site was emailed to the informants prior to interviewing.

Before the photo-elicitation phase, the informants had already engaged with questions relating to thoroughbred welfare and aspects of sustainability (Section 3.3). When it came to the images, it was not the intention to conduct photo-elicited in-depth interviews, as is usually the case with photo-elicitation. The photographs were introduced to elicit spontaneous responses drawing on the informants' personalised and emotive levels, experiences and memories (see Section 3.3.1). Therefore, the first of three questions stated: "Describe briefly what it is that you see, what comes to your mind first, your immediate reaction, please." It could be expected that the contextual framework established by the preceding interview phase informed the photo-elicited responses.

However, based on the requested spontaneity of response, it was expected that the informants would draw more on their personalised cognitive categories rather than on potentially stereotypical verbalisations of thoroughbred welfare. The question was devoid of nouns, adjectives or verbs that could lead responses. A second question followed to verify whether the images were considered to depict common scenes and events: “Is this a common thing that you see on the racetrack?” To provide opportunity to express any further thoughts, a third question was offered: “Anything else you would like to say in relation to this image?” In the case of questions from the informants or any prompts, again, no verbal reference points were given that could lead the informants’ interpretations.

The photo-elicitation and the semi-structured interview guide were pilot-tested with three participants unrelated to the informants of this study. Two participants of the pilot study had an equine veterinarian background and history of involvement with thoroughbred breeding and racing, and one participant was affiliated with an animal protection organisation. Based on the outcome of the pilot study, no changes to the instruments relevant for this study were required.

### 3.3.4. Data Analysis

The interviews were audio-recorded, transcribed verbatim and imported into NVivo version 11 for coding and sorting. The transcripts were first coded deductively as per the questions; then, descriptive codes were applied. Themes were derived from the data inductively. The main analysis was based on inductive reasoning, since there was not enough existing knowledge about the phenomenon and what existed was fragmented [95]. Inductive reasoning moves from the specific to the general using observations, combining them into a larger whole or general statement [91].

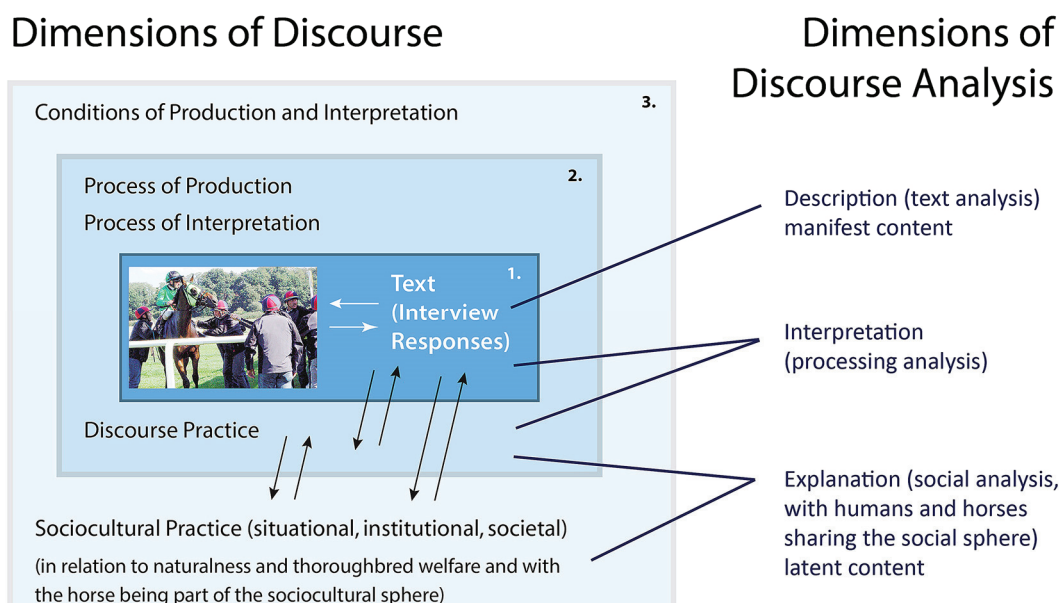
The qualitative content analysis involves a “careful, detailed, systematic examination... in an effort to identify patterns, themes, assumptions, and meanings” [96] (p. 182). It was, in the first instance, a manifest analysis focussing on what the informants actually say, using the informants’ own words and describing “the visible and obvious” [66] (p. 10). It then moves into a latent analysis by extending into an interpretive level to uncover the underlying meaning and to identify themes [66] (p. 10) within the context of the research questions and aim. The themes are “an expression of the latent content of the [transcripts]” [97] (p. 107) to reveal the deeper layers of the responses. Two of the verbal-only questions asked directly about ideas of naturalness and what is natural. In the case of the third verbal-only question and the photo-elicitation, how the informants understand naturalness was inferred based on how they used ideas of the natural. This approach is based on cognitive theory and has been applied by other researchers [58].

For the analysis of the photo-elicited responses, discourse analytical procedures as outlined by Janks [98] were adopted. Janks analysed images and related commentary applying Fairclough’s [99,100] three-part analytical model (Figure 5). This model accounts for the inherent nonlinearity of the analysis. It can be imagined as three boxes nesting within each other, each requiring a different kind of analysis: (1) text analysis (description), (2) processing analysis (interpretation) and (3) social analysis (explanation).

The analysis does not necessarily follow one after the other but can move between all three. In the current study, the social analysis, which refers to “the bigger picture”, is represented by the discourse of naturalness at the meta-level within society at large (see Sections 1 and 2) and in relation to what all this means for the thoroughbred. Thus, the naturalness discourse is the lens through which the social analysis is conducted.

Finally, the analysis was deepened by the application of Bergmann’s framework of Layers of Engagement with Animal Protection [3]. For this study, this framework was updated to more explicitly include the notion of naturalness (see the updated version in Section 4.5.4). The informants’ conceptualisations of naturalness were then analysed, discussed and situated in relation to the Layers of Engagement (Section 4.5.4).





**Figure 5.** Dimensions of the discourse and discourse analysis (adapted from Janks [94] and Fairclough [96]) as they relate to the research process in this current study.

#### 4. Results and Discussion

In the following, citations are assigned to the respective informants using acronyms—that is, TBI-n for thoroughbred industry informants and AAI-n for animal advocacy informants—with numbering of the individuals within each group from 1-9 and 1-7, respectively, to replace the value “n”. The informants’ responses describing what they see in the images relate to the temporal; spatial and intentional (when, where and what/why); descriptions and explanations of the horses’ mental and behavioural responses; human-to-horse interactions; descriptions and impacts of visible tack (bridle, bits, tongue-tie, reins and ropes); the environment for the horse overall and, in the case of one animal advocacy informant, horse conformation. The emphasis on each aspect varies by informant. Not all aspects are addressed for each image, and the two groups of informants place varying emphases on each aspect.

The informants recognised the general location and moment in time depicted, with few variations. Importantly, what is depicted they considered to be common or “not uncommon” (TBI-9 on Image 1 and AAI-5 and TBI-2 on Image 4). Commenting on Image 3, AAI-5 (UK) stated: “Quite often, [handlers can be seen] around the horse, maybe not this many”, TBI-4 (Australia) said “it depends on the horse” and TBI-8 (US) conveyed a sense of resignation, having responded “you see this every single day”. There were variations, for example, by country in terms of the use of tongue-ties, as AAI-5 (based in the UK) stated, commenting on Image 4, “I wouldn’t say it was common [...] but we do see it from time to time”. Barakzai et al. [101] described the use of tongue-ties in thoroughbred racing in the UK as “commonplace” and found the proportion of starts with a tongue-tie is 5%. In Australia, it is reported to be 21.3% [102]. No industry informant from the UK agreed to participate in this study, so nothing can be said about a potential impact of the perception of common versus not-so-common use of tongue-ties on the industry informants’ conceptualisations. There does not appear to be any impact on animal advocacy informants’ conceptualisations. In principle, it can be stated that the informants of this study confirmed the photographs depict what can commonly be seen on racetracks on race day.

Below, the results are structured to first present an overview of the two groups’ perspectives, then the themes as they emerge from each group’s photo-elicited responses. There are some inter- and intragroup variations, and negative cases and examples are presented. They can be explained within the broader context of the thoroughbred industry and the welfare discourse and, in particular, with the individual informant’s background. The need to preserve the anonymity of the

informants limits discussions of their backgrounds. Relevant for this study are the breadth of perspectives and the emerging trends in the responses.

#### 4.1. Overview

##### 4.1.1. Thoroughbred Industry Informants

Thoroughbred industry informants used assumptions of the nature of the thoroughbred as explanations for their mental and behavioural expressions. This nature was used to justify controlling mechanisms and practices they referred to in the photographs. There was also a tendency for industry informants to normalise and naturalise and, at times, downplay the thoroughbreds' behavioural and mental expressions. This implies a naturalisation of the behaviour of the horse that transfers to a naturalisation of the entire process seen in the photographs, meaning a normalisation of the processes and procedures imposed on thoroughbreds in racing. The behavioural and mental expressions of the thoroughbreds in the photographs were seen more as a visual problem rather than a welfare problem. The thoroughbred was often portrayed as a willing and knowing participant, eager, excited and ready to race. The above is consistent with the industry informants' view that racing is the most natural activity for the thoroughbred. In contrast to the above, where industry informants draw on the idea of the natural, they mostly did not regard the thoroughbred as natural anymore but as a product of human breeding. This is consistent with their overall low interest in the concept of naturalness in racing.

##### 4.1.2. Animal Advocacy Informants

Animal advocacy informants also used assumptions about the nature of the horse as an explanation for the thoroughbreds' mental and behavioural expressions on race day. However, they tended to view the thoroughbreds' assumed mental and behavioural predispositions as an explanation for why racing practices are not in the interest of their welfare. They mostly saw the thoroughbreds' expressions as indicating stress, agitation, being disturbed and experiencing anxiety. They suggested the depicted racing practices are unnatural and have a negative impact on the thoroughbred. Animal advocacy informants tended to notice a broader range of factors impacting the thoroughbreds' welfare by violating their nature, including a range of aspects of the overall environment and individual horse conformation. They tended to pay more attention and assign more welfare relevance to the horse-human interaction. The above is consistent with their view that racing is not the most natural activity for the horse; rather, they point out grazing, being with other horses and running as natural. In terms of a human-shared activity, leisurely trail riding at most comes close to being natural. As did the industry informants, the advocacy informants noticed a visual problem, albeit a very different one. They emphasised the lack of visibility of the breadth of the welfare issues to the public. Overall, animal advocacy informants described a more holistic view of naturalness, a view that is more consistent within itself and that demonstrates more consistency with ethological perspectives—that is, perspectives based on scientific studies of animal behaviours—in particular, as they occur in natural environments.

#### 4.2. Themes Emerging from Industry Informants' Photo-Elicited Responses

Four key themes emerge from the industry informants' responses to the photo-elicitation study.

##### 4.2.1. Naturalising and Normalising the Horses' Responses to Racing Practices

Industry informants tended to describe and explain the horses' mental and behavioural responses as being natural. For example, TBI-4 explained, commenting on Image 1: "When you get a horse in a parade ring at the races, there is a lot going on. Horses are naturally, their natural instinct is a flight or fight [...] the adrenalin is flowing there, he is sort of bouncing around and thinks what's happening over there". Similarly, TBI-5 commented on Image 3: "Perhaps the horse could have done with a bit more gate schooling, but you know what, it's a thoroughbred. They sometimes just have

their own way about things." This normalising and naturalising culminated in the expression of industry informant TBI-7, having commented on Images 1 and 3: "I see a horse being a horse". In justifying the horses' responses as being natural and normal, any welfare concern was explained away.

A notable exception is a response of industry informant TBI-9, commenting on Image 3, expressing concern and rejecting acceptability of what this informant saw:

"[This image] with the guys—one, two, three, four, five guys, six guys... Yeah, that, unfortunately, [...] I think that horse doesn't want to go and there is probably a good reason why. [...] I wouldn't be happy to see that [...] with them pulling him in. I hate to see when it's, you know, there on the side they are using a tow rope in his mouth, pulling him to the gate. There is something wrong with that horse, he doesn't want to go." (Thoroughbred industry informant TBI-9)

This response represents the strongest stance in defence of the horse of any industry informant's comment. TBI-9 did not elaborate, but considering the outlier position of this statement, it is more likely than not that this comment was triggered by the informant's own experiences and memories (see Section 3.3.1).

#### 4.2.2. Downplaying the Impact and Role of Tack, Humans and Other Factors

In a number of instances, industry informants seemed to not only naturalise and normalise but downplay and trivialise the impact of racing practices. One strategy was to ignore what can be seen. This occurs in the case of industry informant TBI-1, who mostly appeared to ignore any tack or any factors that could be considered impacting on the horse. TBI-1 also avoided descriptions of any mental or behavioural expressions of the horses. For example, in the case of the same Image 3 that elicited the most horse-centred response of any industry informant (TBI-9, Section 4.2.1), informant TBI-1 simply stated: "The horse is being led somewhere, probably to the gate".

Image 4 is the only image that elicited comments on the tack by all but one industry informant. They comment on the tongue-tie, and many responded similar to TBI-8: "He's got a lot of equipment on". TBI-3 and TBI-5 added the tongue-tie is very tight. The exception here is, again, TBI-1, who did not refer to the tongue-tie (but mentions the bit). While this is a passive downplaying through the act of ignoring, active downplaying is also evident. For example, referring to Image 3, TBI-4 acknowledged that "some horses are often agitated by the gate". TBI-4 went on to explain that "it's quite claustrophobic" and suggested other horses already in the stalls might be restless, banging the gates, jumping forward too soon or leaning back on the gate, and "there is a lot of noise". This is one of the few instances where negative impacts were named and described by an industry informant. However, they were immediately downplayed by explaining it could be worse: "You know, no one has a stock whip on him, no one is hitting him, no one is, they are just trying to sort of coax it into the gate" (TBI-4).

#### 4.2.3. A Visual Problem and a Call to Educate the Public

In terms of Image 2, industry informants did not raise any welfare concern, as TBI-8 stated, "His ears are forwards, he doesn't seem to be unhappy". Instead, as TBI-5 explained, it is a problem with the "visual", because people do not "really understand what is going on there". This view became even clearer when TBI-5 responded to Image 4 stating, "The tongue-tie is a visual I have always struggled with. [...] The public sees a tongue-tie, [and] they want to know what that is. I understand the why and what [...] I am not a fan of it. I think it is an unattractive visual and I wish we had a better way of doing things there." TBI-5 was not opposed to the practice as such; instead, the informant "really would like to find a better way of tying tongues" (TBI-5).

#### 4.2.4. The Thoroughbred, a Willing Participant

Industry informants tended to use positive terms when describing the thoroughbreds' responses. This is particularly evident in relation to Image 1, where they said the horse is "on his

toes", "a bit fiery" and "pretty spirited". They pointed to the readiness and excitement of the athlete in competition, comparing the horse to the human athlete and describing the thoroughbred as a willing, anticipating and knowing participant: "The horse is anxious, it's a bit fiery, it's business time" (TBI-3), and TBI-9 saw "a horse that wants to race" and added "I think horses know that they are going to race and they get excited." Likewise, in relation to Image 2, industry informants saw "nothing out of the ordinary" (TBI-6), it is a thoroughbred who "wants to go and the jockey says 'not yet buddy'" (TBI-5).

#### 4.3. Themes Emerging from Animal Advocacy Informants' Photo-Elicited Responses

Four key themes also emerged from the animal advocacy informants' responses to the photo-elicitation component of the research.

##### 4.3.1. The Thoroughbred under Stress, Anxiety, Being Agitated and Disturbed

Animal advocacy informants generally used terms pointing to a somewhat distressed state of the horse. In Image 1, they saw a horse who is "stressed", "reflecting anxiety, a bit of nervousness", "disturbed in some way", "spooked", "fighting the bit" and the word "agitated" was used several times. The descriptor "stress" was used frequently in relation to the other images. There were degrees of difference in interpreting the signs of stress. For example, in relation to Image 3, some described the horse's action as "pulling back" (AAI-1), being "scared of where it is supposed to be going" (AAI-1) and "somewhat agitated" (AAI-6), but two advocacy informants did not regard the situation as acute when they stated the horse "isn't rearing or anything like that" (AAI-3), and he "doesn't look like he is in a major panic" (AAI-5).

##### 4.3.2. A Wide Range of Factors and Unnatural Conditions Impacting Thoroughbred Welfare

While industry informants made limited mentions of the impact and role of tack and other environmental factors, animal advocacy informants saw a horse who is confronted with and impacted upon by many factors. While industry informants naturalised and normalised the flow of events they saw in the images, animal advocacy informants saw the denaturalisation of the horses' environment and the use of particular practices and tack as impacting the horses negatively and as being a welfare issue. For example, in Image 2, animal advocacy informants saw a horse who is held very tightly and a bit being "pulled very severely" (AAI-2). They saw a throat lash that was too tight (AAI-4) and "don't like that bottom ring on the bit" (AAI-5)". They saw a horse with neck tension (AAI-5), a head "quite tucked in" (AAI-3) and a horse who is "very uncomfortable" (AAI-7).

In contrast to industry informants, animal advocacy informants noticed more detail in the horses' mental and behavioural expressions. For example, commenting on Image 1, more advocacy than industry informants referred to the horse's movement, often describing it as "quick"; they referred to the flared nostrils, and five of the seven referred to the open mouth and, in one instance, to the tongue and to "pressure on its mouth" (AAI-2). Moreover, in relation to Image 1, no industry informant commented on the tack; however, five of the seven animal advocacy informants did so, all in negative terms as causing discomfort and pressure and contributing to an already "stressful environment for the horse" (AAI-4). AAI-3 stated "The other thing that really strikes me is how tight the bit is in the mouth". AAI-4 explained the bit "looks like a Dexter ring bit [...] a very harsh bit" that causes the horse to resist; as AAI-4 stated, the horse appears to be "fighting the bit".

All animal advocacy informants described in all images compromised welfare or the potential for compromised welfare. The following response of AAI-4 to Image 4 demonstrates the array of concerns identified from a perspective where horse welfare and protection is centred. The comments range from physiological to mental aspects, to hinting at the psychology of handling horses and racing regulations. While the breadth of concerns is not paralleled by any other advocacy informant's response, this quote is illustrative of animal advocates' concerns:

"Astounding. Absolutely astounding that this can ever be allowed. Which is, where the industry who talk about welfare of horses being a priority, this picture shows how bad the



welfare is for horses. [...] [This horse is] absolutely stressed to the maximum. We see absolutely an overkill in the biting and bridling of this horse. Again, we have the Dexter ring bit, which is a very severe bit for a hard-pulling horse. We've got a tongue-tie in there, which is obviously- We can only presume the agony for the horse. [...] We've got the horse with its mouth open trying to fight all that and [trying to get away] from it, which he can't. We've got [...] a sheepskin noseband on there [...] to keep the horse's head down. We've got a lead rein or a martingale coming off that Dexter bit [...]. His head looks beyond the vertical, so he has got airway obstruction. He has got three bits in his mouth. The nuchal ligament in the neck, he must be in agony with all this. You know the ligaments at the back of the neck, [...] they must be really stressed from all this, and probably, he's got windpipe damage as well with all that going on. So, total overkill by people who do not understand this horse whatsoever. They are looking to control a horse through biting and bridling that doesn't want to be controlled. And this is welfare at its very worst. It's a great photo to show that." (Animal advocacy informant AAI-4)

AAI-4 is the only informant who referred to the conformation of the horse and its welfare relevance in racing. For example, in relation to Image 1, the informant described how compounding factors of horse conformation, tack and the way it is applied impact welfare. AAI-4 explained the horse has "a thick neck through the gullet, making flexion very difficult [...]. When horses have this conformation", the horses "pull very strongly". Consequently, "the trainer and the jockey [...] tend to put a stronger and stronger bit on the horse, trying to control the horse. And the more you do that, that exacerbates the problems [...]" Relating to Image 2, the informant added "That bit in the mouth is [...] totally wrong for this horse. [...] The parotid gland between the jaw and the atlas vein in the head [...] is very swollen, and that is bound to be painful." Overall, "the cheek piece is in the wrong angle, and the throat lash looks very tight. [The horse's] conformation [is] not suitable for racing at all, I wouldn't think" (AAI-4).

#### 4.3.3. A Visual Problem Reversed, and Another Call to Educate the Public

Some animal advocacy informants also considered the public's perspective but in a different light than an industry informant would (compare to Section 4.2.3). They agreed that the public does not understand what they see, if they saw it at all. As AAI-2 said in relation to Image 4, "you don't often actually see what [the tongue-ties] look like quite in the way that this photograph depicts, and I think that's a shame, because if people knew what a tongue-tie was and the effect that it had on the horse, they perhaps wouldn't allow them to be used". AAI-2 added that this is "just about as unnatural as you can get, going back to the word natural." Likewise, AAI-1 pondered: "I don't expect that most people, either at the track or elsewhere, would see this, meaning be able to see it or understand what they were seeing. Or understand that this is not a natural thing for horses, this is something imposed by the industry." This contrasts with the perspectives of the industry informants, who, as TBI-5 stated, would prefer a less visible device to tie the tongue, so the public does not see it.

#### 4.3.4. Horse-Human Interaction

Animal advocacy informants took more notice of the presence of the depicted humans and the impacts they have on the horses than did industry informants. In relation to Image 1, five of the seven advocacy informants referred to the human and her handling of the horse. They stated, it "looks like she is having to really focus on handling that horse" (AAI-3), and she "is trying to calm down a very excited horse" (AAI-6). Emphasising the presence of the handler and her action support the perspective that the horse displays mental and behavioural expressions to a degree and at a severity that require intervention. AAI-4 believed the handler contributes to the horse's stress, because the horse is on a "very stressed rein" and resists the bit. In contrast, four of the nine industry informants referred to the handler, but the description of the human's presence and her interaction with the horse was minimal. Mostly, the handler is somewhat absent when simply stating the horse "looks like saddled in the paddock [mounting yard]" (TBI-1). TBI-7 is the only industry informant

who described a more aggravated situation, stating the handler “is trying to do her best to manage the horse”.

Commenting on Image 3, animal advocacy informants described in more detail the presence and the actions of the handlers. Many saw “an awful lot of people” (AAI-2), “helmeted people” (AAI-1), contributing to the stress they believed the horse was already experiencing. They used terms like “force” (AAI-4, AAI-3) applied by handlers and people “pulling” and “dragging on the bit with a lead rein or rope” (AAI-4). AAI-4 also noticed that, while the jockey does not show signs of stress, the handlers do, and “that is impacting on the horse and he is planting himself.” Moreover, while advocacy informants saw humans acting on the horse, AAI-2 went a step further, describing a lack of engagement with the horse at the level of the horse, with no attempt to respond to the horse sympathetically in a way that allows two-way communication. AAI-2 observed the handlers “are not focused on the horse at all, none of them are looking at the horse’s face. None of them are really looking at the horse other than holding on to the saddle or just intent on moving it somewhere”.

There are two negative cases present (one in each group) in relation to Image 3. In contrast to other animal advocacy informants, AAI-7 was unconcerned: “It looks like [...] the horse is alerted to its surroundings and perhaps looking at other horses or something ahead.” On the other hand, and in contrast to the other industry informants, industry informant TBI-9 shared the concerns for the horse with the advocacy informants (see Section 4.2.1).

#### 4.4. Conceptualisations of Naturalness and the Nature of the Thoroughbred

This section discusses the responses to the verbal-only interview questions of the current study and the earlier published results of the informants’ conceptualisations of naturalness [3], with reference to the photo-elicited responses. The interview questions asked the informants about what the thoroughbred represents for them, what they believe is the most natural (equestrian) activity for the horse and how they define the term naturalness (see Section 3.3). The results demonstrate that the informants have limited awareness of naturalness as a concept; however, their conceptualisations were inferred based on how they used ideas of naturalness and what is natural (see Section 3.3).

##### 4.4.1. Thoroughbred Industry Informants

The industry informants were not familiar with the concept of naturalness. Three of the nine informants volunteered to further engage with it when asked to define it or whether they have heard of it, two of them only after prompting [3]. The conceptualisations of all informants, however, could be inferred from their other responses. In the current study, contradictions emerge in the role nature and what is natural play between how the industry informants explained and justified racing practices and how they conceptualised the thoroughbred at the ontological level. Describing what the thoroughbred stands for, the industry informants focussed on the idea of the athlete, referring to “magnificent athletes”, “athleticism” and, as TBI-3 stated, “the extreme athlete of the horse world”. Some emphasised that thoroughbreds are bred to be athletes (TBI-4) and “bred for performance” (TBI-3). Thus, they appear to see the thoroughbred as a breed rather than a horse and differentiate them from other horses; TBI-8 poignantly described thoroughbreds as “the pinnacle of refinement of the equine species”. Overall, it appears the thoroughbred is considered to be an improvement on nature to a degree that they are somewhat separate from nature, and it appears there is some pride in this achievement. It is the thoroughbredness of the thoroughbred rather than the horseness of the horse (see also Bergmann [3]) that the industry informants seemed to conceptualise, a species somewhat different from the horse.

With one exemption, industry informants suggested mostly racing but, also, running or galloping are the most natural activities. TBI-4 added they “love to run, gallop, between the fences, on the beach, some even love to jump”; they love to “use their bodies in that way”, which was seen in contrast to dressage, which was described as “very controlled” (TBI-4). TBI-2 suggested racing is “the [activity] most aligned to one of the key instincts of the horse, which is to run in a herd”. Two informants referred back to the nature of the wild horse, as, for example, TBI-8 stated “anything that

leverages of things that they would do normally in the wild is something that falls within that range". This defence of racing as being natural is consistent throughout the industry at large. However, it ignores the difference between the horse's self-determined or invoked turnout behaviour, on the one hand, and highly regimented training and racing practices, on the other hand (see also Section 1). The impression "horses love to run" is most likely based on horse behaviour that is in fact influenced by the unnatural conditions they are kept, which applies in particular to racehorses in preparation and training who are kept stabled. Horses in confinement react with increased activity when not confined [103]. Chaya et al. [103] found horses who were given only short turnouts during the day were more likely than those given longer turnouts to trot, canter and buck when turned out, thus displaying what is considered compensatory locomotor activity [103] (p.156). Similarly, Przewalski horses kept in smaller enclosures spent more time pacing and milling than the comparison group kept in a larger enclosure [40].

When referring to "key instincts" and what is natural, reference to the horse was made rather than the thoroughbred, again distancing the thoroughbred from the horse. The industry informants' dominant narrative that thoroughbreds love to race and that racing is the most natural ridden activity for the thoroughbred (except in one instance, TBI-3) is consistent with their naturalisation of the thoroughbreds' mental and behavioural expressions and racing practices (Section 4.2.1). It lends strength to their justification of the activity of racing and is consistent with the dominant approach of downplaying and trivialising what could evoke welfare concerns (Section 4.2.2). However, the thoroughbred's ontological removal from nature is in contradiction to the industry informants naturalising the thoroughbreds' mental and behavioural expressions on race day.

A lack of attention to the horse-human dimension also emerges from the responses to the verbal-only interview questions. Only one industry informant referred to the horse-human interaction, and this informant described what they considered to be a natural shared activity: "Horses and their owners or riders get a real strong bond, and there is nothing a horse enjoys more than being out on a ride or being groomed and set ready for activity. I don't think it has to be racing" (TBI-3). The otherwise demonstrated lack of interest in the horse-human relationship corresponds with the industry informants' tendency to ignore and downplay the presence and impact of the humans and their actions depicted in the images (Sections 4.2.2 and 4.3.4). It seems the industry informants mostly did not consider the horse-human relationship a factor impacting welfare, let alone having a relational ontological presence [31,104] in its own right.

The construction of the thoroughbred dominantly as an athlete and a breed, being bred for racing and loving racing, is not static. Two industry informants expressed views that also see the thoroughbred as a horse. For example, TBI-4 emphasised the thoroughbred is a social species who "love[s] to be in a herd". The idea that thoroughbreds are individual in their personalities, strengths and weaknesses was also expressed (TBI-4 and TBI-7). Three other industry informants placed emphasis on the thoroughbred being "smart" and "trainable" (TBI-7) and "highly adaptable" for other "athletic pursuits" (TBI-2). TBI-1 added they are "also a very kind animal [epitomising] a lot of special qualities as an animal, as an athlete and as a companion". The comments emphasising trainability and adaptability were made in the context of retirement from racing and the thoroughbred's suitability for a life after racing. This ontological flexibility from the athlete, being purpose-bred and loving racing, to the trainable and adaptable athlete and companion was made by informants with a stake in thoroughbred aftercare (i.e., life after exiting the racing industry) and suggests there is a pragmatism and opportunism in conceptualisations of the thoroughbreds' nature. It seems a reframing of their message had taken place, aimed at a particular audience, such as the researcher, those potentially interested in retired and retrained thoroughbreds and the public at large [105].

In summary, the industry informants remained distant from the concept of naturalness; they appeared to see the thoroughbred as a breed somewhat separate from nature and a species somewhat different from the horse. Nonetheless, they relied strongly on constructing a notion of the nature of the thoroughbred and of what is natural that defends racing practices. Their

conceptualisations of naturalness were not only fragmented, contradictory and inconsistent but reductionist, instrumental and opportunistic according to their messaging needs.

#### 4.4.2. Animal Advocacy Informants

In contrast to most industry informants, all but one of the seven animal advocacy informants demonstrated great interest in engaging with the notion of naturalness, although most, like the industry informants, did not recognise the term as such [3]. This interest finds resonance in referring to the thoroughbred as, first and foremost, a “horse” or “animal”, rather than a “thoroughbred” or a “breed” wedded to racing. They described the thoroughbred as a “magnificent animal, powerful, strong but also sensitive” (AAI-3), a “fragile animal” (AAI-1) and, also, “possibly the most beautiful animal on earth” (AAI-6). AAI-6 also pointed out they are all “beautiful individuals”; “they all have individual needs, likes and dislikes, different temperaments”.

However, most advocacy informants also described the thoroughbreds as animals who are highly exploited and deprived of their agency, as being placed at risk by human hands (AAI-1), as having a “less honourable connection with gambling and profiteering” and as a status symbol for humans (AAI-3). AAI-6 described the link between exploitation and deprivation:

“I also think of them as greatly exploited, because they have so little say in their lives, even those horses who are considered successful at what they do, there is usually no one person who is committed to that animal for their whole lives. They go off from barn to barn, they move from trainer to trainer, from jockey to jockey and all too often end up someplace horrible, at least in the United States. So, they are on the one hand the most revered, and on the other hand, the most discarded animal that I know of.” (Animal advocacy informant AAI-6)

This response exemplifies that the animal advocacy informants’ responses to the verbal-only interview questions carry mostly negative connotations when referring to the horse-human relationship in the context of the thoroughbred industry. This echoes their photo-elicited responses. Describing the images, they saw the humans doing something to the horses that was mostly seen as being against the horses’ interest and welfare. The exploitative dimension was, however, also presented by two advocacy informants (AAI-5 and AAI-7) in pro-economic and social-cultural terms when they referred to the thoroughbred as a breed of economic value and prestige, with impacts on the equine industry and the entertainment industry more broadly, with a global “trickle-down effect from the thoroughbred racing industry throughout the entire mainstream equine world and into other breeds, people and their desire to become involved with horses because of this” (AAI-7).

Animal advocacy informants were mostly critical of the idea of referring to any ridden activity as “natural”. They suggested instead more horse-centred categories for what is natural, as AAI-4 stated, natural is only “grazing, go almost feral [...] The others are peripheral events [to] utilise a horse’s qualities [...] for transport, for leisure and for sport.” They suggested all activities exploit the horses’ abilities and not “any one is more natural to a horse than another” (AAI-6). AAI-2 affirmed “there is not a lot that is really natural about keeping domestic horses in any case. So pretty much everything we do, I don’t think you could describe as being natural”. They identified a broad range of factors that violate the nature of the thoroughbred, including many aspects of the overall environment. AAI-2 suggested any use of horses involves a range of activities that “are all issues in terms of welfare, all that is unnatural”, including removing the horses from their familiar environment and social group, transportation, confinement, the competition arena and mixing horses unfamiliar with each other. Some suggested, however, where there is a bond, a horse-human relationship, for mutual benefit, certain activities may be acceptable but not when the horse is forced to do something (AAI-3). Within this frame of reference, trail riding—not endurance riding, as one informant points out—is an activity for which some have some tolerance in terms of what is natural for the horse (AAI-1, AAI-5 and AAI-7). As AAI-7 stated, trail riding is what the horse would do in nature, “whether in the wild or domesticated horses in captivity, they like to run”. They generally referred to running rather than racing.



In summary, the animal advocacy informants' conceptualisations of naturalness and what is natural are consistent throughout their responses to the verbal-only questions and to the photographs. They demonstrated a more holistic idea of naturalness. They related naturalness to the many aspects of the thoroughbreds' lives, to their natural emotional and behavioural needs, their telos, health and healing, husbandry and training practices and to how humans relate to them (see also Bergmann [3]). They related it to the thoroughbreds' horseness rather than "thoroughbredness", and based on this, they mostly argued that racing practices are not in the interest of thoroughbred welfare. They tended to recognise a denaturalisation of the horses' life world, condition and treatment and a violation of their nature, integrity and agency. Overall, and in contrast to the industry informants' conceptualisations, the animal advocacy informants' ideas of what is natural are more consistent with ethological perspectives [40–42].

#### 4.5. Naturalness as a Lens for Thoroughbred Protection

In the following subsections, the themes emerging from all informants' responses are synthesised and discussed: Naturalising, normalising and downplaying racing practices and their impacts; the thoroughbred as an eager and willing participant versus a horse under stress, anxiety, being agitated and disturbed; the perception of equipment and its applications; the visual problem as a problem of showing too much or not enough; the horse-human relationship and the idea of the thoroughbredness of the thoroughbred versus the horseness of the horse. The themes are discussed within the context of research in relation to impacting factors that are raised by the informants—namely, the bit, the tongue-tie and human handling. Two examples of recent interventions from a well-known racetrack operator in North America and the Australian racing authority are included (see Section 4.5.2) to support the findings and illustrate the hermeneutic research approach (Appendix A). In Section 4.5.4, Bergmann's Layers of Engagement with Animal Protection [3] are applied to deepen the analysis of the thoroughbred welfare and protection discourse. Recommendations for further research conclude this section (Section 4.5.5).

##### 4.5.1. Naturalness as a Guide Versus Naturalness as a Fallacy

What seems to be a significant factor in the industry informants' process of naturalising, normalising and downplaying racing practices and their impacts on the horse is that many such practices exist because they have "always been done that way". In the case of bits, for example, Mellor and Beausoleil [17] find that most horses "exhibit clear behavioural evidence of aversion to a bit in their mouths, varying from the bit being a mild irritant to very painful" and believe that this in itself is a significant welfare issue requiring attention [17]. They suggest "the non-recognition of clear behavioural evidence of horses' aversion to bits in their mouths arises because the indicative behaviours have been and are observed so commonly that, except in more extreme cases, they are considered to be normal" [17]. Cook and Kibler [20] (p. 551) suggest that, because bits have been standard equipment for millennia, they "are widely assumed to be indispensable and ethically justified".

When calling on what is natural, one can be expected to question what really is natural. If naturalness was a guide, a starting point to assess the expressions of the thoroughbreds in the images and elsewhere could be similarity to the "closest wild counterparts" [48] (see also Section 2). In the case of the bit, Cook [21] (p. 256) summarises: "At liberty, the running horse has a closed mouth, sealed lips and an immobile tongue and jaw". The horse is an obligatory nose-breather, and the application of a bit breaks the seal of the lips [106]. This has a raft of implications for health, welfare, ability to perform and safety, including bit-induced pain being a cause of fear, flight, fight and facial neuralgia, the bit interfering with breathing and locomotion, the bit being implicated in breakdowns and fatal accidents, and it is hypothesised that the bit causes dorsal displacement of the soft palate, induces asphyxia, which causes bleeding from the lungs (EIPH), and it can cause sudden death [21,106,107]. Moreover, Mellor and Beausoleil [17] conclude that the bit impacts horses in a way that they experience severe breathlessness.

Instead of questioning the application of the bit, the industry informants saw it as part of a normal and natural system in racing. For example, Image 2, which depicts the head of a ridden-bitted thoroughbred with an open mouth identified by Mellor and Beausoleil [17] as a sign of aversion to the bit, was described by industry informants as depicting "nothing out of the ordinary" (TBI-6), showing "actually a very gentle bit" (TBI-4), and TBI-4 explained that the mouth opens not because the jockey is "tearing at his mouth" but because "the horse is wanting to go forward", and, so, "the horse [...] is pulling against his mouth". Most industry informants also expressed support for the use of added pressure-exerting tools and practices to deal with the problems the application of the bit and training, racing and handling practices cause, such as the use of yet harsher bits and nosebands and the application of the tongue-tie (Section 4.2.2), despite their welfare implications and lack of efficacy [19,108–110]. Other practices in the industry at large, to address health and performance issues, potentially linked to use of the bit [21,106,107] include use of the contested drug furosemide [111] and surgery performed at the horses' upper respiratory tract [112–114]. These are common interventions despite the side effects of the drug furosemide [111] and the potential for complications as a result of surgery, with subsequent health and welfare implications for the thoroughbred [115–118]. The central focus of these interventions is generally not to protect thoroughbred health and welfare but for humans to pursue an activity that pushes the horses beyond their natural physiological limits. Indeed, those involved in the care of racehorses identified the overuse of veterinary interventions as a significant welfare challenge [61].

The examples discussed above demonstrate how calling on what is natural can be a fallacy when divorced from scientific evidence and from the horses' interest in their own physiological and psychological integrity. It also demonstrates how naturalness as a guide is relevant for thoroughbred welfare and protection even in an environment and under a handling and exercising regime that controls all aspects of their lives and has significantly compromised their nature, agency and integrity.

#### 4.5.2. Naturalness and the Legitimacy of Thoroughbred Racing

Naturalising and normalising the horses' emotional and behavioural expressions and the impact of particular racing practices depicted in the images can be seen as an attempt to legitimise racing. There are indications that the industry informants were aware that the thoroughbreds' expressions can be perceived as compromised welfare, as TBI-5 expresses concern about the visual of the tongue-tie (Section 4.2.3), and TBI-4 adds, when commenting on Image 2, that the open mouth is "not a pain mechanism". The industry informants' tendency to ignore and, thus, conceal potential welfare concerns embedded in common racing practices as a way of addressing the public's perception of racing appears to be an approach taken throughout the international racing industry. For example, The Stronach Group's media department reportedly has specific instructions to reduce the use of images showing certain whip actions in racing [119]. In 2018, the Stronach Group's Gulfstream Park racetrack even produced and distributed a promotional wall calendar that reportedly contained images with some of the whips carried by jockeys in the racing action shots digitally removed [119]. In at least one instance, not only had the whip been removed but the bit had also been digitally altered to appear as less severe than in the original photograph (see the original and the manipulated images on pp. 5,6 in the article written by T.D. Thornton for the Thoroughbred Daily News [119]). The tendency of the industry informants to not put into words the extent of the mental and behavioural expressions of the horses, and the impact of the equipment used or the human handling of the horse (Section 4.2.2), functions similarly to how digital image editing tools are used as a way of "unseeing" what they prefer not to be seen. The industry informants presenting certain aspects as normal and natural indicates they are consciously and subconsciously participating in the industry's priority project to change and shape the public's perception of the racing industry and its treatment of the thoroughbred, a phenomenon that can also be observed in other equestrian disciplines [120].

What TBI-5 identified as a visual problem is a problem of legitimacy of the horseracing industry [39,121]. With their attention directed at sanitising the visual, the industry engages in censorship and

resists transparency. This undermines trust in the industry, and trust is an indispensable aspect of legitimacy [121]. The industry is aware of the risk to its social license to operate [121]. Nonetheless, in particular racing in the UK, Australia and the US, the regulating racing bodies are resistant to centre the protection of the thoroughbred over industry interests. In Germany, German Racing banned the use of tongue-ties as Rüdiger Schmanns, then Director of Racing for German Racing, stated "[w]ith growing animal welfare activities, especially in Germany, there was no possibility of allowing the use of tongue ties to continue" [122]. In 2020, Racing Australia reaffirmed their position that the tongue-tie is acceptable, arguing they have found "an appropriate balance between the welfare of the horse and performance" [123], despite its disputed efficacy and need [124] and health and welfare impact [19,125].

The application of the bit and the tongue-tie are but two examples. Butler et al. [61] identified a raft of welfare issues and challenges that demonstrate how common racing practices put thoroughbred welfare at risk. It can be expected that the racing industry will come under increasing pressure if more details of their common practices in racing—and breeding thoroughbreds, for that matter—become increasingly known to the general public. This is largely due to the implications for thoroughbred welfare and the nature of the horse and the concern people show for naturalness in determining what a good life for an animal is [46,52,58]. Currently, industry representatives take the view that the problem is not the impact of racing practices on the horse but that people do not "really understand what is going on there" (TBI-5, see Section 4.2.3), an aspect previously discussed by Bergmann [2] (pp. 127–128). Indeed, many people are unaware of the common handling and training practices in racing, and animal advocates believe there is a need to inform and educate the public. Referring to the tongue-tie in Image 4, advocacy informant AAI-1 did not "expect that most people, either at the track or elsewhere, would [be able to] understand what they were seeing". However, a lack of public awareness cannot be used as an excuse to continue to harm thoroughbreds, nor as an "excuse to ignore the unrepresentative nature of existing welfare policy" [46] (pp. 29–30). For welfare policy to have democratic legitimacy, it needs to reflect the public's view of what it means for a nonhuman animal to fare well [46].

#### 4.5.3. The Horse-Human Relationship as an Aspect of a Holistic Notion of Naturalness

In the responses of the animal advocacy informants, the horse-human interaction emerged as an important element for horse welfare (Section 4.3.4). This echoes Butler et al. [61], who found that the horse-human relationship was identified by those professionally caring for thoroughbreds as a seminal aspect of good welfare. The participants referred to factors such as the "consistency of routine and carer" and horse and human "getting on", ensuring continuity and attention to detail and not only well-trained and knowledgeable but experienced staff for a "best-life" scenario. Creating a positive horse-human contact was linked to a potentially higher level of care and observation. Hall et al. [11] described the link between human handling and horses' emotional and behavioural expressions:

Horse-human interactions undoubtedly influence both the subjective emotional experience and the behavioural expression of the horse. The influence may be due to the intensive management, handling and focused interaction associated with the process of training, and the physical and emotional demands placed on the animal in relation to performance. Methods of training and handling which provoke negative emotions and states such as fear, or where the individual experiences pain, may lead to short term success in relation to behavioural change, but will also produce fearful horses which are not desirable for the horse or human safety, nor successful for performance in the longer term. When frightened or anxious, horses will show escape responses ranging from agitation involving a raised head and neck to extreme reactions including bolting [11] (p. 184).

Most industry informants ignored or downplayed the human factor in the images, including in Figure 3, depicting a thoroughbred resisting to enter the starting gate. This may be a result of the informants interested in conveying to the researcher that there are no welfare issues to be seen. It could also be a case of nonrecognition, as discussed in the context of the bit above, due to the

normality of horses expressing fear and resistance at the starting gate. As Miles et al. [25] found, 71% of the studied 2–5-year-old racehorses entering the starting gate demonstrated “unwanted” behaviours. They also found that gate staff responded by using an “artificial aid”, such as whipping over 40% of the time, which explains why TBI-4 made the downward comparison in relation to Image 3, stating “no one has a stock whip on him, no one is hitting him” (Section 4.2.2). Moreover, it can be suggested that many of the emotional and behavioural responses of the thoroughbreds in the images may, in fact, be learned or shaped by the human factor and the particular activity of racing as such [24]. The kind of relationship humans have with the horse shape the nature of the handling and training practices, and vice versa, the handling and training practices shape the nature of the horse-human relationship. It is suggested that the underlying horse-human relationship plays a significant role in how the human and how the horse respond [11]. The low interest in the human-horse relationship and lack of recognition of its importance for equine welfare is characteristic of the industry at large. The participants of Butler et al.’s study [61], for example, identified staff shortages and a lack of experienced staff as a challenge significantly impacting thoroughbred welfare in various ways.

For a better understanding of the horse-human relationship, this author suggests contextualising it within the framework of naturalness. This contrasts with Yeates [48], who believes other animals’ interactions with humans are unnatural, and therefore, human-animal relationships are not an aspect of naturalness. However, humans have lived for tens of thousands of years in multi-species communities, whether in close proximity or not. Therefore, it seems more useful for animal protection in a multi-species world to conceptualise human-animal relationships and interactions as being an aspect of naturalness. A reductionist approach to naturalness and the human-animal relationship would mean to artificially separate the innate connection between humans and other animals that is based in a shared evolutionary continuity, also expressed as kinship [126]. The argument is based in the binary of humans versus nature and the belief that humans are separate from nature is considered by many one of the root causes of human exploitation of animals and nature [127] and is counterproductive to advance animal protection. The question is, rather, what human-animal relationships should look like under a framework where naturalness is intrinsically valued. Investigations in, for example, fields such as cognitive ethology [128] and into the ontological nature of the human-animal relationship [31,104] can assist in finding answers.

The welfare impact and the ontological status of the horse-human relationship discussed above speak to a definition of naturalness as a holistic notion. The raft of day-to-day welfare issues identified in the general equine welfare literature and unified by the notion of naturalness (Section 1), the many aspects of an animal’s life in which people relate to naturalness when thinking about a good animal life (Section 2), the role of naturalness for many equine welfare issues identified by particular groups of horse people, such as owners/riders and others involved in the care of horses [59–61], and the animal advocacy informants’ conceptualisations of naturalness (Section 4.4.2) all highlight the holistic qualities of the notion of naturalness. It appears that reducing this concept to one or a very limited number of aspects is arbitrary and an opportunistic reconstruction of its generic meaning. When narrowing down the meaning of naturalness to this degree, a different term that more accurately reflects what is referred to, such as natural nonhuman animal behaviour only, rather than naturalness should be used. A reduction obscures and co-opts the notion of naturalness and serves the user of the animal rather than the animal’s full range of interests and needs. Accordingly, industry informants dominantly use the concept of naturalness selectively when it aligns with their economic model (of breeding) and their activity (of racing).

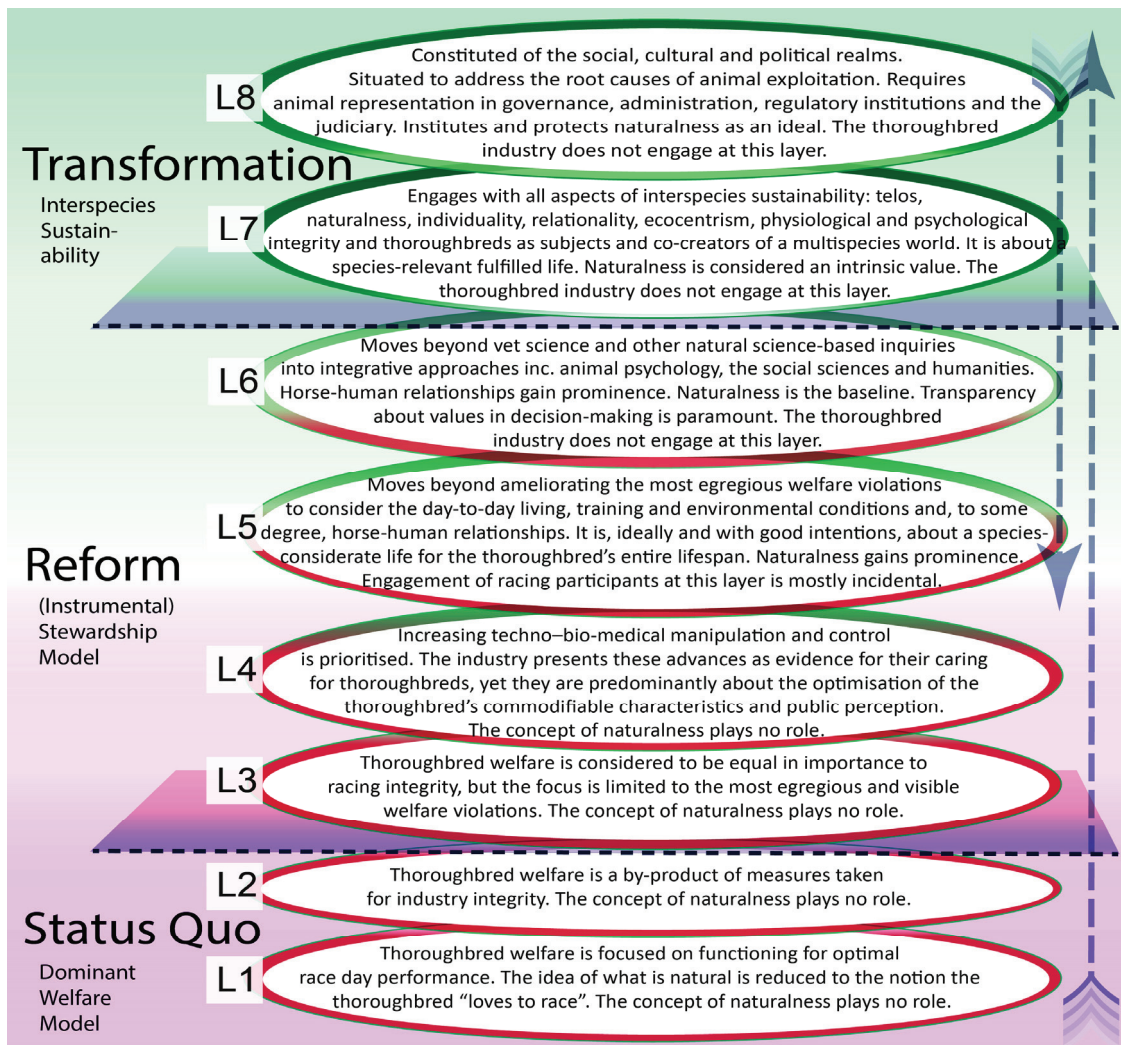
#### 4.5.4. The Layers of Engagement with Animal Protection and Naturalness

Previous research that explored the interface of thoroughbred welfare and sustainability found that the industry informants are, in some ways, the progressives in the industry, and they are situated at the reform level of the industry’s welfare discourse [3]. This current research, however, highlights that there are few individual cases where industry informants share similar concerns to



advocacy informants (for example, TBI-9 responding to Image 3, Section 4.2.1). In this research, the informants were given the opportunity to defend the horse and reconsider current practices based on the images presented (see Section 3.3.1). However, when it comes to the handling of horses and the application of equipment, the industry informants appear to be more interested in defending current racing practices and maintaining the status quo (Section 4.2). This bears significant ongoing risks for thoroughbred welfare and protection.

The framework of Layers of Engagement with Animal Protection [3] is applied to further analyse and discuss these findings. Figure 6 is a further development of the layers presented previously in table format (see Table 5 in Bergmann [3]) to incorporate naturalness in more detail.



**Figure 6.** Layers of engagement with thoroughbred protection and the concept of naturalness. Indicates the status of the concept of naturalness within the discourse as described by Layer 1 to Layer 8 (L1–L8). The status of the thoroughbred industry discourse is situated within each layer.

Eight layers were identified. They range from those layers striving to maintain the status quo (Layers 1 and 2) through reform (Layers 3–6) and to those aiming at transformation (Layers 7 and 8). There is no strict separation between the discourse affiliated with any layer. The discourse on a particular issue can move up and down these layers, and the layers can overlap. The layers are not necessarily exclusive but can be, and any of the layers can be engaged within a discourse concurrently. They can augment each other but, also, be contradictory and difficult or impossible to reconcile. It is important to be aware of at what layer(s) the discourse takes place. The layers were identified in the context of the thoroughbred racing industry, but they can be adapted to interrogate other animal industries, interspecies activities or multi-species communities.

Most industry informants' comments explaining and justifying racing practices invoking the natural take place at Layers 1–4. At these layers, the discourse focusses on functioning for optimal race day performance, with welfare being a by-product of or equal to integrity measures. The industry informants' discourse supporting techno-bio-medical control (Layer 4) is prioritised to optimise the commodifiable characteristics of the thoroughbred. At the same time, these interventions were presented as being in the interest of thoroughbred welfare and safety, as, for example, TBI-6 and TBI-7 responded to Image 4, the tongue-tie is for the safety of the rider and horse. Thoroughbred welfare, as such, gains more weight in the industry discourse at Layer 3, where the focus is on the visible and most egregious welfare violations [3], but the idea of naturalness is irrelevant at that layer, as it is for industry integrity, at least from the industry's perspective (more on the discourse in the intersection of industry integrity and racehorse welfare in Bergmann [3]). Concern for naturalness was reduced to the legitimating rhetoric that the horse "loves to race". At Layers 1–4, the industry informants and the thoroughbred industry at large see nature as a limiting factor to be overcome through invasive means such as breeding (Section 4.4.1), the use of drugs (such as furosemide), surgery and equipment (see Section 4.5.1).

Layer 5 offers opportunities for significant engagement with naturalness with its interest in the day-to-day living, husbandry practices, training and environmental conditions and, to some degree, horse-human relationships and the consideration of the horse's entire lifespan. Here, the general animal welfare discourse places at least equal focus on the day-to-day conditions while centring the horse, thus potentially preventing many of the egregious welfare violations. Five industry participants (Section 4.4.1) made reference to aspects of Layer 5 to varying degrees, including interests in retraining and rehoming retired racehorses, thus acknowledging the natural lifespan of the thoroughbred extends beyond their use in racing and breeding and that this should be catered to. This interest in aftercare, however, is largely due to public concerns and animal advocacy campaigning and, at this point in time, appears confined to reaching for "low-hanging fruit" projects, signalling that the industry is responding to welfare concerns of "wastage" [129]. There is, however, potential for the discourse around aftercare to move beyond Layer 5 as developments in aftercare evolve, as the discourse around human-animal relationship develops and the protection status of nonhuman animals grows.

Where Layers 5 and 6 meet, the horse-human relationship gains relevance in the discourse. When discussing naturalness, one industry informant (TBI-3) related to the horse-human bond in one instance (Section 4.4.1). Generally, however, at the systemic level, Layers 5 and 6 currently have limited relevance for the industry informants and the industry at large. At Layers 5 and 6, the discourse moves beyond veterinary science and others based in the natural sciences. Layer 6, in particular, is situated in the scholarly discourse to engage with, for example, (noninvasive) research in animal welfare, ethology, equitation science and the social sciences. Yeates [48], for example, can be said to be engaging with naturalness at Layers 5 and 6, but the limitation placed on his definition of naturalness as relating to natural animal behaviour only and being distinct from species-specific needs [48] limits its potential for advancing into broader animal interests and the discourse taking place at Layer 7. It can be expected that those in racing engaging at Layers 5 and 6 will inevitably sooner or later engage more with the concept of naturalness. This is confirmed with the description of the "best-life" scenario for a racehorse in Butler et al.'s study [61], where the discourse of the "best-life" scenario takes place at Layer 5 and, to some degree, at Layer 6, with the study participants emphasising a positive horse-human relationship and aspects of naturalness. In the interest of thoroughbred welfare and protection, there is a need to shift the focus onto the horse-human relationship as a welfare issue in racing while the industry exists.

It appears that, in contrast to industry informants, animal advocacy informants overall had a strong interest in engaging with Layer 5—in particular, with aspects of naturalness. Some also engaged with aspects of naturalness at Layers 6 and 7. How the animal advocacy informants of this study conceptualised naturalness resembles how people in general consider naturalness. Both tend to view naturalness in holistic terms, including a variety of considerations (Section 2, Section 4.3 and Section 4.4.2).

Industry informants did not engage with Layers 7 and 8. These are the layers where a holistic notion of naturalness plays an essential and defining role for animal protection. Naturalness is considered an inherent worth to be protected and preserved. A rethinking of the ontological status of the thoroughbred—to acknowledge the horseness of the horse (telos)—is also a hallmark of these layers. This goes hand-in-hand with recognising the essential status of naturalness based on evidence. Adopting a holistic notion of naturalness is expected to maximise its potential for thoroughbred protection. Furthermore, the recognition of the thoroughbred's nature has to extend to a recognition of their individual natures. It has to go beyond the species to acknowledge the individual's temperaments, preferences, abilities and boundaries; as one of the animal advocacy informants (AAI-6) stated, the horses "are not all machines who despite their pedigree and their backgrounds want to [...] race" (see also [3]). Engaging with Layers 7 and 8 aims at facilitating a fundamental shift in human attitudes, belief systems and paradigms. It moves toward engagement with animal protection on the animals' own terms and implements structures and processes for animal representation.

It can be expected that sections within society are interested in engaging with the notion of naturalness as an intrinsic value once the discourse at Layers 5–8 advances in society at large. This will have implications for how thoroughbred racing and breeding will be perceived.

#### 4.5.5. Limitations and Recommended Research

A limitation of this research is the relative lack of participation of industry informants from countries other than the US and Australia (see Section 3.2). A broader international participation would have been desirable. However, most of the informants are active at the international level and all play a key role in racing, with all holding senior level roles. Furthermore, in terms of numbers, the US and Australia belong to the top racing nations internationally [130]. Future research could aim at recruiting informants from other racing nations. In terms of animal advocacy informants, the number of organisations to contact was limited, and their representation can be considered satisfactory (see Section 3.2). Two other proposals for further research are presented below. These arise from the issues surrounding the horse-human relationship as it manifests in shared horse-human activities and from the impact of common practices on the thoroughbred as discussed throughout this article and, in particular, in Sections 4.5.1, 4.5.3 and 4.5.4.

The question arises as to how horse-human shared activities should look so that they increasingly align with Layers 6–8 as the thoroughbred protection discourse advances. Interest in the nature of horse-human shared activities is increasing generally [31,32,104]. The starting point for these considerations is the finding that, while some advocacy informants felt a sense of unease and violation arising from the horse-human interactions observed in the images, they still had some tolerance for horse-human shared activities (Section 4.4.2). This tolerance is conditional on the following: The shared activities should be within the realm of what is considered natural for the horse, they should provide mutual benefit for horse and human and they should not exploit the horse (Section 4.4.2). Framing research into the nature of shared activities within a naturalness paradigm is expected to assist in articulating what such shared horse-human activities that are ethical, nonexploitative and of benefit for the horse could look like. Re-evaluating the activity of thoroughbred racing within this context is of public interest for the following reasons: Racing's legitimacy is in question due to the nonrecognition of the welfare impact of common racing practices (Section 4.5.2). Furthermore, animal welfare is conceived of as a public good by some [131], and racing relies on the public as gamblers and visitors to fund their enterprise.

The starting point for the second proposal is the welfare implications of tack—in particular, the bit and the tongue-tie—and common handling practices (see, in particular, Sections 4.5.1 and 4.5.3). The question arises whether, and if so, to what degree thoroughbreds during and post-racing engagement suffer a form of post-traumatic stress disorder (PTSD). Common physical injuries are often described by those interested in ex-racehorses [132,133], but there is also anecdotal evidence that supports the suggestion that ex-racehorses are left with emotional trauma [134]. The evidence presented in Sections 4.5.1 and 4.5.3 appears to lend support to this suggestion. PTSD has been



shown to occur in other animals [135–137]; yet, the condition described as PTSD is generally not used in the literature to describe the psychological state of thoroughbreds showing particular symptoms. Noninvasive research to investigate the status of thoroughbreds in the context of PTSD and strategies to prevent its occurrence are required, as long as racing persists. This study has demonstrated that naturalness as a guide centres thoroughbred welfare and protection. It is therefore recommended to frame the suggested research within this paradigm.

## 5. Conclusions

This study has found that how naturalness is conceptualised is linked to how the impact of common racing practices on the thoroughbred are perceived and that this has direct implications for the welfare of thoroughbreds in racing. The current research has demonstrated the potential of the adoption of the concept of naturalness as a guide for thoroughbred welfare and protection that is adaptable to other interspecies activities, other animal industries and multi-species communities. There are indications that the welfare discourse is moving toward greater recognition of the concept of naturalness, and there is a potential for welfare policy and norms to shift more explicitly toward this notion as a signpost for a good animal life. Reducing naturalness to animal behaviour only limits its potential for animal protection. Instead, naturalness should be conceptualised holistically and as an inherent value of life, and the horse-human relationship needs to be recognised as a seminal aspect of naturalness.

Operationalising naturalness bears opportunities for the animal protection discourse. Applying the framework of the Layers of Engagement with Thoroughbred Protection and Naturalness can reveal when calling on what is natural and naturalness become fallacies. It assists in recognising the values and interests that guide or dominate the discourse and which conceptions are marginalised. It fosters transparency and assists in recognising whether the discourse is concerned with the protection of the animal or the facilitation of industry practices. As shown in this article, the Layers of Engagement can be used as a diagnostic tool to evaluate the discourse, to contextualise the intentions of those engaging in the discourse—is it reductionist, user- and industry-focused or holistic and nonhuman animal-centred—to ensure advancing the interests of the thoroughbreds and other animals. Importantly, the model is adaptable so as to enable the interrogation of other interspecies activities, animal industries and multi-species communities.

In summary, the problems with thoroughbred welfare are much broader than the industry currently considers attention-worthy. The nonrecognition of the compromised health and welfare of the thoroughbred in racing resulting from common handling, training and racing practices poses significant threats to the thoroughbred and further questions the legitimacy of the thoroughbred industry. The industry will be increasingly pressured to address those issues with the discourse about common racing practices, animal welfare and naturalness advancing in society at large.

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## Appendix A

### Trustworthiness

For trustworthiness, a number of procedures following Lincoln and Guba [138] were adopted. These include verbatim data transcriptions, ongoing comparisons between the analysis and raw data and the use of the informants' own words when presenting the results. The conceptualisations of all informants in relation to the four images and the three verbal-only interview questions are presented. This includes negative cases [97] (pp. 309–313), which means here the presentation of cases that do not confirm the trend or the majority of the responses of a particular group of informants, and in relation to a particular aspect.

Different types of triangulation have also been applied. The two groups of informants were treated methodologically as two cases [139] and analysis was conducted within each case and across both cases. Comparing and contrasting the two groups' responses addresses the credibility (validity), which is an aspect of trustworthiness in qualitative research [66] (p. 11). The employment of different data-collection methods (photo-elicitation and verbal-only interviewing) and the use of multiple theoretical perspectives from the natural and social sciences to explore and interpret the data increased the rigour and served the triangulations [140]. This means that the outcomes of the results obtained via photo-elicitation were compared with those obtained via conventional verbal-only interviewing. Finally, a deep hermeneutic approach [141] (pp. 560–561) was pursued—in particular, through the ongoing study of current events in the international racing context, including statements of industry bodies and racing participants cited in the media (two examples are presented in Section 4.5.2).

### Appendix B



**Figure A1.** Images 1–3 of eight images of a thoroughbred with a tongue-tie taken on race day while the horse was led past the photographer/researcher in the mounting yard.





**Figure A2.** Images 4–6 of eight images of a thoroughbred with a tongue-tie taken on race day while the horse was led past the photographer/researcher in the mounting yard.



**Figure A3.** Images 7 and 8 of eight images of a thoroughbred with a tongue-tie taken on race day while the horse was led past the photographer/researcher in the mounting yard.

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# Chapter 7. Final Discussion, Future Directions and Final Conclusion

## 7.1. Introduction

The aim of this thesis was to develop a framework of interspecies sustainability that inherently and explicitly foregrounds animal protection. Furthermore, the aim was to explore how an animal-using industry, the thoroughbred industry, is positioned to meet this interspecies sustainability paradigm. Finally, the aim was to understand the role an interspecies sustainability paradigm can play to advance the protection of thoroughbreds, and by extension, the protection of animals more broadly and by implication, the end of animal exploitation and oppression. Thus, there was a conceptual part to this thesis to advance theory, and a praxis-oriented part to explore the views and priorities of key individuals in the thoroughbred racing industry and animal advocacy who are in positions to influence the future for thoroughbreds and thoroughbred racing. Applying the theory developed in this research to an animal industry of significant size and influence gave opportunity to test the utility of the theory by way of argument, as will be discussed below.

The following section (Section 7.2) presents an overview of the key findings by providing responses to Research Questions 1-6 (as also listed in Section 1.4). The broader implications of this research are outlined in Section 7.3 addressing the overarching Research Questions 7-8. These relate to the future of thoroughbreds in racing, the future of the thoroughbred industry, and the contributions of this study to animal geographies and other knowledge about human-animal relations. Then follows a discussion of the limitations of this research (Section 7.4) and recommendations for future research (Section 7.5). Section 7.6 offers concluding remarks.

## 7.2. Responses to Research Questions 1-6

### 7.2.1. Research Question 1: What are the parameters of the intersection of sustainability, the thoroughbred racing industry and thoroughbred welfare?

The first study, a mapping review (Chapter 3), undertook a thematic and theoretical mapping of the interface of sustainability, the thoroughbred industry and thoroughbred welfare and protection. The aim was to identify and investigate the range of themes relevant for the further theoretical and empirical investigation. The chapter thus set out some of the ethical and welfare concerns that emerge in the racing context and in the intersection with sustainability. Indications emerged that the industry is interested in principles of sustainable development as a model for strategic management and based on this, it appeared timely to discuss the pitfalls and opportunities of this model. It was shown that as part of this engagement in the interface of sustainability and thoroughbred protection it is necessary to distinguish between sustainability and sustainable development. The case for an ecological orientation that respects the limits of biological systems was made. The following themes emerged as relevant for a further exploration to address issues of unsustainability in the thoroughbred industry: transparency in terms of reporting; an engagement with the normative stance, obligations and the spectrum of rights; an exploration of how to define mutual horse-human flourishing and how it can be achieved; a re-evaluation of what success means in the thoroughbred industry; and horse-human co-production of knowledge to understand the full range of impacts of racing practices on thoroughbreds. These are some of the issues the industry would need to engage with if it was interested in true and long-term sustainability which by definition would centre the protection of thoroughbreds, rather than a reductionist anthropocentric notion of sustainable development. The findings of the mapping review informed the design of the following theoretical investigation and the empirical study.

### 7.2.2. Research Question 2: How do thoroughbred industry and animal advocacy informants conceptualise thoroughbred welfare?

The study presented in Chapter 4 focussed on the conceptualisations of thoroughbred welfare held by the industry informants and the animal advocacy informants. Three main groups of welfare issues emerged: the use and potential overuse of drugs and medication; injuries and death on the racetrack; and the aftercare of thoroughbreds exiting the industry. It was found the industry pursues three objectives with their welfare initiatives: to address the most egregious welfare violations of industry practices on and off the track; to modify the public's perception of the industry and its treatment of thoroughbreds with a focus on marketing strategies; and to focus on productivity, efficiency and optimisation of the commodifiable characteristics of thoroughbreds. It was concluded that it is doubtful whether this will lead to net gains for thoroughbred welfare. Thoroughbred advocacy informants have expressed some desire to protect aspects of thoroughbred agency and integrity, and some expressed grief when recollecting compromises to those aspects, even though they were not referring to these concepts by their names. In contrast, industry informants had either lost the ability to relate to those aspects, or they had, consciously or subconsciously, decided to dismiss them.

### 7.2.3. Research Question 3: What does an interspecies sustainability paradigm entail?

A framework for an interspecies sustainability paradigm was developed in Chapter 5 (Section 5.2.2) based on the literature that is situated in the interface of sustainability and animal protection. The writings drawn on included ecocentric perspectives and publications in the fields of sustainable agriculture and food systems, and animal studies. Some relevant emerging themes were explored drawing on ecofeminist perspectives that bridge between the spheres of sustainability, and animal and nature protection by exposing systemic power imbalances.

It was found that the foundation for an interspecies sustainability is ecocentrism which is to be extended to reveal and eliminate asymmetries, take account of intra- and interspecies relationalities and incorporate a focus on the individual (and smaller groups for that matter), rather than a limited focus on species only. For the purpose of the study, ecocentrism was replaced with ecocentrism+ to indicate the move toward the recognition of the protection needs of an individual animal. Ecocentrism+ is complemented with an extended conception of telos (telos+). Telos in itself is identified as a concept that integrates a variety of aspects, including species-innate functional integrity (integrity+) (that is not e.g. bioengineered functional integrity, but integrity based on the animal's innate naturalness). As with ecocentrism, telos needs to extend beyond speciesness to include an individual's particular needs, predilections, abilities and individual limitations (telos+). Other aspects that delineate interspecies sustainability include interspecies justice, relationality, animal agency, animal cultures and knowledge systems, and a holistic conception of naturalness (naturalness+). Finally, interspecies sustainability also means adherence to a set of inviolable criteria and core values, such as upholding democratic systems and principles, universal rights, dignity, transparency and the precautionary principle as important dimensions in governance and decision-making, and to be extended to all species (see Section 5.2.2.5). This means that it entails animal representation and representation of other entities in nature, in governance, administration, regulatory institutions and the judiciary (compare also Donaldson and Kymlicka 2011; Gray et al. 2020).

#### 7.2.4. Research Question 4: How do thoroughbred industry and animal advocacy informants conceptualise sustainability?

This question was addressed in Chapter 5. Contradictions emerged in how the thoroughbred industry informants defined sustainability, what they identified as threats to industry sustainability, the role welfare plays for the sustainability of the industry as suggested by them, and what they identified as the industry's priorities to maintain or achieve sustainability. While they largely emphasised that

thoroughbred welfare is seminal for the long-term sustainability of the industry, their priorities for addressing industry sustainability did not include thoroughbred welfare.

Sustainability was mostly conceptualised in economic terms, and a number of threats to racing's economic viability were identified. Still, a strong socio-cultural dimension also emerged in two ways. On the one hand, some believed the industry's resilience lies in the cultural realm in some racing nations. On the other hand, others suggested the culture within racing is one of the greatest threats to thoroughbred welfare. Nonetheless, no strategies to address these threats were suggested.

Some of the animal advocacy informants expressed discomfort about linking sustainability, welfare and thoroughbred racing. Some made it clear that they preferred racing not to continue, nonetheless, no one expressly lobbied for a ban on racing, and some suggested reform is possible. Yet, most advocacy informants suggested thoroughbreds are exposed to unacceptable systemic threats in training and racing. They agreed that racing's continuation depended on thoroughbred welfare, and on meeting public expectations for welfare. They did not critique the concept of sustainability as such since they shared the definition of sustainability as predominantly referring to the economic viability of the industry. As the industry informants, the advocacy informants did not extend the concept of sustainability to include thoroughbred protection as an end in itself. It appears that conceptually, the notion of an interspecies sustainability seems out of reach for the industry informants, and beyond current visions the advocacy informants.

#### 7.2.5. Research Question 5: How are the thoroughbred industry and the animal advocacy informants positioned in relation to the interspecies sustainability paradigm?

The response to this question draws primarily on Chapters 5 and 6, but also Chapter 4. The framework of interspecies sustainability (Section 5.2.2, Section 7.2.3) was employed to analyse the informants'



conceptions of sustainability in the thoroughbred industry, with reference to their conceptualisations of thoroughbred welfare (Chapter 4, Section 7.2.2). Based on this analysis, eight layers of engagement with animal protection were identified that related to the (un)sustainability spectrum – ranging from shallower to deeper levels of critical reflection, from those striving to maintain the status quo through to reform and to those aiming at transformation (Table 5.5 and Figure 6.6). Based on the verbal only interview responses, it appeared that all industry informants were situated in the reform area. In that sense, they appeared to be the leaders in terms of addressing thoroughbred welfare, struggling against forces within the industry who “don’t take kindly to other people telling them how to run their farm” and fight to maintain the status quo (Section 5.2.4.1).

However, when it came to describing some of the common racing practices and thoroughbreds’ responses to these practices based on the photographic images, it became apparent that most industry informants themselves tended to strongly defend the status quo of these practices. The thoroughbreds’ direct experiences in racing and the far-reaching implications of common racing practices for their health and welfare were not recognised as a concern. The primary interest was, after all, protecting racing integrity (i.e. racing and betting that appears to be fair, see also Section 1.8.5) and economic viability rather than thoroughbreds. The thoroughbreds had to fit into this model by means of controlling their nature and constructing an idea of their nature in a way that it not only justifies industry practices but makes them appear necessary for welfare and racing safety.

With their declared priorities and conceptualisation of welfare and sustainability, the industry trajectory is set for increasingly refined and concealed exploitation of thoroughbreds. The horses’ health, welfare and lives will continue to be exposed to unacceptable threats. Most welfare issues and threats to thoroughbred protection are not based in the medical, biological or technological realms. In fact, in many cases, the medical, biological or technological strategies called on by the industry, and presented as solutions to improve welfare, pose threats to thoroughbreds in and of themselves

(Section 6.2.4.5.1). Moreover, most threats are based in the socio-cultural domain, some of which have been identified by some industry informants but were not included as industry priorities to be addressed. Ultimately, the threats for thoroughbreds are based in the socio-cultural and political domains, facilitating the very conditions that support the industry and perpetuate thoroughbred exploitation. In summary, the thoroughbred industry is not well positioned to meet an interspecies sustainability paradigm.

In contrast, the animal advocacy informants tended to recognise the impact of common racing practices on thoroughbreds, and some demonstrated concern for telos, human-horse relationships, thoroughbred integrity and agency, and naturalness. They were positioned at a more progressive point of the spectrum in the reform area than the industry informants were, with some indicating conceptual awareness of thoroughbred protection domains relevant for transformation toward interspecies sustainability. The nature of their concern for thoroughbred welfare and protection remained largely stable between the modes of interviewing, the verbal only and the photographic image-based mode.

### 7.2.6. Research Question 6: What role does the idea of naturalness play in the thoroughbred protection discourse and for the protection of thoroughbreds?

This question was addressed in depth in Chapter 6. In the industry discourse, a contradictory notion of naturalness emerged. On the one hand, at the ontological level, the industry informants conceptualised the thoroughbred as a product of human breeding, a species somewhat separate from nature and different from the horse. On the other hand, the industry informants strongly relied on the notion of naturalness to justify and defend the activity of racing and current racing practices. They tended to naturalise, normalise and downplay the controlling tools and mechanism used and the thoroughbreds' responses to racing practices. They mostly saw the thoroughbred as a willing

participant even in the presence of behavioural and emotional expressions that indicated stress, fear and pain. They interpreted these expressions as being the result of the thoroughbreds' nature despite evidence to the contrary. The notion of naturalness was irrelevant for the industry informants' considerations of welfare and industry integrity (that is in terms of fair racing and betting).

In summary, their conceptualisations of naturalness were not only fragmented, contradictory and inconsistent but reductionist, instrumental and opportunistic according to their messaging needs. Ultimately, the industry informants and the thoroughbred industry at large see nature as a limiting factor to be overcome through invasive means such as the use of drugs (medication), surgery, tack and breeding.

In contrast, animal advocacy informants saw the thoroughbred at the ontological level first and foremost as a horse with natural needs. They related the notion of naturalness to the thoroughbreds' horseness rather than thoroughbredness, and based on this, they mostly argued that racing practices are not in the interest of thoroughbred welfare. They identified a wide range of factors and conditions as unnatural and impacting horse welfare. They saw racing practices as the cause of the horses' expressions of stress, fear and pain. The nature of the horse was used as an explanation for why racing practices are not in the interest of welfare. Mostly, the advocates saw what is natural as a guide for thoroughbred welfare and protection. At the same time, they often demonstrated a holistic view of naturalness, a view that was consistent within itself and with ethological perspectives. They integrated the many aspects of the thoroughbreds' lives, their natural emotional and behavioural needs, their telos, health and healing, husbandry and training practices. Importantly, they included in the notion of naturalness the horse-human relationship and recognised its link to welfare. The advocates were interested in safeguarding the nature of the horses, their physiological and psychological integrity. They saw the notion of naturalness as a baseline and, to some degree, as an ideal to be protected.

They tended to recognise that a denaturalisation of the horses' life world, condition and treatment and a violation of the horses' nature, integrity and agency was occurring in racing.

In summary, the challenges for thoroughbred welfare are much broader than the industry currently considers worthy of attention. The non-recognition of compromised health and welfare of the thoroughbred in racing resulting from some common racing practices poses significant threats to thoroughbred welfare. These are amplified by industry misrepresentations of what is natural. The legitimacy of thoroughbred racing will be increasingly questioned as the discourse on common racing practices and animal protection advances in society at large.

### 7.3. Broader Implications

The following is based on a synthesis of the major findings of this research (Section 7.2). It outlines the overall conclusions that those findings lead to, by way of responding to Research Questions 7 and 8 and thus addressing the overall aims of this research. The broader implications based on the development and applications of the framework for interspecies sustainability are thus also discussed. The discussion draws on the Layers of Engagement with Animal Protection developed in this thesis (Chapters 5 and 6). This serves conceptual consistency and demonstrates the relevance, and the diagnostic, descriptive and explanatory power of the model.

#### 7.3.1. Research Question 7: What do the findings say about the future for thoroughbreds in the thoroughbred industry and the future for the industry overall?

This research has framed the future for thoroughbreds and thoroughbred racing as being situated somewhere between the current state where racing is part of the cultural fabric of society, albeit a contested one - and a future guided by an interspecies sustainability paradigm where racing would be

considered an anachronistic activity that ultimately would be banned. Drawing on McGregor and Houston's (2018) approach, two propositions are outlined next that describe these two possible futures located at the two ends of the proposed spectrum of possibilities. McGregor and Houston's (2018) build on Latour's concept of propositions to "identify and deliberate" between proposals for different kinds of futures to resolve particular crises emerging from a particular practice. In McGregor and Houston's (2018) it was about resolving "the ecological concerns emerging from cattle industries" including the climate crisis. In the case of the study of thoroughbred welfare and protection, the ecological crisis is replaced with the welfare crisis. McGregor and Houston (2018) identify propositions that principally follow two pathways: the techno-scientific pathway enhancing control over and manipulation of living beings, or the pathway of new imaginings, new relationships and new ways of human and nonhuman animals living together as co-creators of a multispecies world (McGregor and Houston 2018, 3). The first proposition corresponds with the discourse at Layer 4 of the Layers of Engagement with Thoroughbred Protection (Figure 6.6). The second proposition corresponds with Layers 7 and 8 (Figure 6.6) and with what is described in this thesis as the interspecies sustainability paradigm (Figure 5.2).

**Proposition 1: The techno-scientific pathway.** Racing continues as it does today albeit with growing unease amongst the general population. The practice of racing (and breeding) thoroughbreds is guided by instrumental reason (compare Fuchs 2017, 410). This means that it is accepted that thoroughbreds are treated as things and property that can be used and traded to benefit humans needs and desires. Particular groups of people exercise dominion over every step of the thoroughbreds' lives and deaths as they please, finding creative ways to conceal those practices that might question their social license. The industry's initiatives to address thoroughbred welfare are based on veterinary research and technological advances which, however, continue to expose thoroughbreds to the physical and psychological stressors of common racing practices. The culture within racing identified as a high-risk factor for thoroughbred welfare is not addressed. Any welfare

initiatives including aftercare projects are accompanied by significant marketing or “education” campaigns. These campaigns instrumentalise human consciousness (Fuchs 2017, 410) by aiming to convince the public and politicians that thoroughbred welfare is racing’s priority. The industry is proactive in cultivating government support and to maintain self-regulation. Deep entanglements between government and thoroughbred industry ensure the industry’s continuation. Since the public does not accept any longer that thoroughbreds are sent to slaughter, the industry self-regulates and establishes a closed-loop industry-controlled system where the lives of thoroughbreds exiting racing and not being able to be rehomed are ended via lethal injection by an industry-accredited veterinarian. There is a deep and unnerving betrayal of the thoroughbreds (Cooke 2019), and of those racing participants and members of the public who continue to believe that racing can be conducted ethically, balancing performance and welfare.

**Proposition 2: Evolution towards an interspecies sustainability paradigm.** Racing is banned by government legislation largely due to society’s changing attitudes. The public’s views of nonhuman animals have evolved in a manner that we understand our life-worlds to be co-created by multi-species agents. The public opposes instrumentalisation and recognises that using horses for sport where they are pushed to and beyond their physiological and psychological limits is part of an era gone by. They not only recognise horses as intelligent and sentient beings but as sovereign agents. Artificial and forced breeding of horses has ended. Breeding horses for purity is not considered relevant anymore. Some horse-human relationships are accepted where it is demonstrated that the horse’s naturalness, integrity, self-determination and culture and social life can flourish. Horses and other animals are no longer property and have legal status like human children. Horses and other nonhuman animals are represented in governance, administration, regulatory institutions and the judiciary.

Proposition 1 resembles in many ways the current situation with ongoing and increasing investment in veterinary research and increasingly refined and concealed exploitation. It is a given that thoroughbreds are forced to provide total accessibility to their bodies by those with a stake in racing and breeding them. Their bodies are used just as nature is used under the dominant socio-economic and political model as something to be conquered, dominated and exploited and discarded when they do not serve it any longer.

Proposition 2 is a coarsely sketched out utopian vision, and, as Blomley (2007, 60, 62) argues, critical geography and critical scholarship in general need “utopian impulse” to be able to imagine alternative futures. The ideas included in this vision are based on a significant and growing body of critical scholarship but resistance to this utopia becoming a reality is likely to be strong, in particular from animal-using industries. Still, the public’s perceptions of and attitudes towards animals are continuing to evolve and it is plausible that this evolution is likely to be sympathetic to many aspects of interspecies sustainability. This is coupled with an increasing understanding of the experiences of thoroughbreds in training and racing, and the impact of common racing practices. It is very likely that the public discourse intensifies along Layers 5 and 6 of the Layers of Engagement with Thoroughbred Protection, and moves toward Layers 7 and 8 (Figure 6.6, see also the discussion in Section 6.2.4.5.4).

As long as racing can demonstrate that it addresses in some ways the concerns that reside within those discursive levels that society engages with, the industry will maintain its social license. We also always need to remember that a social license does not mean that all practices are ethical and in the interest of the flourishing of thoroughbreds. It simply means that the public accepts what the industry is doing currently, or, what the public is led to believe the industry is doing currently. However, when the public discourse and concern moves increasingly into Layers 7 and 8, and when the public’s knowledge about racing and breeding practices increases, the industry will increase its efforts, or will have to appear to increase its efforts addressing those concerns.



The creeping withdrawal of the social license is a compounding factor in the industry's potential decline, but it is not likely to be the only one that will bring about racing's cessation. There are compounding factors in economic, socio-cultural, environmental and regulatory challenges, including waning interest of people wanting to become owners and breeders of racehorses, internally undermining forces of industry participants resisting change, urban development pressures, labour force challenges, environmental and climate change impacts coupled with current and newly emerging equine diseases (see McManus et al. 2013, see also Section 1.8).

### 7.3.2. Research Question 8: What do the findings of this research contribute to animal geographies and other knowledge about human-animal relations?

The seminal contribution of this research is the advancement of a theory of interspecies sustainability (Chapters 3 and 5). As understood by the author, interspecies sustainability is a normative concept that gives guidance in how society ought to develop (compare Section 1.7.1). Accordingly, knowledge needs to be created to serve this transition toward interspecies sustainability, giving direction to its rationale, aims, questions and methods of research. The urgency of the need to reconfigure sustainability such that it means interspecies sustainability has been discussed in Sections 1.7 and 5.2.1, and it also became evident in the discussion of the results of the empirical study in Section 6.2.4.5. The findings of this research are relevant in particular at that point where it has been agreed up by society to end animal exploitation, and society is open to the question: "So, given that we end all exploitation, how then do we decide what is an acceptable human-animal relationship, and how can animals and humans live together on this planet so that sustainability means sustainability for all, that is interspecies sustainability?" This study developed a framework for answering these questions and a discourse-analytical tool for interrogating the ongoing discourse to prevent co-option by those attempting to maintain animal exploitation.

The application of this discourse-analytical tool, the Layers of Engagement with Animal Protection (Sections 5.2.4.3.4 and 6.2.4.5.4) was also demonstrated. This tool can be adapted and applied in any field that engages with animal welfare and protection and human-animal relations. It can be used for research as well as in policy or other stakeholder settings. It serves to investigate any animal industry, interspecies activity or multi-species community in terms of their impact on nonhuman animals, human-animal relations, priorities and intents and strategies to create sustainable human-animal relations. This tool assists in analysing a discourse in terms of whose interests the discourse or activity serves, the animals' or any others' interests. This is critically important particularly at Layer 4 (see Table 5.5 and Figure 6.6) where techno-bio-medical progress is presented as being in the interest of welfare but may obscure increasingly refined exploitation instead.

The Covid-19 global pandemic that wreaked havoc as this thesis was being completed, further brought to the fore the nexus between environmental destruction, wild species extermination, industrial animal agriculture, the climate crisis, the rise of zoonotic diseases, and the way we view and treat nonhuman animals and nature (e.g. *Animals, Climate Change and Global Health 2020*; Campos and Lourenço-de-Moraes 2020; Dutkiewicz et al. 2020; IPBES 2020; Marco et al. 2020; Quigley et al. 2020; Terraube and Fernández-Llamazares 2020; Wiebers and Feigin 2020; World Animal Net 2020). This research in the intersection of sustainability and animal welfare and protection demonstrates the deep interlinkages of scholarly enquiry, practice, values and policy. It underlines that to effect change for life on this planet as we know it to continue, and to end animal and nature exploitation and destruction, there is, as Taylor and Twine (2014, 6) argue, no time for theory for the sake of theory. Instead, we need engaged theory, in particular when it comes to undertaking sustainability and animal studies.

This research contributes to raising awareness of the unsustainability of the dominant conceptions of sustainability and of welfare which have to be further critiqued and alternatives formulated. It thus contributes to “breaking-down and breaking-with” (Salih 2014, 63) the dominant conceptual models. It demonstrates that there is a need for animal studies scholars to engage with the sustainability discourse and this work is hoped to provide the impetus to take up this challenge. This research has also reinforced the need to take a critical theory perspective to sustainability and animal studies (Taylor and Twine 2014; Delanty 2020).

This study has also drawn attention to the underlying mechanism of exploitation that also need to be understood in other animal and sustainability studies contexts. It reinforces that the threats to animal protection and sustainability are based in the socio-cultural and political realms and at the level of paradigm rather than in the technological realm. To further address this, mythmaking as a cooperative industry effort and what becomes to be seen as normal (see Section 6.2.4) is evolving continuously and thus needs to be unveiled and brought to attention on an ongoing basis. The importance of understanding how nonhuman animals and human-animal relations are perceived ontologically and how to reconfigure them to address animal and nature exploitation and destruction has also come to the fore.

By demonstrating the role and implications of conceptions of naturalness in the real-life context for thoroughbred racehorses (Chapter 6), this research highlights the need to define naturalness as a holistic notion in future research contexts. This, together with the importance of the socio-cultural domain for the sustainability discourse stresses the relevance of the work on the geographies of human-animal entanglements. Furthermore, there is a need to recognise that animal welfarism needs to be rejected as it is largely designed to legitimise and continue industry practices, draw attention from seeing exploitation and oppression for what it is, and to exclude animal integrity, cultures and knowledge systems, self-determination and naturalness as a holistic notion (compare Haynes 2011).

Finally, both sustainability studies and animal studies related fields are in search of more appropriate research methods, to centre nonhuman knowledge systems, experiences and ways of articulating those (e.g. Denzin et al. 2008; Buller 2014; Bastian et al. 2016; Coulter 2018). This research has demonstrated one way of achieving this goal. The visual method elicited responses that added deeper levels of insight (Chapter 6, see in particular the discussion Section 6.2.4.5.4) that the study relying on the verbal mode only was not able to provide (Chapters 4 and 5). In fact, reliance on the verbal mode only would have contributed to the industry's effort of concealment of a significant part of the impact of racing on thoroughbreds, and of the limited interest in thoroughbred protection. Importantly, the method valorised the position of the horses and enabled the transformation of horses as objects of research to becoming research subjects.

## 7.4. Limitations of this Research

A limitation of this research is the relative lack of participation of industry informants from other countries. As discussed previously (see Sections 2.1.2.3 and 5.2.3.2), thirty-seven administrative and regulatory bodies of the thoroughbred industry in Australia, the UK, Ireland, New Zealand, the US and Hong Kong were contacted and eight industry participants from seven organisation and one individual at the time of the interview not affiliated with any organisation, from Australia, the US and an international body, agreed to participate. A broader international participation would have been desirable. However, most of the informants are active at the international level, and all play a key role in racing, with all holding senior level roles. Furthermore, in terms of numbers, the US and Australia belong to the major racing nations internationally (IFHA 2021b). Broader participation may not necessarily change the principal findings.

In terms of animal advocacy informants, the number of organisations to invite was limited and their representation can be considered satisfactory (see Sections 2.1.2.3 and 5.2.3.2). While the interviews were important primary research on a scale and level not undertaken previously by other researchers engaged in human-animal relations, they were supplemented by conference attendances, media releases and secondary material in the public domain in order to build a more comprehensive picture of the industry and advocacy perspectives. Indeed, the overall picture that emerged as part of this research (see Section 7.3.1) is consistent with messages disseminated by leading individuals in the international thoroughbred industry at a recent conference of the IFHA (2020b).

## 7.5. Recommendations for Future Research

Some recommendations for future research have been discussed in two of the published articles: Section 5.2.4.3.4 recommends that research into theories of interspecies sustainability apply various critical theory based approaches, focus in more depth on other aspects of interspecies sustainability such as the role of animal knowledge systems and cultures, the improvements for horse-human relationships that are urgently to be addressed in the thoroughbred industry as long as it exists, the concept of animal labour in the context of the thoroughbred industry, and the question of what kinds of animal uses, if any, can be transformed so that they can be considered to be consistent with an interspecies sustainability paradigm, and research methods consistent with this paradigm also need to be advanced.

Section 6.2.4.5.5 adds to this the urgency to further research the nature of human-animal relationships that are consistent with an interspecies sustainability paradigm, and, while racing persists, to investigate the applicability of the concept of trauma to thoroughbreds exposed to practices in racing, and, also in breeding.

In the following, additional areas of research are recommended:

The notion of interspecies sustainability needs further development. One way to undertake this is to use the theory proposed here and apply it to other animal communities, other contexts, other animal-using industries or multi-species communities, in the form of case studies. Likewise, there is a need to develop Layers of Engagement with Animal Protection adapted for use to study other animal issues.

Furthermore, the economic and political geography of the thoroughbred industry has been addressed briefly in Section 1.8 but warrants further investigation into the financial and political entanglements and landscapes, nationally as well as internationally. This could also include the investigation of industry initiatives and strategies to export the thoroughbred industry into other economies and cultures such as Asia, Africa and South America. Furthermore, investigating the underlying reasons for the decreasing number of people interested in breeding, owning and racing thoroughbreds might provide insights and avenues for the animal protection movement to develop new strategies. Whether this decreasing interest can in any way be attributed to changing people's views of animals is not clear at this point. At least reduced visitor and betting interest has in part been attributed to changing attitudes toward animal welfare (Singer and Lamb 2011).

There is also the question whether sustainability's status as a guiding principle (see Section 1.7.1) is still fit for purpose. Civil society, animals and nature have been marginalised in the sustainability discourse by business, which by 2012 had become the driver of sustainable development (Amaeshi and Ferns 2019). Co-option of the sustainable development agenda by business and government interests (Selby 2006; Parr 2009, see Section 1.7.1) has prevented action on climate change (e.g. Ferns and Amaeshi 2019; Ferns and Amaeshi 2019). We are now facing that "climate change and other human activities risk triggering biosphere tipping points across a range of ecosystems and scales" (Lenton et al. 2019, 593). Albrecht (2019) suggests we do not even have the vocabulary to describe

the devastation we are confronted with and the emotions many feel. He therefore embarked on a project to develop this new vocabulary. He also set out to describe a different positive guiding vision, the Symbiocene, to form and document positive Earth Emotions. With the Symbiocene, Albrecht (2019, 61) offers a “whole transdisciplinary framework for understanding the relationship between humans, other forms of life, and nature”. He explains:

The Symbiocene, as a period in the history of humanity on this Earth, will be characterized by human intelligence and praxis that replicate the symbiotic and mutually reinforcing life-reproducing forms and processes found in living systems. This period of human existence will be a positive affirmation of life, and it offers the possibility of the complete reintegration of the human body, psyche, and culture with the rest of life. (Albrecht 2019, 102)

Still, there seems benefit in continuing in parallel with the advancement of the notion of true sustainability as the best we have got, since sustainability as a notion is now embedded in people’s mindsets and has become a universal value (e.g. MacNeill, lead author of the Brundtland Report, in Borowy 2014, 1). There is now work to do to transform it into a notion of interspecies sustainability based on multispecies perspectives and decolonised worldviews. This may entail a symbiosis with the Symbiocene (although Albrecht may not agree).

It is also important to pursue the application of critical theory to sustainability studies as has begun recently (Fuchs 2017; Delanty 2020). However, this critical theory approach to sustainability studies needs to integrate the animal question and thus be coupled with critical animal studies (Bergmann 2020a).



## 7.6. Concluding Remarks

This research has met its aim of developing a framework of interspecies sustainability, and applying it to a significant animal industry, the thoroughbred industry. The research has been able to identify underlying mechanisms at the socio-cultural and cognitive levels that assist in the ongoing legitimisation efforts of this industry. It was able to demonstrate in more detail the applicability of the theoretical findings by investigating an aspect of the notion of interspecies sustainability, namely naturalness, in more detail. It has laid bare the instrumental logic deeply embedded in the industry's thinking about thoroughbreds and sustainability. The theoretical advancement of the notion of interspecies sustainability together with the discourse analytical tool has provided an important foundation for further engaged theoretical and empirical investigations in the intersection of sustainability and animal and nature protection, for policy development, governance and advocacy. The findings and outcomes of this research thus support animal advocacy to engage with the sustainability discourse and not leave the defining of the intersection of animal welfare and sustainability to animal industries and their facilitators. This research supports the idea that interspecies communities and shared activities can be co-created in a way that is consistent with an interspecies sustainability paradigm, however, thoroughbred racing is not consistent with such a paradigm.

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This list includes those references that are cited within the text of this thesis which is not part of the published manuscripts. The references cited in the published manuscripts are included at the end of the manuscripts in Chapters 3-6. This means a few references may appear twice or more, once in this list below, and also in one or more of the reference lists included in the manuscripts.

Furthermore, this thesis was originally submitted in 2020 and the response to examiners meant that changes were completed in 2021, hence the inclusion of some 2021 references in the non-published thesis text.

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# Appendices

<b>Appendix 1</b>	Manuscript Submitted for Review to the Journal Animals	241
	<i>This manuscript is the version that had been included in this thesis when it was submitted for examination. At the time, the manuscript was under review for publication. While the thesis was under examination, the manuscript had been published. Some revisions had been made in response to the reviewers' comments, but those revisions did not change any of the substance of the article, the findings or the conclusions. The published manuscript is included in Chapter 6.</i>	
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1 Article

2 **Naturalness and the Legitimacy of Thoroughbred**  
3 **Racing: A Photo-Elicitation Study with Industry and**  
4 **Animal Advocacy Informants**

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9 **Simple Summary:** The international thoroughbred industry is concerned about the public's  
10 perception of racing. Therefore, the industry's priorities are to address the publicly most visible  
11 and known welfare violations. However, common day-to-day racing practices also impact  
12 thoroughbred welfare. In this study, key industry informants and animal advocacy informants  
13 were interviewed to find out how they view common racing practices. For the interviews,  
14 photographs of thoroughbreds on raceday were used which the informants were asked to describe.  
15 Results show industry informants often naturalise, normalise, downplay or ignore the horses'  
16 expressions, the impact of handling on the horse and the use of equipment. The animal advocacy  
17 informants tend to describe a horse whose nature is violated. In conclusion, the industry  
18 informants show limited interest in addressing common racing practices and this places  
19 thoroughbred welfare at risk. Both groups of informants have different ideas about what is natural  
20 and what that means for thoroughbred welfare. With society's understanding of welfare and of  
21 racing practices growing, the racing industry may be increasingly questioned about common  
22 racing practices. This article discusses the notion of naturalness in more detail and how it can be  
23 used to advance thoroughbred protection.

24 **Abstract:** The idea of what is natural has particular relevance in the thoroughbred racing and  
25 breeding discourse. It guides breeding regulation, influences how the thoroughbreds' behaviour is  
26 perceived, and has implications for husbandry, handling, training and racing practices. This study  
27 investigates how key industry and animal advocacy informants based in the US, Australia and the  
28 UK conceptualise naturalness within the context of common racing practices. The informants were  
29 interviewed using common images of thoroughbreds on raceday and semi-structured  
30 interviewing. Differences emerged between how the two groups tend to describe the images, and  
31 the role naturalness plays in their conceptualisations. The findings were analysed using an updated  
32 version of the Layers of Engagement with Animal Protection [1] to situate them within the wider  
33 thoroughbred protection discourse. In conclusion, the industry informants tend to defend the  
34 status quo of common racing practices. They tend to naturalise and normalise these practices and  
35 downplay their welfare impact. This poses risks for thoroughbred welfare which are amplified by a  
36 misrepresentation of what is natural. With the public's understanding of welfare and racing  
37 practices growing, racing's legitimacy may be further questioned. Opportunities to leverage the  
38 potential of the notion of naturalness for thoroughbred protection are discussed.

39 **Keywords:** thoroughbred welfare; equine welfare; naturalness; thoroughbred racing;  
40 photo-elicitation; animal welfare; animal protection; horse-human relationships; human-animal  
41 relations; interspecies relationships.

43

44 **1. Introduction**

45 Concern about the public's perception of thoroughbred welfare is reverberating throughout the  
46 international thoroughbred racing industry. In 2019, thoroughbred welfare was nominated as the  
47 theme of the annual conference of the International Federation of Horseracing Authorities, a body  
48 created to harmonise the rules of its 59 member-countries for breeding, racing and wagering.  
49 Agenda items included the question of how the racing authorities of its member countries define  
50 welfare, and how they should respond to the changing "consumer and political environment" [2].  
51 This author [3] studied the conceptions of thoroughbred welfare held by key individuals in  
52 governance and senior administrative and executive roles in the international thoroughbred  
53 industry. Three main groups of welfare issues emerged: injuries and deaths on the track, use and  
54 overuse of drugs and medication, and the retirement of thoroughbreds. The informants' attention is  
55 focused on the most egregious and abusive practices, those that are most visible and have been  
56 centred in the public discourse. Yet these welfare issues are only the proverbial "tip of the iceberg".  
57 Animal advocacy informants in the same study additionally identified routine training and  
58 husbandry practices, human-horse interaction and the "everyday life of horses" as "where the real  
59 welfare issues are" in thoroughbred racing [1]. These are issues discussed in the general equine  
60 welfare literature and include topics such as housing [4–7], feeding [8,9], equine behaviour [10],  
61 equine emotions [11], equine welfare assessment [12,13], the application of equipment [14–21],  
62 equine learning and training [22,23], the impact of equine activities on the horse [24], human  
63 handling during various forms of human-horse interaction [25,26], impact of riding on behaviour  
64 and welfare [27–30], horse-human relationships [31–34] and people's ability and inability to recognise  
65 behavioural signs of equine distress and pain [35–38]. A theme that unites these issues and that  
66 allows one to make assessments as to the welfare impact is naturalness, i.e. what is natural for the  
67 horse and what is in the horse's nature in relation to their species-specific as well as individual  
68 physiological, emotional, cognitive, social and behavioural characteristics, abilities and boundaries.  
69 These welfare issues do not appear to be recognised by the thoroughbred industry as critical for the  
70 integrity of racing, nor for how the industry is perceived by the public.

71 The general racing participants' discourse about what is natural is based in the horse's  
72 emotional realm and encapsulated in the phrase the horse "loves to race" [3]. This view is upheld in  
73 the presence of horse behaviour that phenomenologically does not seem to support this idea [3] (p.  
74 130). In the sphere of thoroughbred breeding, the most significant attribution of natural is situated in  
75 the biological realm. The thoroughbred industry vehemently protects conception by "natural"  
76 means to produce an "eligible foal" [39] (pp. 46–47) which is unique to this industry [40] (p. 173).  
77 Breeding practices, however, are far from natural and highly invasive for both mare and stallion [40]  
78 (p. 183) and the insistence on natural breeding is less about protecting thoroughbreds but often seen  
79 as a means to protect investments.

80 What is considered natural influences how the thoroughbred is handled and trained, it  
81 influences husbandry practices and breeding regulation. Yet, the idea of what is natural is riddled  
82 with contradictions and inconsistencies considering the controlled and confined conditions  
83 racehorses live in, the amount and types of medication and drugs and surgical procedures used to  
84 breed, sell, train and race thoroughbreds, and the human-determined pathway of their existence  
85 [40]. As McManus et al. [40] (p. 175) state, there are conceptual challenges for the industry. In this  
86 article it is argued that what is at stake is the legitimacy of thoroughbred racing based on the  
87 treatment of the horse, and that this treatment is influenced by perceptions of what is natural for and  
88 about the horse.

89 In light of the above, the aim of this study is to explore how key informants of the thoroughbred  
90 industry conceptualise naturalness and what is natural for the thoroughbred in racing, how this  
91 impacts their perceptions of common racing practices, what implications this has for thoroughbred  
92 welfare, and how the industry is positioned to respond to society's evolving attitudes to animal



93 welfare. Both industry and animal advocacy informants were invited as study informants to canvas  
94 the diversity of perspectives that influence the development of future thoroughbred protection  
95 regimes. The goal for the study is to elucidate the role of their conceptualisations of naturalness and  
96 to explore the potential of the application of this concept for the protection of thoroughbreds, and, by  
97 implication, other animals. Naturalness in this study is treated as a lens through which all aspects of  
98 the thoroughbred's life are viewed.

## 100 2. Competing Conceptions of Naturalness

101 Recently, a growth in interest in the concept of naturalness and its application can be observed  
102 [41–45]. Naturalness is generally seen as one of the three dimensions to describe animal welfare, the  
103 other two being basic health and functioning, and affective states [46]. Fraser [46] summarises that  
104 those engaging in the welfare discourse and expressing a concern for naturalness refer to the ability  
105 of animals to live reasonably natural lives by carrying out natural behaviour, by having natural  
106 elements in their environment, and a respect for the nature of the animals themselves. Animal  
107 welfare scientists however generally apply naturalness to animal behaviour only [44,45]. Yeates [44]  
108 appears to be the first to develop a definition for naturalness and a way of assessing it, from this  
109 narrow point of view. He suggests defining natural behaviour as being “unaffected by man (sic) ”  
110 and the naturalness of an animal's behaviour can be assessed in terms of its similarity to an  
111 equivalent unaffected wild animal. This definition of natural behaviour has been criticised as too  
112 narrow by Gygax and Hillmann [41] and as being irrelevant for our understanding and measuring  
113 of welfare by Browning [47]. Again others outside animal welfare science like Hadley [42] argue for  
114 a holistic and representational definition of naturalness that considers how citizens view  
115 naturalness.

116 Clark et al. [48], in reviewing 80 studies published between 1995 and 2015, found naturalness is  
117 central to public attitudes and concerns in relation to animal welfare. They [48] (p. 462) summarise  
118 people find naturalness is important for the physical and psychological wellbeing of animals, and  
119 the hampering of natural behaviour is seen as having a negative impact on the animals' overall  
120 health. The tendency for people to value naturalness is confirmed by subsequent studies [49–51].  
121 People compare a variety of aspects to what is natural, including the animals having enough space  
122 and associated freedom to behave according to their natural instincts, having access to the outdoors  
123 and to un-adulterated feed [48] (p. 46), they refer to freedom of movement and a natural lifespan  
124 [49], people consider eating pelleted feed as being against the animal's nature [52] (p. 195), they are  
125 repelled and concerned by the realisation that breeding of farm animals is conducted using artificial  
126 insemination [51] (p. 44) [53] (p. 30), and people oppose zero-grazing and cow-calf separation due to  
127 loss of naturalness [50]. Furthermore, Robbins et al. [54] found people generally prioritise  
128 naturalness over emotional states. They explain, “a chimpanzee living a natural life with negative  
129 emotions was rated as having better welfare than a chimpanzee living an unnatural life with positive  
130 emotions” and for “chimpanzees with positive emotions, those living a more natural life were rated  
131 as happier than those living an unnatural life” [54]. It appears that naturalness is a lens used by  
132 people when making assessments about what a good animal life is. The range of aspects that people  
133 relate to naturalness indicate that people conceptualise naturalness in holistic terms.

134 In the equine welfare literature studying horse people's attitudes to equine welfare, naturalness  
135 also features. Thompson and Clarkson [55] found that it is important for horse owners to determine  
136 whether their horses' (natural) social and behavioural needs are met. Horseman et al. [56] studied  
137 the perception of welfare of a range of stakeholders in the equestrian industry in the UK including  
138 owners, riders and coaches. They found participants addressed naturalness by referring to natural  
139 behaviour and the horse's natural needs. They also found “the emotional experience of the horse  
140 emerged as an important component of welfare... and the interviewees made a link between the  
141 emotional well being of the horse and the provision of ‘natural’ needs” [56] (pp. 9–10). They suggest  
142 that despite intuitively seeing aspects of naturalness as important, the interviewees found it hard to  
143 articulate. These findings are reflected in studies of the thoroughbred industry. Butler et al. [57]  
144 found people professionally involved with the care of racehorses in the UK believe “keeping the

145 horses' lives as natural as possible" to be part of a "best life" scenario although some also saw  
 146 situations where the risk of injury outweighs the benefits, as for example, when providing shared  
 147 turnout for horses which they believe bears the risk of injury due to horses kicking each other. The  
 148 authors state "[w]hat constitutes 'natural' for a racehorse may be difficult to define" but they  
 149 indicate it includes freedom of movement and choice [57].

150 Based on the studies discussed above it appears that interest in the concept of naturalness is  
 151 increasing and this is likely to have implications for the discourse of thoroughbred welfare in the  
 152 thoroughbred industry.

153

### 154 3. Materials and Methods

#### 155 3.1. Scope of this Study

156 This research is part of a larger exploratory study that investigates the intersection of  
 157 thoroughbred protection and sustainability in the international thoroughbred industry [1]. This  
 158 current research focuses on one aspect of Bergmann's theory of interspecies sustainability, namely  
 159 naturalness [1]. Thoroughbred breeding and racing are deeply entwined but the focus in this paper  
 160 is on racing practices. There are differences in regulation and risk factors between racing  
 161 jurisdictions, but these are not considered in greater detail in this article unless they contribute to the  
 162 understanding of a particular argument. It is also recognised that the industry is working towards  
 163 national and international harmonisation of the Rules of Racing [58]. Therefore, the thoroughbred  
 164 racing industry can be referred to in general terms, whilst also considering relevant national  
 165 differences emerging in this study [1]. Both industry and animal advocacy informants were invited  
 166 to participate as part of a symmetrical research design to include the diversity of views likely to  
 167 influence the direction of thoroughbred protection measures, and for triangulation (see Section  
 168 3.3.5).

#### 169 3.2. Informant Recruitment and Response

170 Thirty-seven administrative and regulatory bodies of the thoroughbred industry affiliated with  
 171 the IFHA and based in Australia, the UK, Ireland, New Zealand, the US and Hong Kong were  
 172 contacted via email. Sixteen did not respond after follow-up emails and thirteen declined. Eight  
 173 industry participants from seven organisations, and one individual at the time of the interview not  
 174 affiliated with any organisation, from Australia, the US and an international body, agreed to  
 175 participate. Animal advocacy organisations whose websites published information about  
 176 thoroughbred racing indicating some expertise on thoroughbred welfare were contacted. No such  
 177 organisation could be identified for Ireland or Hong Kong, but thirteen in Australia, New Zealand,  
 178 the UK, US and one international organisation were contacted. One organisation declined stating  
 179 they lacked the expertise, three did not respond, while seven based in Australia, the UK and the US  
 180 agreed to participate, bringing the total number of informants to sixteen (Table 1).

181

**Table 1.** Descriptive data of research informants.

	US	AUS	UK	Int'l	Total
Thoroughbred Industry Informants	5	3	-	1	9
Animal Advocacy Informants	2	3	2	-	7
Total	7	6	2	1	16

182

183 The industry informants are in senior and executive roles in their organisations, in regulation,  
 184 general management, development, marketing and communications, and as a board member. The  
 185 organisations include breeders, racetracks, jockey clubs, regulatory bodies, and national and  
 186 international bodies. The informants' backgrounds include training and experience as veterinarian,  
 187 in science, agricultural and applied economics, law, management, insurance and broadcasting. All  
 188 have a long history of involvement with racing. Some are, or were, owners or breeders of racehorses.



189 The animal advocacy informants were employees of their organisations, some in executive roles,  
190 others in scientific or animal welfare roles, and again others were affiliated consultants. It can be  
191 assumed that the informants are “central actors whose individual [perspectives] matter” [59] (p. 194).

192 The University of Sydney Human Research Ethics Committee (HREC) approved the protocol  
193 for this study, Project No.: 2016/019, on 22 January 2016.

### 194 3.3. Data Collection and Analysis

195 Semi-structured interviews were conducted via telephone and Skype between February and  
196 August 2016. The full interviews took approximately one hour, except in two instances when they  
197 took approximately 105 minutes. One of these instances involved two informants of one  
198 organisation who requested to be interviewed together via telephone. The units of analysis [60]  
199 relevant for this article include the photo-elicitation phase and three conventional verbal-only  
200 questions of the larger interview schedule.

#### 201 3.3.1. The Photo-Elicitation Method

202 Photo-elicitation interviewing is one of many visual research methods used in the social  
203 sciences [61]. In this interviewing technique researchers use photographs during the interview and  
204 ask the participants to comment on them. The photographs can be drawn from image banks and can  
205 be researcher- or participant-generated [62]. Photo-elicitation was initially applied in  
206 anthropological research with Collier [63] often cited as the first published study [64,65]. It has  
207 subsequently been used in anthropological and ethnographic research [64,67], in sociological [68],  
208 educational [69–71] and psychological research [72], in organizational [73], and health related  
209 studies [74]. More recently, it has been used in research contexts broadly related to the thoroughbred  
210 industry. For example, Ward and May [75] explored the mental images veterinary students hold of  
211 the veterinary profession, Mills et al. [76] explored farmers’ and veterinarians’ perceptions of dairy  
212 cow welfare, and others researched the interface of land conservation, agricultural practices and  
213 local knowledge [77–80]. Two of these broadly related studies [76,79] used photo-elicitation to  
214 compare the perceptions of two groups of participants, similar to this current study. While Ward  
215 and May [75] supplied photographs drawn from image banks to present during the interview, the  
216 other four studies involved their participants in taking photographs that were then used for  
217 interviewing.

218 For the current study, the photographs were taken by the researcher capturing “ordinary”  
219 scenes on raceday centring the experience of the thoroughbred (see section 3.3.2). Photographs have  
220 the potential to trigger memory and give access to new understandings of memories [81] (pp. 5–6).  
221 Thus, it was expected that informants would draw on their own experiences with thoroughbreds  
222 and the racing context, potentially eliciting new meanings in relation to the thoroughbreds’  
223 experience and their welfare, and establishing new connections between the elicited phenomena.  
224 Using photographs was expected to ground the informants’ thinking in the thoroughbreds’  
225 experiences as captured in their behavioural and mental expressions, and in relation to what else can  
226 be seen in these photographs. It has been established that photographs serve as stimuli yielding  
227 qualitatively different kinds of information than do interviews that rely on the verbal mode only  
228 [64,82]. This is in part based on the visual mode of information processing allowing to process  
229 multiple meanings simultaneously, to make connections previously not recognised, and due to the  
230 visual mode having more direct access to the emotional realm [82]. This methodological approach  
231 therefore augments the verbal-only interview phases. Using photographs of thoroughbreds who are  
232 the subjects of concern also carries an emancipatory element. It is a way of giving the  
233 thoroughbreds a voice in this research (compare Villanueva [83]).

#### 234 3.3.2. Image Creation and Selection

235 Six photographs were used for this study’s photo-elicitation phase. The four images that depict  
236 raceday events are included in this analysis. The process for selecting the images began with taking

237 998 digital photographs at race meetings at three different locations. Of those, 364 photographs  
238 depicting thoroughbreds at various stages before, during and after the race, were selected, and  
239 photographs depicting dominantly people or scenery, or horses too distant, were eliminated. The  
240 selection was then narrowed to eight images as per the following six criteria:

- 241 • The thoroughbred was to be the central focus filling all or most of the image frame with some  
242 contextual background where relevant.
- 243 • The scene, environment, equipment used and handling by any humans should generally be  
244 considered “common”.
- 245 • The photographs were not to depict any extreme responses of either human or horse.
- 246 • They should however depict some behavioural response that offered interest and room for  
247 interpretation.
- 248 • The photographs had to be of good quality in terms of framing, focus and exposure.
- 249 • Each image had to depict a different aspect of interest and context.

250 While the researcher had observed and photographed horses stumbling, galloping awkwardly  
251 and nearly falling while racing, and the green tarp erected for a mare who had fallen and who was  
252 carted away in a horse float and subsequently euthanised, no images directly alluding to such harm  
253 were included for photo-elicitation. In terms of digital image processing, sharpening, adjusting  
254 exposure, contrast and cropping to centre the areas of interest without change to the overall  
255 appearance or actual event was deemed acceptable. For publication in this article, advertising has  
256 almost completely been removed and recognisable human faces have been pixelated. The following  
257 four photographs were included in the interview schedule:

258 Image 1 (Figure 1) shows a full body view of a saddled thoroughbred led by a handler. The  
259 thoroughbred as well as the handler show a distinct behavioural response.

260



261

262 **Figure 1.** Image 1 for photo-elicitation interview.

263 Image 2 (Figure 2) shows a moving thoroughbred's head close up, as well as part of the jockey's  
264 hand and arm. The jockey holds close contact with the reins, the horse's mouth is open.





265

266 **Figure 2.** Image 2 for photo-elicitation interview.

267 Image 3 (Figure 3) shows a thoroughbred almost in full, with a jockey on his back, six handlers  
 268 close by, some touching the horse, some holding ropes attached to the horse. Handlers and horses  
 269 show intent.



270

271 **Figure 3.** Image 3 for photo-elicitation interview.

272 Image 4 (Figure 4) shows a head of a thoroughbred close up, bridled and on a lead rope, head  
 273 lowered, mouth opened, tongue and tongue-tie visible. This image requiring significant adjustment  
 274 to the focus and exposure was included as this is a rare image capturing the tongue-tie and its  
 275 impact on the horse while at work. Indeed, several informants made comments to the effect that the

276 tongue-tie is rarely visible in this manner. The researcher took eight photographs. The present image  
277 was selected because it showed the tongue-tie and the horse's response but it did not show as severe  
278 a response as some of the other images which might be considered uncommon because still images  
279 of this kind are rarely publicly seen (see all eight raw images taken of the horse with tongue-tie  
280 adjusted for light and contrast in sets of three, three and two images in Appendix A1, A2 and A3).



281

282

**Figure 4.** Image 4 for photo-elicitation interview.

### 283 3.3.3. Photo-Elicitation Procedure

284 It was not the intention to conduct photo-elicited in-depth interviews as is usually the case with  
285 photo-elicitation. For this study, the photo-elicitation phase involving four images of raceday scenes  
286 took between five to seven minutes, and approximately fourteen minutes for two informants, and it  
287 was embedded within an interview lasting between one and 1.5 hours. For viewing, the  
288 photographs were uploaded to a website created temporarily for the purpose of this study. The  
289 hyperlink to that site was emailed to the informants prior to interviewing.

290 Before the photo-elicitation phase, the informants had already engaged with issues of  
291 thoroughbred welfare and aspects of sustainability. The photographs were introduced to elicit  
292 spontaneous responses drawing on the informants' personalised and emotive levels, experiences  
293 and memories (see Section 3.3.1). Therefore, the first of three questions stated: "Describe briefly what  
294 it is that you see, what comes to your mind first, your immediate reaction please." While informed  
295 by the contextual framework established by the preceding interview phase, it was expected, based  
296 on the requested spontaneity of response, that the informants would draw more on their  
297 personalised cognitive categories rather than on potentially stereotypical verbalisations of



298 thoroughbred welfare. The question was deliberately devoid of any nouns, adjectives or verbs that  
299 could lead responses. A second question followed to verify whether the images were considered to  
300 depict common scenes and events: “Is this a common thing that you see on the racetrack?” To  
301 provide opportunity to express any further thoughts, a third question was offered: “Anything else  
302 you would like to say in relation to this image?” In case of questions from the informants or any  
303 prompts, again no verbal reference points were given that could lead the informants’ interpretations  
304 of the photographs.

305 The photo-elicitation data were supplemented with data generated by three questions of the  
306 preceding conventional verbal interview phase. The informants were asked what the thoroughbred  
307 represents for them, what they believe is the most natural (equestrian) activity for the horse, and  
308 how they define the term naturalness. Responses to the question about the term naturalness were in  
309 part discussed previously [1], and are revisited in Section 4. Between these questions and the  
310 photo-elicitation phase were longer interview phases talking about thoroughbred welfare,  
311 sustainability in racing and the interface between the two. There was no direct link between the  
312 questions about naturalness and the photo-elicitation phase.

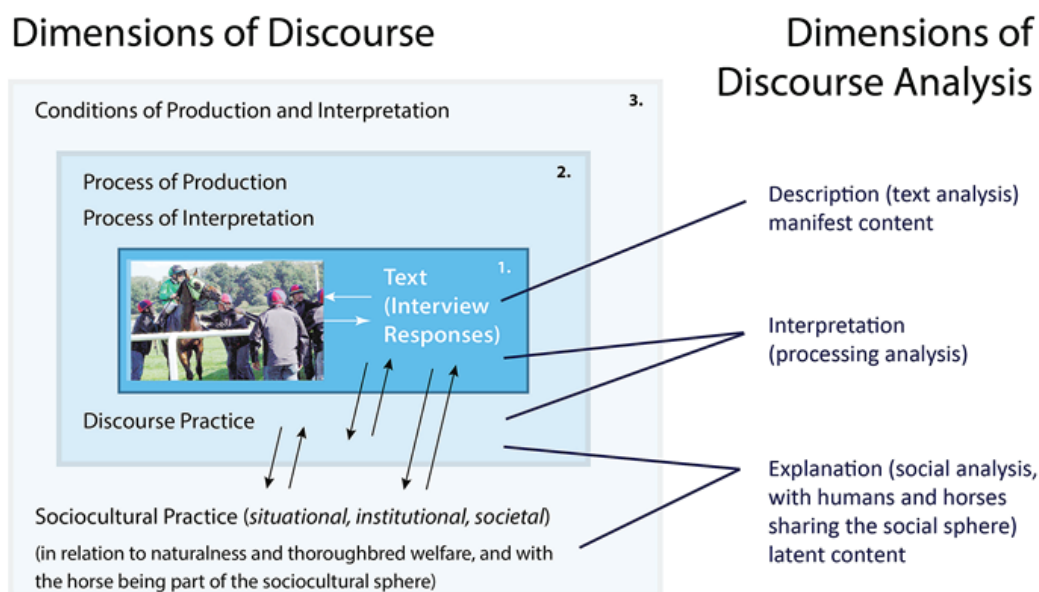
313 The photo-elicitation and the semi-structured interview guide were pilot-tested with three  
314 participants unrelated to the informants of this study. Two participants of the pilot study had an  
315 equine veterinarian background and history of involvement with thoroughbred breeding and  
316 racing, and one participant was affiliated with an animal protection organisation. Based on the  
317 outcome of the pilot study, no changes to the instruments relevant for this study were required.

#### 318 3.3.4. Data Analysis

319 The interviews were audio recorded, transcribed verbatim and imported into NVivo version 11  
320 for coding and sorting. The transcripts were first coded deductively as per questions, then  
321 descriptive codes were applied, and thirdly, themes were derived from the data inductively. The  
322 main analysis was based on inductive reasoning since there was not enough existing knowledge  
323 about the phenomenon and what existed was fragmented [84]. Inductive reasoning moves from the  
324 specific to the general using observations, combining them into a larger whole or general statement  
325 [84].

326 The qualitative content analysis involves a “careful, detailed, systematic examination... in an  
327 effort to identify patterns, themes, assumptions, and meanings” [85] (p. 182). It was in the first  
328 instance a manifest analysis focussing on what the informants actually say, using the informants’  
329 own words, and describing “the visible and obvious” [60] (p. 10). It then moves into latent analysis  
330 by extending into an interpretive level to uncover underlying meaning and to identify themes [60]  
331 (p. 10) within the context of the research questions and aim. The themes are “an expression of the  
332 latent content of the [transcripts]” [86] (p. 107) to reveal the deeper layers of the responses. Two of  
333 the verbal-only questions asked directly about the idea of naturalness and what is natural. In the  
334 case of the third verbal-only question and the photo-elicitation, how the informants understand  
335 naturalness was inferred based on how they used ideas of the natural. This approach is based on  
336 cognitive theory and has been applied by other researchers [54].

337 For the analysis of the photo-elicited responses, discourse analytical procedures as outlined by  
338 Janks [87] were adopted. Janks analysed images and related commentary applying Fairclough’s  
339 [88,89] three-part analytical model. This model accounts for the inherent non-linearity of the  
340 analysis. It can be imagined as three boxes nesting within each other, each requiring a different kind  
341 of analysis: 1. text analysis (description), 2. processing analysis (interpretation) and 3. social analysis  
342 (explanation). The analysis does not necessarily follow one after the other but can move between all  
343 three. In the current study, the social analysis, which refers to “the bigger picture”, is represented by  
344 the discourse of naturalness at the meta-level within society at large and in relation to what all this  
345 means for the thoroughbred. Thus, the naturalness discourse is the lens through which the social  
346 analysis is conducted (Figure 5).



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**Figure 5.** Dimensions of discourse and discourse analysis (adapted from Janks [87] and Fairclough [89]) as they relate to the research process in this current study.

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### 3.3.5. Trustworthiness

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For trustworthiness, a number of procedures following Lincoln and Guba [90] were adopted. These include verbatim data transcription, ongoing comparison between analysis and raw data, and the use of the informants' own words when presenting the results. It also includes a thorough investigation and presentation of the multiple ways of the informants' conceptualisations, with attention to and presentation of negative cases [90] (pp. 309-313), which refers here to the presentation of cases that do not confirm the trend or the majority of the responses of a particular group of informants, and in relation to a particular aspect.

Different types of triangulation have also been applied. The two groups of informants were treated methodologically as two cases [91] applying within case analysis and cross-case analysis. Comparing and contrasting the two groups' responses addresses credibility (validity), which is an aspect of trustworthiness in qualitative research [60] (p. 11). Employment of different data collection methods (photo-elicitation and verbal-only interviewing) and use of multiple theoretical perspectives from the natural and social sciences to explore and interpret the data, increased rigour and served triangulation [92]. This means the outcomes of the results obtained via photo-elicitation were compared with those obtained via conventional verbal-only interviewing. Finally, a deep hermeneutic approach [93] (pp. 560-561) was pursued, in particular through ongoing study of current events in the international racing context, including statements of industry bodies and racing participants cited in media (two examples are presented in Section 4.5.2.).

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## 4. Results and Discussion

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In the following, citations are assigned to the respective informants using acronyms, that is TBI-n for thoroughbred industry informants, and AAI-n for animal advocacy informants, with numbering of the individuals within each group from 1-9 and 1-7 respectively, to replace the value "n". The informants' responses describing what they see in the images relate to the temporal, spatial and intentional (when, where, what/why), descriptions and explanations of the horses' mental and behavioural responses, human-to-horse interaction, descriptions and impact of visible tack (bridle, bits, tongue-tie, reins, ropes), the environment for the horse overall, and in the case of one animal advocacy informant, horse conformation. The emphasis on each aspect varies by informant. Not all aspects are addressed for each image, and the two groups of informants place varying emphases on each aspect.

380 The informants recognised general location and moment in time depicted, with few variations.  
381 Importantly, what is depicted they consider to be common, or, “not uncommon” (TBI-9 on Image 1,  
382 TBI-2 on Image 4). There were variations for example by country in terms of the use of tongue-ties,  
383 as AAI-5 (based in the UK) states commenting on Image 4, “I wouldn’t say it was common... but we  
384 do see it from time to time”. Or, commenting on Image 3, AAI-5 (UK) states: “Quite often [handlers  
385 can be seen] around the horse, maybe not this many”, TBI-4 (Australia) states “it depends on the  
386 horse”, and TBI-8 (US) conveys a sense of resignation, stating “you see this every single day”. In  
387 principle, the informants of this study confirm the photographs depict what can commonly be seen  
388 on racetracks on raceday.

389 Below, the results are structured to first present an overview of the two groups’ perspectives,  
390 then the themes as they emerge from each group’s responses. There are some inter- and intra-group  
391 variations and negative cases and examples are presented. They can be explained within the broader  
392 context of the thoroughbred industry and the welfare discourse, and in particular with the  
393 individual informant’s background. The need to preserve the anonymity of informants limits  
394 discussion of their backgrounds. Relevant for this study are the breadth of perspectives and the  
395 emerging trends in the responses.

#### 396 4.1. Overview

##### 397 4.1.1. Thoroughbred industry informants

398 Thoroughbred industry informants use assumptions of the nature of the thoroughbred as  
399 explanations for their mental and behavioural expressions. This nature is used to justify controlling  
400 mechanisms and practices they refer to in the photographs. There is also a tendency for industry  
401 informants to normalise and naturalise, and at times downplay, the thoroughbreds’ behavioural and  
402 mental expressions. This implies a naturalisation of the behaviour of the horse which transfers to a  
403 naturalisation of the entire process seen in the photographs, meaning a normalisation of the  
404 processes and procedures imposed on thoroughbreds in racing. The behavioural and mental  
405 expressions of the thoroughbreds in the photographs are seen more as a visual problem rather than a  
406 welfare problem. The thoroughbred is often portrayed as a willing and knowing participant, eager,  
407 excited and ready to race. The above is consistent with the industry informants’ view that racing is  
408 the most natural activity for the thoroughbred. In contrast to the above where industry informants  
409 draw on the idea of the natural, they mostly do not regard the thoroughbred as nature anymore, but  
410 as a product of human breeding. This is consistent with their overall low interest in the concept of  
411 naturalness in racing.

##### 412 4.1.2. Animal Advocacy Informants

413 Animal advocacy informants also use assumptions about the nature of the horse as an  
414 explanation for the thoroughbreds’ mental and behavioural expressions on raceday. However, they  
415 tend to view the thoroughbreds’ assumed mental and behavioural predispositions as an explanation  
416 for why racing practices are not in the interest of their welfare. They mostly see the thoroughbreds’  
417 expressions as indicating stress, agitation, being disturbed and experiencing anxiety. They suggest  
418 the depicted racing practices are unnatural and have a negative impact on the thoroughbred. Animal  
419 advocacy informants tend to notice a broader range of factors impacting the thoroughbreds’ welfare  
420 by violating their nature, including a range of aspects of the overall environment and individual  
421 horse conformation. They tend to pay more attention and assign more welfare relevance to the  
422 horse-human interaction. The above is consistent with their view that racing is not the most natural  
423 activity for the horse, rather, they point out grazing, being with other horses, and running are  
424 natural. In terms of a human-shared activity, leisurely trail riding at most comes close to being  
425 natural. As do the industry informants, the advocacy informants notice a visual problem, albeit a  
426 very different one. They emphasise the lack of visibility of the breadth of the welfare issues to the  
427 public. Overall, animal advocacy informants describe a more holistic view of naturalness, a view  
428 that is more consistent within itself and that demonstrates more consistency with ethological



429 perspectives, that is perspectives based on scientific studies of animal behaviours in particular as  
430 they occur in natural environments.

#### 431 4.2. Themes emerging from Industry Informants' Photo-Elicited Responses

432 Four key themes emerge from the industry informants' responses to the photo-elicitation study.

##### 433 4.2.1. Naturalising and Normalising the Horses' Responses to Racing Practices

434 Industry informants tend to describe and explain the horses' mental and behavioural responses  
435 as being natural. For example, TBI-4 explains commenting on Image 1: "When you get a horse in a  
436 parade ring at the races, there is a lot going on. Horses are naturally, their natural instinct is a flight  
437 or fight... the adrenalin is flowing there, he is sort of bouncing around and thinks what's happening  
438 over there". Similarly, TBI-5 comments on Image 3: "Perhaps the horse could have done with a bit  
439 more gate schooling, but you know what, it's a thoroughbred. They sometimes just have their own  
440 way about things." This normalising and naturalising culminates in the expression of industry  
441 informant TBI-7, commenting on Images 1 and 3: "I see a horse being a horse". In justifying the  
442 horses' responses as being natural and normal, industry informants explain away any welfare  
443 concern.

444 A notable exception is a response of industry informant TBI-9, commenting on Image 3,  
445 expressing concern and rejecting acceptability of what he sees:

446  
447 "[This image] with the guys – one, two, three, four, five guys, six guys... Yeah, that,  
448 unfortunately, ... I think that horse doesn't want to go and there is probably a good reason  
449 why. ... I wouldn't be happy to see that... with them pulling him in. I hate to see when it's,  
450 you know, there on the side they are using a tow rope in his mouth, pulling him to the  
451 gate. There is something wrong with that horse, he doesn't want to go." (Thoroughbred  
452 industry TBI-9)

453  
454 This response represents the strongest stance in defence of the horse of any industry  
455 informant's response. TBI-9 does not elaborate. It is possible this comment could have been triggered  
456 by his own experiences. There is a wider concern about the management of racehorses at starting  
457 gates, highlighted by a well-known American racehorse, Barbaro, who it is suspected might have  
458 been injured after a false start yet was reloaded into the starting gate, raced and suffered twenty  
459 breaks in three bones in and around the fetlock of his right hind leg [94].

##### 460 4.2.2. Downplaying the Impact and Role of Tack, Humans and Other Factors

461 In a number of instances, industry informants seem to not only naturalise and normalise, but  
462 downplay and trivialise the impact of racing practices. One strategy is to ignore what can be seen.  
463 This occurs in the case of industry informant TBI-1, who mostly appears to ignore any tack or any  
464 factors that could be considered impacting on the horse. He also avoids description of any mental or  
465 behavioural expressions of the horses. For example, in the case of the same Image 3 that elicited the  
466 most horse-centred response of any industry informant (TBI-9, Section 4.2.1), informant TBI-1  
467 simply states: "The horse is being led somewhere, probably to the gate".

468 Image 4 is the only image that elicited comments on the tack by all but one industry informant.  
469 They comment on the tongue-tie, and many respond similar to TBI-8: "He's got a lot of equipment  
470 on". TBI-3 and TBI-5 add the tongue-tie is very tight. The exception here is again TBI-1, who does not  
471 refer to the tongue-tie, but mentions the bit. While his is a passive downplaying through the act of  
472 ignoring, active downplaying is also evident. For example, referring to Image 3, TBI-4 acknowledges  
473 that "some horses are often agitated by the gate". She goes on to explain that "it's quite  
474 claustrophobic" and suggests other horses already in the stalls might be restless, banging the gates,  
475 jumping forward too soon or lean back on the gate, and "there is a lot of noise". This is one of the few  
476 instances where negative impacts are named and described by an industry informant, but she

477 immediately downplays the situation by explaining it could be worse: “You know, no one has a  
478 stock whip on him, no one is hitting him, no one is - they are just trying to sort of coax it into the  
479 gate.”

#### 480 4.2.3. A Visual Problem and a Call to Educate the Public

481 In terms of Image 2, industry informants do not raise any welfare concern, as TBI-8 states, “His  
482 ears are forwards, he doesn’t seem to be unhappy”. Instead, as TBI-5 explains, it is a problem with  
483 the “visual” because people don’t “really understand what is going on there”. This view becomes  
484 even clearer when he responds to Image 4 stating, “The tongue-tie is a visual I have always  
485 struggled with. ... the public sees a tongue-tie [and] they want to know what that is. I understand  
486 the why and what... I am not a fan of it, I think it is an unattractive visual and I wish we had a better  
487 way of doing things there.” He is not opposed to the practice as such, instead, as he states, he “really  
488 would like to find a better way of tying tongues” (TBI-5).

#### 489 4.2.4. The Thoroughbred, a Willing Participant

490 Industry informants tend to use positive terms when describing the thoroughbreds’ responses.  
491 This is particularly evident in relation to Image 1 where they say the horse is “on his toes”, “a bit  
492 fiery”, “pretty spirited”. They point to the readiness and excitement of the athlete in competition,  
493 comparing the horse to the human athlete and describing the thoroughbred as a willing, anticipating  
494 and knowing participant: “the horse is anxious, it’s a bit fiery, it’s business time” (TBI-3), and TBI-9  
495 sees “a horse that wants to race” and adds, “I think horses know that they are going to race and they  
496 get excited.” Likewise, in relation to Image 2, industry informants see “nothing out of the ordinary”  
497 (TBI-6), it’s a thoroughbred who “wants to go and the jockey says ‘not yet buddy’” (TBI-5).

#### 498 4.3. Themes emerging from Animal Advocacy Informants’ Photo-Elicited Responses

499 Four key themes also emerged from the animal advocacy informants’ responses to the  
500 photo-elicitation component of the research.

#### 501 4.3.1. The Thoroughbred under Stress, Anxiety, Being Agitated and Disturbed

502 Animal advocacy informants generally use terms pointing to a somewhat distressed state of the  
503 horse. In Image 1, they see a horse who is “stressed”, “reflecting anxiety, a bit of nervousness”,  
504 “disturbed in some way”, “spooked”, “fighting the bit” and the word “agitated” is used several  
505 times. The descriptor “stress” is used frequently in relation to the other images. There are degrees of  
506 difference in interpreting signs of stress. For example, in relation to Image 3, some describe the  
507 horse’s action as “pulling back” (AAI-1), being “scared of where it is supposed to be going” (AAI-1)  
508 and “somewhat agitated” (AAI-6), but two advocacy informants do not regard the situation as acute  
509 when they state, the horse “isn’t rearing or anything like that” (AAI-3) and he “doesn’t look like he is  
510 in a major panic” (AAI-5).

#### 511 4.3.2. A Wide Range of Factors and Unnatural Conditions Impacting Thoroughbred Welfare

512 While industry informants make limited mention of the impact and role of tack and other  
513 environmental factors, animal advocacy informants see a horse who is confronted with and  
514 impacted upon by many factors. While industry informants naturalise and normalise the flow of  
515 events they see in the image, animal advocacy informants see the de-naturalisation of the horse’s  
516 environment and the use of particular practices and tack as impacting the horse negatively and as  
517 being a welfare issue. For example, in Image 2, animal advocacy informants see a horse who is held  
518 very tightly, and a bit being “pulled very severely” (AAI-2). They see a throat lash that is too tight  
519 (AAI-4), and “don’t like that bottom ring on the bit” (AAI-5). They see a horse with neck tension  
520 (AAI-5), a head “quite tucked in” (AAI-3), and a horse who is “very uncomfortable” (AAI-7).

521 In contrast to industry informants, animal advocacy informants notice more detail in the horses’  
522 mental and behavioural expressions. For example, commenting on Image 1, more advocacy than

523 industry informants refer to the horse's movement, often describing it as "quick", they refer to the  
524 flared nostrils, and five of the seven refer to the open mouth and in one instance, to the tongue and to  
525 "pressure on its mouth" (AAI-2). Moreover, in relation to Image 1, no industry informant  
526 commented on the tack, however, five of the seven animal advocacy informants do so, all in negative  
527 terms as causing discomfort and pressure and contributing to an already "stressful environment for  
528 the horse" (AAI-4). AAI-3 states "the other thing that really strikes me is how tight the bit is in the  
529 mouth". AAI-4 explains the bit "looks like a Dexter ring bit... a very harsh bit" which causes  
530 resistance in the horse, as AAI-4 states, the horse looks like "fighting the bit".

531 All animal advocacy informants describe in all images compromised welfare or potential for  
532 compromised welfare. The following response of AAI-4 to Image 4 demonstrates the array of  
533 concerns identified from a perspective where horse welfare and protection is centred. The comments  
534 range from physiological to mental aspects, to hinting at the psychology of handling horses and  
535 racing regulation. While the breadth of concerns is not paralleled by any other advocacy informant's  
536 response, this quote is illustrative of animal advocates' concerns:

537  
538 "Astounding. Absolutely astounding that this can ever be allowed. Which is, where the  
539 industry who talk about welfare of horses being a priority, this picture shows how bad the  
540 welfare is for horses. ... [This horse is] absolutely stressed to the maximum. We see  
541 absolutely an overkill in the biting and bridling of this horse. Again we have the Dexter  
542 ring bit which is a very severe bit for a hard pulling horse. We've got a tongue-tie in there  
543 which is obviously - we can only presume the agony for the horse. ... we've got the horse  
544 with its mouth open trying to fight all that and [trying to get away] from it which he can't.  
545 We've got... a sheepskin noseband on there, ... to keep the horse's head down. We've got a  
546 lead rein or a martingale coming off that Dexter bit... his head looks beyond the vertical so  
547 he has got airway obstruction. He has got three bits in his mouth. The nuchal ligament in  
548 the neck, he must be in agony with all this. You know the ligaments at the back of the neck,  
549 ... they must be really stressed from all this and probably, he's got windpipe damage as  
550 well with all that going on. So, total overkill by people who do not understand this horse  
551 whatsoever. They are looking to control a horse through biting and bridling, that doesn't  
552 want to be controlled. And this is welfare at its very worst. It's a great photo to show that."  
553 (Animal advocacy informant AAI-4)

554  
555 AAI-4 is the only informant who refers to the conformation of the horse and its welfare  
556 relevance in racing. For example, in relation to Image 1, he describes how compounding factors of  
557 horse conformation, tack and the way it is applied, impact welfare. He explains the horse has "a  
558 thick neck through the gullet, making flexion very difficult... When horses have this conformation",  
559 the horses "pull very strongly". Consequently, "the trainer and the jockey... tend to put a stronger  
560 and stronger bit on the horse trying to control the horse. And the more you do that, that exacerbates  
561 the problems..." Relating to Image 2, he adds "that bit in the mouth is... totally wrong for this horse.  
562 ... the parotid gland between the jaw and the atlas vein in the head... is very swollen and that is  
563 bound to be painful." Overall, "the cheek piece is in the wrong angle, and the throat lash looks very  
564 tight, [the horse's] conformation [is] not suitable for racing at all I wouldn't think" (AAI-4).

#### 565 4.3.3. A Visual Problem Reversed, and Another Call to Educate the Public

566 Some animal advocacy informants also consider the public's perspective, but in a different light  
567 than an industry informant would (compare Section 4.2.3). They agree that the public does not  
568 understand what they see, if they see it at all. As AAI-2 says in relation to Image 4, "you don't often  
569 actually see what [the tongue-ties] look like quite in the way that this photograph depicts and I think  
570 that's a shame because if people knew what a tongue-tie was and the effect that it had on the horse,  
571 they perhaps wouldn't allow them to be used". She adds this is "just about as unnatural as you can  
572 get, going back to the word natural." Likewise, AAI-1 ponders: "I don't expect that most people,  
573 either at the track or elsewhere, would see this, meaning be able to see it or understand what they

574 were seeing. Or understand that this is not a natural thing for horses, this is something imposed by  
575 the industry." This contrasts with the perspectives of industry informants' who, as TBI-5 states,  
576 would prefer a less visible device to tie the tongue, so the public does not see it.

#### 577 4.3.4. Horse-human Interaction

578 Animal advocacy informants take more notice of the presence of the depicted humans and the  
579 impact they have on the horse than do industry informants. In relation to Image 1, five of the seven  
580 advocacy informants refer to the human and her handling of the horse. They state, it "looks like she  
581 is having to really focus on handling that horse" (AAI-3) and she "is trying to calm down a very  
582 excited horse" (AAI-6). Emphasising the presence of the handler and her action support the  
583 perspective that the horse displays mental and behavioural expressions to a degree and at a severity  
584 that require intervention. AAI-4 believes the handler contributes to the horse's stress because the  
585 horse is on a "very stressed rein" and resists the bit. In contrast, four of the nine industry informants  
586 refer to the handler but the description of the human's presence and her interaction with the horse is  
587 minimal. Mostly, the handler is somewhat absent when simply stating the horse "looks like saddled  
588 in the paddock [mounting yard]" (TBI-1). TBI-7 is the only industry informant who describes a more  
589 aggravated situation, stating the handler "is trying to do her best to manage the horse".

590 Commenting on Image 3, animal advocacy informants describe in more detail the presence and  
591 the actions of the handlers. Many see "an awful lot of people" (AAI-2), "helmeted people" (AAI-1),  
592 contributing to the stress they believe the horse is already experiencing. They use terms like "force"  
593 (AAI-4, AAI-3) applied by handlers, people "pulling" and "dragging on the bit with a lead rein or  
594 rope" (AAI-4). AAI-4 also notices that while the jockey does not show signs of stress, the handlers do  
595 and "that is impacting on the horse and he is planting himself." Moreover, while advocacy  
596 informants see humans acting on the horse, AAI-2 goes a step further describing a lack of  
597 engagement with the horse at the level of the horse, with no attempt to respond to the horse  
598 sympathetically in a way that allows two-way communication. She observes the handlers "are not  
599 focused on the horse at all, none of them are looking at the horse's face. None of them are really  
600 looking at the horse other than holding on to the saddle or just intent on moving it somewhere".

601 There are two negative cases present in both groups in relation to Image 3. In contrast to other  
602 animal advocacy informants, AAI-7 is unconcerned: "It looks like... the horse is alerted to its  
603 surroundings and perhaps looking at other horses or something ahead." On the other hand, and in  
604 contrast to the other industry informants, industry informant TBI-9 shares the concerns for the horse  
605 with the advocacy informants (see Section 4.2.1).

#### 606 4.4. Conceptualisations of Naturalness and the Nature of the Thoroughbred

607 This section discusses the responses to the verbal-only interview questions of the current study  
608 and the earlier published results of the informants' conceptualisations of naturalness [1], with  
609 reference to the photo-elicited responses.

##### 610 4.4.1. Thoroughbred Industry Informants

611 The industry informants are not familiar with the concept of naturalness. Three of the nine  
612 informants volunteered to further engage with it, two of them only after prompting [1]. In the  
613 current study, contradictions emerge in the role nature and what is natural play between how the  
614 industry informants explain and justify racing practices, and how they conceptualise the  
615 thoroughbred at the ontological level. Describing what the thoroughbred stands for, the industry  
616 informants focus on the idea of the athlete, referring to "magnificent athletes", "athleticism" and as  
617 TBI-3 states, "the extreme athlete of the horse world". Some emphasise that thoroughbreds are bred  
618 to be athletes (TBI-4) and "bred for performance" (TBI-3). Thus, they appear to see the thoroughbred  
619 as a breed rather than a horse and differentiate them from other horses; TBI-8 poignantly described  
620 thoroughbreds as "the pinnacle of refinement of the equine species". Overall, it appears the  
621 thoroughbred is considered to be an improvement on nature to a degree that they are somewhat



622 separate from nature and it appears there is some pride in this achievement. It is the  
623 thoroughbredness of the thoroughbred rather than the horseness of the horse (see also Bergmann  
624 [1]) that the industry informants seem to conceptualise, a species somewhat different from the horse.

625 With one exemption, industry informants suggest mostly racing, but also running or galloping,  
626 are the most natural activities. TBI-4 adds they “love to run, gallop, between the fences, on the beach,  
627 some even love to jump”, they love to “use their bodies in that way”, which is seen in contrast to  
628 dressage which is described as “very controlled” (TBI-4). TBI-2 suggests racing is “the [activity] most  
629 aligned to one of the key instincts of the horse which is to run in a herd”. Two informants refer back  
630 to the nature of the wild horse, as for example TBI-8 states “anything that leverages of things that  
631 they would do normally in the wild is something that falls within that range”. When referring to  
632 “key instincts” and what is natural, reference to the horse is made rather than the thoroughbred,  
633 again distancing the thoroughbred from the horse. The industry informants’ dominant narrative that  
634 thoroughbreds love to race and that racing is the most natural ridden activity for the thoroughbred  
635 (except in one instance, TBI-3) is consistent with their naturalisation of the thoroughbreds’ mental  
636 and behavioural expressions and the controlling mechanisms (Section 4.2.1). It lends strength to  
637 their justification of the activity of racing and is consistent with the dominant approach of  
638 downplaying and trivialising anything in the images that could evoke welfare concerns (Section  
639 4.2.2). However, the thoroughbred’s ontological removal from nature is in contradiction to the  
640 industry informants’ naturalisation of the thoroughbreds’ mental and behavioural expressions on  
641 raceday.

642 A lack of attention to the horse-human dimension also emerges from the verbal-only interview  
643 phase. Only one industry informant refers to the horse-human interaction, and he describes what he  
644 considers to be a natural shared activity: “Horses and their owners or riders get a real strong bond  
645 and there is nothing a horse enjoys more than being out on a ride or being groomed and set ready for  
646 activity. I don’t think it has to be racing” (TBI-3). The otherwise demonstrated lack of interest in the  
647 horse-human relationship corresponds with the industry informants’ tendency to ignore and  
648 downplay the presence and impact of the humans and their actions depicted in the images (Sections  
649 4.2.2 and 4.3.4). It seems the industry informants mostly do not consider the horse-human  
650 relationship a factor impacting welfare, let alone as having a relational ontological presence [31,95]  
651 in its own right.

652 The construction of the thoroughbred dominantly as an athlete and a breed, being bred for  
653 racing and loving racing, is not static. Two industry informants express a view that also sees the  
654 thoroughbred as a horse. For example, TBI-4 emphasises the thoroughbred is a social species who  
655 “love[s] to be in a herd”. The idea that the thoroughbreds are individuals in the personalities,  
656 strengths and weaknesses is also expressed (TBI-4 and TBI-7). Three other industry informants place  
657 emphasis on the thoroughbred being “smart” and “trainable” (TBI-7) and “highly adaptable” for  
658 other “athletic pursuits” (TBI-2). TBI-1 adds they are “also a very kind animal [epitomising] a lot of  
659 special qualities as an animal, as an athlete and as a companion.” The comments emphasising  
660 trainability and adaptability are made in the context of retirement from racing and the  
661 thoroughbred’s suitability for a life after racing. This ontological flexibility from the athlete, being  
662 purpose-bred and loving racing, to the trainable and adaptable athlete and companion, is made by  
663 informants with a stake in thoroughbred aftercare (i.e. life after exiting the racing industry) and  
664 suggests there is a pragmatism and opportunism in conceptualisations of the thoroughbreds’ nature.  
665 It seems a re-framing of their message has taken place, aimed at a particular audience such as the  
666 researcher, those potentially interested in retired and retrained thoroughbreds, and the public at  
667 large [96].

668 In sum, the industry informants remain distant from the concept of naturalness, they appear to  
669 see the thoroughbred as a breed somewhat separate from nature and a species somewhat different  
670 from the horse. Nonetheless, they rely strongly on constructing a notion of the nature of the  
671 thoroughbred and of what is natural that defends racing practices. Their conceptualisations of  
672 naturalness are not only fragmented, contradictory and inconsistent, but reductionist, instrumental  
673 and opportunistic according to their messaging needs.

## 674 4.4.2. Animal Advocacy Informants

675 In contrast to most industry informants, all but one of the seven animal advocacy informants  
676 demonstrate great interest in engaging with the notion of naturalness, although most, like the  
677 industry informants, do not recognise the term as such [1]. This interest finds resonance in referring  
678 to the thoroughbred as first and foremost a “horse” or “animal”, rather than a “thoroughbred” or a  
679 “breed” wedded to racing. They describe the thoroughbred as a “magnificent animal, powerful,  
680 strong but also sensitive” (AAI-3), a “fragile animal” (AAI-1), and also “possibly the most beautiful  
681 animal on earth” (AAI-6). AAI-6 also points out they are all “beautiful individuals”, “they all have  
682 individual needs, likes and dislikes, different temperaments.”

683 However, most advocacy informants also describe the thoroughbreds as animals who are  
684 highly exploited and deprived of their agency, as being placed at risk by human hand (AAI-1), as  
685 having a “less honourable connection with gambling and profiteering” and as a status symbol for  
686 humans (AAI-3). AAI-6 describes the link between exploitation and deprivation:

687  
688 “I also think of them as greatly exploited because they have so little say in their lives, even  
689 those horses who are considered successful at what they do, there is usually no one person  
690 who is committed to that animal for their whole lives. They go off from barn to barn, they  
691 move from trainer to trainer, from jockey to jockey and all too often end up someplace  
692 horrible, at least in the United States. So, they are on the one hand the most revered, and on  
693 the other hand, the most discarded animal that I know of.” (Animal advocacy informant  
694 AAI-6)

695  
696 This response exemplifies that the animal advocacy informants’ responses to the verbal-only  
697 interview questions carry mostly negative connotations when referring to the horse-human  
698 relationship in the context of the thoroughbred industry. This echoes their photo-elicited responses.  
699 Describing the images, they see the human doing something to the horse which is mostly seen as  
700 being against the horses’ interest and welfare. The exploitative dimension is however also presented  
701 by two advocacy informants (AAI-5 and AAI-7) in pro-economic and social-cultural terms when  
702 they refer to the thoroughbred as a breed of economic value and prestige with impact on the equine  
703 industry and the entertainment industry more broadly, with a global “trickle-down effect from the  
704 thoroughbred racing industry throughout the entire mainstream equine world and into other  
705 breeds, people and their desire to become involved with horses because of this” (AAI-7).

706 Animal advocacy informants are mostly critical of the idea of referring to any ridden activity as  
707 “natural”. They suggest instead more horse-centred categories for what is natural, as AAI-4 states,  
708 natural is only “grazing, go almost feral... the others are peripheral events [to] utilise a horse's  
709 qualities... for transport, for leisure and for sport.” They suggest all activities exploit the horses’  
710 abilities and not “any one is more natural to a horse than another” (AAI-6). AAI-2 affirms “there is  
711 not a lot that is really natural about keeping domestic horses in any case. So pretty much everything  
712 we do, I don't think you could describe as being natural”. They identify a broad range of factors that  
713 violate the nature of the thoroughbred, including many aspects of the overall environment. AAI-2  
714 suggests any use of horses involves a range of activities which “are all issues in terms of welfare, all  
715 that is unnatural”, including removing the horses from their familiar environment and social group,  
716 transportation, confinement, the competition arena and mixing horses unfamiliar with each other.  
717 Some suggest however where there is a bond, a horse-human relationship, for mutual benefit,  
718 certain activities may be acceptable, but not when the horse is forced to do something (AAI-3).  
719 Within this frame of reference, trail riding, not endurance riding as one informant points out, is an  
720 activity for which some have some tolerance in terms of what is natural for the horse (AAI-1, AAI-5,  
721 AAI-7). As AAI-7 states, trail riding is what the horse would do in nature, “whether in the wild or  
722 domesticated horses in captivity, they like to run.” Overall, the advocacy informants refer to running  
723 as opposed to racing.

724 In sum, the animal advocacy informants’ conceptualisations of naturalness and what is natural  
725 are consistent throughout their responses to the verbal-only questions and to the photographs. They

726 demonstrate a more holistic idea of naturalness. They relate naturalness to the many aspects of the  
727 thoroughbreds' lives, to their natural emotional and behavioural needs, their telos, health and  
728 healing, husbandry and training practices, and to how humans relate to them (see also Bergmann  
729 [1]). They relate it to the thoroughbreds' horseness rather than "thoroughbredness", and based on  
730 this, they mostly argue that racing practices are not in the interest of thoroughbred welfare. They  
731 tend to recognise a de-naturalisation of the horses' life-world, condition and treatment, and a  
732 violation of their nature, integrity and agency.

#### 733 4.5. *Naturalness as a Lens for Thoroughbred Protection*

734 In the following subsections, the themes emerging from all informants' responses are  
735 synthesised and discussed: Naturalising, normalising and downplaying racing practices and their  
736 impact; the thoroughbred as an eager and willing participant versus a horse under stress, anxiety,  
737 being agitated and disturbed; perception of equipment and its application; the visual problem as a  
738 problem of showing too much or not enough; the horse-human relationship; and the idea of the  
739 thoroughbredness of the thoroughbred versus the horseness of the horse. The themes are discussed  
740 within the context of research in relation to impacting factors which are raised by the informants,  
741 namely the bit, the tongue-tie and the human handling. Two examples of recent interventions from a  
742 well-known racetrack operator in North America and the Australian racing authority are included  
743 (see Section 4.5.2) to support the findings and illustrate the hermeneutic research approach (Section  
744 3.3.5). Recommendations for further research conclude this section (Section 4.5.5).

##### 745 4.5.1. *Naturalness as a Guide Versus Naturalness as a Fallacy*

746 What seems to be a significant factor in the industry informants' process of naturalising,  
747 normalising and downplaying racing practices and their impact on the horse is that many such  
748 practices exist because they have "always been done that way". In the case of bits for example,  
749 Mellor and Beausoleil [17] find that most horses "exhibit clear behavioural evidence of aversion to a  
750 bit in their mouths, varying from the bit being a mild irritant to very painful" and believe that this in  
751 itself is a significant welfare issue requiring attention [17]. They suggest "the non-recognition of clear  
752 behavioural evidence of horses' aversion to bits in their mouths arises because the indicative  
753 behaviours have been and are observed so commonly that, except in more extreme cases, they are  
754 considered to be normal" [17]. Cook and Kibler [20] (p. 551) suggest because bits have been standard  
755 equipment for millennia, they "are widely assumed to be indispensable and ethically justified".

756 When calling on what is natural, one can be expected to question what really is natural. If  
757 naturalness was a guide, a starting point to assess the expressions of the thoroughbreds in the  
758 images and elsewhere could be similarity to the "closest wild counterparts" [44] (see also Section 2).  
759 In the case of the bit, Cook [21] (p. 256) summarises: "At liberty, the running horse has a closed  
760 mouth, sealed lips and an immobile tongue and jaw". The horse is an obligatory nose-breather, and  
761 the application of a bit breaks the seal of the lips [97]. This has a raft of implications for health,  
762 welfare, ability to perform and safety including bit-induced pain being a cause of fear, flight, fight  
763 and facial neuralgia, the bit interfering with breathing and locomotion, the bit being implicated in  
764 breakdowns and fatal accidents and it is hypothesised the bit causes dorsal displacement of the soft  
765 palate, induces asphyxia which causes bleeding from the lungs (EIPH), and it can cause sudden  
766 death [21,97,98]. Moreover, Mellor and Beausoleil [17] conclude the bit impacts horses in a way that  
767 they experience severe breathlessness.

768 Instead of questioning the application of the bit, the industry informants see it as part of a  
769 normal and natural system in racing. For example, Image 2 which depicts the head of a ridden bitted  
770 thoroughbred with an open mouth identified by Mellor and Beausoleil [17] as a sign of aversion to  
771 the bit, is described by industry informants as depicting "nothing out of the ordinary" (TBI-6),  
772 showing "actually a very gentle bit" (TBI-4), and TBI-4 explains the mouth opens not because the  
773 jockey is "tearing at his mouth", but because "the horse is wanting to go forward" and so "the  
774 horse... is pulling against his mouth". Most industry informants also express support for the use of  
775 added pressure-exerting tools and practices to deal with the problems the application of the bit and



776 training, racing and handling practices cause, such as the use of yet harsher bits and nosebands, and  
777 the application of the tongue-tie (Section 4.2.2), despite their welfare implications and lack of efficacy  
778 [19,99-101]. Other practices in the industry at large to address health and performance issues  
779 potentially linked to use of the bit [21,97,98] include use of the contested drug furosemide [102] and  
780 surgery performed at the horses' upper respiratory tract [103-105]. These are common interventions  
781 despite the side effects of the drug furosemide [102] and the potential for complications as a result of  
782 surgery with subsequent health and welfare implications for the thoroughbred [106-109]. The central  
783 focus of these interventions is generally not to protect thoroughbred health and welfare but for  
784 humans to pursue an activity that pushes the horses beyond their natural physiological limits.  
785 Indeed, those involved in the care of racehorses identified the overuse of veterinary interventions as  
786 a significant welfare challenge [57].

787 The examples discussed above demonstrate how calling on what is natural can be a fallacy  
788 when divorced from scientific evidence and from the horses' interest in their own physiological and  
789 psychological integrity. It also demonstrates how naturalness as a guide is relevant for  
790 thoroughbred welfare and protection even in an environment and under a handling and exercising  
791 regime that controls all aspects of their lives and has significantly compromised their nature, agency  
792 and integrity.

#### 793 4.5.2. Naturalness and the Legitimacy of Thoroughbred Racing

794 Naturalising and normalising the horses' emotional and behavioural expressions and the  
795 impact of particular racing practices depicted in the images can be seen as an attempt to legitimise  
796 racing. There are indications that the industry informants are aware that the thoroughbreds'  
797 expressions can be perceived as compromised welfare, as TBI-5 expresses concern about the visual  
798 of the tongue-tie (Section 4.2.3), and TBI-4 adds when commenting on Image 2 that the open mouth  
799 is "not a pain mechanism". The industry informants' tendency to ignore and thus conceal potential  
800 welfare concerns embedded in ordinary racing practices as a way of addressing the public's  
801 perception of racing appears to be an approach taken throughout the international racing industry.  
802 For example, The Stronach Group's media department reportedly has specific instructions to reduce  
803 the use of images showing certain whip actions in racing [110]. In 2018, the Stronach Group's  
804 Gulfstream Park racetrack even produced and distributed a promotional wall calendar which  
805 reportedly contained images with some of the whips carried by jockeys in the racing action shots  
806 digitally removed [110]. In at least one instance, not only has the whip been removed, but the bit has  
807 also been digitally altered to appear as less severe than in the original photograph (see the original  
808 and the manipulated images on pp. 5-6 in the article written by T.D. Thornton for the Thoroughbred  
809 Daily News [110]. The tendency of the industry informants to not put into words the extent of the  
810 mental and behavioural expression of the horses, and the impact of the equipment used or the  
811 human handling of the horse (Section 4.2.2), functions similarly to how digital image editing tools  
812 are used as a way of "unseeing" what they prefer not to be seen. The industry informants presenting  
813 certain aspects as normal and natural indicates they are consciously and unconsciously participating  
814 in the industry's priority project to change and shape the public's perception of the racing industry  
815 and its treatment of the thoroughbred, a phenomenon which can also be observed in other  
816 equestrian disciplines [111].

817 What TBI-5 identifies as a visual problem is a problem of legitimacy of the horseracing industry  
818 [112,113]. With their attention directed at sanitising the visual, the industry engages in censorship  
819 and resists transparency. This undermines trust in the industry, and trust is an indispensable aspect  
820 of its legitimacy [113]. The industry is aware of the risk to its social license to operate [113].  
821 Nonetheless, in particular racing in the UK, Australia and the US, the regulating racing bodies are  
822 resistant to centre the protection of the thoroughbred over industry interests. In Germany, German  
823 Racing banned the use of tongue-ties as Rüdiger Schmanns, then director of racing for German  
824 Racing, stated "[w]ith growing animal welfare activities, especially in Germany, there was no  
825 possibility of allowing the use of tongue ties to continue" [115]. In 2020, Racing Australia reaffirmed  
826 their position that the tongue-tie is acceptable, arguing they have found "an appropriate balance

827 between the welfare of the horse and performance" [115], despite its disputed efficacy and need  
828 [116] and health and welfare impact [19,117].

829 The application of the bit and the tongue-tie are but two examples. Butler et al. [57] identified a  
830 raft of welfare issues and challenges that demonstrate how common racing practices put  
831 thoroughbred welfare at risk. It can be expected that the racing industry will come under increasing  
832 pressure if more details of their common practices in racing, and breeding thoroughbreds for that  
833 matter, become increasingly known to the general public. This is largely due to the implications for  
834 thoroughbred welfare and the nature of the horse, and the concern people show for naturalness in  
835 determining what a good life for an animal is [42,48,54]. Currently, industry representatives take the  
836 view that the problem is not the impact of racing practices on the horse but that people don't "really  
837 understand what is going on there" (TBI-5, see Section 4.2.3), an aspect previously discussed by  
838 Bergmann [3] (pp. 127-128). Indeed, many people are unaware of the common handling and training  
839 practices in racing and animal advocates believe there is a need to inform and educate the public. As  
840 advocacy informant AAI-1 states, referring to the tongue-tie in Image 4, she doesn't "expect that  
841 most people, either at the track or elsewhere, would ... be able to .... understand what they were  
842 seeing." However, lack of public awareness cannot be used as an excuse to continue to harm  
843 thoroughbreds nor as an "excuse to ignore the unrepresentative nature of existing welfare policy"  
844 [42] (pp. 29-30). For welfare policy to have democratic legitimacy, it needs to reflect the public's view  
845 of what it means for an animal to fare well [42].

#### 846 4.5.3. The Horse-Human Relationship as an Aspect of a Holistic Notion of Naturalness

847 In the responses of the animal advocacy informants, the horse-human interaction emerged as an  
848 important element for horse welfare (Section 4.3.4). This echoes Butler et al. [57] who found the  
849 horse-human relationship was identified by those professionally caring for thoroughbreds as a  
850 seminal aspect of good welfare. The participants referred to factors such as the "consistency of  
851 routine and carer" and horse and human "getting on", ensuring continuity and attention to detail,  
852 and not only well-trained and knowledgeable but experienced staff for a "best life" scenario.  
853 Creating a positive horse-human contact was linked to a potentially higher level of care and  
854 observation. Hall et al. [11] describe the link between human handling and horses' emotional and  
855 behavioural expressions:

856  
857 "Horse-human interactions undoubtedly influence both the subjective emotional  
858 experience and the behavioural expression of the horse. The influence may be due to the  
859 intensive management, handling and focused interaction associated with the process of  
860 training, and the physical and emotional demands placed on the animal in relation to  
861 performance. Methods of training and handling which provoke negative emotions and  
862 states such as fear, or where the individual experiences pain, may lead to short term  
863 success in relation to behavioural change, but will also produce fearful horses which are  
864 not desirable for the horse or human safety, nor successful for performance in the longer  
865 term. When frightened or anxious, horses will show escape responses ranging from  
866 agitation involving a raised head and neck to extreme reactions including bolting." [11] (p.  
867 184)

868  
869 Most industry informants ignore or downplay the human factor in the images, including in  
870 Figure 3 depicting a thoroughbred resisting to enter the starting gate. This may be a result of the  
871 informants interested in conveying to the researcher that there are no welfare issues to be seen. It  
872 could also be a case of non-recognition as discussed in the context of the bit above due to the  
873 normality of horses expressing fear and resistance at the starting gate. As Miles et al. [25] found, 71%  
874 of the studied 2-5 year old racehorses entering the starting gate demonstrated "unwanted"  
875 behaviours. They also found that gate staff responded by using an "artificial aid" such as whipping  
876 over 40% of the time. Moreover, it can be suggested that many of the emotional and behavioural  
877 responses of the thoroughbreds in the images may in fact be learned or shaped by the human factor

878 and the particular activity of racing as such [24]. The kind of relationship humans have with the  
879 horse shape the nature of the handling and training practices and vice versa, the handling and  
880 training practices shape the nature of the horse-human relationship. It is suggested that the  
881 underlying horse-human relationship plays a significant role in how the human and how the horse  
882 respond [11]. The low interest in the human-horse relationship and lack of recognition of its  
883 importance for equine welfare is characteristic of the industry at large. The participants of Butler et  
884 al.'s study [57] for example identified staff shortages and lack of experienced staff as a challenge  
885 significantly impacting thoroughbred welfare in various ways.

886 For a better understanding of the horse-human relationship this author suggests to  
887 contextualise it within the framework of naturalness. This contrasts with Yeates [44] who believes  
888 other animals' interactions with humans are unnatural and therefore human-animal relationships  
889 are not an aspect of naturalness. However, humans have lived for tens of thousands of years in  
890 multi-species communities, whether in close proximity or not, and it seems more useful for animal  
891 protection in a multi-species world to conceptualise human-animal relationships and interactions as  
892 being an aspect of naturalness. A reductionist approach to naturalness and the human-animal  
893 relationship would mean to artificially separate the innate connection between humans and other  
894 animals that is based in a shared evolutionary continuity, also expressed as kinship [118]. The  
895 argument based in the binary of humans versus nature, and the belief humans are separate from  
896 nature, is considered by many one of the root causes of human exploitation of animals and nature  
897 [119] and is counterproductive to advance animal protection. The question is rather what  
898 human-animal relationships should look like under a framework where naturalness is intrinsically  
899 valued. Investigations in, for example, fields such as cognitive ethology [120] and into the  
900 ontological nature of the human-animal relationship [31,95] can assist in finding answers.

901 The welfare impact and the ontological status of the horse-human relationship discussed above  
902 speak to a definition of naturalness as a holistic notion. The raft of day-to-day welfare issues  
903 identified in the general equine welfare literature and unified by the notion of naturalness (Section  
904 1), the many aspects of an animal's life in which people relate to naturalness when thinking about a  
905 good animal life (Section 2), the role of naturalness for many equine welfare issues identified by  
906 particular groups of horse people such as owners/riders and others involved in the care of horses  
907 [55–57], and the animal advocacy informants' conceptualisations of naturalness (Section 4.4.2), all  
908 highlight the holistic qualities of the notion of naturalness. It appears reducing this concept to one or  
909 a very limited number of aspects is arbitrary and an opportunistic reconstruction of the generic  
910 meaning of naturalness. Those insisting on a narrowing down of the meaning of naturalness when  
911 applied to animal welfare should use a different term that more accurately reflects what they are  
912 referring to, such as natural nonhuman animal behaviour only, rather than naturalness. A reduction  
913 obscures and co-opts the notion of naturalness and serves the user of the animal rather than the  
914 animal's full range of interests and needs. Accordingly, the industry informants dominantly use the  
915 concept of naturalness selectively when it suits their economic model (of breeding) and their activity  
916 (of racing).

917 The onus is on the racing industry to engage with the horse-human relationship as a welfare  
918 issue in racing, as long as the industry exists. A re-thinking of the ontological status of the  
919 thoroughbred in racing also has to occur. Recognising in the thoroughbred the horseness of the  
920 horse (compare Section 4.4) can assist in recognising the need to engage with what is natural based  
921 on evidence. Moreover, adopting a holistic notion of naturalness is likely to maximise its potential  
922 for thoroughbred protection. Furthermore, the recognition of the thoroughbred's nature has to  
923 extend to a recognition of their individual natures. It has to go beyond the species to acknowledge  
924 the individual's temperaments, preferences, abilities and boundaries, as one of the animal advocacy  
925 informants (AAI-6) states, the horses "are not all machines who despite their pedigree and their  
926 backgrounds want to... race".

927  
928  
929



930 4.5.4. The Layers of Engagement with Animal Protection and Naturalness

931 Previous research which explored the interface of thoroughbred welfare and sustainability  
 932 found the industry informants are in some ways the progressives in the industry and they are  
 933 situated at the reform level of the industry’s welfare discourse [1]. This current research, however,  
 934 highlights that there are few individual cases where industry informants share similar concerns to  
 935 advocacy informants (for example, TBI-9 responding to Image 3, Section 4.2.1). When it comes to  
 936 ordinary racing practices such as the handling of horses and the application of equipment, the  
 937 industry informants appear to be more interested in defending current practices and maintaining the  
 938 status quo (Section 4.2). This bears significant risks for thoroughbred welfare and protection.

939 The framework of the Layers of Engagement with Animal Protection [1] is applied to further  
 940 analyse and discuss the findings. Figure 6 is a further development of the layers presented  
 941 previously in table format (Table 5 in Bergmann [1]) and incorporates the concept of naturalness in  
 942 more detail. Eight layers were identified. They range from those layers striving to maintain the  
 943 status quo (Layers 1-2) through reform (Layers 3-6) and to those aiming at transformation (Layers  
 944 7-8). There is no strict separation between the discourse affiliated with any layer. The discourse on a  
 945 particular issue can move up and down these layers, and the layers can overlap. The layers are not  
 946 necessarily exclusive but can be, and any of the layers can be engaged within a discourse  
 947 concurrently. They can augment each other but also be contradictory and difficult or impossible to  
 948 reconcile. Important is awareness at what layer/s the discourse takes place. The layers were  
 949 identified in the context of the thoroughbred racing industry, but they can be adapted to interrogate  
 950 other animal industries, interspecies activities or multi-species communities.  
 951



952

953 **Figure 6.** Layers of engagement with thoroughbred protection and the concept of naturalness.  
 954 Indicates the status of the concept of naturalness within the discourse as described by Layer 1 to  
 955 Layer 8 (L1-L8). The status of the thoroughbred industry discourse is situated within each layer.

956 Most industry informants' comments explaining and justifying racing practices invoking the  
957 natural take place at Layers 1-4. At these layers, the discourse focusses on functioning for optimal  
958 raceday performance, with welfare being a by-product of or equal to integrity measures. The  
959 industry informants' discourse supporting techno-bio-medical control (Layer 4) is prioritised to  
960 optimise the commodifiable characteristics of the thoroughbred. At the same time, these  
961 interventions are presented as being in the interest of thoroughbred welfare and safety, as for  
962 example, TBI-6 and TBI-7 respond to Image 4, the tongue-tie is for safety of the rider and horse.  
963 Thoroughbred welfare as such gains more weight in the industry discourse at Layer 3, where the  
964 focus is on the visible and most egregious welfare violations [1], but the idea of naturalness is  
965 irrelevant at that layer, as it is for industry integrity, at least from the industry's perspective (more on  
966 the discourse in the intersection of industry integrity and racehorse welfare in Bergmann [1]).  
967 Concern for naturalness is reduced to the legitimating rhetoric the horse "loves to race". At Layers  
968 1-4, the industry informants and the thoroughbred industry at large see nature as a limiting factor to  
969 be overcome through invasive means such as breeding (Section 4.4.1), the use of drugs (such as  
970 furosemide), surgery and equipment (see Section 4.5.1).

971 Layer 5 offers opportunities for significant engagement with naturalness with its interest in the  
972 day-to-day living, husbandry practices, training and environmental conditions, and to some degree,  
973 horse-human relationships and the consideration of the horse's entire lifespan. Here, the general  
974 animal welfare discourse places at least equal focus on the day-to-day conditions while centring the  
975 horse, thus potentially preventing many of the egregious welfare violations. Five industry  
976 participants (Section 4.4.1) made reference to aspects of Layer 5 to varying degrees, including  
977 interest in retraining and rehoming retired racehorses, thus acknowledging the natural lifespan of  
978 the thoroughbred extends beyond their use in racing and breeding and that this should be catered  
979 for. This interest in aftercare however is largely due to public concerns and animal advocacy  
980 campaigning and at this point in time appears confined to reaching for "low-hanging fruit" projects  
981 signalling that the industry is responding to welfare concerns of "wastage" [121]. There is however  
982 potential for the discourse around aftercare to move beyond Layer 5, as developments in aftercare  
983 evolve, as the discourse around human-animal relationship develops and the protection status of  
984 nonhuman animals grows.

985 Where Layers 5 and 6 meet, the horse-human relationship gains relevance in the discourse.  
986 When discussing naturalness, one industry informant (TBI-3) relates to the horse-human bond in  
987 one instance (Section 4.4.1) and (TBI-4). Generally, however, at the systemic level, Layers 5 and 6  
988 currently have limited relevance for the industry informants and the industry at large. At Layers 5  
989 and 6, the discourse moves beyond veterinary science and others based in the natural sciences. Layer  
990 6 in particular is situated in the scholarly discourse to engage with, for example, (non-invasive)  
991 research in animal welfare, ethology, equitation science and the social sciences. Yeates [44] for  
992 example can be said to be engaging with naturalness at Layers 5-6 but the limitation placed on his  
993 definition of naturalness as relating to natural animal behaviour only and being distinct from  
994 species-specific needs [44] limit its potential for advancing into broader animal interests and the  
995 discourse taking place at Layer 7. It can be expected that those in racing engaging at Layers 5-6 will  
996 inevitably sooner or later engage more with the concept of naturalness. This is confirmed with the  
997 description of the 'best life' scenario for a racehorse in Butler et al.'s study [58], where the discourse  
998 of the 'best life' scenario takes place at Layer 5 and to some degree at Layer 6, with the study  
999 participants emphasising a positive horse-human relationship and aspects of naturalness.

1000 It appears that in contrast to industry informants, animal advocacy informants overall have a  
1001 strong interest in engaging with Layer 5, in particular with aspects of naturalness. Some also engage  
1002 with aspects of naturalness at Layers 6 and 7. How the animal advocacy informants of this study  
1003 conceptualise naturalness resembles how people in general consider naturalness. Both tend to view  
1004 naturalness in holistic terms including a variety of considerations (Section 2, Section 4.3 and Section  
1005 4.4.2). Industry informants do not engage with Layers 7 and 8 at all. These are the layers where a  
1006 holistic notion of naturalness plays an essential and defining role for animal protection. Naturalness  
1007 is considered an inherent worth to be protected and preserved. Engaging with Layers 7 and 8 aims at

1008 facilitating a fundamental shift in human attitudes, belief systems and paradigms, moving toward  
1009 engagement with animal protection on the animals' own terms. It can be expected that sections  
1010 within society are interested in engaging with the notion of naturalness as an intrinsic value once  
1011 this discourse at Layers 5-8 advances in society at large. This will have implications for how  
1012 thoroughbred racing and breeding will be perceived.

#### 1013 4.5.5. Recommended Research

1014 While some advocacy informants feel a sense of unease and violation arising from the  
1015 horse-human interactions observed in the images, there is still some tolerance for horse-human  
1016 shared activities that tentatively can be conceptualised as being in the realm of what is natural, if  
1017 there is mutual benefit and if the horse is not exploited (see Section 4.4.2). Interest in the nature of  
1018 horse-human shared activities is increasing [31,32,95]. Framing this question within a naturalness  
1019 paradigm is expected to assist in articulating what shared horse-human activities that are ethical,  
1020 non-exploitative and of benefit for the horse could look like. Considering that animal welfare is  
1021 conceived of as a public good by some [122], and since racing lures gamblers and visitors to fund  
1022 their enterprise, re-evaluating the activity of thoroughbred racing within this context is of public  
1023 interest.

1024 Based on the impact of common racing practices on the thoroughbred discussed in this article,  
1025 the question arises whether and if so, to what degree thoroughbreds during and post-racing  
1026 engagement suffer a form of post-traumatic-stress-disorder (PTSD). Common physical injuries are  
1027 often described by those interested in ex-racehorses [123,124] but there is also anecdotal evidence  
1028 that supports the suggestion ex-racehorses are left with emotional trauma [125]. PTSD has been  
1029 shown to occur in other animals [126-128], yet, the condition described as PTSD is generally not used  
1030 in the literature to describe the psychological state of thoroughbreds showing particular symptoms.  
1031 Non-invasive research to investigate the status of thoroughbreds in the context of PTSD is needed.  
1032 The research should be interpreted within a naturalness paradigm to ensure the thoroughbred's  
1033 interest is centred. Strategies to prevent the occurrence of PTSD in thoroughbreds are required, as  
1034 long as racing persists.

1035 Some of the industry informants identified the culture within racing as one of the greatest  
1036 threats to thoroughbred welfare but they did not consider it an issue to be addressed for  
1037 thoroughbred protection [1]. Social and organisational change research could be engaged to explore  
1038 this distinction further and develop strategies to advance thoroughbred protection through  
1039 socio-cultural change within the industry. Particular attention should be paid to the role naturalness  
1040 and perceptions of naturalness play. There clearly is a need to better understand the socio-cultural  
1041 dimension at all levels within the industry itself, requiring the industry to move from their reliance  
1042 on veterinary science and to ask different questions about how to protect thoroughbreds while  
1043 racing persists.

## 1044 5. Conclusions

1045 This study has found that how naturalness is conceptualised is linked to how the impact of  
1046 common racing practices on the thoroughbred are perceived, and that this has direct implications for  
1047 the welfare of thoroughbreds in racing. While the idea of the natural holds a seminal position within  
1048 the thoroughbred racing and breeding discourse, the thoroughbred industry informants' interest in  
1049 the notion of naturalness is limited. They remain distant to the idea of naturalness, and their  
1050 relationship to what is nature seems not only reductionist and instrumental, but contradictory,  
1051 inconsistent and opportunistic. The informants mostly naturalise, normalise and downplay the  
1052 emotional and behavioural expressions of thoroughbreds on raceday. This leads to a naturalising,  
1053 normalising and downplaying of racing practices. As a consequence, they tend to under- and  
1054 misrepresent thoroughbred protection needs. This inclination is facilitated by the conception of the  
1055 thoroughbred as a breed removed from nature, bred to race and eager and willing to participate in  
1056 racing. The key industry informants' interest appears to reside in maintaining the status quo rather  
1057 than addressing common racing practices to improve thoroughbred welfare.



1058 In contrast, animal advocacy informants see in the thoroughbred the horseness of the horse.  
1059 They have easy access to the notion of naturalness, they conceptualise it in holistic terms and their  
1060 conceptualisations are more consistent with ethological perspectives. Some advocacy informants feel  
1061 a sense of unease over violations of aspects of naturalness resulting from common racing practices.  
1062 They recognise a de-naturalisation of the horses' life-world and its impact on the horses, they see a  
1063 horse who is under stress and anxiety, who is agitated and disturbed. They refer to what is in the  
1064 horses' nature as a guide for acceptable practices.

1065 This study has demonstrated the potential of the adoption of the concept of naturalness as a  
1066 guide for thoroughbred welfare and protection that is adaptable to other interspecies activities, other  
1067 animal industries and multi-species communities. There are indications that the welfare discourse is  
1068 moving toward greater recognition of the concept of naturalness and there is potential for welfare  
1069 policy and norms to shift more explicitly toward this notion as a signpost for a good animal life.  
1070 Reducing naturalness to animal behaviour only limits its potential for animal protection. Instead,  
1071 naturalness should be conceptualised holistically and as an inherent value of life, and the  
1072 horse-human relationship needs to be recognised as a seminal aspect of naturalness.

1073 Operationalising naturalness bears opportunities for the animal protection discourse. Applying  
1074 the framework of the Layers of Engagement with Thoroughbred Protection and Naturalness can  
1075 reveal when calling on what is natural and naturalness becomes a fallacy. It assists in recognising the  
1076 values and interests that guide or dominate the discourse, and which conceptions are marginalised.  
1077 It fosters transparency and assists in recognising whether the discourse is concerned with the  
1078 protection of the animal, or the facilitation of industry practices. As shown in this article, the Layers  
1079 of Engagement can be used as a diagnostic tool to evaluate the discourse, to contextualise the  
1080 intentions of those engaging in the discourse – is it reductionist, user and industry focussed, or  
1081 holistic and nonhuman animal-centred - to ensure advancing the interests of the thoroughbred and  
1082 other animals. Importantly, the model is adaptable so as to enable the interrogation of other  
1083 interspecies activities, animal industries and multi-species communities.

1084 In sum, the problems of thoroughbred welfare are much broader than the industry currently  
1085 considers attention-worthy. The non-recognition of compromised health and welfare of the  
1086 thoroughbred in racing resulting from common handling, training and racing practices poses  
1087 significant threats to the thoroughbred and further questions the legitimacy of the thoroughbred  
1088 industry. The industry will be increasingly pressured to address those issues with the discourse  
1089 about common racing practices, animal welfare and naturalness advancing in society at large.

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1098 The ITBF had covered the cost for her travel and accommodation to present at the event. The author had also  
1099 been invited by Hippitrika, the publisher of the journal *Pferdeheilkunde – Equine Medicine*, to present early  
1100 findings of her research at the Forum "Business and Ethics of Racing and the Role of the Veterinarian" in 2015 in  
1101 Baden-Baden, Germany. Hippitrika had covered the travel and accommodation for the author to present at  
1102 their event. The conference funders had no role in the design of the study; in the collection, analyses, or  
1103 interpretation of data; in the writing of the manuscript or in the decision to publish the results.  
1104

1105 Appendix A



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**Figure A1.** Images 1-3 of eight images of a thoroughbred with tongue-tie taken on raceday while the horse was led past the photographer/researcher in the mounting yard.



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**Figure A2.** Images 4-6 of eight images of a thoroughbred with tongue-tie taken on raceday while the horse was led past the photographer/researcher in the mounting yard.



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**Figure A3.** Images 7-8 of eight images of a thoroughbred with tongue-tie taken on raceday while the horse was led past the photographer/researcher in the mounting yard.

1115

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## Appendix 2

### Sources for Mapping Review, Interview Schedule, Informant Recruitment and Industry News

This appendix contains nine tables providing sources of information used to undertake the mapping review (Chapter 2), to inform the development of the interview schedule for the empirical study of this thesis, and to inform sampling and recruitment of research informants. Some sources which are marked with three asterisks (\*\*\*) have been used throughout this research project to keep abreast of current events and developments in the international thoroughbred industry as part of the critical hermeneutic approach (see Section 1.9.2.5.1).

Tables A1 – A7 list websites relevant for the governance and promotion of thoroughbred racing and breeding in Australia (Table A1), Hong Kong and Asia (Table A2), internationally (Table A3), Ireland (Table A4), New Zealand (Table A5), the UK (Table A6), and the US and North America overall (Table A7). It lists industry governing and rulemaking bodies and trade organisations, news outlets and in particular in the case of the US and North America overall, racing industry consortia, alliances and coalitions.

Tables A1, A3 and A7 also include links to some relevant documents and industry data sources.

Table 8 presents a list of industry conferences that also informed this research. Table 9 includes animal advocacy organisations' websites that were searched in order to identify those with expertise in thoroughbred welfare issues, and to recruit informants.

These tables are not a complete list of existing industry bodies, news outlets, industry conferences and animal protection organisations in the relevant regions. Instead, these listings have been identified as most relevant for the purpose of the mapping review, interview schedule development, sampling and recruitment, and industry news.

**Table A1.** Thoroughbred industry governance, regulation and promotion in Australia (selected sources)

<b>Racing</b>	Racing Australia (RA) (previously Australian Racing Board ARB)*** <a href="http://www.racingaustralia.horse">www.racingaustralia.horse</a> National body comprising Australia's eight State and Territory Principal Racing Authorities (PRAs) which regulate the Thoroughbred racing and breeding industry. Administers and amends the Australian Rules of Racing and the Rules of the Australian Stud Book. Lobbies government. Offers a number of "integrated products and services available to [PRAs], race clubs, owners, breeders, trainers, jockeys, punters and racing enthusiasts". Member of the International Federation of Horseracing Authorities (IFHA), Asian Racing Federation (ARF) and the International Stud Book Committee (ISBC).
	Racing NSW*** <a href="http://www.racingnsw.com.au">www.racingnsw.com.au</a> PRA. "Controls, supervises and regulates" horseracing in NSW.
	Racing Queensland <a href="http://www.racingqueensland.com.au">www.racingqueensland.com.au</a> PRA. Promotion and development of thoroughbred racing, harness racing and greyhound racing in Queensland.
	Racing SA (previously Thoroughbred Racing South Australia TRSA) <a href="https://racing.sa.com.au/">https://racing.sa.com.au/</a> PRA. "[C]ontrolling body for horseracing in South Australia. It represents, promotes and supports the State's thoroughbred racing industry. [I]ts two shareholders; Country Racing SA (CRSA) which presents the State's 24 provincial and country clubs [and] South Australian Jockey Club (SAJC) which conducts the Adelaide metropolitan races."

	Racing Victoria*** <a href="http://www.racingvictoria.com.au">www.racingvictoria.com.au</a> PRA. Governing body of thoroughbred racing in Victoria.
	Tasracing <a href="https://tasracing.com.au/">https://tasracing.com.au/</a> PRA. Promotion and development of thoroughbred racing, harness racing and greyhound racing in Tasmania.
<b>Racetracks</b>	South Australian Jockey Club SAJC <a href="http://www.sajc.com.au">www.sajc.com.au</a> Owner of Morphettville Racecourse, responsible for the facilities.
	Melbourne Racing Club <a href="https://mrc.racing.com/">https://mrc.racing.com/</a> Purpose: "[T]o conduct thoroughbred horserace meetings, training and other related activities at Caulfield Racecourse, Sandown Racecourse, Mornington Racecourse".
<b>Breeders</b>	Thoroughbred Breeders Australia (TBA)*** <a href="http://www.tbaus.com">www.tbaus.com</a> National peak body for the thoroughbred breeding industry and parent company of the six state breeders' associations.
	Thoroughbred Breeders NSW (TBNSW) <a href="http://www.tbnsw.com.au">www.tbnsw.com.au</a>
	Thoroughbred Breeders Victoria (TBV) <a href="http://www.tbv.com.au">www.tbv.com.au</a>
<b>Owners</b>	NSW Racehorse Owners Association (NSWROA) <a href="http://nswroa.com.au/">http://nswroa.com.au/</a>
<b>Industry News</b>	Just Horse Racing*** <a href="http://www.justhorseracing.com.au">www.justhorseracing.com.au</a>
	Racenet*** <a href="http://www.racenet.com.au">www.racenet.com.au</a>
	Racing.com*** <a href="http://www.racing.com">www.racing.com</a> Media rights holder for Victorian and South Australian thoroughbred racing, as well as broadcasting Hong Kong and other selected international feature race meetings.
	ThoroughbredNews*** <a href="http://www.thoroughbrednews.com.au">www.thoroughbrednews.com.au</a> Australian focus and international news.
<b>Documents of Interest</b>	Australian Rules of Racing*** <a href="http://www.racingaustralia.horse/FreeServices/Australian_Rules_Of_Racing.aspx">www.racingaustralia.horse/FreeServices/Australian_Rules_Of_Racing.aspx</a>
	Australian Racing Fact Books <a href="http://www.racingaustralia.horse/Aboutus/FactBook.aspx">www.racingaustralia.horse/Aboutus/FactBook.aspx</a>
	RA Annual Reports*** <a href="http://www.racingaustralia.horse/Aboutus/AnnualReport.aspx">www.racingaustralia.horse/Aboutus/AnnualReport.aspx</a>
	Racing NSW Annual Reports <a href="http://www.racingnsw.com.au/about-us-contacts/annual-reports">www.racingnsw.com.au/about-us-contacts/annual-reports</a>
	Racing Victoria Annual Reports*** <a href="http://www.racingvictoria.com.au/about-us/annual-reports">www.racingvictoria.com.au/about-us/annual-reports</a>
	Racing Victoria Stewards' Reports*** <a href="http://www.racingvictoria.com.au/integrity/stewards/stewards-reports">www.racingvictoria.com.au/integrity/stewards/stewards-reports</a>

**Table A2.** Thoroughbred industry governance, regulation and promotion in Hong Kong and Asia (selected sources)

<b>Racing</b>	Asian Racing Federation <a href="http://www.asianracing.org">www.asianracing.org</a>
	Hong Kong Jockey Club <a href="http://www.hongkongjockeyclub.com">www.hongkongjockeyclub.com</a>

**Table A3.** International thoroughbred industry development and promotion (selected sources)

<b>Racing</b>	International Federation of Horseracing Authorities (IFHA)*** <a href="http://www.ifhaonline.org">www.ifhaonline.org</a>
	European & Mediterranean Horseracing Federation (EMHF) <a href="http://www.euromedracing.eu">www.euromedracing.eu</a>
<b>Breeders</b>	International Thoroughbred Breeders Federation (ITBF)*** <a href="http://www.international-tbf.com">www.international-tbf.com</a>

	European Federation of Thoroughbred Breeders' Associations (EFTBA) <a href="http://www.eftba.eu">www.eftba.eu</a>
<b>Veterinarians</b>	International Group of Specialist Racing Veterinarians (IGSRV)*** <a href="http://www.igsrv.org">www.igsrv.org</a> Association of regulatory racing veterinarians, "advises authorities and encourages research on drugs, health and welfare of the horse". Organises the biennial International Conference of Racing Analysts and Veterinarians together with the Association of Official Racing Chemists. Has approximately 86 members representing 32 racing nations.
<b>Documents of Interest</b>	IFHA. International Agreement on Breeding, Racing and Wagering*** <a href="http://www.ifhaonline.org/Default.asp?section=IABRW&amp;area=15">www.ifhaonline.org/Default.asp?section=IABRW&amp;area=15</a>
	IFHA Racing and Breeding Facts and Figures*** <a href="http://www.ifhaonline.org/Default.asp?section=Resources&amp;area=4">www.ifhaonline.org/Default.asp?section=Resources&amp;area=4</a>
<b>Industry News</b>	Blood-Horse, Paulick Report, Thoroughbred Daily News (TDN) and Thoroughbred Racing Commentary (TRC), see details listed in Table A7 for US and North America.
	Horsetalk*** <a href="http://www.horsetalk.co.nz">www.horsetalk.co.nz</a>
	The Horse*** <a href="https://thehorse.com/">https://thehorse.com/</a>

**Table A4.** Thoroughbred industry governance, regulation and promotion in Ireland (selected sources)

<b>Racing</b>	Irish Horseracing Regulatory Board <a href="http://www.turfclub.ie">www.turfclub.ie</a> Rulemaking and enforcement.
	Horse Racing Ireland <a href="http://www.goracing.ie">www.goracing.ie</a> Governance and promotion.
	Association of Irish Racecourses <a href="http://www.air.ie">www.air.ie</a>
<b>Breeders</b>	Irish Thoroughbred Breeders Association (ITBA) <a href="http://www.itba.ie">www.itba.ie</a>
<b>Owners</b>	Association of Irish Racehorse Owners (AIRO) <a href="http://www.irishracehorseowners.com">www.irishracehorseowners.com</a>

**Table A5.** Thoroughbred industry governance, regulation and promotion in New Zealand (selected sources)

<b>Racing</b>	New Zealand Thoroughbred Racing (NZTR) <a href="http://www.loveracing.co.nz">www.loveracing.co.nz</a>
<b>Breeders</b>	New Zealand Thoroughbred Breeders' Association (NZTBA) <a href="http://www.nzthoroughbred.co.nz">www.nzthoroughbred.co.nz</a>

**Table A6.** Thoroughbred industry governance, regulation and promotion in the UK (selected sources)

<b>Racing</b>	The British Horseracing Authority (BHA)*** <a href="http://www.britishhorseracing.com">www.britishhorseracing.com</a>
	The Jockey Club of Great Britain <a href="http://www.thejockeyclub.co.uk">www.thejockeyclub.co.uk</a>
<b>Racetracks</b>	Racecourse Association <a href="https://racecourseassociation.co.uk/">https://racecourseassociation.co.uk/</a>
<b>Trainers</b>	National Trainers Federation (NTF) <a href="http://www.racehorsetrainers.org">www.racehorsetrainers.org</a>
<b>Breeders</b>	Thoroughbred Breeders' Association (TBA) <a href="http://www.thetba.co.uk">www.thetba.co.uk</a>
<b>Owners</b>	Racehorse Owners Association (ROA) <a href="http://www.roa.co.uk">www.roa.co.uk</a>
<b>Retirement</b>	Retraining of Racehorses (RoR)*** <a href="http://www.ror.org.uk">www.ror.org.uk</a>
<b>Industry News</b>	BHA Press Releases*** <a href="http://www.britishhorseracing.com/news-media/press-releases">www.britishhorseracing.com/news-media/press-releases</a>
	Racing Post <a href="https://www.racingpost.com/news/">https://www.racingpost.com/news/</a>

**Table A7.** Thoroughbred industry governance, regulation and promotion in the US and North America overall (selected sources)

<b>Racing</b>	<p>The Jockey Club*** <a href="http://www.jockeyclub.com">www.jockeyclub.com</a></p> <p>Breed registry for North American thoroughbreds. Primary responsibility: Maintenance of The American Stud Book (for US, Canada and Puerto Rico). Founding member of The International Stud Book Committee.</p> <p>"... created and developed a group of commercial, for-profit subsidiaries and partnerships, ... to serve specific segments within the industry using ... technology platforms and to generate profits that are used to support important industry initiatives."</p> <p>Engages in critical issues including medication, equine welfare, aftercare and marketing of racing, and drives the Welfare and Safety of the Racehorse summits (see Table A8), the Thoroughbred Safety Committee, the Equine Injury Database (see below in this table), and commissioned a comprehensive economic study of racing in 2011 ("Driving Sustainable Growth for Thoroughbred Racing and Breeding", see below in this table).</p>
<b>Cup Organiser</b>	<p>Breeder's Cup/NTRA*** <a href="http://www.breederscup.com">www.breederscup.com</a></p> <p>Promoter and organiser of championship racing over two days in the US as well as a series of lead-in races in the US and around the world.</p>
<b>Racetracks</b>	<p>Churchill Downs*** <a href="http://www.churchilldowns.com">www.churchilldowns.com</a> <a href="http://www.kyderby.com">www.kyderby.com</a></p> <p>Multi-track owning company in North America.</p>
<b>Coalitions and Alliances</b>	<p>Coalition for Horse Racing Integrity (CHRI)*** <a href="http://www.horseracingintegrity.com">www.horseracingintegrity.com</a></p> <p>National Thoroughbred Racing Association (NTRA)*** <a href="http://www.ntra.com">www.ntra.com</a></p> <p>"[B]road-based coalition of American horse racing interests consisting of leading Thoroughbred racetracks, owners, breeders, trainers, horseplayers, advance deposit wagering companies, and affiliated horse racing associations, charged with increasing the popularity of horse racing and improving economic conditions for industry participants."</p> <p>The NTRA Safety and Integrity Alliance*** <a href="http://www.ntra.com/safety-integrity-alliance">www.ntra.com/safety-integrity-alliance</a></p> <p>An alliance "comprised of the largest tracks and horsemen's groups in the U.S. and Canada... [created] with the goal of making it the standing organization with the purpose of implementing safety and integrity reforms. The Alliance also functions as a certification/accreditation body for the purpose of recognizing and incentivizing compliance by all stakeholders."</p> <p>Thoroughbred Aftercare Alliance (TAA)*** <a href="http://www.thoroughbredaftercare.org">www.thoroughbredaftercare.org</a></p> <p>Thoroughbred Safety Coalition (TSC)*** <a href="https://thoroughbredsafetycoalition.com">https://thoroughbredsafetycoalition.com</a></p> <p>Water Hay Oats Alliance (WHOA)*** <a href="http://www.waterhayoatsalliance.com">www.waterhayoatsalliance.com</a></p>
<b>Breeders/ Owners</b>	<p>Kentucky Thoroughbred Association and Kentucky Thoroughbred Owners and Breeders (KTA-KTOB) <a href="http://www.kentuckybred.org">www.kentuckybred.org</a></p> <p>Trade organisations consisting of owners, breeders, trainers and associate members, playing an active role in legislative matters of concern on statewide and national levels.</p> <p>Thoroughbred Owners and Breeders Association (TOBA)*** <a href="http://www.toba.org">www.toba.org</a></p> <p>National trade organisation.</p>
<b>Veterinarians</b>	<p>American Association of Equine Practitioners (AAEP)*** <a href="https://aaep.org/">https://aaep.org/</a></p>
<b>Regulation</b>	<p>Association of Racing Commissioners International (ARCI also RCI) <a href="http://www.arci.com">www.arci.com</a> Umbrella organisation of the official governing rule making bodies for professional horse and greyhound racing. Assists the coordination of regulation but has no direct regulatory authority. Members: US, Canada, Mexico, Jamaica, Trinidad-Tobago, and the Equestrian Club of Riyadh, Saudi Arabia.</p>
<b>Drug Testing</b>	<p>Racing Medication and Testing Consortium (RMTc)*** <a href="https://rmtcnet.com/">https://rmtcnet.com/</a></p> <p>"Research, education and advocacy for science-based initiatives that promote the health and safety of the racehorse and the integrity of competition"</p>



<b>State Agency</b>	California Horse Racing Board (CHRB) <a href="http://www.chrb.ca.gov">www.chrb.ca.gov</a> Has authority over the regulation of horseracing and parimutuel betting in California.
<b>Documents and Data of Interest</b>	AAEP White Papers and Guides <a href="http://rmtcnet.com/information/educational/">http://rmtcnet.com/information/educational/</a>
	Driving Sustainable Growth for Thoroughbred Racing and Breeding <a href="http://www.jockeyclub.com/pdfs/selected_exhibits_rt2011.pdf">www.jockeyclub.com/pdfs/selected_exhibits_rt2011.pdf</a>
	Equine Injury Database <a href="http://jockeyclub.com/default.asp?section=Advocacy&amp;area=10">http://jockeyclub.com/default.asp?section=Advocacy&amp;area=10</a>
	NTRA Safety and Integrity Alliance 2014. Code of Standard 2014 <a href="http://www.ntra.com/ntra-safety-and-integrity-alliance-updates-code-of-standards-for-2014/">www.ntra.com/ntra-safety-and-integrity-alliance-updates-code-of-standards-for-2014/</a> (The latest update 2021 is available at <a href="https://mk0ntrauj6jy9vera.kinstacdn.com/wp-content/uploads/2021-Code-of-Standards-Final.pdf">https://mk0ntrauj6jy9vera.kinstacdn.com/wp-content/uploads/2021-Code-of-Standards-Final.pdf</a> )
<b>Industry News</b>	Blood-Horse*** <a href="http://www.bloodhorse.com">www.bloodhorse.com</a> Owned by The Jockey Club Information Systems, Inc. and TOBA Media Properties, Inc.
	Paulick Report*** <a href="http://www.paulickreport.com">www.paulickreport.com</a> US focus and international news. Launched in 2008 by co-founders Ray Paulick and Brad Cummings. Began as a blog page. Undertakes also investigative reporting.
	Thoroughbred Daily News (TDN)*** <a href="http://www.thoroughbreddailynews.com">www.thoroughbreddailynews.com</a> eNewspaper, an American and an European/International edition, HQ: New Jersey, US and Office in Newmarket, England; and staff in Lexington, Kentucky.
	Thoroughbred Racing Commentary (TRC)*** <a href="http://www.thoroughbredracing.com">www.thoroughbredracing.com</a> US focus and international news.

**Table A8.** Thoroughbred industry conferences (selected sources)

<b>Asia</b>	Asian Racing Conferences***, organised by the Asian Racing Federation (ARF) <a href="http://www.asianracing.org/cycle">www.asianracing.org/cycle</a> . Various websites, websearch recommended.
<b>International</b>	IFHA Conferences*** <a href="http://www.ifhaonline.org/Default.asp?section=Resources&amp;area=3">www.ifhaonline.org/Default.asp?section=Resources&amp;area=3</a>
	International Conferences of Racing Analysts and Veterinarians (ICRAV), Proceedings <a href="http://www.igsrv.org/conference-proceedings">www.igsrv.org/conference-proceedings</a>
	International Thoroughbred Breeders' Federation Conferences*** <a href="http://www.international-tbf.com/conference/">www.international-tbf.com/conference/</a>
<b>US-based</b>	The Jockey Club Roundtable Conferences on Matters Pertaining to Racing*** <a href="http://www.jockeyclub.com/Default.asp?section=Resources&amp;area=13">www.jockeyclub.com/Default.asp?section=Resources&amp;area=13</a>
	Welfare and Safety of the Racehorse Summits, coordinated by the Grayson-Jockey Club Research Foundation and The Jockey Club*** <a href="http://www.grayson-jockeyclub.org/WelfareSafety/">www.grayson-jockeyclub.org/WelfareSafety/</a>

**Table A9.** Thoroughbred Protection Advocacy Search

<b>Australia</b>	Animals Australia <a href="https://animalsaustralia.org/issues/horse_racing.php">https://animalsaustralia.org/issues/horse_racing.php</a> Runs campaigns in relation to thoroughbred racing, gathering signatures to end jumps racing, to end "wastage", for sponsors to cut ties with horseracing, and to pledge not to bet on horseracing.
	Coalition for the Protection of Racehorses (CPR)*** <a href="http://www.horseracingkills.com">www.horseracingkills.com</a> Strongest campaigner against horseracing in Australia, undertaking investigations, research, public awareness campaigns and political lobbying. Maintains the Deathwatch Report <a href="https://horseracingkills.com/issues/deathwatch/">https://horseracingkills.com/issues/deathwatch/</a>

	<p>RSPCA Australia (Royal Society for the Prevention of Cruelty to Animals) <a href="http://www.rspca.org.au">www.rspca.org.au</a>          Informs about thoroughbred racing welfare issues on their website. Campaigns for reform and for a ban of the whip <a href="http://www.rspca.org.au/take-action/animal-welfare-in-horse-racing">www.rspca.org.au/take-action/animal-welfare-in-horse-racing</a>.</p>
	<p>RSPCA South Australia <a href="http://www.rspcasa.org.au">www.rspcasa.org.au</a>          Campaigns to ban jumps racing and the whip <a href="http://www.rspcasa.org.au/the-issues/jumps-racing">www.rspcasa.org.au/the-issues/jumps-racing</a>.</p>
<b>Hong Kong</b>	<p>No thoroughbred or animal protection advocacy organisation publishing relevant information on welfare issues concerning thoroughbreds in racing could be identified at the time.</p>
<b>International</b>	<p>World Animal Net (WAN) <a href="http://www.worldanimal.net">www.worldanimal.net</a>          To improve communication and coordination among the world's animal protection groups. A network of animal protection societies with over 3,000 affiliates in more than 100 countries and Consultative Status at the United Nations.</p>
	<p>World Horse Welfare <a href="http://www.worldhorsewelfare.org">www.worldhorsewelfare.org</a>          Published a commentary on the use of the whip in racing on their website.</p>
<b>Ireland</b>	<p>No thoroughbred or animal protection advocacy organisation publishing information on welfare issues concerning thoroughbreds in racing could be identified at the time.</p>
<b>New Zealand</b>	<p>SAFE (Save Animals From Exploitation) <a href="http://www.safe.org.nz">www.safe.org.nz</a>          Has only recently begun to develop expertise in thoroughbred welfare issues.</p>
<b>Other</b>	<p>Hakol Chai (and CHAI) <a href="http://www.chai.org.il/en/home/e_index.htm">www.chai.org.il/en/home/e_index.htm</a>          Hakol Chai is a sister charity to Concern for Helping Animals in Israel (CHAI) <a href="https://chai-online.org/">https://chai-online.org/</a>. Hakol Cha had campaigned and lobbied against the expansion of horseracing in Israel and against betting on horses. No thoroughbred racing industry could be established in Israel to date. Detailed Information, exposés and political engagement relating to welfare issues in thoroughbred racing dated as 2012 and 2013 are available at <a href="http://www.chai-online.org/en/compassion/entertainment_racing.htm">www.chai-online.org/en/compassion/entertainment_racing.htm</a>.</p>
	<p>Swiss Animal Protection SAP <a href="http://www.animal-protection.net/sites/index_sts.html">www.animal-protection.net/sites/index_sts.html</a> (Schweizer Tierschutz STS <a href="http://www.tierschutz.com">www.tierschutz.com</a>)          Publishes information on welfare issues for thoroughbreds in racing.</p>
	<p>No other thoroughbred or animal protection advocacy organisation publishing information on welfare issues concerning thoroughbreds in racing could be identified in any country at the time.</p>
<b>UK</b>	<p>Animal Aid*** <a href="http://www.animalaid.org.uk/the-issues/our-campaigns/horse-racing/">www.animalaid.org.uk/the-issues/our-campaigns/horse-racing/</a>          Campaigns ultimately for a ban of all horseracing in the UK, and in the meantime, for the ban of the Grand National and for some reform issues. Maintains the Race Horse Death Watch <a href="http://www.horsedeathwatch.com">www.horsedeathwatch.com</a></p>
	<p>British Horse Society (BHS) <a href="http://www.bhs.org.uk">www.bhs.org.uk</a>          NOTE: Do not appear to express views on thoroughbred welfare in racing.</p>
	<p>RSPCA <a href="http://www.rspca.org.uk">www.rspca.org.uk</a>          NOTE: At the time, no information on horseracing on their website.</p>
<b>US</b>	<p>Horseracing Wrongs*** <a href="https://horseracingwrongs.org/">https://horseracingwrongs.org/</a>          Nonprofit working to abolish thoroughbred racing in the US.</p>
	<p>Humane Society of the United States (HSUS)*** <a href="http://www.humanesociety.org">www.humanesociety.org</a>          Nonprofit working for reform in thoroughbred racing.</p>
	<p>People for the Ethical Treatment of Animals (PETA) (US) *** <a href="http://www.peta.org">www.peta.org</a>          Nonprofit working for reform in thoroughbred racing.</p>

## Project title: The Future for Thoroughbreds and Thoroughbred Racing and the Sustainability of Welfare Concepts

Researcher: Dr Iris Bergmann

### Interview Schedule

#### Part 1: Personal background

1. What is your role in the organisation? How/when did you get involved?
2. What is your background of your involvement with horses?
3. What does the thoroughbred stand for/represent for you? How would you describe the thoroughbred?
4. And/or: Can you describe your most significant personal experience with a thoroughbred?
5. Is it more the horses or the pageant you are interested in?

#### Part 2: Mental models of thoroughbred welfare and sustainability

##### 1. Theme 1: Thoroughbred welfare (TBW)

- 1.1 How would you define TBW?  
10 short definitions or keywords, no need for complex definitions. For example, "TBW is about...", "TBW means first, ...; second, ..."
- 1.2 Which of the following equestrian activities do you feel are the most natural for the horse: flat racing, dressage, jumping, others you can think of? Why?
- 1.3 Have you come across the term "naturalness" in terms of welfare? How would you define it? What role does it play for welfare?
- 1.4 What are the main welfare issues in the industry?
- 1.5 Whose responsibility is TBW?
- 1.6 What are the main threats to welfare?
- 1.7 What are the main drivers that can bring about better welfare outcomes?
- 1.8 What is the focus of your organisation in terms of improving welfare?
- 1.9 If you had unlimited funds, what would you do to bring about the best welfare outcomes?
- 1.10 What is the low hanging fruit in terms of achieving better welfare outcomes and why?
- 1.11 What is the most difficult to achieve and why?

- 1.12 Timeframes?
- 1.13 The industry talks about improving safety and racing integrity.
  - How does horse welfare relate to safety?
  - How does horse welfare relate to the integrity of racing?
- 1.14 Is there a role for education? If so, at what level? For whom? How can this be achieved?

## 2. Theme 2: Sustainability

- 2.1 How would you define sustainability?
  - Please suggest some 10 short definitions or keywords, no need for complex definitions: For example, “Sustainability is about...”; “Sustainability means first, ...; second, ...”; “What is a sustainable racing industry?”...
- 2.2 What is your priority in working toward a sustainable TB industry?
- 2.3 How do you address sustainability as an organisation? Why? (Yourself/your organisation)
- 2.4 What else would you like to do to create a sustainable TB industry? Why?
- 2.5 What are drivers/barriers to achieving a sustainable industry?

## 3. Theme 3: The intersection of sustainability and TBW

- 3.1 Do you see a link between TBW and sustainability? Please explain.
- 3.2 Some suggest that sustainability means that the thoroughbred can race longer and without illness or injury.
  - Any comments?
  - Can you relate to this definition?
  - Would that change something about the business model for racing?
- 3.3 In many racing nations, the industry considers structural changes, regulation and transparency in reporting as important issues for a sustainable future.
  - 3.3.1 Can you please comment on this?
  - 3.3.2 What are the priorities for you/your organisation in this area?
  - 3.3.3 Do you experience resistance from within the industry and how to you address this?
  - 3.3.4 Where do you experience support from within the industry?
  - 3.3.5 Is there a role of an overseeing international body in this process?
  - 3.3.6 Your view of an independent regulatory body at the national level, and at the international level?
- 3.4 What is your view on including a wide range of stakeholder into the discussions and decision-makings about the future of TB welfare and TB welfare? Working groups might include for example, ethicists, NGO representatives, economists and social scientists next to veterinarians and animal welfare scientists, or animal law representatives.

Can you imagine working together with different interest groups to find a way to improve TBW?

Who should be part of this?

Who should represent the interests of the TB?

What should this group address?

## Part 3: Photo-interview

Image 1: The Grey

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- Describe briefly what it is that you see. What comes to your mind first? Your immediate reaction please.
- Is this a common thing that you see on the racetrack?
- Anything else you would like to say in relation to this image?



Image 2: Grey Portrait

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- Describe briefly what it is that you see. What comes to your mind first? Your immediate reaction please.
- Is this is a common thing that you see on the racetrack?
- Anything else you would like to say in relation to this image?



Image 3: The Bay

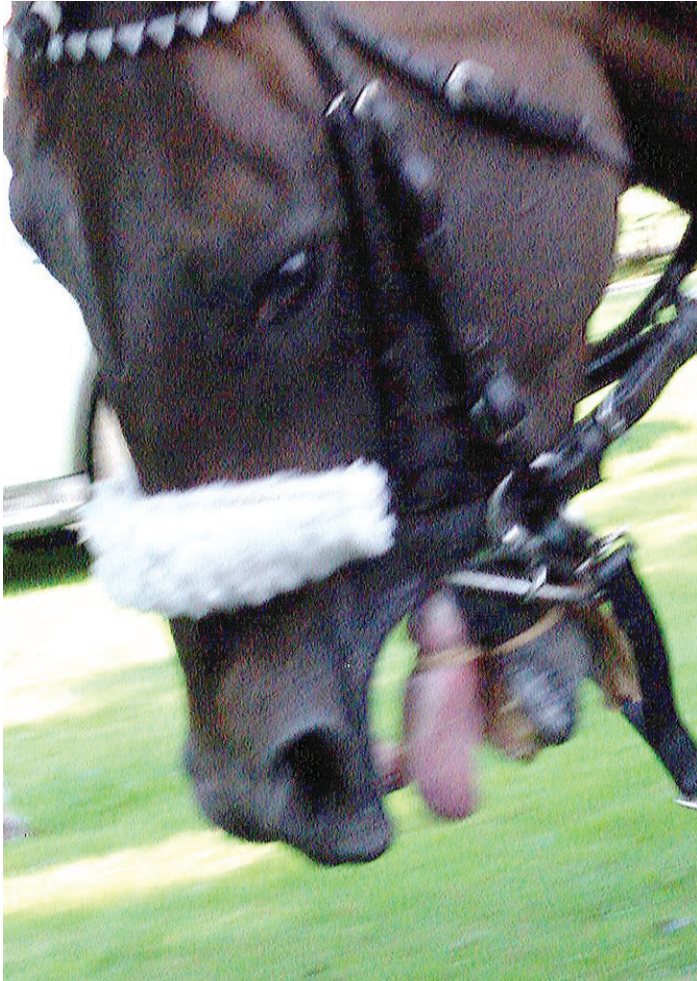
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- Describe briefly what it is that you see. What comes to your mind first? Your immediate reaction please.
- Is this a common thing that you see on the racetrack?
- Anything else you would like to say in relation to this image?

Image 4: Bay Portrait

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- Describe briefly what it is that you see. What comes to your mind first? Your immediate reaction please.
- Is this is a common thing that you see on the racetrack?
- Anything else you would like to say in relation to this image?

Image 5: Imaging the Thoroughbred

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- What comes to your mind when you view the horse in this image?

[\* The robotic arms are part of an imaging system that can produce CT images, radiographic images, bone density scans, three-dimensional imaging of tissue, dynamic video radiography, and digital radiography.]



Image 6: Off-the-track

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Photographer: Shannon White, reprinted with permission of the Thoroughbred Aftercare Alliance. This image is a screenshot taken from the homepage of The Jockey Club [www.jockeyclub.com](http://www.jockeyclub.com), accessed on 15.11.2015.

- Describe briefly what it is that you see. What comes to your mind first? Your immediate reaction please.
- Would you see something of this nature on the racetrack?
- Would that be a good thing to see on the racetrack, or off-the-track for that matter? Why/why not?
- Anything else you would like to say in relation to this image?

## Part 4: Scenarios and possible, probable and preferable futures

### 1. Economic-led Decline

Costs are rising for keeping racehorses, training and maintaining the facilities. Revenue and attendance decline due to economic downturn and competing other forms of gambling. Declining public interest and declining revenue lead to declining quality of racing and so a vicious circle has begun. Race clubs are amalgamated, some tracks close and are unlikely to re-open. This leads to the demise of country racing. As a result of these and other developments racing is weakening politically and struggles to survive.

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*Your view? Possible or probable future? Why?  
How does this impact thoroughbred welfare?*

### 2. New Frontiers Expansion

In this scenario, horseracing continues to expand into the Gulf States, India, China, Brazil, Uruguay and other growing economies. The changing political power offers opportunities for thoroughbred investment in emerging markets, particularly given the potential gambling revenue. The new venues aim to raise the profile and offer substantial prize money in order to attract elite racehorses. International travel of thoroughbreds increases. This expansion gives a much needed boost and the industry begins to thrive again..

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*Your view? Possible/probable/preferable future? Why?  
What does it mean for the sustainability of the industry?  
How does this impact thoroughbred welfare?*

### 3. Anti-trust Action

While horseracing is thriving in developed and in developing countries, the playing field between them is still not level. Based on pressures from outside and from within the racing industry, Western countries are continuing to develop and implement security and integrity measures to protect the welfare of thoroughbreds and the sustainability of the industry. Some emerging racing nations fear this will impede the rapid development of their racing industry. They insist conditions in their countries are different and begin to set up their own regulatory environment. The international racing authority is trying to protect the international system. Individual nations striving to develop their own in parallel, initiating anti-trust action. A parallel universe for thoroughbred racing is looming.

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*Your view? Possible/probable/preferable future? Why?  
What does it mean for the sustainability of the industry?  
How does this impact thoroughbred welfare?*

### 4. Biotechnological Developments

Thoroughbred breeding now focusses on biotechnological enhancement. Advances in genomics satisfy the desire of many to breed a faster thoroughbred. Moreover, restrictions on "natural breeding" have been removed, and AI is now common place. This will have ramifications for the structure of the industry in traditional breeding regions. Legal challenges are also underway to allow cloning of thoroughbreds.

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*Your view? Possible/probable/preferable future? Why?  
What does it mean for the sustainability of the industry?*

*How does this impact thoroughbred welfare?*

## **5. Animal issue-led Decline**

Regulation and enforcement measures were not strong enough to improve TB welfare, and the safety and integrity of racing. Changing public attitudes in terms of the use of animals in sport poses the greatest challenge for the future of horseracing. Also sponsors have increasingly become averse to supporting thoroughbred racing out of concern for their public image. Subsequently, in this scenario, thoroughbred racing becomes a minor activity, it is gradually being phased out and in many cases, it is banned.

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*Your view? Possible, probable? Why?*

## **6. The New Face of Racing**

Racing experts, animal behaviour scientists, veterinarians, social scientists and representatives of the animal protection movement come together and develop new rules for racing where the thoroughbred's protection is at the forefront of all activities. Prize money and prestige is not only built on being the first in the race anymore. Aggregate measures are developed that employ an intelligent and fair system of points and penalties: The outcome of a race now also depends on the horse's condition after the race as measured by for example, recovery time, heart rate, gait, metabolism, and the 'happiness index' (an objective measure to scientifically evaluate whether a horse is happy). Prize money and prestige for connections is also being linked to their horses' longevity, least horses injured, least horses failing to finish a race, least horses dying due to injury or illness, and best quality of the horses' life post-racing.

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*Your view? Possible/probable/preferable future? Why?*

*Does this have relevance for the sustainability of the industry? In which way?*

## **In Sum: The likely Future?**

We have talked about some trends and scenarios for racing – economic-led decline, the growth of racing in developing countries, a shift toward safety and integrity measures on the one hand and opposition to it on the other hand, biotechnological developments, animal issue-led decline, and the new face of racing.

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*Looking back at those, what stands out for you?*

*In sum, what would you consider to be the likely future for thoroughbreds and thoroughbred racing? Why? Any other thoughts?*

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## **Wrap up**

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- Have you read any of my writings on sustainability and thoroughbred welfare?
- Is there anything else you would like to say in relation to what we have discussed today?
- Any comments on the interview itself?



**Research Integrity**

Human Research Ethics Committee

Friday, 22 January 2016

Prof Philip McManus  
Geosciences; Faculty of Science  
Email: phil.mcmanus@sydney.edu.au

Dear Philip

I am pleased to inform you that the University of Sydney Human Research Ethics Committee (HREC) has approved your project entitled **“The Future for Thoroughbreds & Thoroughbred Racing and the Sustainability of Welfare Concepts”**.

Details of the approval are as follows:

**Project No.:** 2016/019  
**Approval Date:** 22 January 2016  
**First Annual Report Due:** 22 January 2017  
**Authorised Personnel:** McManus Philip; Bergmann Iris;

**Documents Approved:**

Date Uploaded	Type	Document Name
07/01/2016	Participant Info Statement	Participant Information Statement with amendments
20/11/2015	Interview Questions	Interview Questions
20/11/2015	Recruitment Letter/Email	Recruitment Email

HREC approval is valid for four (4) years from the approval date stated in this letter and is granted pending the following conditions being met:

**Condition/s of Approval**

- Continuing compliance with the National Statement on Ethical Conduct in Research Involving Humans.
- Provision of an annual report on this research to the Human Research Ethics Committee from the approval date and at the completion of the study. Failure to submit reports will result in withdrawal of ethics approval for the project.
- All serious and unexpected adverse events should be reported to the HREC within 72 hours.
- All unforeseen events that might affect continued ethical acceptability of the project should be reported to the HREC as soon as possible.



- Any changes to the project including changes to research personnel must be approved by the HREC before the research project can proceed.
- Note that for student research projects, a copy of this letter must be included in the candidate's thesis.

**Chief Investigator / Supervisor's responsibilities:**

1. You must retain copies of all signed Consent Forms (if applicable) and provide these to the HREC on request.
2. It is your responsibility to provide a copy of this letter to any internal/external granting agencies if requested.

Please do not hesitate to contact Research Integrity (Human Ethics) should you require further information or clarification.

Yours sincerely

[REDACTION]

**Professor Glen Davis**  
**Chair**  
**Human Research Ethics Committee**

**This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007), NHMRC and Universities Australia Australian Code for the Responsible Conduct of Research (2007) and the CPMP/ICH Note for Guidance on Good Clinical Practice.**

# Appendix 5

## Research Integrity

Human Research Ethics Committee

Friday, 1 April 2016

Prof Philip McManus  
Geosciences; Faculty of Science  
Email: phil.mcmanus@sydney.edu.au

Dear Philip

Your request to modify the below project submitted 02 March 2016 was considered by the Executive of the Human Research Ethics Committee at its meeting on 24 March 2016.

The Committee had no ethical objections to the modification/s regarding the additional recruitment procedure request and has approved the project to proceed.

Details of the approval are as follows:

**Project No.:** 2016/019  
**Project Title:** The Future for Thoroughbreds & Thoroughbred Racing and the Sustainability of Welfare Concepts

Please do not hesitate to contact Research Integrity (Human Ethics) should you require further information or clarification.

Yours sincerely

[REDACTION]



Dr Fiona Gill  
Chair  
Human Research Ethics Committee

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007), NHMRC and Universities Australia Australian Code for the Responsible Conduct of Research (2007) and the CPMP/ICH Note for Guidance on Good Clinical Practice.

ABN 15 211 513 464

Professor Phil McManus

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Web: <http://www.sydney.edu.au/>

## Research Study:

### The Future for Thoroughbreds and Thoroughbred Racing and the Sustainability of Welfare Concepts

#### PARTICIPANT INFORMATION STATEMENT

#### (1) What is the study about?

This study addresses the sustainability of thoroughbred racing, it addresses what defines thoroughbred welfare and the future-readiness of the industry in light of changing social expectations in terms of animal welfare.

#### (2) Who is carrying out the study?

The study is being conducted by Dr Iris Bergmann, Doctoral Researcher, and supervised by Professor Phil McManus. Both are based at the School of Geosciences, Faculty of Science, of the University of Sydney.

#### (3) What does the study involve?

This study involves interviewing of representatives of peak racing industry bodies and principle racing authorities, affiliated individuals, and animal welfare organisations in various racing nations.

The interviews will be conducted via telephone or skype with the interviewer being based in Australia. The interview involves also the use of photographs of thoroughbreds and race day scenes and internet access is required to view these images online. A hyperlink will be forwarded to you via email and/or skype on the day of the interview.

There are no associated risks with being involved in this process.

#### (4) What happens to my interview responses?

The interviews will be digitally audio recorded and transcribed for analysis. You will be given the opportunity to review your interview transcript and provide comments, alterations or request sections to be deleted. You can also request the withdrawal of the entire transcript and audio recording.

The digital audio recordings and any hard copies and coded information have to be archived for five years in locked receptacles on premises of The University of Sydney. After this period, the digitally stored data will be erased or shredded, and any hard copies will be shredded.

#### (5) How much time will the study take?

Each interview will take approximately one hour and will be conducted in early 2016. The interviews and the analysis are part of the doctoral research which is conducted over a period of approximately three (3) years from 2013-2016.

#### (6) Can I withdraw from the study?

Being in this study is completely voluntary and you are not under any obligation to consent. Your decision whether to participate will not affect your current or future relationship with the researchers or anyone else at the University

of Sydney. If you do consent, you can withdraw from the research at any time and there will be no consequences for you if you do.

If you decide to take part in the study and then change your mind later, you are free to withdraw at any time. You can do this by simply letting the interviewer know at the time of the interview, or by sending an email to Dr Iris Bergmann at [iris.bergmann@sydney.edu.au](mailto:iris.bergmann@sydney.edu.au).

You are also free to stop the interview at any time. Unless you say that you want us to keep them, any recordings will be erased and the information you have provided will not be included in the study results. You may also refuse to answer any questions that you do not wish to answer during the interview.

**(7) Will anyone else know the results?**

The researchers aim to maintain strict confidentiality about all aspects of the research and only the researcher and her supervisor will have access to information on participants, where it is in our power to do so. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report. Results of this study may be published in journal articles, conference proceedings and book chapters, but all results will remain anonymous.

However, given the nature of some organisations participating in this research, it may not always be possible to guarantee strict confidentiality. Please let us know if complete anonymity is required. We will take utmost care in our dissemination of results to ensure that individuals cannot be reasonably identified.

**(8) Will the study benefit me?**

This study may benefit you through our advancement of our understanding of the sustainability of thoroughbred racing, of the welfare of thoroughbreds and the future-readiness of the industry in light of changing social expectations in terms of animal welfare. You may contact the researcher Dr Iris Bergmann via her email [iris.bergmann@sydney.edu.au](mailto:iris.bergmann@sydney.edu.au) to request a written one-page summary of the research findings.

**(9) Can I tell other people about the study?**

Yes, you can tell other people about the study.

**(10) What if I require further information about the study or my involvement in it?**

When you have read this information, Dr Iris Bergmann will discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact her by email [iris.bergmann@sydney.edu.au](mailto:iris.bergmann@sydney.edu.au). You can also email her to arrange a time to discuss any details via telephone.

You may also contact her supervisor Professor Phil McManus by telephone +61 2 9351 4262, or email [phil.mcmanus@sydney.edu.au](mailto:phil.mcmanus@sydney.edu.au).

**(11) Will I be told the results of the study?**

You have the right to receive feedback about the overall results of this study. You can tell us that you wish to receive feedback by letting us know at the time of the interview, or by emailing Dr Iris Bergmann at [iris.bergmann@sydney.edu.au](mailto:iris.bergmann@sydney.edu.au). This feedback will be in the form of a one page lay summary. You will receive this feedback after the study is finished.

**(12) What if I have a complaint or any concerns?**

Any person with concerns or complaints about the conduct of a research study can contact The Manager of Human Ethics Administration at the University of Sydney by phone, mail, email or in person:

The Manager, Ethics Administration  
Margaret Telfer Building (K07)  
University of Sydney NSW 2006 Australia  
T: + 61 2 8627 8176  
F: + 61 2 8627 8177  
E: [ro.humanethics@sydney.edu.au](mailto:ro.humanethics@sydney.edu.au)

**This information sheet is for you to keep.**